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**2004**



REPORT





Javna agencija RS za energijo

# **R E P O R T**

## **ON THE ENERGY SECTOR IN SLOVENIA FOR 2004**

**The Council of the Energy Agency of the Republic of Slovenia adopted this Report on the Energy Sector in Slovenia for 2004 at its session, on 1 July 2005. The Government of the Republic of Slovenia gave its approval to this report at its 41<sup>st</sup> session, on 22 September 2005.**

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## List of abbreviations

AIB	Association of Issuing Bodies
Borzen	Borzen, d. o. o.
CBTC	cross-border transmission capacities
CEER	Council of European Energy Regulators
CHPSL	Combined Heat-and-Power Station, Ljubljana, d. o. o.
CSLOeX	hourly index
DNM	distribution network manager
DPSM	Drava Power Stations, Maribor, d. o. o.
DSO	Distribution System Operator
DTS	distribution-transformer station
EA	Energy Act (the Official Gazette of the Republic of Slovenia, No. 36/05 - the officially consolidated version)
EC	European Commission, Commission of the European Communities
ECL	European Council
ED	electricity distribution
EEX	European Energy Exchange AG, Leipzig
ELES	ELES - Elektro-Slovenija, d. o. o.
ELES GEN	ELES GEN, d. o. o.
Energy Agency	Energy Agency of the Republic of Slovenia
ERGEG	European Regulators Group for Electricity and Gas
ES	electricity system
ET	electricity transmission
EU	European Union
GDP	gross domestic product
HHI	Hirshmann–Herfindahl index
HSE	Holding Slovenske elektrarne, d. o. o.
HV	high voltage
Hydro	hydroelectric power station
ICES	Training Centre of the Slovenian Electricity Industry
LV	low voltage
MRS	metering-regulation station
MV	medium voltage
NPSK	Nuclear Power Station, Krško, d. o. o.
Nuclear	nuclear power station
P	power
P+, P-	basic deviation price
Pp, Pn	deviation price
PS	public service
pumped storage	pumped-storage power station
RECS	Renewable Energy Certificate System
ReNEP	Resolution on the National Energy Programme
RES	renewable energy sources
RS	Republic of Slovenia
rTPA	regulated third-party access
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SLOeX	organised electricity market index
SOI-ET	system operation instructions for the electricity transmission network
SORS	Statistical Office of the Republic of Slovenia
SPSL	Sava Power Stations, Ljubljana, d. o. o.
SPSNG	Soča Power Stations, Nova Gorica, d. o. o.

STC	supply to tariff customers
T	tolerance
TEB	Thermoelectric Power Station, Brestanica, d. o. o.
TEŠ	Thermoelectric Power Station, Šoštanj, d. o. o.
TET	Thermoelectric Power Station, Trbovlje, d. o. o.
Thermo	thermoelectric power station
TNM	transmission network manager
TSO	Transmission System Operator
UCTE	Union for the Co-ordination of the Transmission of Electricity
UNP	use-of-network price
W+, W-	energy deviation from the forecasted operation schedules

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# 1 INTRODUCTION

Entry into the European Union required Slovenia to become more intensely involved in the development of the common European energy market, while at the same time also defining the strategy of energy supply in Slovenia and making sure that the set objectives are being met.

Thus, in 2004 we also had to harmonize and prepare the energy legislation based on the new development strategy. The Resolution on the National Energy Programme was adopted; being the most important document of the national energy policy, this resolution determines the long-term energy guidelines and provides measures for its implementation. Slovenia carried out the harmonization of its legislation with the *acquis communautaire* by amending the Energy Act and the executive regulations of the Government of the Republic of Slovenia and the Energy Agency of the Republic of Slovenia.

These procedures started an intensive harmonization of the national interests, which the Republic of Slovenia determined in the national energy programme, with the European interests determined in the EU directives.

2004 was an important turning point for the Slovenian energy market. On 1 July 2004 the markets for electricity and natural gas were partially opened, and all customers, except household customers, became eligible customers. Household customers will become eligible customers on 1 July 2007, when the markets for electricity and natural gas will become fully open. In Slovenia the energy market is being liberalised in a similar way to other countries of the European Union, and similar effects, mainly with regard to energy prices and investments in production facilities, can be observed.

Though no important facilities for electricity generation were built in 2004, and the levels of consumption increased, a reliable supply of electricity was maintained. We continued with the preparations for the expansion of the transmission network, which will, in future, allow sufficient capacities for energy transmission within Slovenia and abroad. Investments in the distribution networks are important, mainly with regard to the long-term guarantee of supply reliability and an appropriate quality of electricity. Technologically suitable, appropriately maintained and optimally located networks are of utmost importance with regard to achieving the basic objectives in the area of supply to customers, as well as achieving other objectives in the process of market liberalisation.

In 2004 the companies for the transmission and distribution of electricity continued to invest in the transmission and distribution networks in line with their development and business plans, in which they considered the regulatory framework for 2003–2005.

The regulated companies engaged in electricity distribution finished the financial year of 2004 with positive results at the company level, as well as at the level of regulated services financed from the network charge; however, all regulated distribution companies made a loss with the service of supplying tariff customers.

During the preparation of the regulatory framework for 2003–2005 the Energy Agency expected a yearly increase in the network charges; however, in 2004 this increase was not implemented due to inflation management. This means that in 2004 the network charges remained the same as in 2003; nevertheless, the revenues from network charges still increased in comparison with 2003 due to an

increased amount of transmitted and distributed energy.

In 2004 the setting of the electricity price for tariff customers remained the responsibility of the government. In February 2004 the prices for tariff customers were increased by 4 percent; however, they still could not cover the input costs.

In 2004 the cross-border trade in electricity was carried out within the limits of the capacities of the cross-border transmission paths that were allocated on the basis of the principle of proportional allocation of the tendered quota.

The consumption of natural gas in Slovenia was about the same as in 2003, the total amount of consumed natural gas being decreased by less than one percent.

By issuing an ordinance in 2004, the government newly determined the conditions for the provision of the public service of the system operator of the natural-gas transmission network; the ordinance defines, among other things, the new conditions for connecting the customers to the transmission network. The preparations for the legal division of the transmission system operator were also carried out, and a new company started to operate as a subsidiary company at the beginning of 2005.

The distribution companies for natural gas operated as optional local public services in 62 local communities. The regulating of these companies was the responsibility of the local communities, but after the amendment of the Energy Act, the Energy Agency of the Republic of Slovenia will also participate in determining the network charges, the tariff systems and the general supply conditions. In 2004 no new concession for the provision of the public services of the system operator of the distribution network or of the supply to tariff customers was granted, i.e., no new public company for the provision of these services was established. Some of the distribution companies for natural gas separated the accounts of their services.

The degree of competition on the markets for electricity and natural gas is limited by the market concentration. In practice, it is difficult to introduce competition to these markets. In the case of electricity, such a situation is caused by the size of the market, the structure of the production sources and market participants, the limited cross-border transmission capacities and the ownership structure of the market participants. The natural-gas market is characterised by long-term supply contracts, which represent the most important obstacles to the introduction of competition.

The Energy Agency of the Republic of Slovenia prepared the Report on the Energy Sector in line with the legislative provisions. For the first time the report also covers the topics required for the reporting to the Commission of the European Communities regarding possible market dominance in the electricity market, as well as predatory and anti-competitive behaviour. It also includes most of the topics required by the instruction, prepared in 2005, regarding the structure of the annual report, with which the energy regulators of the EU Member States report to the European Commission.

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## 2 SUMMARY

### 2.1 Development of the markets for electricity and natural gas

In 2004 a large number of measures were taken, and they resulted in changes to the development of the markets for electricity and natural gas. Because of Slovenia's entry into the European Union and the harmonization of the legislation, we had to prepare and harmonize the legislation that is based on a new energy-development strategy. On 5 April 2004 the Slovenian parliament adopted the Resolution on the National Energy Programme, and on 23 April 2004 it adopted the amendments to the Energy Act. These legislative documents encompass all the guidelines for the energy development that were also partly outlined in the EU directives. Thus, in Slovenia the EU directives, the ReNEP, the EA and the executive regulations adopted in 2004 provided the starting points and guidelines for the operation to all the participants of the energy market.

The most important directives that influenced the further development of the energy market are as follows:

- Directive 2003/54/EC of 26 June 2003 concerning the common rules for the internal market in electricity,
- Directive 2003/55/EC of 26 June 2003 concerning the common rules for the internal market in natural gas,
- Directive 2001/77/EC of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market,
- Directive 2004/8/EC of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market,
- Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse-gas emission-allowance trading within the Community and amending the Council Directive 96/61/EC.

The amended Energy Act that came into force on 8 May 2004 determined the principles of energy policy, the rules for the energy-market operation, the modes and forms of providing the public services in the energy sector, the principles of supply reliability and the effective use of energy, and the conditions for the provision of energy services. The implementation of the Regulation (EC) No 1228/2003 on the Conditions for Access to the Network for Cross-Border Exchanges in Electricity represents an important part of the measures taken to increase the electricity market operation at the EU level. This regulation determines, among other things, that the Member States must use market mechanisms when allocating cross-border capacities. However, following an initiative and a proposal of the Government of the Republic of Slovenia (henceforth referred to as the government), Article 6(1) of this regulation will, in Slovenia, begin to apply on 1 July 2007, which represents a transitional exemption from the implementation of the market methods of allocation.

The development of the energy markets in Slovenia was also affected by the adopted executive regulations, mainly the ordinances regarding the operating mode of the provision of public services for the system operators of the transmission and distribution networks for electricity and natural gas. The network charges for both of these networks were approved in accordance with the methodologies set by the

Energy Agency. As of 1 July 2004 customers of electricity and natural gas, except for household customers, could freely choose their suppliers. This process of change was more intense in the area of electricity. According to the data provided by the system operators, in the second half of the year new contracts regarding access and supply were concluded with more than 86,047 customers, whose yearly consumption amounts to 1070 GWh of electricity. However, in the area of natural gas, customers did not choose to change suppliers due to their long-term supply contracts. Namely, in 2004 Geoplin, d.o.o., Ljubljana, the company for the trading and transmission of natural gas was the sole supplier of natural gas. All the customers that in 2004 became eligible customers, and had long-term supply contracts, also had, in line with the current general supply conditions, the right to access the network to receive the contractual amounts.

## 2.2 Basic details regarding the markets for electricity and natural gas in Slovenia

### Slovenia

Population (average for 2004)	1,997,590	
Area	20,273 km <sup>2</sup>	
Number of households (on 31 Dec 2004)	766,098	
Number of electricity customers (on 31 Dec 2004)	860,397	
Number of natural-gas customers (on 31 Dec 2004)	105,572	
Gross domestic product (GDP)	6,191,161m tolar	25,919m €
Increase in GDP	4.6 %	
Inflation	3.6 %	
Average exchange rate tolar/€	238.862 tolar/€	
GDP per person	3,100,000 tolar	12,977 €

Source: Statistical Office of the Republic of Slovenia, Energy Agency

### Electricity

<b>Peak capacity</b>	<b>2,760 MW</b>	
- hydroelectric power		822 MW
- thermoelectric power		1,262 MW
- nuclear power		676 MW
<b>Production of electricity</b>	<b>13,835 GWh</b>	
- hydroelectric power		3,603 GWh
- thermoelectric power		4,545 GWh
- nuclear power		5,211 GWh
- independent and qualified producers		476 GWh
<b>Length of transmission network</b>	<b>2,594 km</b>	
- 400 kV		510 km
- 220 kV		328 km
- 110 kV		1,756 km
<b>Length of distribution network</b>	<b>58,766 km</b>	
- 110 kV		793 km

- 35, 20 and 10 kV		15,594 km
- 0.4 kV		42,379 km
<b>Consumption of electricity</b>	<b>12,068 GWh</b>	
- direct customers		2,783 GWh
- eligible customers (>41 kW)		5,490 GWh
- tariff customers		3,795 GWh
<b>Annual consumption per person</b>	<b>6,041 kWh</b>	
<b>Average household consumption per month</b>	<b>311 kWh</b>	

Source: Companies' data

## Natural gas

<b>Length of transmission network</b>	<b>957 km</b>	
- over 16 bar		740 km
- under 16 bar		217 km
<b>Length of distribution network (up to 16 bar)</b>	<b>2,086 km</b>	
<b>Consumption of natural gas</b>	<b>1,094,255,926 Sm<sup>3</sup></b>	
- customers on the distribution network		303,449,622 Sm <sup>3</sup>
- industrial customers		790,806,304 Sm <sup>3</sup>
<b>Annual consumption per person</b>	<b>548 Sm<sup>3</sup></b>	

Source: Companies' data

## 2.3 The regulator's most important activities

Because of the adoption of legal acts, 2004 was a turning point for the operation of the Slovenian regulator – the Energy Agency of the Republic of Slovenia (henceforth referred to as the Energy Agency) – as these acts determined new responsibilities for the Energy Agency and led to an increase in its number of projects and tasks. On the basis of the Energy Act, the amount of work increased significantly, mainly in the areas of the natural-gas market and district heating.

One of the important results of the work in 2004 was the writing and submission of the amendments to the Energy Act that helped formulate the act. The implementation of the EA also led to the intensive preparation of the general acts of the Energy Acts, with which the Energy Agency determines the methodologies for setting the network charges, the tariff systems and the general conditions for supply and consumption.

Crucial changes in the area of the Energy Agency's tasks in 2004 mainly referred to an expanded responsibility regarding the issuing of general acts, and giving approvals and opinions relating to the areas of heat supply, natural gas and other energy gases, which led to the transition from a negotiated third-party access to a regulated third-party access for these networks.

For this purpose, with respect to natural gas, in 2004 the Energy Agency prepared and put into effect implementing acts regarding the transmission of natural gas, with which it determined the methodologies for setting and calculating the network charge for the gas transmission network, and also started to prepare other general

acts. With these acts the Energy Agency will regulate the methodologies for setting and calculating the network charge for the gas distribution networks, the methodology for the preparation of the tariff system, the formulation of general conditions for the supply and consumption, and the system operation instructions.

In 2004 the Energy Agency also started to prepare the general acts with which it will regulate the area of district-heat supply on the basis of unified methodologies. The Energy Agency prepared the general act determining the methodology for setting general conditions for the supply and consumption of heat from the distribution network, and the general act determining the methodology for the preparation of the tariff systems regarding the consumption of heat from the distribution network.

With regard to electricity, the Energy Agency implemented the methodologies for setting and calculating the network charge for electricity networks, and set the network charge for the use of the electricity networks. It supervised the market operation, settled disputes in the first instance in the administrative procedure, and decided, in the second instance, on the appeals against the decisions of the system operator regarding the approval of a connection to the electricity network.

To seek support regarding its activities in the legal, economic and technical areas, the Energy Agency used the help provided by the Phare project called the Regulatory Framework in the Process of the Opening of the Internal Energy Market in Slovenia that was carried out in 2004 and 2005. The project required an extensive and intensive involvement of the entire Energy Agency. With its conceptual and concrete recommendations, improvements of the models, and analyses, the project contributed the knowledge and experiences of other EU countries to the Energy Agency's operation, which the Energy Agency can use, appropriately adapted to Slovenian conditions, in the process of regulating the energy market. The Energy Agency also cooperated in the work of the Council of European Energy Regulators (CEER), the European Regulators Group for Electricity and Gas (ERGEG), as well as at the forums of the regulators for natural gas and electricity in Madrid, Rome and Athens.

## 3 ELECTRICITY

In 2004 the total end consumption of electricity in Slovenia amounted to 12.07 TWh, which was bigger than the consumption in 2003 by 2.3 percent. The growth in electricity consumption was slightly bigger than expected by the projection of growth until 2010 included in the Resolution on the National Energy Programme (henceforth referred to as the ReNEP), which forecasted an annual growth of about 2 percent. A larger growth in consumption was recorded mainly in the industrial and service sectors (3.8 percent per year); this was also the result of the relatively large economic growth in 2004.

### 3.1 Sources of electricity and its consumption

In 2004 the demand for electricity was covered by domestic production capacities and by imports. The structure of production capacities is, with regard to the primary sources, appropriately diversified, so that a suitable level of supply reliability was ensured. In Slovenia electricity production includes the facilities that use renewable sources of energy, fossil fuels and nuclear power. A relatively small proportion of the total production of electricity – less than 3 percent – is produced by qualified producers connected to the distribution network. In the case of independent and qualified customers, the balance shown below does not take into account the 152.4 GWh of energy produced by the so-called autoproducers, i.e., industrial customers with their own, partial or total production.

Unlike in 2003, in 2004 the Slovenian electricity system was only allowed to use half of the capacities of the Nuclear Power Station, Krško (NPSK), as the other half of its production (2570 GWh) had to be exported to Croatia, in line with the bilateral agreement. As a result of favourable water levels in 2004, it was not necessary to significantly increase the importation of electricity to meet the needs of Slovenian end customers. In 2004 the total electricity production in Slovenia amounted to 13,836 GWh, with a maximum per-hour power of 1991 MW.

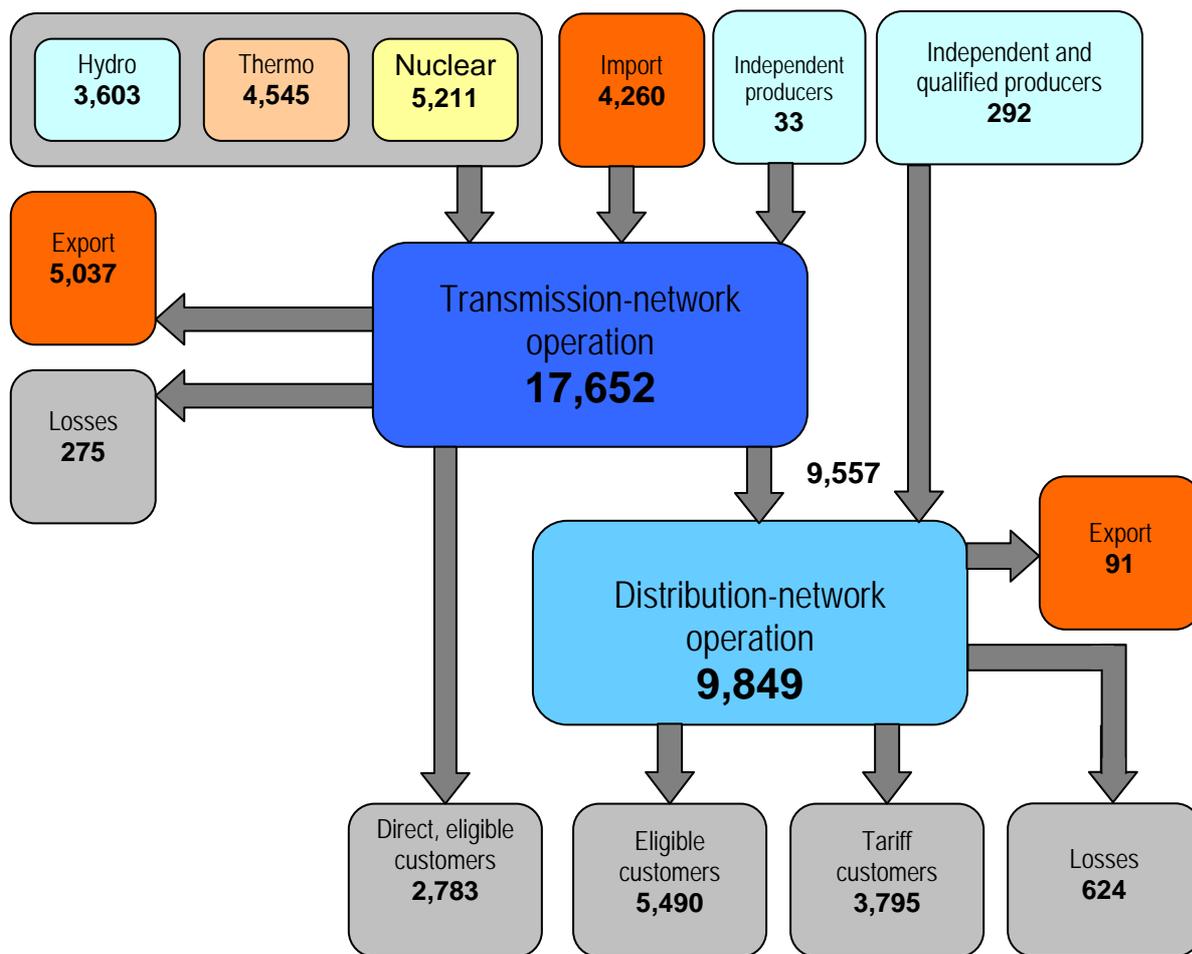


Figure 1: The balance of electricity production and consumption in 2004 – in GWh  
Source: Energy Agency

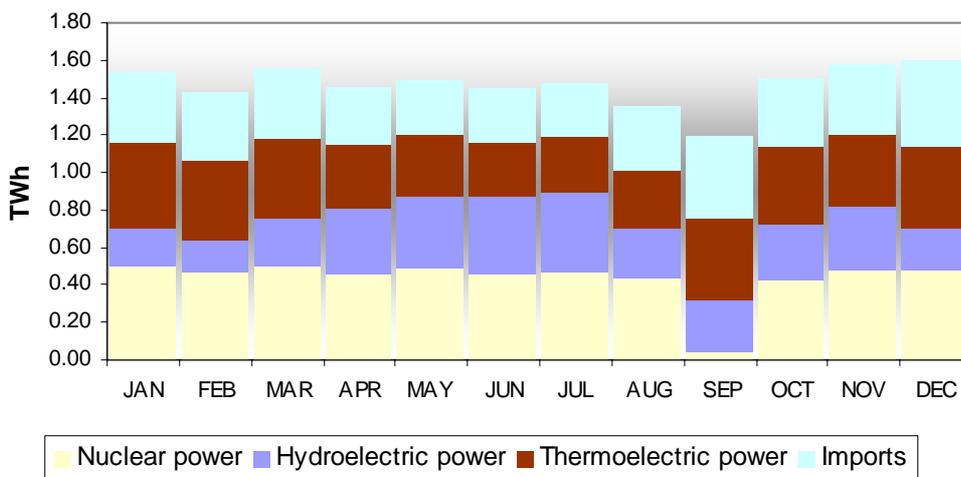


Figure 2: Electricity production by month  
Source: Eles

	2003	2004	04/03
Hydroelectric power stations	2,650	3,603	136.0
Thermoelectric power stations	4,551	4,545	99.9
Nuclear power station	4,957	5,211	105.1
Small, qualified producers	333	325	97.6
<b>Total production in the Republic of Slovenia</b>	<b>12,491</b>	<b>13,836</b>	<b>109.5</b>
Imports	3,996	4,260	106.6
<b>Total</b>	<b>16,487</b>	<b>18,096</b>	<b>108.8</b>

Table 1: Comparison of electricity production for 2003 and 2004 – in GWh  
Source: Energy Agency

	2003	2004	04/03
Eligible customers on the transmission network	2,763	2,783	100.7
Eligible customers on the distribution network	5,290	5,490	103.8
Tariff customers	3,747	3,795	101.3
<b>Total consumption in the Republic of Slovenia</b>	<b>11,800</b>	<b>12,068</b>	<b>102.3</b>
Exports	3,846	5,126	133.3
<b>Total</b>	<b>15,646</b>	<b>17,194</b>	<b>109.9</b>

Table 2: Comparison of electricity consumption for 2003 and 2004 – in GWh  
Source: Energy Agency

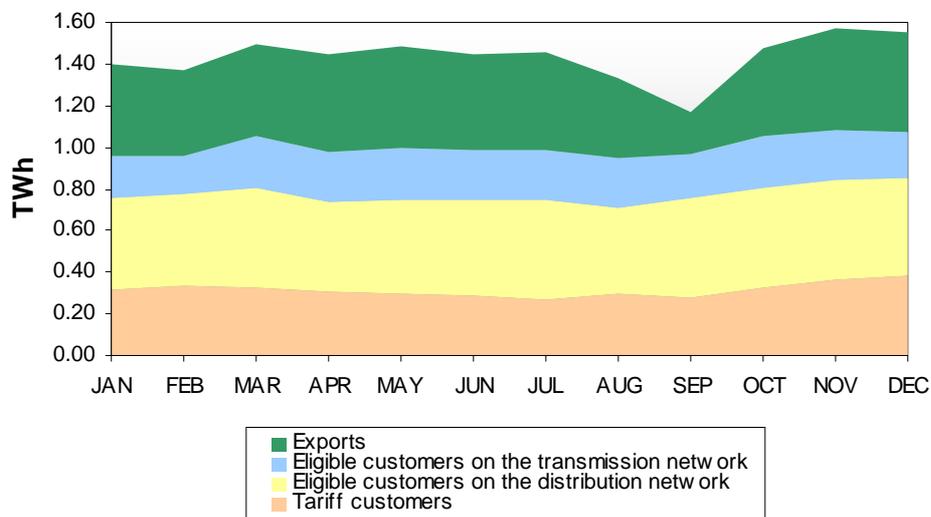


Figure 3: Dynamics of the monthly consumption of electricity in 2004  
Source: Eles

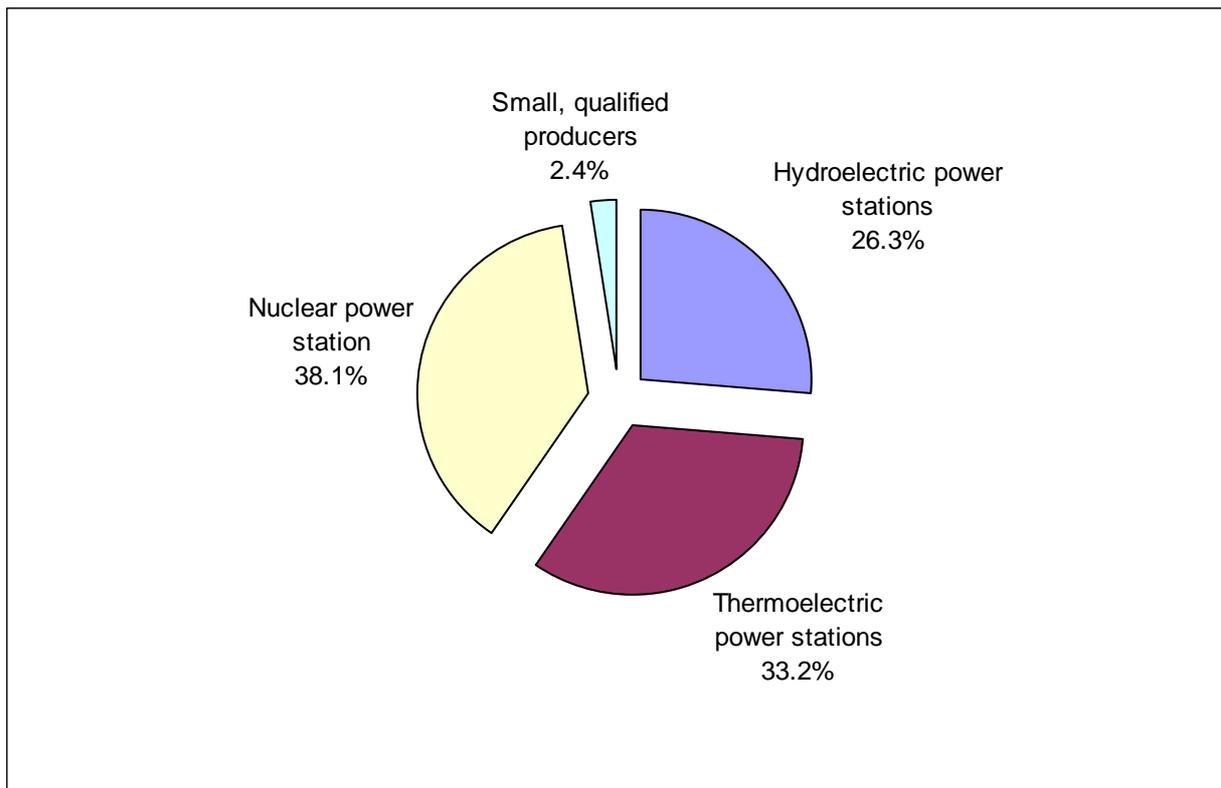


Figure 4: The structure of production sources in 2004

Source: Energy Agency

The regulator does not have direct responsibilities regarding the decisions relating to the investments in the production sources. Investments in the networks are discussed separately in section 3.6.3.3.

## 3.2 The production of electricity

### 3.2.1 The production

The production of electricity is the process of transforming primary energy into electricity. The primary sources of energy needed for the production of electricity can be divided into renewable and non-renewable sources. The former include hydroelectric energy; energy from the wind, the sun, or biomass; tidal- and wave-based generation; and geothermal energy. The latter sources of electricity production are fossil fuels and nuclear energy. There is also a special mode of production involving the simultaneous production of heat and electricity; this is known as cogeneration, where the heat and electricity are produced during a joint process in order to achieve better efficiency than with the separate processes of heat production and electricity production. The cogeneration process can use renewable and non-renewable sources.

In 2004 there were 404 legal entities and individuals holding a licence for one of the energy activities of the production of electricity in Slovenia. Most of these licences (364) were for the energy activity of electricity production in electric power stations with individual units that do not exceed a capacity of 1 MW, and electricity

production in electric power stations driven by wind, irrespective of the capacity. The majority of holders of this type of licence manage one or more small hydroelectric power stations. The amendments of the Energy Act as of May 2004 introduced, among other innovations, the abolishment of this licence, so that a licence is no longer required for carrying out this activity.

In the area of electricity production in large facilities with a capacity of over 10 MW there are eight companies operating in Slovenia. These companies are as follows:

- Drava Power Stations, Maribor, d.o.o. (DPSM),
- Sava Power Stations, Ljubljana, d.o.o. (SPSL),
- Soča Power Stations, Nova Gorica, d.o.o. (SPSNG),
- Nuclear Power Station, Krško, d.o.o. (NPSK),
- Thermoelectric Power Station, Šoštanj, d.o.o. (TPSŠ),
- Thermoelectric Power Station, Trbovlje, d.o.o. (TPST),
- Combined Heat-and-Power Station, Ljubljana, d.o.o. (CHPSL),
- Thermoelectric Power Station, Brestanica, d.o.o. (TPSB).

Three companies (DPSM, SPSL and SPSNG) are involved in the production of electricity in hydroelectric power stations, one company (NPSK) in the production of electricity in a nuclear power station, two companies (TPSŠ and TPST) are involved in the production of electricity in thermoelectric power stations running on coal, one company (CHPSL) is involved in the cogeneration of heat and electricity, and one company (TPSB) is involved in the production of electricity from liquid and gas fuels. Since the summer of 2001 the following companies, DPSM, SPSL, SPSNG, TPŠS and TPSB, together with the Coalmine, Velenje, have been operating within the holding company known as Holding Slovenske Elektrane (HSE).

With respect to the organisational aspects that are in line with the Energy Act, and the EU directives regarding the common electricity market, the production of electricity is a market-based activity that the Energy Agency does not regulate. The only area in the companies engaged in the electricity production that comes close to the regulated activities is the provision of ancillary services. Namely, the companies for the production of electricity are also the main providers of ancillary services, which the transmission system operator (henceforth referred to as the TSO) requires for the purposes of running the Slovenian electricity system. The Energy Agency determines the price for ancillary services that is paid for by all the users of the electricity networks. With the funds gained for this purpose from the network users, the TSO has to agree with the providers of ancillary services on the appropriate amount and quality of the ancillary services. The ancillary services are determined in the System Operation Instructions for the Electricity Transmission Network (The Official Gazette of the Republic of Slovenia, No. 46/02; henceforth referred to as the SOI-ET). This situation guarantees the system operator sufficient available capacities, and allows the producers of electricity to gain some of their revenues from the regulated market of ancillary services rather than from the open market for electricity.

In 2004 the Slovenian power stations produced a total of 13,392 GWh of electricity. The major part, 39 percent, was produced by the nuclear power station; the thermoelectric power stations produced 34 percent, and the hydroelectric power stations produced 27 percent. The shares have been calculated on the basis of the total production of the NPSK. As half of the production of the NPSK belongs to

Croatia, in accordance with the bilateral agreement between Slovenia and Croatia, the actual Slovenian production of electricity is lower, and in 2004 amounted to 10,786 GWh. In 2004 the largest share of electricity produced in Slovenia that actually belongs to Slovenian users of electricity was contributed by the thermoelectric power stations (43 percent), followed by the hydroelectric power stations (33 percent), and the Slovenian part of the NPSK (24 percent).

Type of production	Production (GWh)	Share of the total production
nuclear power *	2,605,50	24.16 %
thermoelectric power	4,578,00	42.44 %
hydroelectric power	3,603,00	33.40 %
Total	10,786.50	100.00 %

\* 50% share of the production of the NPSK taken into account

Table 3: Production of power stations in 2004

The TSO connects to the network those production facilities that have concluded appropriate contracts for the supply of electricity. The appropriate deals can be concluded bilaterally or on the electricity exchange. In the case of the producers that operate or own several production facilities, the decision regarding the connection and engagement of individual production facilities is, in principle, left to the operators of these production companies.

In line with the system operation instructions for the electricity transmission network, Borzen, the electricity-market operator, d.o.o. (henceforth referred to as Borzen) prepares, one day before the operation, the framework operation schedule of the producers' and customers' activities, and sends it to the TSO, who prepares the final operation schedule by adding transits of electricity and the necessary ancillary services to the framework operation schedule. During this procedure, the TSO takes into account the requirements for a secure operation of the electricity system.

### 3.2.2 Ancillary services

The transmission system operator only decides on the engagement of those producers that are involved in the provision of system services. On the basis of the SOI-ET, the TSO has to organise a lease of the following ancillary services:

- secondary frequency control,
- tertiary frequency control,
- voltage control,
- provision of a black start, which also includes the costs for the ancillary service of supply restoration following a black-out,
- covering of the losses in the transmission network.

The remaining ancillary service, primary frequency control, is, in line with the SOI-ET, a mandatory service, and for this reason the providers (electricity producers) do not receive any remuneration for it.

The number of necessary ancillary services is determined by the SOI-ET and the operation rules of the Union for the Co-ordination of the Transmission of Electricity (henceforth referred to as the UCTE).

### *3.2.2.1 Secondary frequency control*

The amount of necessary secondary-control reserve is, in line with the UCTE rules, determined on the basis of the expected peak load in an individual control area, or a control block. As in 2004 the forecasted peak load in the control area of the Slovenian transmission system operator was not significantly different from the forecasted peak load for 2003. The amount of the secondary-control reserve remained at the level from 2003, which was 80 MW.

### *3.2.2.2 Tertiary frequency control*

In line with the rules of the UCTE interconnection, the tertiary frequency control has to cover an outage of the largest production unit in the system. Since 19 April 2003, when a bilateral agreement on the NPSK came into force, the Slovenian half of the generator in the NPSK (335 MW) has been the largest generator in the Slovenian system. For this reason, in 2004 the system operator had to ensure a tertiary-control reserve of 335 MW. In line with the ReNEP, Slovenia has to ensure 60% of the tertiary-control reserve from the Slovenian power stations and from the domestic customers of electricity, while the remaining 40% can be leased abroad.

### *3.2.2.3 Control of voltage and reactive power*

This ancillary service has to be entirely provided for within the Slovenian electricity system (henceforth referred to as the ES). In line with the UCTE rules, the exchange of reactive power is not allowed, as, in addition to the active energy, only reactive energy needed for the technical operation of the lines should flow along the interconnection lines. Apart from the power stations, the transmission and distribution companies can also provide this service if they have the appropriate facilities, such as synchronous compensators or static var compensators. In Divača a synchronous compensator is placed on the transmission network; the TSO uses it when necessary.

For the purpose of voltage control, the system operator makes use of the possibility of the control of voltage and reactive power within the full regulatory extent of all the currently operating generators. The system operator determines the extent of the reactive-power production required for the voltage control with respect to the needs at the time. The system operator provides these services in line with the needs established at individual points in the transmission network.

### *3.2.2.4 Black start*

This ancillary service was ensured by Slovenian power stations, whose staff is already qualified for its provision. Hydroelectric power stations and gas power stations are technically suitable for the provision of this service; in addition, it is clear from the supply capabilities of the production companies that the HSE and the TPST can provide it as well. The fact that we have several providers of this service, which are geographically dispersed across Slovenia, is favourable, because it allows a restoration of the system after a possible black-out in several islands that can, at a certain level of the system restoration, reconnect and start to operate synchronously.

### *3.2.2.5 Covering losses in the transmission network*

According to the electricity balance for 2004, the energy required to cover the losses in the transmission network amounted to 313 GWh.

### *3.2.2.6 Provision of the required ancillary services in 2004*

In 2004 the providers of the ancillary services of secondary control, voltage control and black start were companies with their production sources in Slovenia, while the services of tertiary regulation and covering the losses in the transmission network were also provided by companies that have production facilities abroad. To lease the ancillary services for 2004, two types of procedure were used. One procedure was used for the ancillary services provided by the companies with the production facilities in Slovenia; these services include the provision of the secondary-control reserve, 60 percent of the total reserve required for the tertiary control, the voltage control and the provision of a black start. The TSO ensured these services on the basis of the recorded demand. The other type of procedure applied to those services that are provided by the companies with the production facilities abroad, and include 40 percent of the required tertiary-control reserve. The TSO selected the providers of these ancillary services, with the total amount of 135 MW, on the basis of an auction, taking into account the price cap, which was carried out by Borzen in December 2003. Larger customers that can provide the reserve for tertiary control by temporarily reducing their consumption, did not independently participate in the bidding procedure.

To purchase electricity required for covering the losses in the transmission network, the TSO also used the auction procedure that was carried out by Borzen in December 2003.

At the beginning of 2004 the TSO concluded all the contracts regarding the provision of ancillary services for 2004 with the selected providers.

## **3.2.3 The construction of new production capacities**

In August 2004 the government approved the development plan of the HSE Group for 2004–2013. With respect to the construction of new production facilities, the priority investments are the construction of five hydroelectric power stations on the lower Sava, the Avče pumped-storage power station, and the modernisation of Block 5 in the Thermoelectric Power Station, Šoštanj.

The project of constructing the hydroelectric power stations on the lower Sava was carried out in line with the set objectives. On the dam of the Boštanj hydroelectric power station, the main construction work and the installation of the hydromechanical equipment were carried out, while the turbine and geomechanical equipment were still under construction. The construction of the water reservoir and the clearing of the Sava banks were started.

In 2004 the construction of the Avče pumped-storage power station, the first such power station in Slovenia, was started. Its installed capacity will be 178 MW, and this will be connected to the 110-kV network. The procedure of integrating the Avče pumped-storage power station into the environment was completed with the

adoption of the Site-Development Plan of Common Interests in June 2004, and with the acquisition of the construction permit for the construction of the facility in September 2004. In line with the time schedule, the construction works and the installation of the equipment will be completed by the end of April 2008, and the connecting of the facility to the network is scheduled for the end of November 2008.

In 2004 the activities regarding the project of modernising Block 5 of the Thermoelectric Power Station, Šoštanj, including the adjustment of the gas turbines and the utilisation of their waste heat, were started. The procedure of selecting the best bidder was carried out, and the contract for the supply of equipment was signed.

### **3.2.4 Qualified production and preferential-dispatch production of electricity**

The system of preferential dispatch aims at supporting electricity production that would not be competitive in an open market. This system allows the producers that are eligible for support to sell their electricity at guaranteed prices, which are higher than the prices on the open electricity market. The system operator of the network to which such a producer's facility is connected has to buy all the electricity produced in the facility that is eligible for support from the system of preferential dispatch. The difference between the guaranteed and the market-based prices is covered by the supplement to the network charge included in the use-of-network price, which is determined by the government. A producer that produces in such facilities can also sell electricity in the market at market-based prices, and in such cases it is entitled to a premium that actually represents the difference between the subsidised and the market-based prices.

The producers producing electricity from domestic sources of fossil fuels on a non-profitable basis (the TPST), and the producers that produce electricity in an environmentally friendly way, are entitled to receive support via the system of preferential dispatch. The production of electricity in an environmentally friendly way is, in Slovenia, recognised by the awarding of the status of qualified producer, to which producers using renewable sources and those who produce electricity in facilities for cogeneration at an above-average efficiency are entitled. All qualified producers, with the exception of the producers in hydroelectric power stations with a capacity of more than 10 MW, communal heating stations of more than 10 MW, and industrial heating stations with a capacity of more than 1 MW, are also entitled to receive support.

The conditions that a production facility has to fulfil to gain the status of qualified producer are determined by the Ordinance relating to the conditions for obtaining the status of qualified producer of electricity (the Official Gazette of the Republic of Slovenia, Nos. 29/01, 99/01).

The purchase prices and premiums are determined by the government in the Decision Regarding the Prices and Premiums for the Purchase of Electricity from Qualified Producers of Electricity. The last time that the government determined the purchase prices and premiums was on 29 January 2004, with a decision that was published in the Official Gazette of the Republic of Slovenia, No. 08/04. This decision determines the purchase prices and premiums for 16 different types of

qualified producers with respect to the used energy source and production technology. In 2004 there was a total of 438 production facilities with the status of a qualified power station eligible for support from the preferential-dispatch system.

In 2004 qualified producers generated 323 GWh of electricity, which was 10.8 percent more than in 2003. The reason for the increase in the production was related to very favourable water levels.

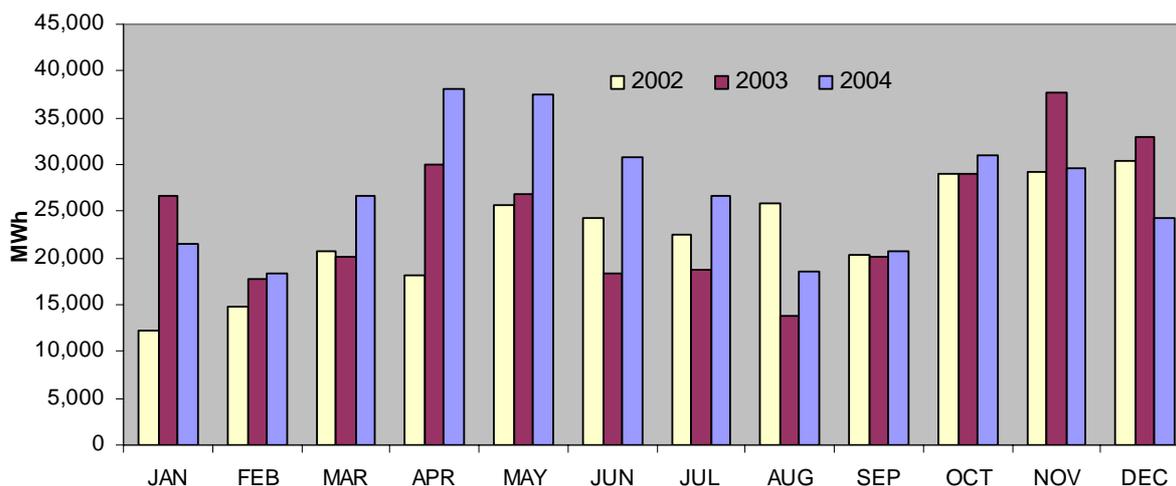


Figure 5: Monthly production of qualified producers

Among the qualified power stations on the distribution network using renewable energy sources (henceforth referred to as the RES) the majority are hydroelectric power stations. The share of all the remaining producers is less than 1.5 percent, and refers to the production using biomass and communal waste.

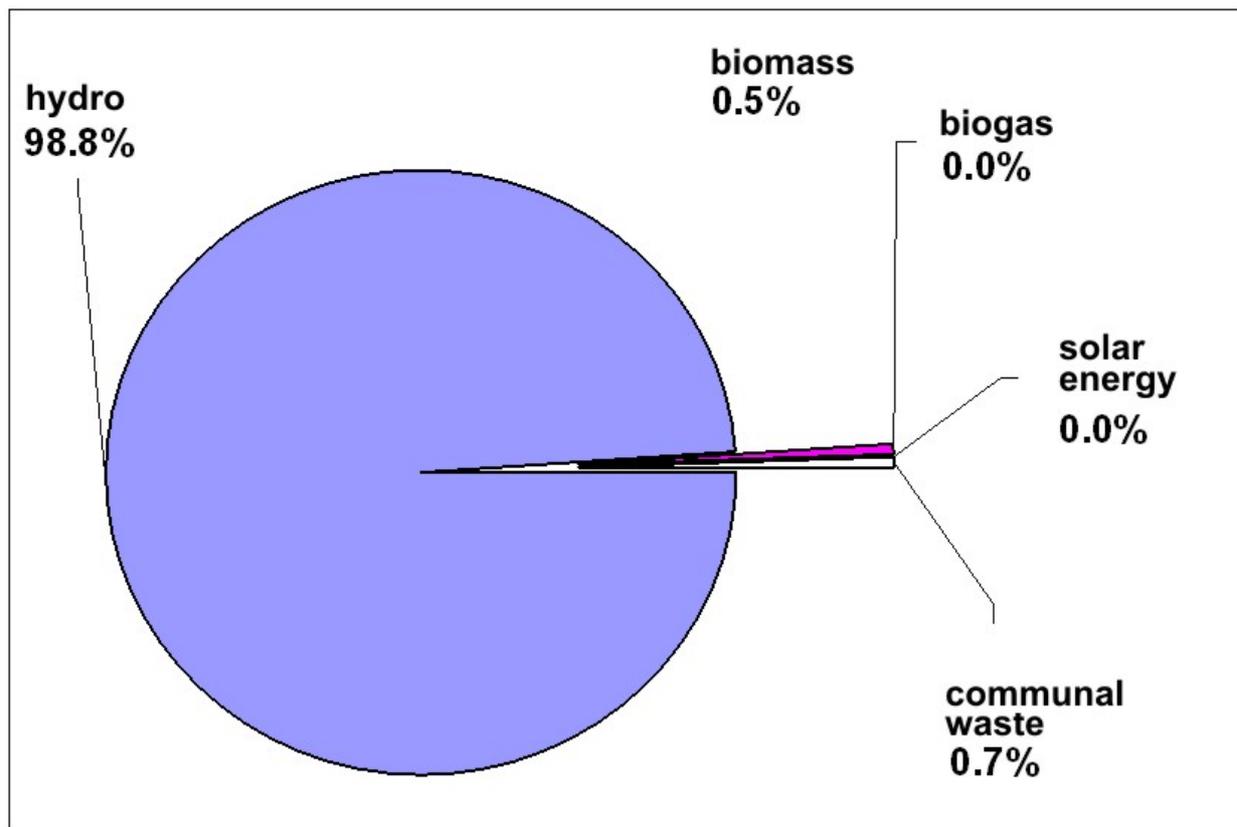


Figure 6: The renewable energy sources by source types

The Combined Heat-and-Power Station, Ljubljana is one of the largest qualified producers that obtained its status of qualified producer by fulfilling the requirement to achieve a 70-percent efficiency from the input energy of fossil fuel, in combination with renewable sources or waste, and a more than 8-percent saving of primary energy is made.

In addition to the support to qualified producers, the system of preferential dispatch also includes support to the producers that use 15 percent of Slovenian primary energy for the production of electricity. The right to this support is allowed by the European directive 2003/54/EC and the EA. Thus, every year the government determines the purchase price for 563 GWh of electricity produced in the TPST. The mechanism of preferential dispatch covers a total of 1278 GWh of produced electricity, which is 9.2 percent of the total production in Slovenia.

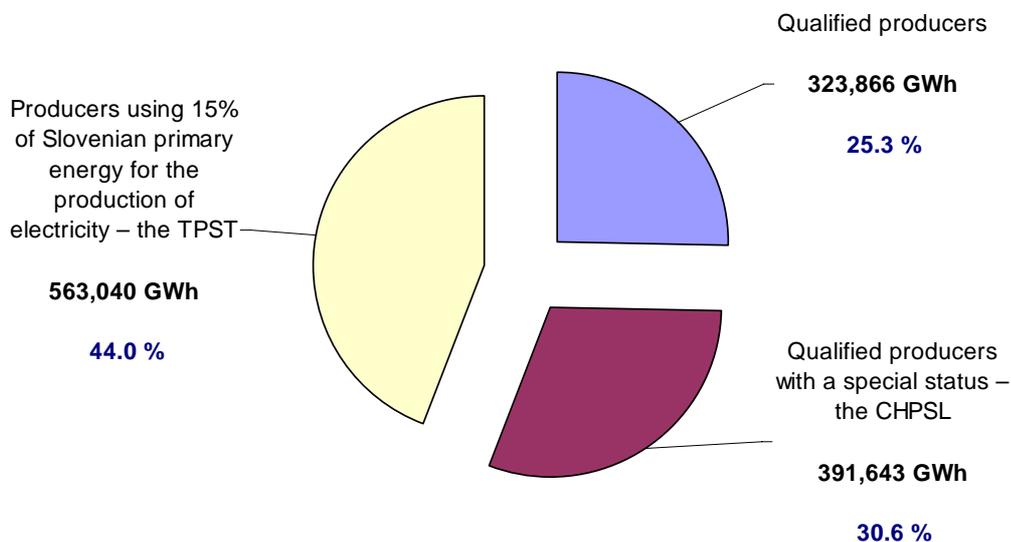


Figure 7: Production of preferentially dispatched electricity

The system operators of the transmission and distribution networks obtain the funds needed for the support to the producers entitled to a preferential dispatch from the fraction for preferential dispatch included in the use-of-network price determined by the government.

### 3.2.5 The Renewable Energy Certificate System (RECS)

In 2004 the Energy Agency started to issue certificates for the electricity produced from the RES – the RECS certificates (the Renewable Energy Certificate System). This system is a voluntary European organisation that, with a standardised system of certificates, allows trade in the value added for the environmental benefits of the electricity produced from the RES. In March 2004 the Energy Agency became an issuer of these certificates for Slovenia. The Association of Issuing Bodies (AIB), of which the Energy Agency is a member, operates as a sort of system operator for this system. Within this system, the members of the RECS International association, which brings together more than a hundred electricity companies, can operate as market participants. As an issuer, the Energy Agency issues and transfers these certificates, and also monitors their circulation in Slovenia.

In 2004 the Energy Agency issued a total of 2,178,544 RECS certificates. All these certificates were issued for the HSE company, which that year was the only Slovenian production company that carried out all the activities necessary for certifying their production from renewable sources. The HSE mainly used the issued certificates for guaranteeing the origin of its electricity on markets abroad; only towards the end of the year did it begin to use the RECS certificates for guaranteeing the origin of the electricity of its new trademark product on the domestic market.

### **3.2.6 Guarantees of the origin of electricity**

Any electricity producer that produces electricity from the RES, or in the process of cogeneration, can apply for a guarantee of origin of electricity, which has to list the details of the energy source, the date and place of production and the capacity of the power station. With an ordinance, the government shall regulate, in detail, the content and the mode of issuing the guarantees of origin of electricity issued by the Energy Agency.

In 2004 the guarantees of origin were subject to various changes. Like in many other EU countries, the process of issuing guarantees is still being developed. We could observe a trend, according to which the systems of issuing guarantees of the origin of electricity would allow trade in these certificates in a way similar to the trade in the so-called green certificates. In cooperation with the relevant ministry, the Energy Agency prepared a proposal for the system and procedures for issuing the guarantees of origin. On the basis of the proposal, the ministry will prepare the above-mentioned ordinance.

### **3.2.7 Publication of the structure of production sources**

On the basis of Article 19 of the EA, the Energy Agency is also responsible for issuing a general act stipulating the mode for determining the shares of individual production sources of electricity suppliers, and the manner of their presentation.

In the last quarter of 2004, the Energy Agency prepared the Draft Act Regarding the Mode of Determining the Shares of Individual Production Sources and the Mode of their Presentation; the act was adopted in 2005, and it will come into force on 1 January 2006. Suppliers of electricity to end users are obliged to publish, on the issued electricity bills and in their promotional materials, the shares of individual production sources within the whole structure of electricity production for each supplier relating to the operation in the previous year. Similarly, they are obliged to include, on their bills and promotional materials, at least the URLs of the web pages or details of other information resources, where it is possible to obtain information on the influence of the current production-source structure on the environment, mainly with regard to carbon-dioxide emissions (CO<sub>2</sub>) and radioactive waste. These requirements of the EA arise from the Directive 2003/54/EC of the European Parliament and of the Council Concerning Common Rules for the Internal Market in Electricity, which stipulates the publication of the structure of production sources in the framework of measures for the protection of electricity customers.

### **3.2.8 Details regarding the connection of new producers to the network**

The connection of facilities for the production of electricity in Slovenia is defined by the System Operation Instructions for the Electricity Transmission Network (the Official Gazette of the Republic of Slovenia, No. 46/02) and the System Operation Instructions for the Electricity Distribution Network (the Official Gazette of the Republic of Slovenia, No. 123/03). Further details regarding this topic are regulated

by the Ordinance Regarding General Conditions for the Supply and Consumption of Electricity (the Official Gazette of the Republic of Slovenia, Nos. 117/02 and 21/03) and the internal rules of the production and distribution companies.

In 2004 no major new production facility was connected to the Slovenian electricity transmission network. All newly connected facilities were of smaller capacity and were connected to the distribution network. The details relating to the connection of these new facilities to the Slovenian electricity network in 2004 are shown in Table 4.

System operator	Hydroelectric power stations		Solar power station	
	No.	P (kW)	No.	P (kW)
Elektro Slovenija, d. o. o.	-	-	-	-
Elektro Celje, d. d.	-	-	-	-
Elektro Gorenjska, d. d.	1	45	-	-
Elektro Ljubljana, d. d.	1	19	-	-
Elektro Maribor, d. d.	-	-	1	5
Elektro Primorska, d. d.	3	215	-	-
TOTAL	5	279	1	5

Table 4: Connection of new production facilities

2004 saw the introduction of 6 new production facilities with a total installed capacity of 284 kW, which were connected to the Slovenian electricity network; five of these facilities were small hydroelectric power stations. Their total capacity is 279 kW, and the capacity of the largest hydroelectric power station is 130 kW. In 2004 a small solar power station running on photovoltaic cells, with a capacity of 5 kW, was connected as well. Because of the problems with obtaining the status of qualified producer, this power station, until further notice, delivers electricity only to the internal network of its investor.

The above details show a considerable decrease in the number of newly connected production facilities in comparison with 2003. In that year 12 new production facilities, with a total installed capacity of 6088 kW, were connected to the Slovenian distribution electricity network. In 2003 almost two thirds of the new production capacities were facilities for the cogeneration of heat and electricity, while in 2004 no new cogeneration facility was connected.

### 3.2.8.1 Rules on connecting new producers

The technical requirements that new producers have to fulfil are listed in the executive regulations regulating the area of general conditions for the supply and consumption of electricity, and in the system operation instructions regarding the network that the new producer will connect to (transmission or distribution). After submitting the evidence of fulfilling the technical criteria, the system operator of the network, to which the new producer wishes to connect, issues a connection approval. The producer only pays the costs for the direct connection to the network, and does not pay any additional costs for the development of the other parts of the network. There are no mechanisms in place in Slovenia that would promote, on the basis of variable connection costs regarding the location or the

type of energy source, the construction of new power stations in certain areas, or power stations that use energy sources that are more acceptable with regard to their impact on the environment.

### **3.2.9 Vertical interaction between production companies, traders and suppliers**

The organisation of electricity companies meets the requirements of the relevant directive, as the production companies and the transmission system operator are organised as independent legal entities.

The distribution companies carry out several energy activities, such as the operation of the distribution network, the supply of electricity to tariff customers, the supply of electricity to eligible customers and other market-based activities. However, in line with the directive, they provide the separate management of accounts for individual energy activities and other activities. The EA stipulates that distribution companies, or the providers of the public service of the distribution system operator, have to adjust their organisational structure, and carry out this activity within an independent legal entity. The deadline for the legal separation of the activities is 1 July 2007, at the latest.

In 2001 the government established the HSE, joining together, in this way, five production companies (Drava Power Stations, Maribor; Sava Power Stations, Ljubljana; Soča Power Stations, Nova Gorica; Thermoelectric Power Station, Brestanica; Thermoelectric Power Station, Šoštanj) and the Coalmine, Velenje. The HSE is, thus, the largest and the main Slovenian producer and trader in electricity. The companies of the HSE Group produce more than half of the electricity in Slovenia.

## **3.3 The transmission of electricity and the provision of the tasks of the system operator**

In 2004 Elektro-Slovenija, d. o. o, (Eles), a public company, carried out the tasks of the transmission system operator in line with the EA. Before the adoption of the Ordinance regarding the Operating Mode of the Public Service of the System Operator of the Transmission Network for Electricity, which came into force on 6 November 2004, the tasks of the system operator were divided into two public services (PSs):

- the PS of the transmission network manager,
- the PS of the electricity transmission provider.

The above-mentioned ordinance combined these two services into a single service – the activity of the transmission system operator for electricity.

Eles organised itself in line with the EA, and in 2004 transferred all the market-based activities relating to the area of telecommunications and training from the public services to other independent companies, so that since the end of 2004 it has operated as a concern. However, in spite of the organisational changes, the

capital links remain. Eles is still the sole owner of Eles Gen, the company for financing and corporate governance, d.o.o., of the ICES, the Training Centre of the Slovenian Electricity Industry, and of Borzen. Eles is also the majority owner of TALUM, d.d., Kidričevo.

As the provider of the public service of electricity transmission, Eles manages electricity facilities at the 400-, 220- and 110-kV voltage levels. The transmission network is connected, with the facilities on the 400- and 220-kV networks, to the networks of the neighbouring countries – Austria, Italy and Croatia – and is one of the more important electricity hubs between South-East and West Europe. Because of the rapidly increasing cross-border trade in electricity, congestion of the transmission capacities of the network can occur in certain time intervals. This can be a result of a lack of transmission connections in Slovenia, or the cross-border transmission paths. In 2004 Eles prepared a ten-year development plan including the required investments in the new high-voltage facilities, and the key connections needed for the provision of long-term sufficient capacities of the transmission paths used for the operation in Slovenia, as well as for the cross-border exchanges. In 2004 Eles prepared the required project documentation for the following facilities: 2x400-kV Krško–Beričevo line, 2x400-kV Cirkovce–Pince line (including 400/110-kV Cirkovce DTS), 2x400-kV Okroglo–Udine line, 2x110-kV Combined-Heat-and-Power Station–Polje–Beričevo line, and additional transformers for the 400/110-kV Krško DTS and 400/110-kV Okroglo DTS. Figure 8 shows the development scheme.

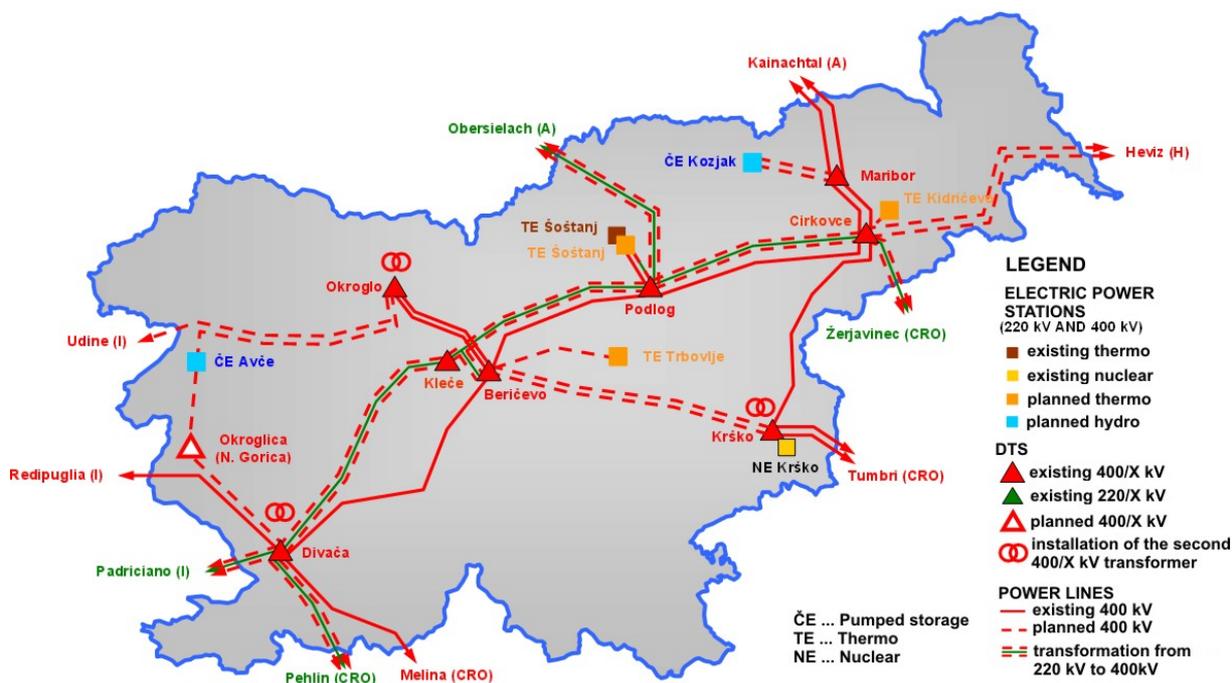


Figure 8: Development plan of the expansion of the 400-kV and 220-kV transmission networks

Source: Eles

### 3.4 The distribution of electricity and the provision of the task of the system operators

In Slovenia the activities of the DSO are carried out by five providers. They are organised as public services provided by the following companies:

- Public company for the distribution of electricity, Elektro Celje, d. d.,
- Public company for the distribution of electricity, Elektro Gorenjska, d. d.,
- Public company for the distribution of electricity, Elektro Ljubljana, d. d.,
- Public company for the distribution of electricity, Elektro Maribor, d. d.,
- Public company for the distribution of electricity, Elektro Primorska, d. d..

The amendments to the EA and the Ordinance regarding the Operating Mode of the Public Service of the System Operator of the Distribution Network for Electricity, and the Public Service of Supplying Electricity to Tariff Customers determine the tasks and the operating modes of both national public services. In line with these regulations, the operation of the companies for electricity distribution was organised in two separate public services: the activity of the system operator, and the activity of the supply to tariff customers, both of which have separate accounts. In addition to these public services, the companies for electricity distribution also carry out market-based activities, such as the supply of electricity to eligible customers, and service activities that also have separate accounts. The distribution companies carry out electricity production in legally separated subsidiary companies.

The provider of the public service of the system operator carries out the following tasks: electricity distribution, the management and operation of the distribution network, maintenance and development of the network, the provision of third-party access, the purchasing of electricity from qualified producers connected to the distribution network. The system operator also manages the flows of electricity along the distribution network, covers the losses in the network that amounted, for all distribution networks, to 624 GWh, and provides a safe and reliable operation of the distribution network. The system operator is also responsible for forecasting the electricity consumption and the required energy sources taking into account the economy measures on the customers' side needed for the planning of the development of the distribution network. The system operator has to set up a programme of measures needed to achieve the objectives set out in the EA, and monitor their implementation. It also has to report annually on the programme and its implementation to the Energy Agency, and publish this report.

### 3.5 The companies of the electricity industry

The companies of the electricity industry include the companies for the production, the transmission and the distribution of electricity, in which the state has the majority shareholding. The supply of electricity to eligible customers is carried out as a market-based activity, where the supplier and the eligible customer agree the quantity and the price of the supplied energy. The supply of electricity to tariff customers is organised as a public service.

### 3.5.1 Business operations of the electricity industry

The financial year 2004 was successful for the companies of the electricity industry. The production, transmission and distribution companies together finished 2004 with a net profit of 15,000 million tolar. None of the companies finished the year with a loss.

The table below shows the net profit and loss for the companies in the electricity industry.

			in millions of tolar
<b>Leto</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Drava Power Stations, Maribor, d. o. o.	2,400	1,648	4,674
Sava Power Stations, Ljubljana, d. o. o.	246	27	501
Soča Power Stations, Nova Gorica, d. o. o.	275	34	1,253
Thermoelectric Power Station, Brestanica, d. o. o.	120	595	623
Thermoelectric Power Station, Šoštanj, d. o. o.	-796	-1,663	73
Thermoelectric Power Station, Trbovlje, d. o. o.	28	26	34
Combined Heat-and-Power Station, Ljubljana, d. o. o.	68	319	355
Nuclear Power Station, Krško, d. o. o.	5,162	8,437	0
<b>Total</b>	<b>7,503</b>	<b>9,424</b>	<b>7,514</b>
Total for Hydroelectric Power Stations	2,921	1,709	6,429
Total for Thermoelectric Power Stations	-579	-723	1,086
Nuclear Power Station	5,162	8,437	0
Total Production	7,503	9,424	7,514
Total Distribution	-2,144	2,382	5,801
Elektro-Slovenija, d. o. o.	7,130	3,739	1,685
<b>Total for the electricity industry</b>	<b>12,489</b>	<b>15,545</b>	<b>15,000</b>

Table 5: Net profit and loss for the companies in the electricity industry

Source: Companies' data

Holding Slovenske elektrarne, d.o.o. (HSE) combines the following companies for the production of electricity:

- Drava Power Stations, Maribor, d. o. o.,
- Sava Power Stations, Ljubljana, d. o. o.,
- Soča Power Stations, Nova Gorica, d. o. o.,
- Thermoelectric Power Station, Brestanica, d. o. o.,
- Thermoelectric Power Station, Šoštanj, d. o. o.
- Coalmine, Velenje, d. d

At the same time, HSE is also a supplier of electricity. In 2004 it generated a net profit of 9863 million tolar (in 2003 its net profit was 3974 million tolar).

The companies of the electricity industry employed 6332 people in 2004, of which 2475 people were employed in activities related to electricity production, 3376 people were employed in the activity of distributing electricity, and 481 people were employed at Eles. In 2004 the companies of the electricity industry employed 120 people fewer than in 2003, which is shown in Table 6.

	2002	2003	2004	2004/2003
Drava Power Stations, Maribor, d. o. o.	325	302	300	99.3 %
Sava Power Stations, Ljubljana, d. o. o.	128	127	127	100.0 %
Soča Power Stations, Nova Gorica, d. o. o.	153	132	128	97.0 %
Thermoelectric Power Station, Brestanica, d. o. o.	124	123	122	99.2 %
Thermoelectric Power Station, Šoštanj, d. o. o.	605	592	592	100.0 %
Thermoelectric Power Station, Trbovlje, d. o. o.	350	343	284	82.8 %
Combined Heat-and-Power Station, Ljubljana, d. o. o.	331	318	314	98.7 %
Nuclear Power Stations, Krško, d. o. o.	634	634	610	96.2 %
<b>Total</b>	<b>2,650</b>	<b>2,571</b>	<b>2,477</b>	<b>96.3 %</b>

	2002	2003	2004	2004/2003
Total for Hydroelectric Power Stations	606	561	555	98.9 %
Total for Thermoelectric Power Stations	1,410	1,376	1,312	95.3 %
Nuclear Power Station	634	634	610	96.2 %
Total Production	2,650	2,571	2,477	96.3 %
Total Distribution	3,456	3,388	3,376	99.6 %
Elektro Slovenija, d. o. o.	509	493	481	97.6 %
<b>Total for the electricity industry</b>	<b>6,615</b>	<b>6,452</b>	<b>6,334</b>	<b>98.2 %</b>

Table 6: Number of employees in the companies in the electricity industry  
Source: Companies' data

### 3.5.2 The ownership structure of the companies in the electricity industry

The state is the sole owner of HSE, Eles and the Coalmine, Trbovlje-Hrastnik; while in other companies of the electricity industry the state is the majority shareholder. In comparison with the previous year, in 2004 the ownership structure did not change significantly.

	shares in %					
	the Republic of Slovenia	HSE	Other shareholders	the Municipality of Ljubljana	ELES GEN	the Croatian electricity industry
Holding Slovenske elektrarne, d. o. o.	100.0					
Drava Power Stations, Maribor, d. o. o.	0.1	99.9				
Sava Power Stations, Ljubljana, d. o. o.		79.5	20.5			
Soča Power Stations, Nova Gorica,		79.5	20.5			

d. o. o.					
Thermoelectric Power Station, Brestanica, d. o. o.		79.5	20.5		
Thermoelectric Power Station, Šoštanj, d. o. o.		79.5	20.5		
Thermoelectric Power Station, Trbovlje, d. o. o.	77.1		22.9		
Combined Heat-and-Power Station, Ljubljana, d. o. o.	64.6			35.4	
Nuclear power Station, Krško, d. o. o.				50.0	50.0
Elektro Celje, d. d.	79.5		20.5		
Elektro Primorska, d. d.	79.5		20.5		
Elektro Gorenjska, d. d.	79.5		20.5		
Elektro Ljubljana, d. d.	79.5		20.5		
Elektro Maribor, d. d.	79.5		20.5		
Elektro-Slovenija, d. o. o.	100.0				
Coalmine, Velenje, d. d.		77.7	22.3		
Coalmine, Trbovlje-Hrastnik, d. o. o.	100.0				

Table 7: Ownership structure of the electricity companies

Source: Companies' data

### 3.5.3 Details about separate accounts

In line with the Ordinance regarding the Requirements and the Procedures for Issuing and Revoking the Licenses for Operating Energy-Related Activities (the Official Gazette of the Republic of Slovenia, Nos. 21/01, 31/01), all legal entities and individuals wishing to carry out individual energy activities have to obtain an appropriate licence from the Energy Agency. The EA defines 18 energy activities; for four of them, the current ordinance does not require a licence, while 21 different licences are required for the remaining 14 activities.

Up to 31 December 2004 the Energy Agency issued 906 licences to 553 legal entities or individuals. As a result of temporary non-operation, 38 licences were returned to the Energy Agency for their safekeeping.

In its Article 38, the EA stipulates that all legal entities carrying out:

- more than one energy activity in the area of electricity supply,
- more than one energy activity in the area of natural-gas supply,
- another activity (another energy-related or market-based activity) in addition to an activity in the area of electricity supply,
- another activity (another energy-related or market-based activity) in addition to an activity in the area of natural-gas supply,

have to provide the separate management of accounts for each energy activity in line with the Slovenian Accounting Standards. After the implementation of the amendments, the above-mentioned article of the EA reduces the number of persons obliged to run the separate management of accounts for individual energy activities by obliging only legal entities to do so.

In line with Article 38 of the EA, the Energy Agency checked whether the licence holders in the area of electricity supply carry out the activities for which they were granted the licences, and whether they provide separate management of the accounts for the activities that they carry out.

Of the total of 906 granted licences, 612 relate to the area of electricity supply. Fifty-five percent of these licences, i.e., 337 licences, were granted to 176 legal entities. As 67 legal entities were granted a licence No.5, which, after the amendment of the EA, is no longer required, the Energy Agency requested respective details from 109 legal entities. Seventy four of them, or 68 percent, responded, of which 34 percent did not carry out any energy activity in 2004. Of the remaining 66 percent of holders that did carry out energy activities, only 65 percent provided separate account management for individual energy activities. In 2004 it was mostly the large companies operating in the electricity market that managed separate accounts for individual energy activities. These include all the companies carrying out the activities of the system operator.

All legal entities operating in the area of electricity supply are, with respect to the account management, obliged to use the Slovenian Accounting Standards.

### 3.6 Regulated activities

In the area of electricity supply, the EA determines, in Article 20, the following national mandatory public services:

- the activity of the transmission system operator,
- the activity of the distribution system operator,
- the supply of electricity to tariff customers,
- the operation of the electricity market.

In accordance with the Public Services Act (The Official Gazette of the Republic of Slovenia, Nos. 32/93 and 30/98) the public services provide material amenities, such as the products and services whose permanent and uninterrupted provision is provided by the Republic of Slovenia, in the public interest, for the purpose of meeting public demands whenever these cannot be guaranteed by the market. The mode of carrying out a public service is determined by the government with an appropriate ordinance, in which it also defines the sources for financing the public service.

In accordance with these ordinances, the companies below provide the following services:

- Eles: the public service of the transmission system operator of the electricity network;
- individual distribution companies: the public service of the distribution system operator of the electricity network, and the public service of electricity supply to tariff customers;
- Borzen: the public service of operating the electricity market.

The economic regulation of the public services of system operators has been introduced because of the need to guide and control the operation of the companies

in those parts of the markets where it is not possible to ensure the unrestricted competition that would protect customers and other interested parties.

The Energy Agency is responsible for setting the network charge for the use of the electricity networks, separately for the transmission and distribution networks, the eligibility of costs, and other components of the network charge for the electricity networks. It also issues the general act determining the methodology for the preparation of the tariff systems, and gives approval to the tariff system relating to the electricity for tariff customers.

With respect to the provisions of the EA, the Energy Agency regulates the following:

- the distribution companies, for their provision of the public service of the distribution system operator of the electricity network (DSO),
- the transmission company, for its provision of the public service of the transmission system operator of the electricity network (TSO).

The EA that was in force until the enforcement of the amendments in 2004, defined the regulated public services in a different way: the PS of electricity transmission (ET), the PS of the transmission network management (TNM), the PS of electricity distribution (ED), and the PS of the distribution network management (DNM). In 2004 the regulated companies kept their accounts in line with the system valid at the beginning of that year.

### **3.6.1 Mandatory national public services that are financed from the network charge**

The revenues from the network charge are to cover the costs of providing the following public services:

- the PS of the transmission system operator of the electricity network (before the amendments to the EA we had the PS of electricity transmission and the PS of electricity distribution);
- the PS of the distribution system operator of the electricity network (before the amendments to the EA we had the PS of the transmission network management and the PS of the distribution network management).

The network charge is used for the costs of management, operation and maintenance of the network, the network development, the costs of covering technical losses of electricity in the network and the costs of ancillary services.

### **3.6.2 Setting the network charge**

For the first regulatory period 2003–2005, the Energy Agency set the network charge on the basis of the criteria for the eligibility of costs and the methodology for setting the network charge for the transmission and distribution networks. The Energy Agency prepared this methodology at the end of 2002, and after the government gave its approval, the Energy Agency published the methodology in the

Rules on the Amendments to the Rules on Setting the Prices for the Use of Electricity Networks and the Criteria for the Eligibility of Costs (the Official Gazette of the Republic of Slovenia, No.109/02).

The methodology determined the regulatory period of three years, starting on 1 January 2003. Economic regulation is carried out by applying the method of price capping. On the basis of the adopted and published methodology the Energy Agency prepared calculations for the required and balanced revenue from the network charge for all three years of the regulatory period, as well as a proposal for a change of the network charge. The adopted model of economic regulation based on the method of price capping resulted in the need to increase the distribution-network charge by 15.56 percent annually, and to increase the transmission-network charge by 13.19 percent annually, for the period 2003–2005. The need for such an increase in the network charge over that charged in 2002 was mainly a result of the fact that in the past the network charges did not cover the costs, nor did they take into account a sensible return on assets.

The network charges calculated on the basis of the above-mentioned methodology were published in the Rules on the Amendments to the Rules on Setting the Prices for the Use of Electricity Networks and the Criteria for the Eligibility of Costs (the Official Gazette of the Republic of Slovenia, No. 11/03).

In July 2004 the Energy Agency prepared the corrections of the calculation of the required revenue from the network charge for 2004 and 2005, which show that an approximate zero growth rate of the network charge is maintained for the remaining part of the regulatory period, i.e., until 31 December 2005.

These corrections were also taken into account in the Act Determining the Methodology for Calculating the Network Charge and the Methodology for Setting the Network Charge for Electricity Networks (the Official Gazette of the Republic of Slovenia, No. 84/2004).

The act also has the following annexes:

- the starting points for economic regulation;
- the parameters for setting the network charge for electricity networks in 2004 and 2005;
- the ratios between the tariffs with regard to the seasons and the daily tariff time;
- the correction factors valid since 1 August 2004, which represent the mechanism for balancing the differences between the balanced revenues and the expected revenues of individual providers of the public services of system operators, and are used in the contracts regarding access to the transmission network between the distribution system operator and the transmission system operator.

On the day of enforcement of the above-mentioned act, the Rules on Setting the Prices for the Use of Electricity Networks and the Criteria for the Eligibility of Costs (the Official Gazette of the Republic of Slovenia, Nos. 30/01, 103/01, 48/02, 109/02 and 11/03) ceased to have effect.

Together with the above-mentioned act, the Decision on Setting the Network Charge for the Use of Electricity Networks was published; it includes the network-charge tariffs for the following:

- the transmission network,
- the distribution network,
- ancillary services,
- specialised ancillary services,
- the use of cross-border transmission capacities of interconnecting lines,
- the average cost for making a connection.

The Energy Agency sets the network-charge tariffs with the aim to:

- stimulate the cost effectiveness of the providers based on the principle of price capping:
  - separately for the transmission and distribution networks;
  - separately for individual ancillary services, except for those services for which a competitive market is organised;
- continually increase, or maintain, the level of electricity quality, which includes supply quality, supply reliability and quality of services in the area of electricity;
- encourage network users to optimally use the networks;
- keep the tariffs transparent;
- encourage sustainable operation of the providers of the public services of the system operators without operating losses and with a restricted return on assets;
- provide stable conditions in the area of the transmission and distribution of electricity, and a stable environment for the investors or owners;
- encourage the network development, so that the quality of the transmission and distribution of electricity is continually increased or maintained.

The eligibility of costs is assessed separately for the following:

1. the expenditure relating to the investments in the infrastructure, reduced by the revenues from the average charges for making a connection to a network, and from co-investments;
2. the costs of current operation, including the costs of materials, services and labour, reduced by the revenues that the regulated services generate in addition to the network-charge revenues;
3. the costs of purchasing electricity for covering the losses in the network.

The price is the result of the required revenue and the forecasted amount of electricity consumption. The Energy Agency defines the forecasted consumption on the basis of weights, such as the realised amounts in the past, and balances it with the forecasted consumption of regulated companies.

The estimation of the required revenues for the regulated services is based on the total costs for four main components: eligible costs of operation and maintenance, amortisation, return on assets, and losses in the network. The estimation of the required revenues of the transmission system operator also includes a fifth component – the costs of ancillary services.

The eligible costs are those that are established, for a regulatory period, also on the basis of benchmarking. By using the benchmarking methods, which take into account specific characteristics regarding the specific network of each company, the

companies are guaranteed unified conditions for establishing their relative business effectiveness.

For the purpose of establishing eligible costs, the Energy Agency analysed in detail the financial statements of the regulated companies by individual activities, and, on the basis of additionally required detailed data about their operation, prepared the basis for the benchmarking.

Thus, when taking into account the electricity consumption of 12,072.3 GWh, the revenue from the network charge (without the ancillary services) for 2004 was expected to be 54,470.0 million tolar, the expected revenue from the fraction for the ancillary services included in the use-of-network price was expected to be 6,670.8 million tolar, and the total realisation was established to be 61.887,9 million tolar.

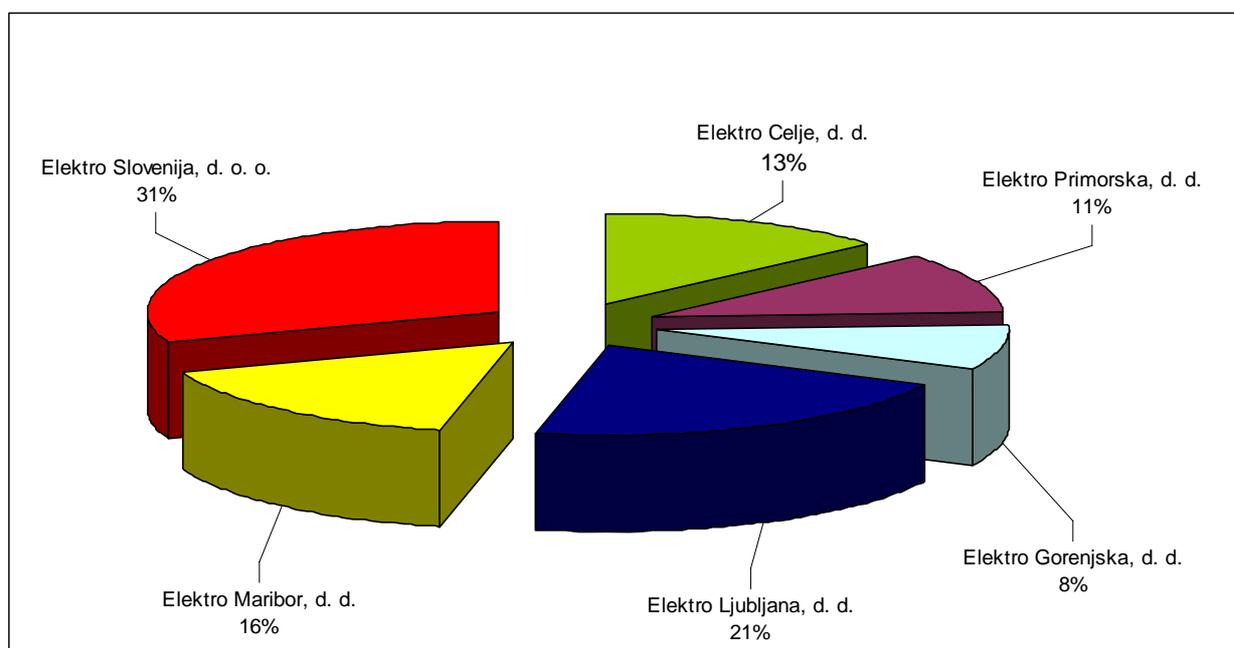


Figure 9: The structure of revenues from the network charge including the ancillary services

Source: Energy Agency

### 3.6.3 The financial results of the regulated companies for the transmission and distribution of electricity

In 2004 the distribution companies managed separate accounts for the following activities:

- the distribution of electricity (public service),
- the operation of the distribution network (public service),
- the supply to tariff customers (public service),
- the supply to eligible customers,
- other market-based activities.

The transmission company manages separate accounts for the following activities:

- the transmission of electricity (public service),
- the operation of the transmission network (public service),
- telecommunications (until its separation on 1 July 2004),
- ICES, the Training Centre of the Slovenian Electricity Industry (until its separation in December 2004).

	in millions of tolar			
	2002	2003	2004	2004/2003
Elektro Celje, d. d.	-635.0	602.2	875.3	145.3 %
Elektro Primorska, d. d.	165.8	450.5	859.4	190.8 %
Elektro Gorenjska, d. d.	440.6	432.0	815.8	188.8 %
Elektro Ljubljana, d. d.	-529.5	703.9	1,995.6	283.5 %
Elektro Maribor, d. d.	-1,585.8	193.8	1,275.8	658.2 %
<b>Total distribution</b>	<b>-2,143.9</b>	<b>2,382.4</b>	<b>5,821.9</b>	<b>244.4 %</b>
Elektro Slovenija, d. o. o.	7,129.8	3,738.9	1,684.6	45.1 %
<b>Total</b>	<b>4,985.9</b>	<b>6,121.3</b>	<b>7,506.6</b>	<b>122.6 %</b>

Table 8: Profit and loss for the transmission and distribution companies

Source: Companies' data

In 2004 the financial results of the regulated companies were significantly better than in 2003: the profit increased by 22.6 percent, i.e., by 1385.3 million tolar.

The distribution companies finished the financial year 2004 with a profit of 5821.9 million tolar, while Eles had a profit of 1684.6 million tolar.

The table below shows the shares of the total income generated in 2004.

	2003	2004
Elektro Celje, d. d.	2.0 %	2.7 %
Elektro Primorska, d. d.	1.7 %	2.9 %
Elektro Gorenjska, d. d.	2.5 %	4.2 %
Elektro Ljubljana, d.d.	1.1 %	3.0 %
Elektro Maribor, d. d.	0.5 %	3.2 %
<b>Total distribution</b>	<b>1.4 %</b>	<b>3.1 %</b>
Elektro Slovenija, d. o. o.	9.0 %	3.3 %
<b>Total</b>	<b>2.9 %</b>	<b>3.2 %</b>

Table 9: The shares of the total income generated in 2004

Source: Companies' data

### 3.6.3.1 The business operations of the distribution companies

The services of the distribution companies, whose regulation is the responsibility of the Energy Agency, finished 2004 with a profit of 3896.7 million tolar. However, all the distribution companies made a huge loss in the public service of supply to tariff customers, which amounted to 4.835.9 million tolar. The reason for such a huge loss is the restraining of the price for tariff customers, which does not cover the costs associated with the consumption of electricity and the use of networks.

The losses of the public service of supply to tariff customers were being replaced by the movements of liquid assets from the other activities and with various credits. The Energy Agency maintains that this is a temporary phenomenon associated with a gradual introduction of the market, and also with the state's restraining of regulated prices. The situation will be resolved by 1 July 2007 at the latest, when the current tariff customers will also become eligible customers.

in millions of tolar

	2003			2004			2004/2003		
	DSO, ED or TSO, ET	Supply to tariff customers	Total: public service	DSO, ED or TSO, ET	Supply to tariff customers	Total: public service	DSO, ED or TSO, ET	Supply to tariff customers	Total: public service
Elektro Celje, d. d.	826.7	-938.0	-111.3	793.0	-912.1	-119.1	95.9 %	97.2 %	107.0 %
Elektro Primorska, d. d.	772.7	-1,232.7	-460.0	758.8	-670.5	88.3	98.2 %	54.4 %	-19.2 %
Elektro Gorenjska, d. d.	563.3	-912.6	-349.2	352.3	-356.4	-4.2	62.5 %	39.1 %	1.2 %
Elektro Ljubljana, d. d.	1,459.6	-2,228.5	-768.9	1,154.5	-1,761.0	-606.5	79.1 %	79.0 %	78.9 %
Elektro Maribor, d. d.	618.2	-1,319.6	-701.4	838.2	-1,135.9	-297.8	135.6 %	86.1 %	42.5 %
<b>Total distribution</b>	<b>4,240.5</b>	<b>-6,631.4</b>	<b>-2,390.9</b>	<b>3,896.7</b>	<b>-4,835.9</b>	<b>-939.3</b>	<b>91.9 %</b>	<b>72.9 %</b>	<b>39.3 %</b>

Table 10: Financial results for the distribution company, by regulated activities

Source: Companies' data

In 2004 the distribution companies generated a profit of 6761.2 million tolar with the provision of market-based services.

in millions of tolar

	DSO, ED or TSO, ET	Supply to tariff customers	Market-based activities	Company
Elektro Celje, d. d.	793,0	-912,1	994,4	875,3
Elektro Primorska, d. d.	758,8	-670,5	771,1	859,4
Elektro Gorenjska, d. d.	352,3	-356,4	820,0	815,8
Elektro Ljubljana, d. d.	1.154,5	-1.761,0	2.602,1	1.995,6
Elektro Maribor, d. d.	838,2	-1.135,9	1.573,6	1.275,8
<b>Total distribution</b>	<b>3.896,7</b>	<b>-4.835,9</b>	<b>6.761,2</b>	<b>5.821,9</b>

Table 11: Financial results for the distribution companies by activities

Source: Companies' data

The regulated services of the distribution system operator and electricity distribution are financed from the network charge for the distribution network. The realisation of the revenues from the network charge was, in comparison with the expected realisation from the regulatory framework for 2004, higher by 0.9 percent, or 385.1 million tolar, which is a result of the difference between the expected and realised electricity consumption.

	2003			2004			Realisation % 2004/2003
	Realisation	Regulatory framework	Realisation %	Realisation	Regulatory framework	Realisation %	
Elektro Celje, d. d.	8,018.4	7,853.4	102.1 %	8,203.0	8,041.0	102.0 %	102.3 %
Elektro Primorska, d. d.	6,716.9	6,400.0	105.0 %	6,772.9	6,593.4	102.7 %	100.8 %
Elektro Gorenjska d. d.	4,901.5	4,954.2	98.9 %	4,981.4	4,999.8	99.6 %	101.6 %
Elektro Ljubljana, d. d.	12,793.1	12,445.7	102.8 %	13,103.6	13,008.4	100.7 %	102.4 %
Elektro Maribor, d. d.	8,983.1	8,968.0	100.2 %	9,923.7	9,956.9	99.7 %	110.5 %
<b>Total distribution</b>	<b>41,413.0</b>	<b>40,621.3</b>	<b>101.9 %</b>	<b>42,984.6</b>	<b>42,599.5</b>	<b>100.9 %</b>	<b>103.8 %</b>

Table 12: Comparison between the realised and expected revenues from the network charge in 2003 and 2004

Source: Companies' data and the Energy Agency

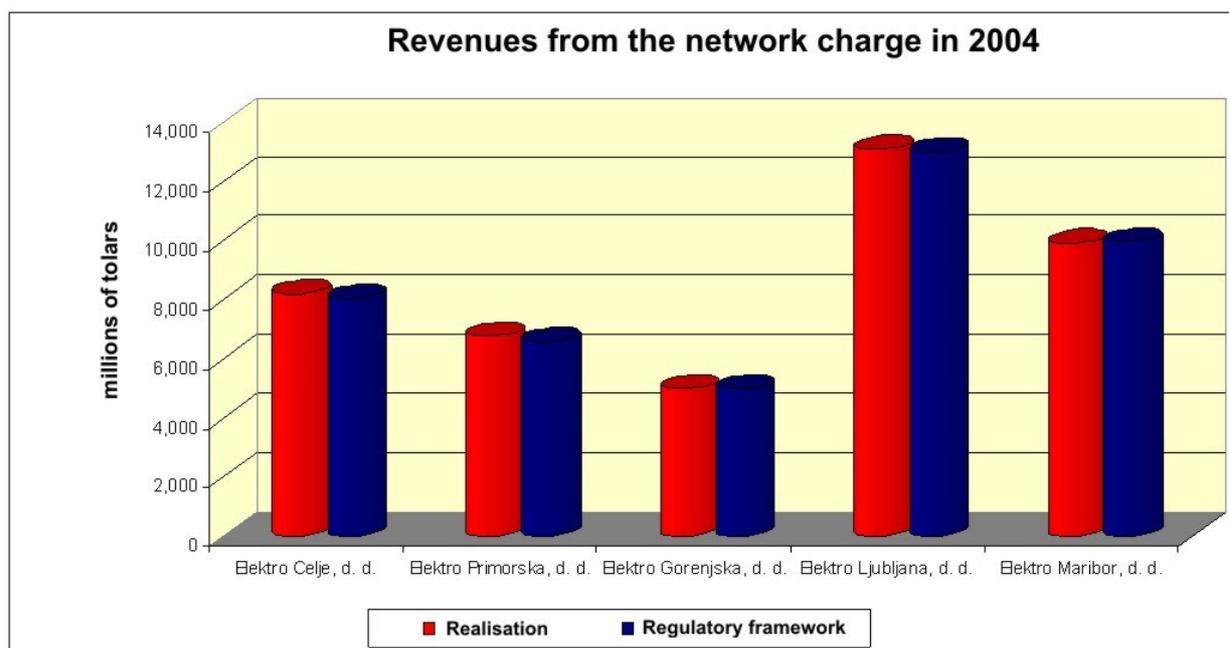


Figure 10: Comparison between the realised and expected revenues from the network charge in 2004

Source: Energy Agency

The expected revenue for 2004 as a result of charging for the average costs of making a connection was 912.8 million tolar; the actual amount was 1326.3 million tolar.

Table 13 shows the total value of the realised and expected revenues from the network charge and from the charge covering the average costs of making a connection in 2004.

	Expectation	Realisation	Real.%
	1	2	3=2/1
Elektro Celje, d. d.	8,166.0	8,441.0	103.4%
Elektro Primorska, d. d.	6,693.4	6,963.0	104.0%
Elektro Gorenjska, d. d.	5,118.5	5,089.8	99.4%
Elektro Ljubljana, d. d.	13,308.4	13,580.4	102.0%
Elektro Maribor, d. d.	10,225.9	10,236.6	100.1%
<b>Total distribution</b>	<b>43,512.2</b>	<b>44,310.8</b>	<b>101.8%</b>

Table 13: The expected and realised revenues from the network charge and the charge covering the average costs of making a connection

Source: Energy Agency

### 3.6.3.2 The business operation of the transmission company

The transmission system operator ended the financial year with a profit of 1684.6 million tolar, of which the regulated activities made a profit of 1530.5 million tolar.

In the regulatory framework the Energy Agency expected, for 2004, the revenue from the network charge for the transmission network to be 11,870.9 million tolar. Because of the higher-than-expected consumption of electricity the revenue from the network charge was higher, i.e., by 2.9 percent, amounting to 12,210.7 million tolar. Very good financial results for 2004 were also influenced by additional revenues from the mechanism of cross-border trading, which are taken into account when setting the network charge for the next regulatory period. In addition, the higher-than-expected revenues from telecommunications also contributed a share to the good financial results.

The expected revenues from the ancillary services for 2004 were 6670.8 million tolar, while the realised revenues were 6692.6 million tolar. The total revenues from the ancillary services and an excessive receipt of reactive energy were 6855.8 million tolar, while the costs amounted to 7165.9 million tolar. With regard to this item, Eles had a loss of 310.1 million tolar.

Eles also had a loss of 148.7 million tolar with preferential dispatch.

### 3.6.3.3 The investments of the companies for the transmission and distribution of electricity

The provisions of Articles 22 and 23a of the EA oblige the system operators, with regard to the transmission and distribution networks, to maintain and develop the network, provide long-term network capacities and the reliability of electricity supply. The legislation thus obliges the system operators to continually,

considerately and effectively invest in the development and reconstruction of the electricity network.

For the purpose of constructing new capacities and upgrading the existing capacities on the transmission and distribution networks, in 2004 the companies, operating in the framework of the public service of the transmission system operator and the public service of the distribution system operators, allocated 24,832 million tolar, which was 6.4 percent more than in 2003. The value of the investments on the distribution network in 2004 exceeded the investments in 2003 by 15 percent, while the investments on the transmission network amounted to only 80.1 percent of the value of the investments realised in 2003.

Investments in the construction and reconstruction of the electricity network exceeded the investments expected in the business plans of the companies by 2.4 percent, and exceeded the investments that the Energy Agency expected for 2004 in the regulatory framework by 6.8 percent. The investments in the distribution networks, amounting to 20,199 million tolar, exceeded expectations, while the investments in the transmission network were not realised in line with expectations.

in millions of tolar

	2003	2004	2004 (2003- 2005)	2004	Realisation index		
	Realisation	Buss. plan	Reg. framework	Realisation	2004/2003	Buss. plan	Reg. framework
	1	2	3	4	5=4/1	6=4/2	7=4/3
Elektro Celje, d. d.	3.260	3.487	3.487	3.579	109,8	102,7	102,7
Elektro Gorenjska, d. d.	2.786	2.593	2.593	2.640	94,8	101,8	101,8
Elektro Ljubljana, d. d.	5.636	6.165	5.168	6.708	119,0	108,8	129,8
Elektro Maribor, d. d.	3.348	3.751	3.749	4.090	122,2	109,1	109,1
Elektro Primorska, d. d.	2.530	2.984	2.984	3.181	125,7	106,6	106,6
<b>TOTAL DISTRIBUTION</b>	<b>17.561</b>	<b>18.979</b>	<b>17.980</b>	<b>20.199</b>	<b>115,0</b>	<b>106,4</b>	<b>112,3</b>
Elektro-Slovenija, d. o. o.	5.780	5.264	5.264	4.632	80,1	88,0	88,0
<b>TOTAL</b>	<b>23.341</b>	<b>24.243</b>	<b>23.244</b>	<b>24.832</b>	<b>106,4</b>	<b>102,4</b>	<b>106,8</b>

Table 14: Investment realisation in 2004

Source: Companies' data

The companies allocated 13,833 million tolar, which is 56 percent of the total investments, for new investments, and 10,999 million tolar, or 44 percent of the total investments, for the reconstruction and modernisation of the existing electricity facilities. The ratio between the funds allocated for the reconstructions and new investments varied among the different companies.

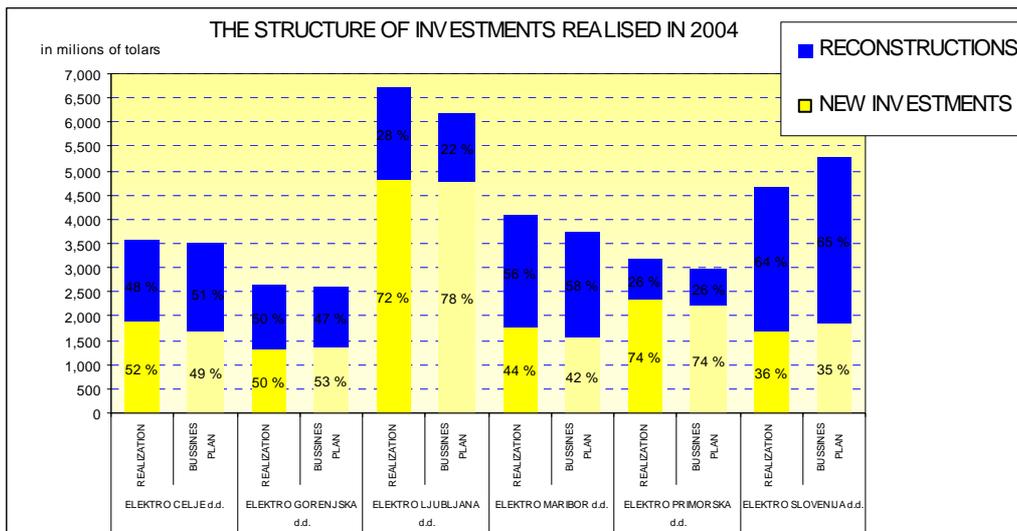


Figure 11: Reconstructions and new investments of the companies for transmission and distribution

Source: Companies' data and the Energy Agency

On the distribution network, the majority of investments were allocated for the construction and reconstruction of the medium-voltage and low-voltage networks, and the reconstruction of the distribution-transformer stations in the 110-kV network. Documentation for the investments in the new facilities on the 110-kV network (DTSs, power lines and cable lines) was prepared; the investments in these facilities will be made in the forthcoming years.

The transmission system operator reconstructed and modernised mainly the distribution-transformer stations (the Kidričevo DTS and Koper DTS), and completed the investments in the Divača DTS and Krško DTS. Intense construction and reconstruction of the high-voltage network, mainly the 400-kV network, and larger investments in the interconnection lines are expected to take place in the forthcoming years.

For the majority of their investments, the distribution system operators used the amortisation costs of 13,384 million tolar, which was 66 percent of the total investments. They obtained the rest of the funds by using other resources of their own (profit from the current year and from the previous years), raising loans from banks and using the co-investments of the network users.

The transmission system operator financed 85 percent of the investments by using the amortisation costs of 3,918 million tolar, and the remaining 15 percent by using other resources of its own.

Table 15 in Figure 12 show the sources of the funds used for the investments in different companies.

	Sources of funds used for the investments in 2004				
	amortisation	other own resources	loans	co-investments	total
	1	2	3	4	5=1+2+3+4
Elektro Celje, d. d.	2,962	618	0	0	3,579
Elektro Gorenjska, d. d.	1,297	461	882	0	2,640
Elektro Ljubljana, d. d.	3,192	1,983	800	732	6,708
Elektro Maribor, d. d.	3,936	0	0	154	4,090
Elektro Primorska, d. d.	1,997	134	860	190	3,181
<b>TOTAL DISTRIBUTION</b>	<b>13,384</b>	<b>3,196</b>	<b>2,542</b>	<b>1,077</b>	<b>20,199</b>
Elektro Slovenija, d. o. o.	3,918	714	0	0	4,632
<b>TOTAL</b>	<b>17,302</b>	<b>3,911</b>	<b>2,542</b>	<b>1,077</b>	<b>24,832</b>

Table 15: Sources of funds used for investments of the transmission system operator and distribution system operators

Source: Companies' data

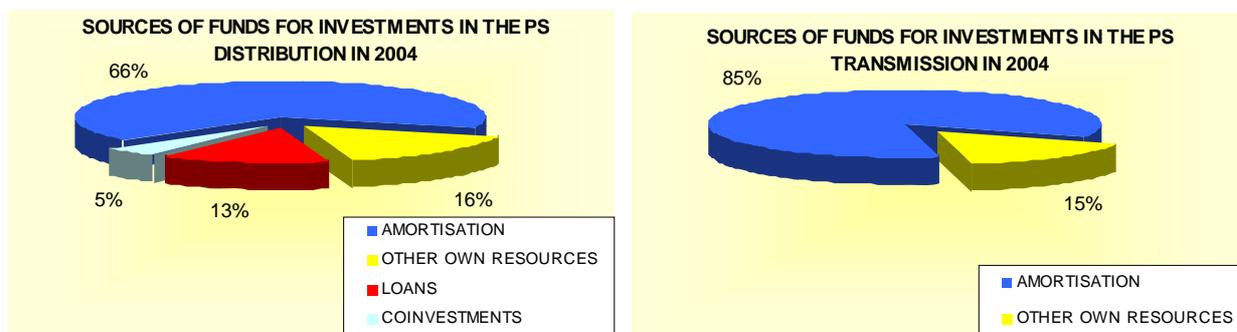


Figure 12: The structure of sources of funds used for the investments within public services

Source: Companies' data

### 3.6.4 Business operations of the market operator

Borzen, the electricity-market operator, which is a subsidiary company of Eles, finished the financial year 2004 with a net profit of 10.6 million tolar. In 2004 it had total revenues of 525.9 million tolar, which is 8.3 percent more than in 2003. The total expenditure amounted to 514.7 million tolar. In 2004 its net profit was higher than the net profit in 2003 by 49.2 percent.

The main tasks of Borzen are as follows:

- the exchange of electricity,
- the calculation and settlement of concluded deals on the organised market,
- the recording of bilateral contracts,
- the preparation of operation schedules,
- the calculation of deviations,
- public announcements of market trends.

Being a provider of a public service, Borzen is financed from the tariff charged for the provision of the services of the electricity-market operator, which is approved by the government on the basis of the Ordinance Relating to the Operating Mode of the Public Service of Operating the Electricity Market (the Official Gazette of the Republic of Slovenia, Nos. 54/00 and 70/03). Borzen carries out the activities of recording bilateral contracts relating to electricity. This service is charged to all network users, the costs being covered by a fraction of the use-of-network price; however, it is not charged separately at the time when a contract is registered. In addition, Borzen carries out the activities of recording the contracts at the point of export, trading on the organised market, trading on the market for preferential dispatch, operating auctions for cross-border capacities, clearing bilateral contracts, as well as training and counselling.

Table 16 includes the details regarding the number of exchange members, the number of bilateral contracts, and the amounts of electricity included in the bilateral contracts in 2004:

Number of members with unrestricted participation	16
Number of members with restricted participation	1
Number of recorded contracts	5814
Amount of electricity from bilateral contracts (in MWh)	28,112,671

Table 16: Operation of the exchange members

## 3.7 The market for electricity

In line with the EA, on 1 July 2004 all customers in Slovenia, except for households, got the right to freely choose their electricity suppliers. Households remained as tariff customers, and electricity is supplied to them in line with the tariff system in the framework of the public service of electricity supply to tariff customers.

### 3.7.1 Characteristics of the electricity market

The electricity market is divided into the wholesale market and the retail market. The wholesale market represents trading in a specific sense, i.e., the purchase and sale of electricity meant for subsequent sale. However, only a few suppliers provide energy in this market. Most of the trading in Slovenia takes place on the retail market, which we define as the purchasing or selling of electricity for the purpose of supply to the end customer. It is possible, on both markets, to do bilateral trading and trading on the electricity exchange, which in the case of Slovenia takes place at Borzen. In 2004 the electricity market was not restricted by long-term contracts.

Most of the electricity trading in Slovenia takes place within the borders of Slovenia; cross-border trading is restricted by the capacities of the cross-border transmission paths.

Eles operates synchronously in the UCTE interconnection, which requires every country to meet certain reliability criteria. One of these criteria is a guarantee of reserves equal to the capacity of the largest production facility. As Eles has large production units, the transmission system operator in Slovenia has to guarantee relatively large secondary and tertiary reserves. For this reason, the system operation instructions relating to the transmission network allow the transmission system operator to conclude up to 40 percent of contracts with suppliers that have electricity production outside Slovenia. The transmission system operator buys this part of the ancillary services in the free market, while the remaining 60 percent of the ancillary services are provided by suppliers with their production organised in Slovenia.

### 3.7.1.1 The degree of liberalisation in the electricity market

The level of liberalisation of the electricity market is characterised by the ratio between the amount of electricity supplied to eligible customers and the total energy supplied in Slovenia.

In line with the EA, from the opening of the electricity market, on 15 April 2001, to 30 June 2004, in Slovenia only the customers who had more than 41 kW of connected power at one point of supply could buy electricity in the market. The amendment of the EA adopted in 2004 stipulates that from 1 July 2004 onwards all customers, except for customers using electricity for their households, have the right to choose their suppliers. From 1 July 2007 onwards all electricity customers will have the right to choose their suppliers.

From 1 July 2004 onwards, 94,297 customers, which is a good 10 percent of the total 860,395 customers in Slovenia, had the right to choose their suppliers. The consumption of these customers amounted to 9,403 GWh. The Slovenian market increased by about 1,400 GWh of electricity, so that the level of market liberalisation reached 77 percent with regard to the total electricity consumption in Slovenia.

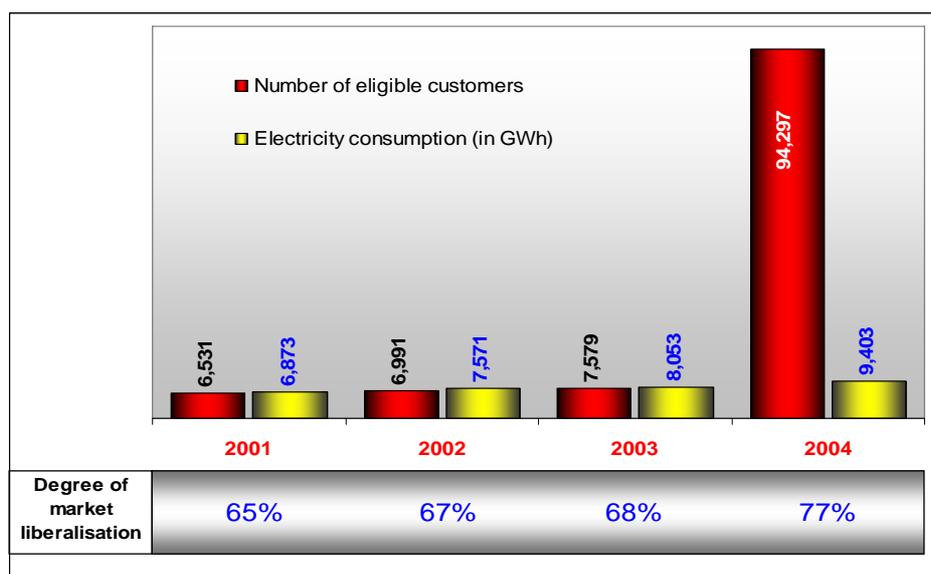


Figure 13: Dynamics of liberalisation of the electricity market

Source: Energy Agency

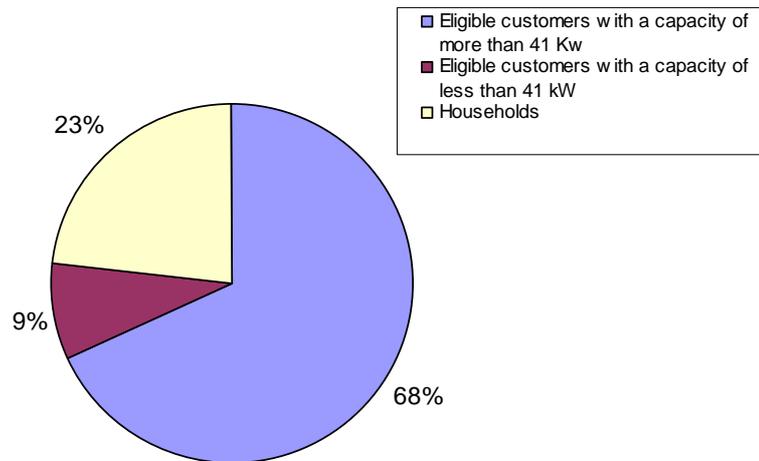


Figure 14: A review of the numbers of eligible customers and tariff customers

Source: Energy Agency

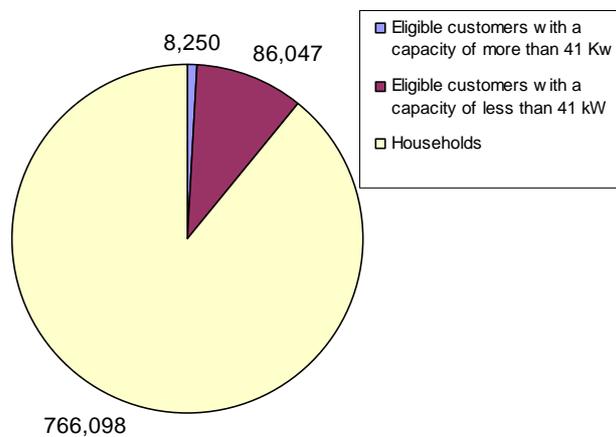


Figure 15: The proportions of consumed electricity for the eligible and tariff customers

Source: Energy Agency

### 3.7.1.2 The main participants in the production market and their shares

In the area of electricity production in Slovenia, eight large companies operate in the system. Five of these companies, the Drava Power Stations, the Sava Power Stations, the Soča Power Stations, the Thermoelectric Power Station, Šoštanj, and the Thermoelectric Power Station, Brestanica, are combined in the Holding Slovenske Elektrarne, which, among other things, trades the total electricity production. Half of the electricity produced at the Nuclear Power Station, Krško, is traded by Eles

Gen. The electricity produced in the Thermoelectric Power Station, Trbovlje, and the Combined-Heat-and-Power Station, Ljubljana, was traded at Borzen and through the system of preferential dispatch.

Table 17 shows market shares of the producers in the Slovenian production market.

	The share of installed capacity (%)	Energy (GWh)	Energy share (%)
HSE	66.2	7,272	63.9
NPSK	24.2	2,606	22.9
TPST	5.9	611	5.4
Others	3.7	892	7.8
Total	100.0	11,381	100.0

Table 17: The market shares of electricity producers in Slovenia

Source: Energy Agency

### 3.7.2 The bilateral trade in electricity

The suppliers to eligible customers on the distribution network and the eligible customers connected to the transmission network received the majority of electricity from the largest suppliers, i.e., producers of electricity such as the HSE and the NPSK. The prices and amounts of electricity were agreed in the annual contracts. To meet the additional demand of the customers and to cover the losses in the network, the companies for electricity distribution were buying electricity from qualified producers or on the organised electricity market (the daily market and the preferential-dispatch market). The companies also traded the excess amounts of electricity in the organised market.

The eligible customers connected to the distribution network were buying electricity from the traders on the home market, on the basis of annual contracts. Larger distribution customers and the customers on the transmission network partly covered their electricity demands by importing electricity on the basis of the tenders for cross-border production capacities for 2004.

### 3.7.3 Trading on the organised market

In 2004 three new participants joined the organised market (Electras, d. o. o., Elektro prodaja, d. o. o., and Istrabenz–Gorenje, d. o. o.); at the end of 2004 there were a total of 13 market participants. There were 256 market meetings organised in 2004 and 5,758 deals were concluded in line with the rules on the electricity-market operation. The total annual amount of traded energy was 281,320 MWh, which is 2.22 percent of the total Slovenian electricity consumption.

Every day Borzen calculates and publicly announces the index of the organised electricity market, SLOeX, the traded amounts by individual products, and uniform product rates regarding the current trading. The value of the index is the average weighted price of all the concluded deals in the daily market.

In 2004 the organised-market participants traded in the five standard products, i.e., the base load, the shoulder load, the night load, and since 3 May 2004 also with the euro-shoulder load and the euro-night load, and, during the auction trading, with the products of hourly load. In 2004 the amounts of traded energy varied significantly. The average monthly traded amount varied between 483 MWh in July and 1293 MWh in February. The largest traded amount in 2004 was achieved on 6 April 2004, i.e., 3037 MWh. The turnover on the daily market was lower than in 2003 by 27 percent, which was partly a result of weather conditions, of a smaller amount of preferentially dispatched electricity sold on the daily market, and a reduced readiness of the suppliers to take risks. Figure 16 shows the movements of monthly amounts on the daily market and of the average monthly prices on the organised market in 2004.

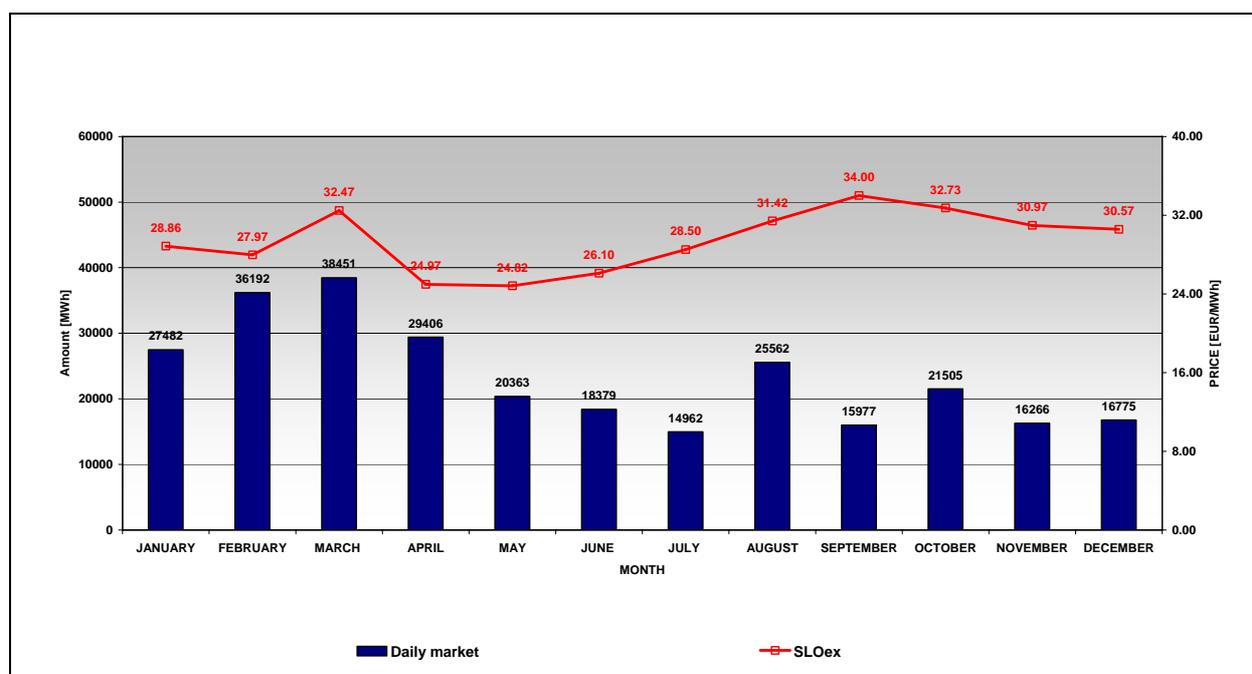


Figure 16: Movements of monthly amounts and average monthly prices related to the concluded deals on the daily market

Source: Borzen

In 2004 the prices of individual products on the daily market were much more stable than in 2003. With regard to the demand, which was smaller than in the previous year, the supply on the daily market was sufficient, and for this reason there were no sudden jumps in price related to significant temperature changes. The price range between the highest and the lowest average monthly prices was reduced from 6,565 tolaars per MWh in 2003 to 2,198 tolaars per MWh in 2004. This also resulted in lower risks taken by the exchange members that obtained electricity, as part of their portfolio, on the exchange, i.e., they balanced their load profile by purchasing and selling energy on the exchange. The average annual price

of the base load, which represented 78 percent of the energy traded on the exchange, was 16 percent lower than in 2003, and amounted to 7,150 tolar per MWh. The average annual SLOeX index for 2004 was equal to 7074 index points, which was 18 percent, or 1561 index points, less than in 2003.

In 2004 the market participants submitted 29,393 bids, which was 728 bids more than in the previous year; 14,670 bids, or 49.91 percent, related to the selling of electricity, and 14,723 bids, or 50.09 percent, related to the buying of the bid-for energy. The number of bids submitted during the simultaneous trading was 23,374, of which 12,167 were for the base load, 5424 for the shoulder load and 3190 for the night load. With regard to the two euro products, whose trading started at the beginning of May, 2212 bids were submitted for the euro-shoulder load and 3190 for the euro-night load. During the auction trading, 6019 bids were submitted.

A comparison of the amounts traded on the daily market, by month, for 2003 and 2004 shows that the amount of traded energy was on the decrease in most months, except for May and August. Figure 17 shows the values of the amounts and of the SLOeX index by month.

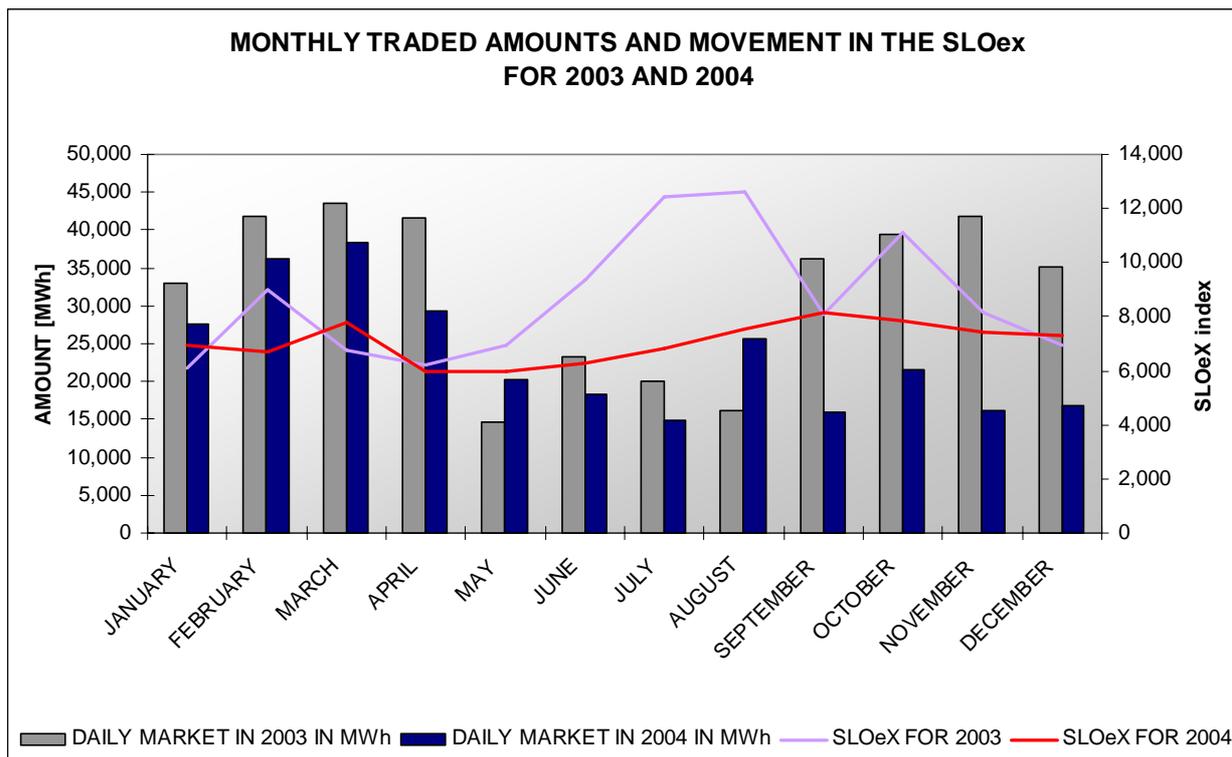


Figure 17: Monthly traded amounts and movements in the SLOeX index for 2003 and 2004

Source: Borzen

### 3.7.4 The balancing market

The task of calculating and charging for balancing the deviations of the supply and consumption of electricity was transferred to Borzen with the Ordinance Regarding the Amendments to the Ordinance Relating to the Operating Mode of the Public Service of Electricity Transmission, and the Public Service of Operating the Transmission Network (the Official Gazette of the Republic of Slovenia, No. 70/03), and the Ordinance Regarding the Amendments to the Ordinance Relating to the Operating Mode of the Public Service of Operating the Market for Electricity (the Official Gazette of the Republic of Slovenia, No. 70/2003). In line with the ordinance Borzen prepared the Amendments to the Rules Regarding the Operation of the Electricity Market, published in the Official Gazette of the Republic of Slovenia, No. 118/03. A new section was added to the rules that regulates the mode of establishing the deviations of supply and the consumption of electricity from the forecasted operation schedules, the calculation and financial settlement of the established deviations (henceforth referred to as the deviation calculation) for the parties subject to the balancing of the deviations of the supply and consumption of electricity from the operation schedules, and the content of the balance contract between the leader of the balance group and the transmission system operator. The amendments to the rules have been used since 1 January 2004, and since this date Borzen has been carrying out the deviation calculations.

#### 3.7.4.1 *Establishing deviations and the procedure of deviation calculation*

The establishment of the deviation amounts and the preparation of the financial calculation of the deviations from the operation schedules are carried out, on a monthly basis, for the preceding accounting period, i.e., for the preceding month. On the basis of the collected information and confirmed amount calculations, the parties subject to the balancing, joined into the balance groups, received, from Borzen, financial calculations, on the basis of which Eles, the transmission system operator, issued invoices to these parties. In the framework of the financial settlement of the deviations, Eles was responsible for the establishing and informing regarding the finality of these settlements.

In the framework of the deviation calculation, the CSLOeX hourly index is calculated and announced, on a daily basis; this index is then taken into account in the equation for the calculation of the basic prices for deviations. After the first three months, a system of a relatively regular information exchange, needed for the deviation calculation, was, with some exceptions, set up.

During the year, the balance responsible parties signed the balance contracts sent to them by Eles, the transmission system operator. In 2004 the following balance groups operated in the regulatory territory of Slovenia:

- APT Power Trading SL, d. o. o.,
- C&G, d. o. o.,
- Electras, d. o. o.,
- Električni finančni tim, prodaja električne energije, d. o. o., (Electricity financial team, electricity sale)

- Entrade, d. o. o.,
- HSE, d. o. o.,
- Istrabenz–Gorenje, d. o. o.,
- TE–TOL,
- TET, d. o. o.

There were also the following balance subgroups that were all members of the HSE balance group:

- Elektro Celje, d. d.,
- Elektro Gorenjska, d. d.,
- Elektro Ljubljana, d. d.,
- Elektro Maribor, d. d.,
- Elektro Primorska, d. d.,
- Elektro prodaja, d. o. o.

In line with the rules on the electricity-market operation, in 2004 the participants of the financial and amount calculations of deviations of the supply and consumption of electricity from the forecasted operation schedules were the balance responsible parties of the HSE, the Thermolectric Power Station Trbovlje, and the Combined-Heat-and-Power Station Ljubljana. These balance groups had physical points of change of titles. The participants of the amount deviation calculations were the balance-subgroup responsible parties of Elektro Celje, Elektro Gorenjska, Elektro Ljubljana, Elektro Maribor, Elektro Primorska and Elektro prodaja. In 2004 the remaining balance-subgroup responsible parties did not have any physical points of change of title and, consequently, did not cause any deviations from the operation schedules.

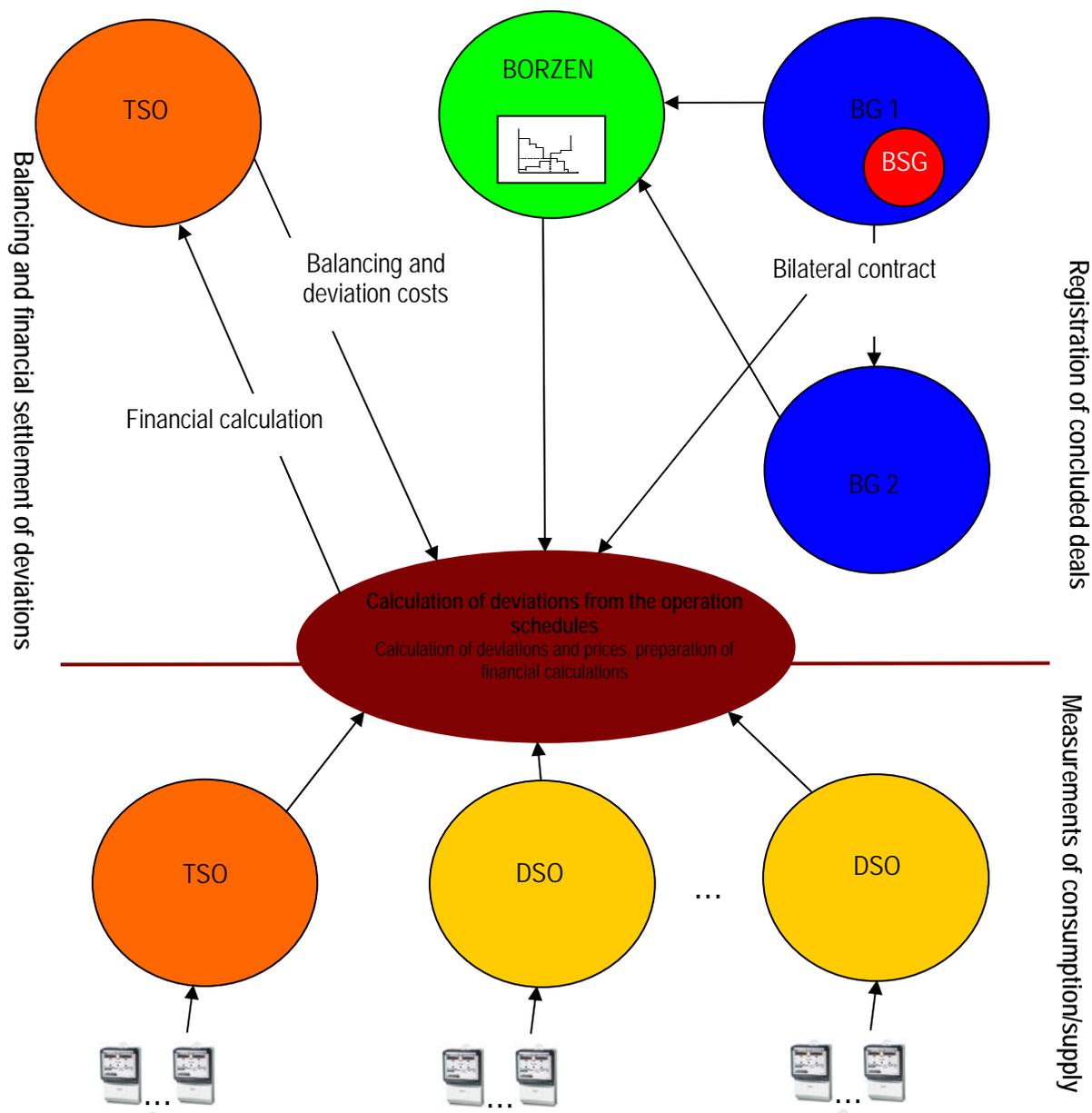


Figure 18: Information exchange among the participants of the calculation of deviations from the operation schedules

Source: Borzen

Borzen establishes the deviations of the balance groups and subgroups by calculating the differences between the total realisation of an individual balance group or subgroup and the final operation schedule of the same balance group or subgroup. The deviations are established for each calculation interval, and the obtained values represent the amount calculation for individual balance groups or subgroups. The calculation interval for the deviation calculation is one hour. The market operator sends the amount calculations to the participants of the calculation by the 18<sup>th</sup> working day in the month.

On the basis of the confirmed amount calculations, Borzen prepares the final financial calculation for each balance group. After the confirmation of the amount calculations, Borzen sends the information on the financial calculation to all the

participants in the financial settlement. The following activities are carried out within the process of the financial deviation calculation:

- the calculation of the balance-group tolerances,
- the calculation of the CSLOeX hourly index,
- the determination of the basic deviation price: P+ and P-,
- the determination of the deviation price: Pp and Pn,
- the calculation of the amounts of the financial settlement of the deviations inside and outside the tolerances.

### 3.7.4.2 The deviation calculation

With regard to the deviation calculation, in 2004 the HSE balance group had, in line with expectations, the largest influence on the deviations of the Slovenian electricity system. Namely, this group represents as much as 88 percent of the installed capacity (the production units exclude the Thermoelectric Power Station, Trbovlje, and the Combined-Heat-and-Power Station, Ljubljana).

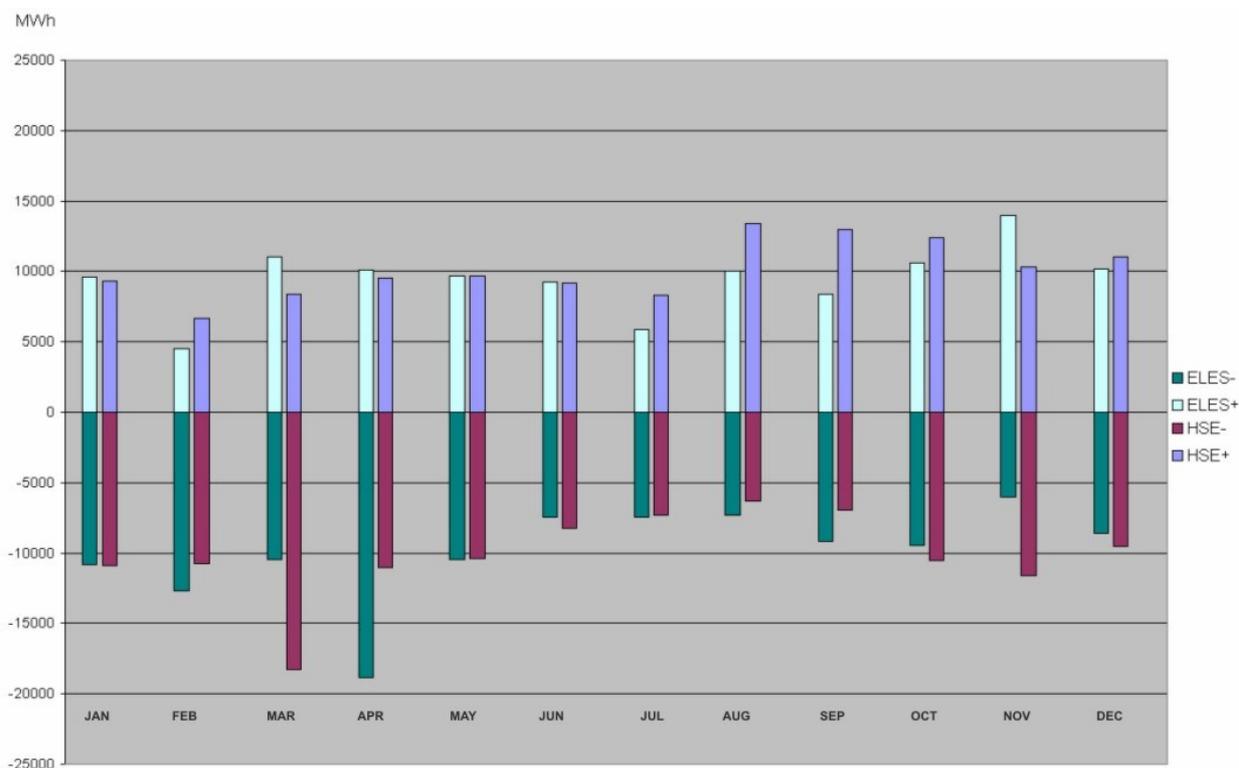


Figure 19: Comparison between the monthly system deviations (Eles) and the HSE balance group

Source: Borzen

Table 18 shows that the balance groups rarely deviated from the tolerance (outside T) within individual hourly intervals; it also shows their amount deviations by month. In 2004 the HSE balance group remained within the tolerance in 94.6 percent of all the calculation intervals (8311 out of 8784 operating hours).

	HSE			TPST			CHPSL			ELES	
	W+ [MWh]	W- [MWh]	outside T	W+ [MWh]	W- [MWh]	outside T	W+ [MWh]	W- [MWh]	outside T	W+ [MWh]	W- [MWh]
<b>Jan</b>	9,285	-10,975	2.55 %	27	-130	1.21 %	0	-3	0.94 %	9,564	-10,907
<b>Feb</b>	6,647	-10,828	1.15 %	93	0	0.72 %	0	-141	2.01 %	4,527	-12,757
<b>Mar</b>	8,360	-18,335	11.02 %	123	-5	0.13 %	0	-11	0.00 %	11,046	-10,565
<b>Apr</b>	9,560	-11,072	5.00 %	131	-6	5.00 %	0	-116	0.69 %	10,090	-18,916
<b>May</b>	9,659	-10,477	6.32 %	4	-229	0.00 %	0	-16	1.48 %	9,705	-10,508
<b>Jun</b>	9,162	-8,339	2.22 %	11	-14	0.00 %	0	-269	0.69 %	9,215	-7,501
<b>Jul</b>	8,333	-7,370	0.54 %	1	-248	0.00 %	0	-1	0.00 %	5,850	-7,529
<b>Aug</b>	13,421	-6,358	3.63 %	332	0	2.42 %	0	-43	3.49 %	9,996	-7,407
<b>Sep</b>	12,959	-6,991	4.17 %	221	-24	0.97 %	0	-1	0.00 %	8,347	-9,258
<b>Oct</b>	12,379	-10,611	4.70 %	176	-2	1.61 %	0	-63	0.94 %	10,581	-9,562
<b>Nov</b>	10,348	-11,697	5.83 %	229	-26	5.14 %	0	-13	1.53 %	13,964	-6,115
<b>Dec</b>	11,018	-9,622	4.84 %	89	-82	1.61 %	0	-683	5.65 %	10,163	-8,683

Table 18: Monthly amount deviations of the balance groups and the system (Eles), and their deviations outside the tolerance

Source: Borzen

### 3.7.5 Access to the network and congestion management on the transmission and distribution networks in Slovenia

In 2004 the Slovenian transmission and distribution electricity networks only saw congestion on the cross-border transmission paths. There was no congestion on the internal Slovenian networks.

### 3.7.6 Access to the cross-border transmission capacities and congestion management

The Slovenian electricity system is directly connected with the neighbouring electricity systems of Austria, Italy and Croatia. With Austria it has one 2×400-kV connection and one 220-kV connection. The transmission paths with Austria have a bigger capacity than used in 2004, and the implemented restrictions were a result of an uncompleted 400-kV network in Austria. In 2004 the net transmission capacity at this border was limited to 600 MW. With regard to Italy, Slovenia has one 400-kV line and one 220-kV line. The transmission capacity at the border with Italy is restricted by several factors; one of them is the state of the development of the Italian network. In 2004 the net transmission capacity at the border with Italy was 400 MW. The Slovenian electricity system has the highest-capacity connections with Croatia, with which Slovenia has three 400-kV connections, two 220-kV connections and two 110-kV connections. Because of these powerful connections, resulting from the former joint operation in the electricity system of Yugoslavia, the transmission paths between Slovenia and Croatia have no real restrictions; however, because of the restrictions within the Slovenian transmission network, the values were limited to 1000 MW. The framework values of the net transmission capacities are set twice per year, while the actual values are determined by the

transmission system operators in real time, as these values are affected by the actual conditions in the network that cannot be entirely anticipated.

### *3.7.6.1 The allocation of cross-border transmission capacities and cross-border trading in electricity*

In 2004 the network users that obtained the capacities during the tenders carried out at the end of 2003 received access to cross-border transmission paths. In addition, those network users that obtained network access during the tender carried out in December 2002, when the capacities for the period 2003–2005 were tendered, also had access to the network for the exports to Italy. In November 2003 the transmission system operator published, on its website, the tenders for obtaining the network access for the exports to Italy, and for the imports from Austria in 2004. Free transmission capacities were tendered for the whole of 2004, including a possible restriction, according to which, after 1 July 2004, these capacities would not be available any longer because of the implementation of the Regulation No 1228/2003 of the European Parliament and of the Council of 26 June 2003 on Conditions for Access to the Network for Cross-Border Exchanges in Electricity. This regulation requires the EU Member States to use, from this date onwards, only market-based methods for allocating cross-border capacities. The allocation of cross-border transmission capacities by means of tenders, as defined by the Slovenian Rules on the Mode and Conditions for the Allocation of and the Criteria for the Access to the Cross-Border Transmission Capacities (the Official Gazette of the Republic of Slovenia, Nos. 103/2002, 103/2003; henceforth referred to as the rules) is based on the method of proportional reduction, i.e., the "*pro rata*" method, which is not a market-based method. Following a request from Slovenia, the EU Council issued Regulation No 1223/2004/EC, with which the EU Council gave approval to a transition period during which Slovenia could use non-market mechanisms for the allocation of free cross-border transmission capacities up to a maximum of half of the total available capacity.

In addition to the tenders in 2004, the transmission system operator allocated free cross-border capacities on the principle of the order of the receipt of applications for the allocation of the network access. This mode of allocation was used for all the remaining cross-border transmission paths, on which, except for exceptional circumstances, no congestion was anticipated. The system operator also used the same mode in the cases when additional free capacities were made available on the cross-border transmission capacities, for which the annual tenders had previously been carried out.

On 17 May 2004 the government adopted a decision, with which it recommended to the transmission system operator to allocate free cross-border capacities on the permanently congested borders for the period until 1 July 2007. In line with this decision, the transmission system operator published, on 31 May 2004, the tenders for the following:

- imports from Austria, separately for the periods from 1 January 2005 to 31 December 2005, from 1 January 2006 to 31 January 2006, and from 1 January 2007 to 30 June 2007;

- exports to Italy, separately for the periods from 1 January 2005 to 31 December 2005, from 1 January 2006 to 31 January 2006, and from 1 January 2007 to 30 June 2007.

The transmission system operator allocated all the tendered free cross-border transmission capacities, on the basis of the above-mentioned tender, up until 1 July 2007.

## 3.8 The supply of electricity

In 2004 all the electricity meant for resale was provided by the HSE, which includes most of the production companies, and by Eles Gen, which has the right to sell the electricity produced in the Nuclear Power Station, Krško. Additional supply in the market was also provided by the providers of preferentially dispatched energy, the electricity providers at Borzen, and the providers that obtained cross-border transmission capacities in the framework of the quotas of the neighbouring transmission networks available to the Slovenian system operators. In spite of the above, the Slovenian suppliers had a very limited possibility to choose their providers. Though the Nuclear Power Station, Krško (NPSK) is, with regard to the amount of electricity produced on the Slovenian market, the second largest producer, we cannot say that there is an increased level of competitiveness, as the NPSK and the HSE, due to their different technologies for electricity production, only complement each other. The NPSK only produces base load and cannot provide a complete supply to its customers; the HSE, on the other hand, is the only producer able to supply, in addition to the base load, also the shoulder load, the night and hourly loads, and to provide most of the ancillary services, as well as the balancing of the deviations by using its own production capacities. In addition, the NPSK marketed the majority of its production through the HSE. The producers included in the system of preferential dispatch of electricity, that have a specific regime of production and sale, do not contribute more than 10 percent of all the energy produced in Slovenia. For this reason, the HSE was, in 2004 as well, the dominant provider of electricity in the wholesale market.

### 3.8.1 The suppliers of electricity

In line with the EA, the electricity suppliers are individuals or legal entities holding an appropriate licence for trading, representing or mediating, or producing electricity. In 2004 the number of suppliers of electricity to end customers did not change significantly. There were ten suppliers involved in trading electricity on the wholesale and retail markets.

The HSE had the largest market share of the supply of electricity to eligible customers supplying electricity to all the customers connected to the transmission network, and to some customers connected to the distribution network. The share of the HSE also includes 12.3 percent of electricity, with regard to which the HSE acted as an intermediary in the supply to eligible customers that obtained the right to access the cross-border capacities.

The market shares of the suppliers presented in the figures below refer to 8,273 GWh of the total amount of electricity supplied to all eligible customers. Of this

amount 5,490 GWh of electricity was supplied to eligible customers on the distribution network.

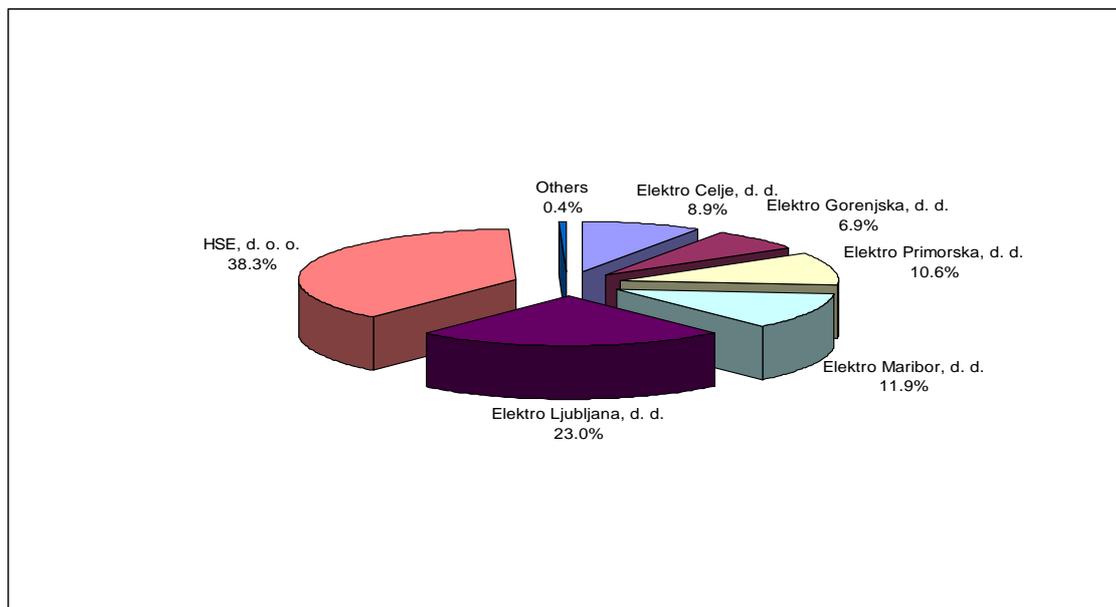


Figure 20: Market shares of the suppliers of electricity to eligible customers  
Source: Energy Agency

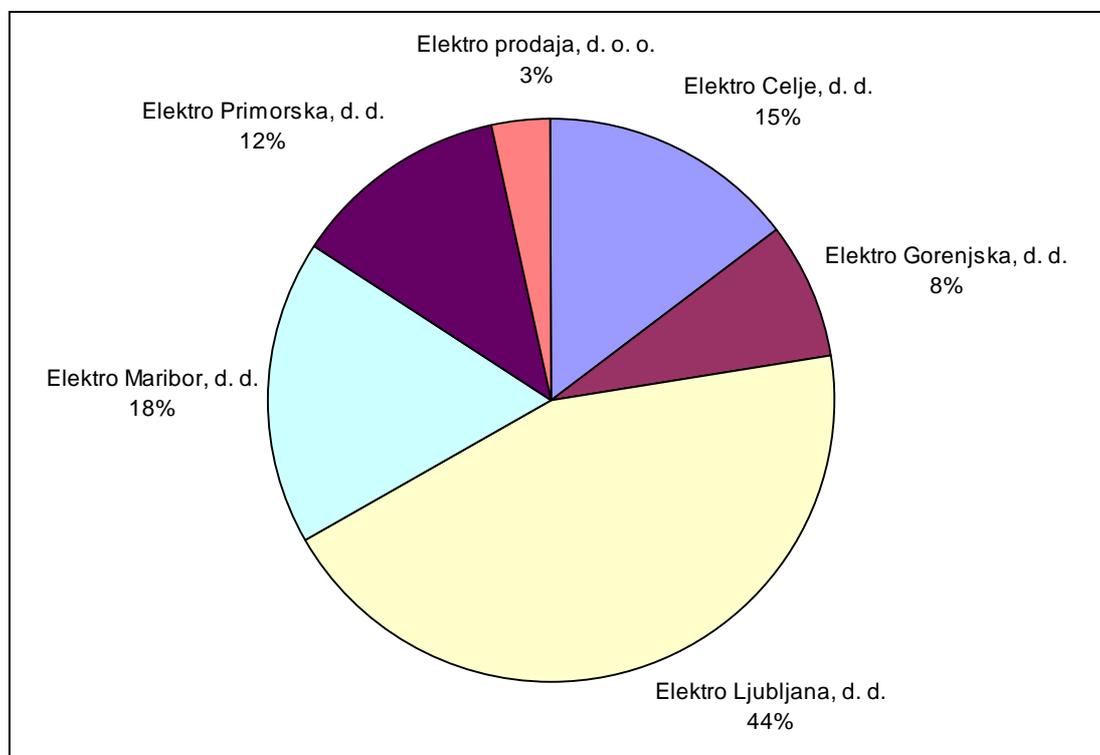


Figure 21: Market shares of the suppliers to eligible customers on the distribution network with an annual consumption of up to 50 MWh  
Source: Energy Agency

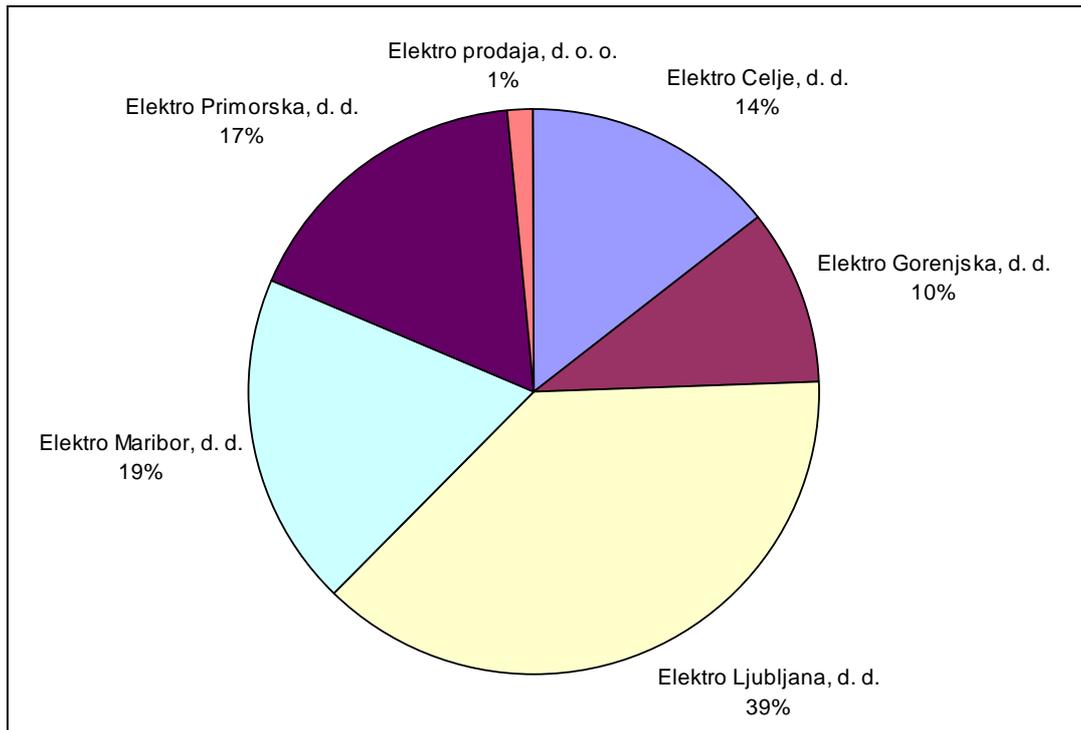


Figure 22: Market shares of the suppliers to eligible customers on the distribution network with an annual consumption between 50 MWh and 2 GWh  
Source: Energy Agency

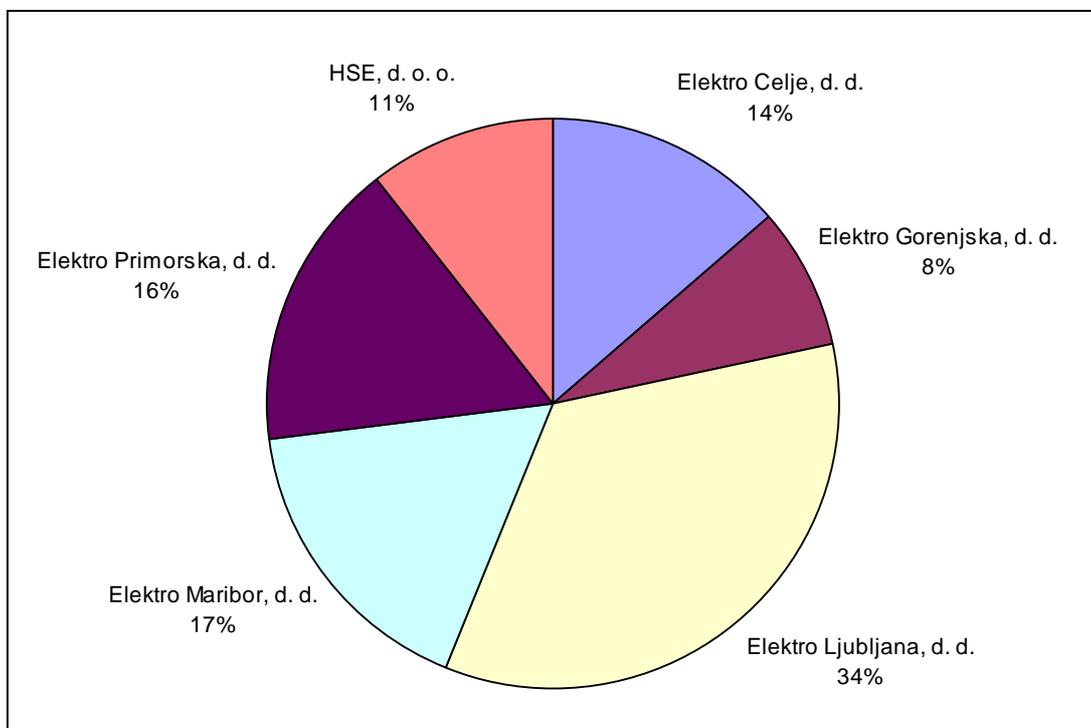


Figure 23: Market shares of the suppliers to eligible customers with an annual consumption between 2 GWh and 100 GWh  
Source: Energy Agency

The information about the market shares of the suppliers to industrial customers with a consumption of more than 100 GWh is not available. Individual suppliers have very few such customers; for this reason the suppliers did not make this information available, so as to avoid disclosing commercially sensitive information.

### **3.8.2 The prices of electricity in 2004**

In 2004 the prices of electricity for eligible and tariff customers had different trends. The electricity price for the end customers consists of the price for the electricity, and the price for the use of the electricity networks. The electricity price for eligible customers was determined by the market, whereas in the case of tariff customers it was determined by the government. On 1 July 2004 the Government of the Republic of Slovenia increased the tariffs by 4 percent by applying the Ordinance on Setting the Highest Tariff Prices for Electricity Sold to Tariff Customers (the Official Gazette of the Republic of Slovenia, No. 67/02), and with this measure helped reduce the losses of the service of supplying electricity to tariff customers in comparison with 2003.

Because of the macroeconomic aim to reduce the inflation rate, the government fixed, with an ordinance, the network charge for 2004 at the level valid in 2003, and, in this way, prevented the realisation of the increase in the network charge proposed by the Energy Agency. The measures of fixing the network charge for the transmission and distribution networks were in force until 31 July 2004 when the Energy Agency, taking into account objectively changed parameters (interest rates, actual energy amounts, etc.), determined constant network charges valid until the end of 2005.

#### *3.8.2.1 The prices of electricity for tariff customers*

As of 1 July 2004 the tariff customers are only those that use electricity for household purposes. The price of electricity was, for these customers, set on the basis of the Ordinance on the Tariff System for the Sales of Electricity (the Official Gazette of the Republic of Slovenia, No. 36/04) determining that the electricity price for these customers consists of the use-of-network price, the price for electricity supply to customers, the price covering the supplier's costs regarding electricity supply, excise duty or the tax on electricity, and the value-added tax. The government set, with a decision, the prices for electricity supply, and the price covering the supplier's costs.

At the end of 2004 the retail price of electricity, including the tax, for a user group that is, by definition, closest to the Slovenian average household customer, was 24.77 tolar per kWh. Figure 24 shows a comparison of the electricity prices for such a household customer by year. It also shows the shares of individual elements of the total price.

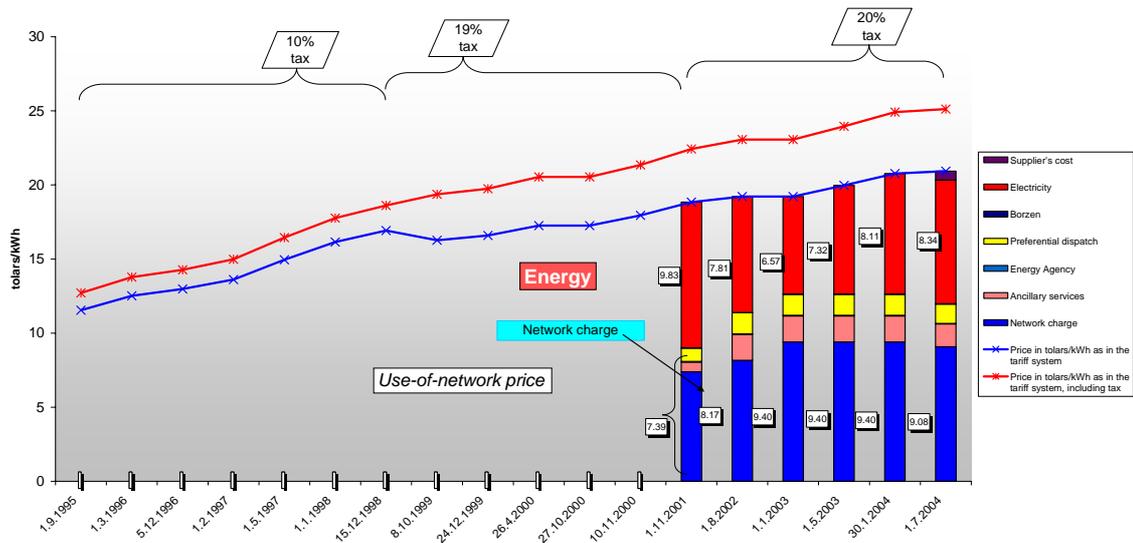
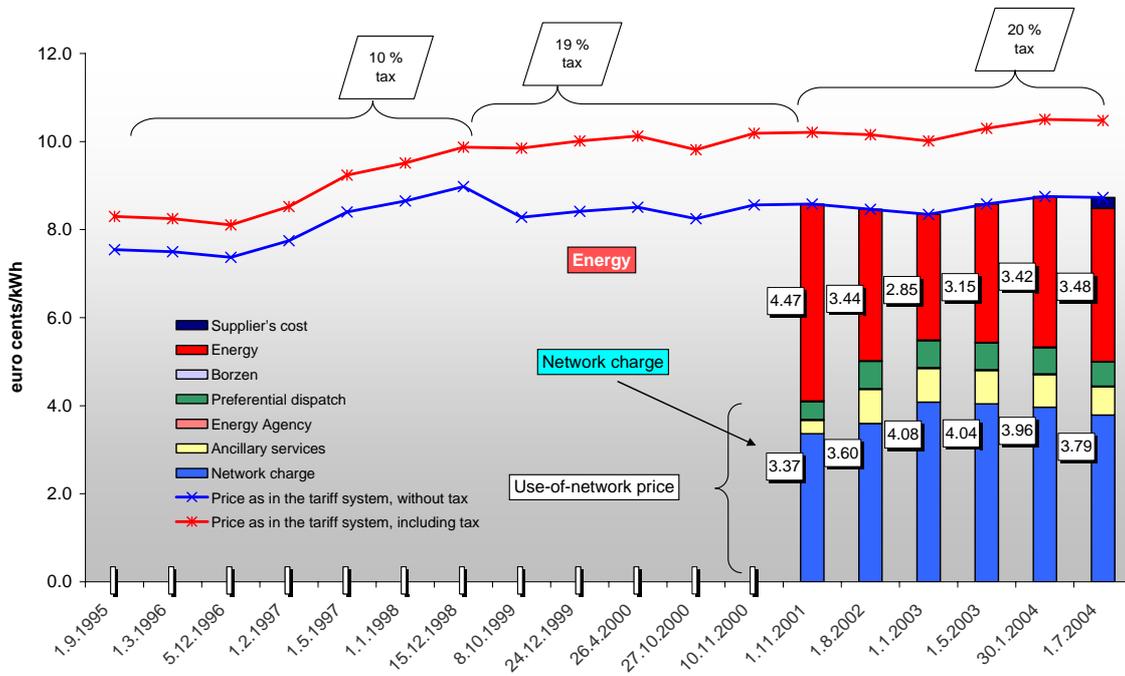


Figure 24: Dynamics of price changes, in tolar, for a typical household customer with an annual consumption of 3.5 MWh

Source: Energy Agency

From 2001 to 2004 the electricity price for a typical household customer with an annual consumption of 3500 kWh increased by 16 percent. The value of this price, in terms of euros, is relatively stable, as shown in Figure 24.



Dynamics of price changes, in euros, for a typical household customer with an annual consumption of 3.5 MWh

Source: Energy Agency

A comparison with the retail prices for households in the EU shows that in Slovenia on 1 July 2004 the prices for these customers amounted to 79 percent of the weighted average price in the EU<sup>1</sup>.

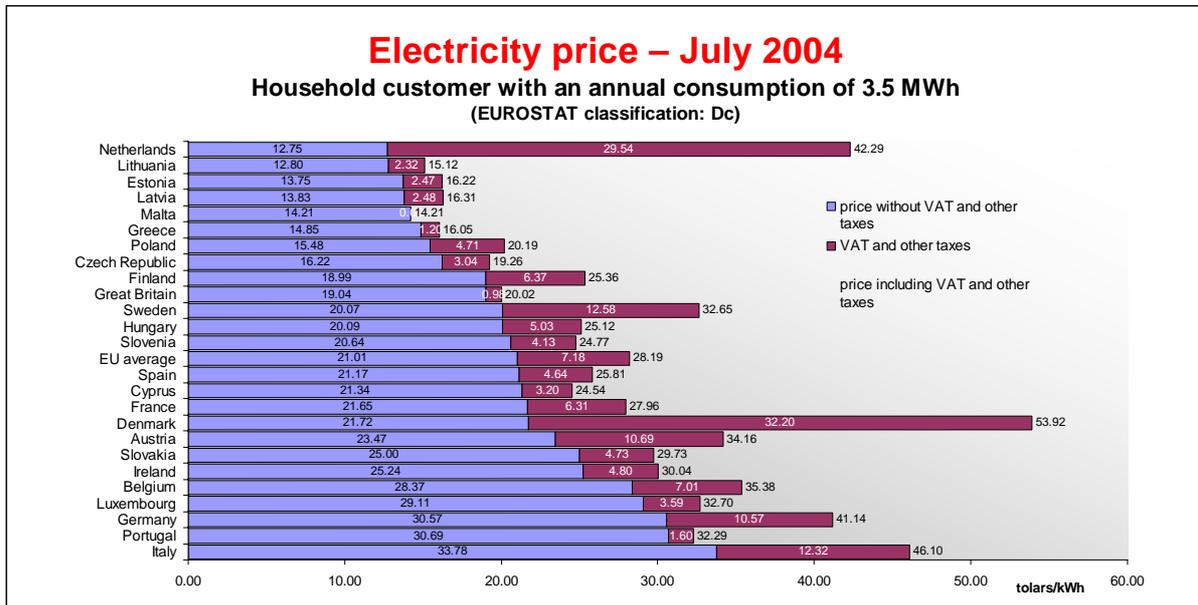


Figure 25: Comparison of electricity prices for a household with an annual consumption of 3.5 MWh in the EU countries and in Slovenia for July 2004

Source: Statistical Office of the Republic of Slovenia, Energy Agency

### 3.8.2.2 The prices of electricity for eligible customers

The price for the electricity supplied to eligible customers was contractually regulated. It depended on the forecasted amounts and the dynamics of a customer's consumption, and on the deviations from the forecasted amounts. Thus, for the industrial customer group with an annual consumption of 50 MWh, the price was 23.18 tolar per kWh, which is 92 percent of the weighted average price without taxes in the EU; and for the customer group with an annual consumption of 24 GWh, the price was 10.83 tolar per kWh, which is 84 percent of the weighted average price without taxes in the EU. The comparison is as of 1 July 2004. It shows final prices that also include the use-of-network price.

<sup>1</sup> The weighted average price in the EU was calculated on the basis of information about consumption in 2001 (IEA STATISTIC, Electricity information, 2004)

### Electricity price – July 2004

Industrial customer with an annual consumption of 50 MWh  
(EUROSTAT classification: Ib)

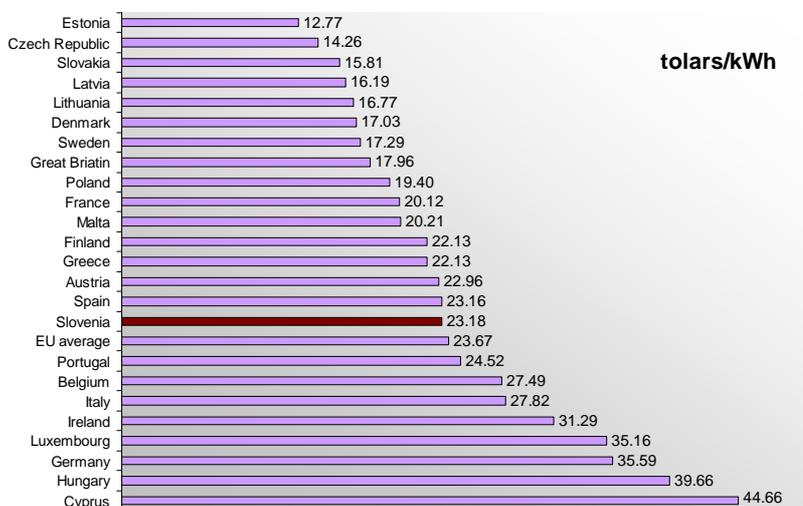


Figure 26: Comparison of electricity prices for an industrial customer with an annual consumption of 50 MWh in the EU countries and in Slovenia for July 2004

Source: Statistical Office of the Republic of Slovenia, Energy Agency

### Electricity price – July 2004

Industrial customer with an annual consumption of 24 GWh  
(EUROSTAT classification: Ig)

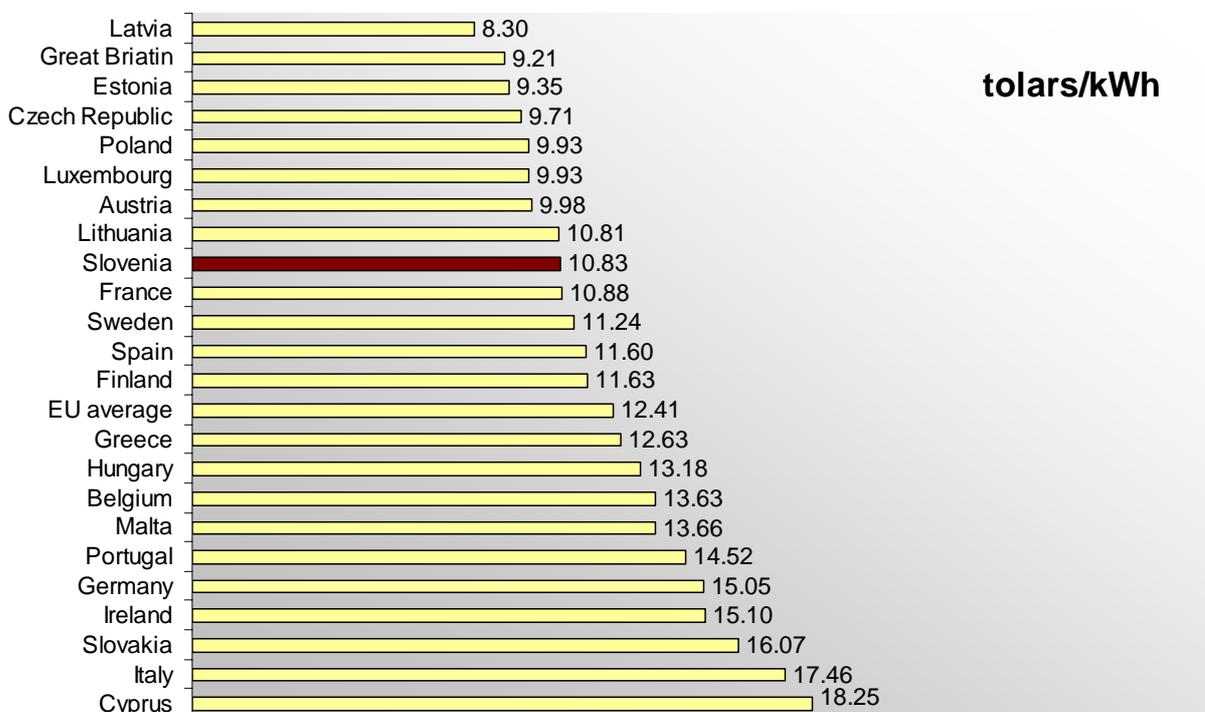


Figure 27: Comparison of electricity prices for an industrial customer with an annual consumption of 24 GWh in the EU countries and in Slovenia for July 2004

Source: Statistical Office of the Republic of Slovenia, Energy Agency

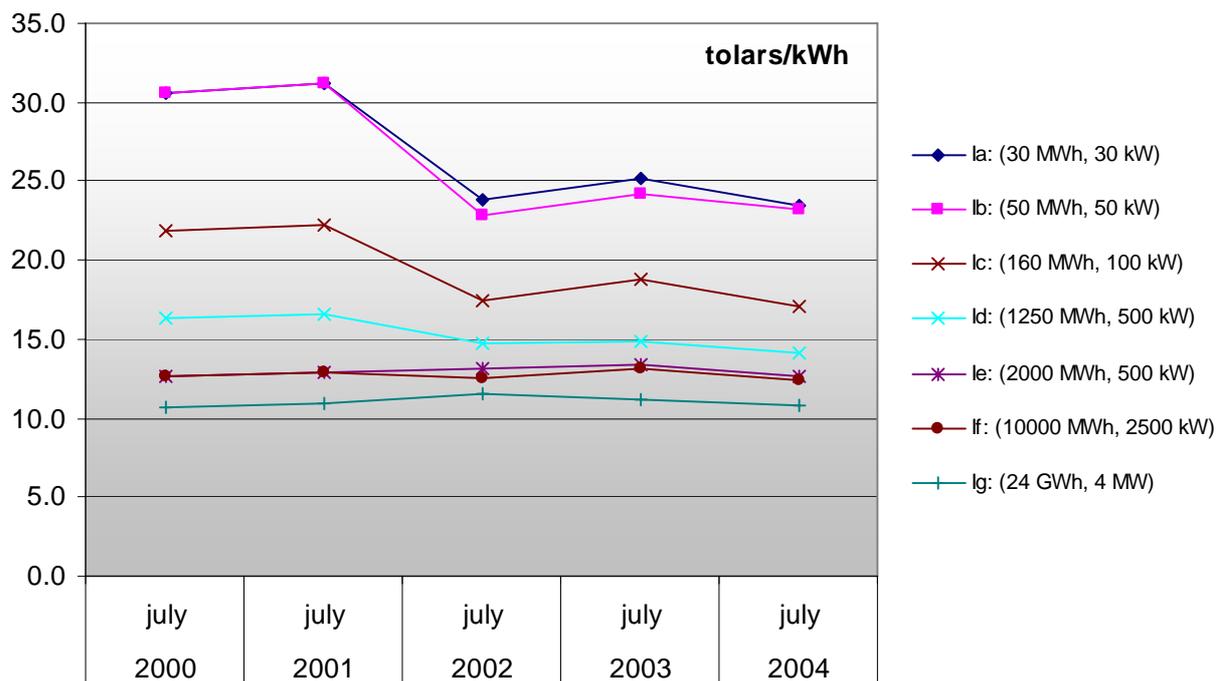


Figure 28: Trends of electricity prices, in tolar, for eligible customers in Slovenia  
 Source: Statistical Office of the Republic of Slovenia, Energy Agency

Figure 28 shows that since the opening of the electricity market, the most significant decrease in price, i.e., by 19 percent, has been for customers with an annual consumption of up to 50 MWh. The price trend, in euros, in Figure 29, shows a more realistic value of this price decrease for eligible customers.

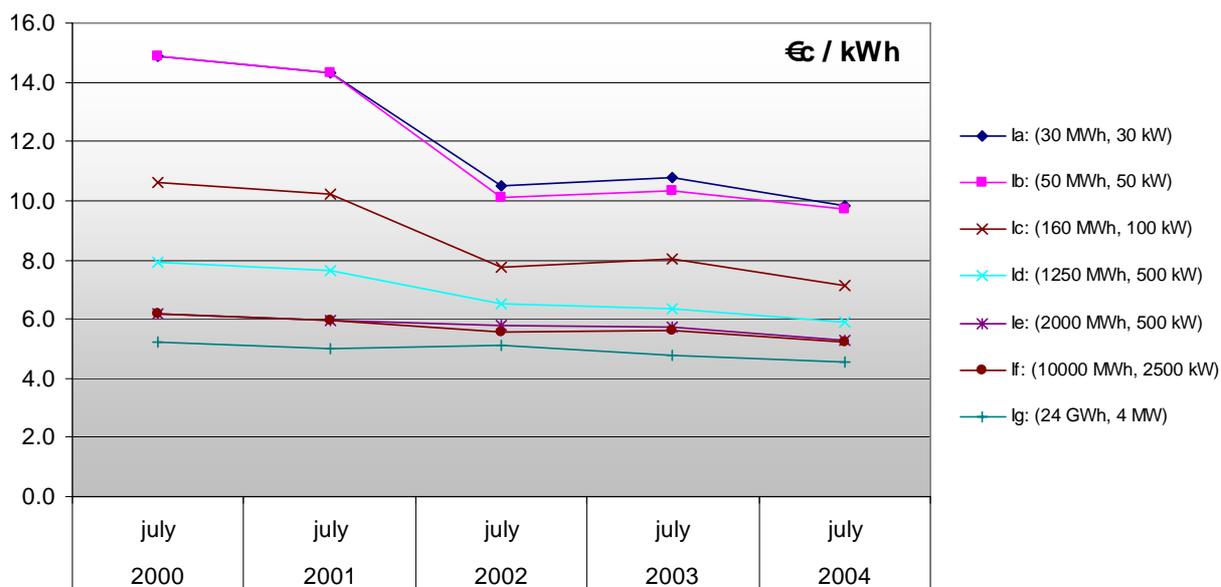


Figure 29: Trends of electricity prices, in euros, for eligible customers in Slovenia  
 Source: Statistical Office of the Republic of Slovenia, Energy Agency

## 3.9 The quality of the electricity supply

The opening of the electricity market, the reduction of costs, and organisational adaptation of the companies carrying out the activities of the transmission system operator and distribution system operators require monitoring of the quality of the electricity supply.

The quality of the supply is divided into the following:

- the quality of services, or commercial quality, which refers to the services provided by the system operators to the customers;
- reliability (continuity) of the supply, which refers to the number and duration of interruptions perceived by the customers;
- the quality of the voltage including the technical characteristics measurable at the customers' point of change of title.

The reports prepared by the distribution system operators on the basis of the Ordinance Regarding the Operating Mode of the Public Service of the System Operator of the Distribution Network for Electricity, and the Public Service of Supplying Electricity to Tariff Customers (the Official Gazette of the Republic of Slovenia, No. 117/04), the Ordinance Regarding the Operating Mode of the Public Service of the System Operator of the Transmission Network for Electricity (the Official Gazette of the Republic of Slovenia, No. 114/04), and the Rules Regarding Specific Data that Providers of Energy Services Submit (the Official Gazette of the Republic of Slovenia, Nos. 75/04 and 122/04) show a variety of information collection. However, we can still conclude that the level of the quality of the electricity supply is sufficient. In future the Energy Agency will, in cooperation with the companies, unify the collection and evaluation of information considering technical standards, recommendations and the experiences of the Council of European Energy Regulators.

### 3.9.1 The quality parameters

#### 3.9.1.1 *The commercial quality*

The above-mentioned acts stipulate the requirements regarding all three types of quality. The companies carrying out the public service of the distribution system operators wrote in their reports that they considered the requirements stipulated by the acts relating to the answering of the customers' questions and or to the clearing of faults. They say that they sort these services by the deadlines stipulated by the law, but they do not monitor the specific times needed for their completion. The time needed for repairs on the transmission and distribution networks can be interpreted as the time needed for re-establishing the electricity supply in the case of unforecasted interruptions. This time is included in the information regarding the reliability of the supply .

#### 3.9.1.2 *The reliability of the supply*

The reports regarding reliability, including also the time needed to re-establish the electricity supply in the case of unforecasted interruptions, include two system indicators:

- SAIDI (minute/customer): the System Average Interruption Duration Index indicates the ratio between the total duration of interruptions to the customer supply and the total number of customers in the system. It gives us the average time that a customer is without electricity supply;
- SAIFI (interruption/customer): the System Average Interruption Frequency Index indicates the ratio between the total number of interruptions to the customer supply and the total number of customers in the system. It gives us the average frequency of interruptions to the electricity supply.

From the received reports and the comparisons of the results we can conclude that the companies maintain the event statistics in different ways, use different ways of recording individual events, especially at the beginning and at the end of an event, and have not yet set up an appropriate distribution of customers in terms of transformer stations in the mesh networks. Because of the variety of information collection, the values of the SAIDI and SAIFI indicators for 2004 are not available. The estimated values of the indicators relating to unforecasted interruptions are as follows:

- from 82 to 195 minutes per customer (SAIDI),
- from 2.2 to 7.7 interruptions per customer (SAIFI).

With regard to forecasted interruptions, which are, in most cases, a result of maintenance works, the estimated values of the indicators are as follows:

- from 128 to 689 minutes per customer (SAIDI),
- from 1.2 to 4.3 interruptions per customer (SAIFI).

On the basis of these details we can calculate the hourly availability per year, which was in the range 99.96–99.98 percent. This value relates to unforecasted interruptions that might be caused by weather conditions, such as snow, a lightning strike, a thunderstorm, etc.

To allow a comparison, a list of values of SAIDI indicators, as published in the Second Benchmarking Report on the Quality of Electricity Supply (September 2003) is included:

Country	SAIDI – minute per customer
Netherlands	30
Austria	38
France	48
Great Britain	55
Italy	140
Ireland	152
Norway	206
Finland	452

Table 19: Values of the SAIDI indicators  
Source: European Commission

### *3.9.1.3 Voltage quality*

The companies carry out continuous monitoring of the voltage at the network borders, i.e., periodic checking of the quality of the voltage. The results of the measurements and the number of customer complaints show that, in most cases, the voltage quality is within the required limits.

Because they have to deal with customer complaints regarding voltage quality, the companies are urged to carry out measurements. On the basis of the measurement results, the companies issued, in most cases, a conformity declaration on the voltage quality. In some areas an excessive amount of flicker occurs. In such cases the companies issued a non-conformity declaration on the voltage quality with an attached technical report and a warning regarding the possible effects on the user's equipment and its operation.

Though the legislation allows it, in 2004 no electricity-quality contract, in which a system operator and a customer would agree on a non-standard electricity quality, was yet concluded.

## **3.10 The degree of transparency and competitiveness in the electricity market in Slovenia**

### **3.10.1 The degree of competitiveness**

The most important conditions for the development of competition in the area of electricity include the following: regulated third-party access, separate management of accounts for the companies carrying out market-based and regulated activities, published network charges and other conditions for third-party access, the possibility to change the supplier, etc. With regard to the development of competitiveness, it is possible to conclude that, in comparison with the previous year, in 2004 there were no major changes in the wholesale market and the production market, and that the concentration of suppliers remained high in these markets. The development of the wholesale market was limited, even after Slovenia's entry into the EU, by the implementing rules regulating the entry of foreign electricity-trading companies into the daily organised market, or the electricity exchange.

All the analyses of the indicators of market competitiveness in Slovenia have been carried out on the part of the market that consists of eligible customers, and which covers 8273 GWh, or 68.6 percent of the total electricity consumption. The assessment of the market shares of the suppliers to tariff customers makes no sense until the free-market rules begin to apply to them as well.

#### *3.10.1.1 The production market and the wholesale market*

The production market is of crucial importance for the operation of the electricity market as a whole. Experiences in Europe and Slovenia show that the producers

enter this market with the purpose of reducing their risks in relation to the suppliers to end customers. Table 20 lists the market shares of the producers in the Slovenian market in 2004 with regard to their installed capacity.

Producer	Installed capacity [MW]	The shares of all the producers in the RS	The shares of the producers on the transmission network
the HSE	1,827	69.6 %	75.2 %
- hydro stations of the HSE	853	32.5 %	35.1 %
- thermo stat. of the HSE	974	37.1 %	40.1 %
the NPSK	335	12.8 %	13.8 %
the TPST	164	6.2 %	6.8 %
the CHPSL	103	3.9 %	4.2 %
other smaller producers (on the distribution network)	196	7.5 %	-
small hydro stations	66	2.5 %	-
cogeneration	130	5.0 %	-
<b>total in the RS</b>	<b>2,625</b>	<b>100 %</b>	-
<b>total on the transmission network</b>	<b>2,429</b>	-	<b>100 %</b>

Table 20: Market shares of the producers in Slovenia

When assessing the degree of market concentration, the shares of all the producers were considered by applying the Hirshmann–Herfindahl index (HHI). This is defined as the sum of the squares of the number of market shares of individual market participants. An HHI up to 1000 indicates a low concentration; between 1000 and 1800 indicates a medium concentration; and above 1800 indicates a high market concentration. A high concentration means a small number of market participants with large market shares. The dominant position of a provider in the market is also defined by the Prevention of Restriction of Competition Act (the Official Gazette of the Republic of Slovenia, No. 99/04, official consolidated text 1); a market participant has a dominant position if its market share exceeds 40 percent.

According to the information regarding installed capacities of the Slovenian producers, the producers combined in the HSE have the dominant position, which is also indicated by the HHIs relating to the production market. The HHIs are calculated on the basis of the total installed capacity, the installed capacity on the transmission network (Table 20), and on the basis of the produced electricity (Table 17). The HHIs exceed the limit of 1800 and indicate the dominant position of the HSE with regard to electricity production and the provision of the majority of ancillary services.

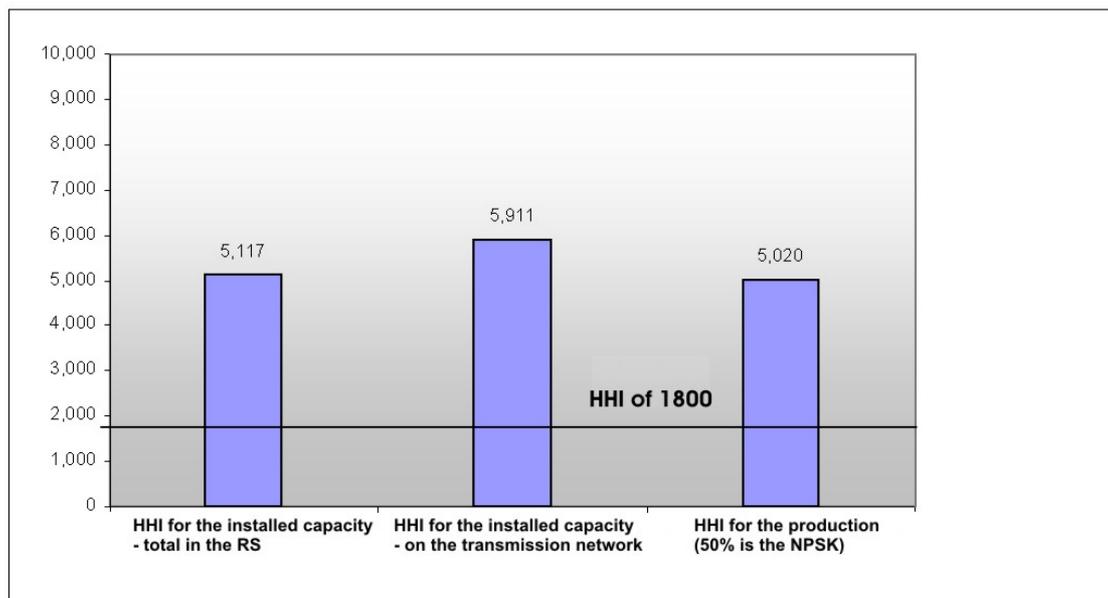


Figure 30: The HHIs relating to the production market

Similar, though slightly lower, HHIs relating to the production market are also typical of the majority of EU countries. Thus, Slovenia is comparable with France, Greece, Switzerland and the Netherlands, which had, before the introduction of the internal EU market, a distinctly centralised economy.

The majority of the trade in Slovenia is carried out on the basis of bilateral contracts. Only 2.22 percent of the total energy consumed in Slovenia is sold at the exchange. With regard to the trade on the exchange, we could even register a decrease in 2004. In spite of the new products, the largest share, 78 percent, still represents the trade in the base load. The decrease in the exchange liquidity was influenced by the ending of the trade in the preferentially dispatched energy. In 2003 this energy represented almost 75 percent of the total trade; however, after its withdrawal, the share of this energy in 2004 was less than 60 percent. In addition, the decision of three suppliers, operating in the framework of distribution companies, to withdraw from the trading on the exchange was also important. In comparison with 2003, in 2004 domestic suppliers obtained more of the required energy on the basis of multi-annual bilateral contracts, while they only traded in smaller amounts of electricity on the daily market. The product prices varied throughout the year as shown in Table 21.

(tolars/MWh)

Product prices at the exchange in 2004			
	Minimum price	Maximum price	Average price
base load	3,350	12,190	7,023
shoulder load	3,400	15,010	8,894
night load	1,200	7,000	4,494
EU shoulder	4,100	11,810	9,276
EU night load	4,120	7,450	6,142

Table 21: The values of minimum, maximum and average product prices at Borzen

### 3.10.1.2 The retail market

With regard to the retail market in Slovenia, we refer to two markets – the retail market at the distribution level, and the entire retail market. The share of the electricity consumption of the eligible customers on the distribution networks represents 75 percent of the electricity consumption of all the eligible customers.

The majority share of the supply to eligible customers on the distribution networks in Slovenia belongs to the suppliers organised into distribution companies. In spite of a large number of issued licences (76), fewer than 10 suppliers supply electricity to the customers on the distribution network. In 2004 only six of these suppliers supplied more than 95 percent of the total consumed electricity. Table 22 shows the market shares of the suppliers to the customers on the distribution networks. None of the companies in this market has the dominant position. The value of the HHI is 2115 and indicates that, in spite of a dispersed supply, the degree of concentration is high. This can also be concluded on the basis of ownership, as the state is the majority owner of Slovenian distribution companies.

SUPPLIER	The supply to eligible customers (GWh)	Market shares
Elektro Ljubljana, d. d.	1,901	34.6 %
Elektro Maribor, d. d.	988	18.0 %
Elektro Primorska, d. d.	880	16.0 %
Elektro Celje, d. d.	734	13.4 %
Elektro Gorenjska, d. d.	569	10.4 %
HSE, d.o.o.	383	7.0 %
Elektro prodaja, d. o. o.	35	0.6 %
<b>Total</b>	<b>5,490</b>	<b>100 %</b>

Table 22: Market shares of suppliers to eligible customers on the distribution network in 2004

The entire market of eligible customers includes, in addition to the market of eligible customers on the distribution networks, also the market of large eligible customers connected to the transmission network. Because of the mode of allocating cross-border transmission capacities ("pro rata"), the possibility of a direct supply to eligible customers from abroad is the biggest for the customers connected to the transmission network. The calculation of the market shares shows a medium concentration of the market. The HHI has a value of 1737, showing a medium concentration in the entire market. Table 23 lists the market shares.

SUPPLIER	The supply to eligible customers (GWh)	Market shares
HSE, d.o.o.	2,152	26.0 %
Elektro Ljubljana, d. d.	1,901	23.0 %
Electricity suppliers from abroad	1,014	12.3 %
Elektro Maribor, d. d.	988	11.9 %

Elektro Primorska, d. d.	880	10.6 %
Elektro Celje, d. d.	734	8.9 %
Elektro Gorenjska, d. d.	569	6.9 %
Elektro prodaja d. o. o.	35	0.4 %
<b>Total</b>	<b>8,273</b>	<b>100 %</b>

Table 23: Market shares of suppliers to eligible customers in 2004

### 3.10.2 The assessment of the concentration and of any possible abuse of a dominant position in the market

In 2004 the Office of the Republic of Slovenia for the Protection of Competition did not carry out the assessment of the concentration of the companies in the electricity market. Neither did the Office institute proceedings relating to an abuse of a dominant position in the market.

According to the available information, in 2004 the market participants did not inform the Office of the Republic of Slovenia for Protection of Competition or the Energy Agency of any abuse of a dominant position.

### 3.10.3 The measures at the state level to ensure competition

In 2004 the state implemented the Directive 2003/54/EC of the European Parliament and of the Council concerning Common Rules for the Internal Market in Electricity by adopting the amendments to the EA.

Thus, on 1 July 2004 the liberalisation of the electricity market increased from 65 percent to the current 75 percent. In line with the above-mentioned directive, eligible customers are all the customers, with the exception of households. Full liberalisation of the market is expected to be completed on 1 July 2007.

The amended EA obliges the market operator and the transmission system operator to set up the market for balancing energy. Additional provisions regarding the functional separation of the operators from the market-based activities have also been included in the act. The distribution system operators, whose accounts are already separated from the market-based activities, have to become legally separated by 1 July 2007.

In 2004 the Energy Agency was reorganised in line with the Public Agencies Act. The amendments to the EA gave the Energy Agency, as the energy regulator, a lot of additional responsibilities.

In 2004 the alignment of the executive acts started in line with the amendments to the EA. Thus, two new ordinances were adopted: the Ordinance regarding the Operating Mode of the Public Service of the System Operator of the Transmission Network for Electricity (the Official Gazette of the Republic of Slovenia, No. 114/04) and the Ordinance regarding the Operating Mode of the Public Service of the System Operator of the Distribution Network for Electricity, and the Public Service of Supplying Electricity to Tariff Customers (the Official Gazette of the Republic of Slovenia, No. 117/04).

That year, following a request from Slovenia, the Regulation (EC) No 1223/2004 of 28 June 2004 regarding the amendments to the Regulation (EC) No 1228/2003 of the European Parliament and of the Council concerning the date of implementing certain provisions relating to Slovenia was adopted, stipulating that Article 6(1) will come into force on 1 July 2007. Slovenia submitted a request for this exemption in 2003, and the adoption of the exemption means that, with regard to the allocation of cross-border transmission capacities in the framework of the Slovenian quota, the current allocating mode will apply until 1 July 2007. The transmission paths across the Austria-Slovenia border, and the resulting possibility for cross-border exchanges, will increase when the unfinished part of the transmission connection between Vienna and Kainachtal in Austria will be constructed.

The transmission paths towards Croatia have very large cross-border transmission capacities that have not yet been fully utilised. In line with the EA, the cross-border exchanges can be restricted on the principle of reciprocity, resulting from the unequal liberalisation of the two markets.

In comparison with the other EU countries, the Slovenian electricity market is very open to cross-border exchanges. As a result, in 2004 Slovenia did not adopt any other measures at the national level with which it would additionally ensure a sufficient number of market participants or incentives that would increase cross-border exchanges and competition on the electricity market.

As a result of the market size and its ownership structure, it was difficult to ensure free competition on the wholesale market in Slovenia; however, the otherwise restricted market saw no cases of abuse, or a situation in which additional measures taken at the national level would have been necessary.

### 3.11 Changing supplier

An eligible customer can, at any time, change a supplier by concluding a new open-ended contract. If a customer has settled all the outstanding payments with the current supplier, the latter is obliged to approve the customer's switch to the new supplier. The customer submits to the network operator a request for a change of supplier, to which the approval from the previous supplier and an open-ended contract with the new supplier are attached. The network operator is obliged to carry out the change within one month.

Typical load profiles have not yet been used for the customers whose hourly consumption is not measured. Remote reading of the measured consumption is used for some large customers. Information on the share of the telemetered consumption is not available.

As a result of a relatively closed domestic wholesale electricity market, on which the supply and the price for electricity were mainly defined by the HSE and the NPSK, the retail prices of different suppliers did not vary so much that large numbers of customers would want to change their suppliers. Even the customers that, after 1 July 2004, had the right to choose their supplier did not exercise this right to any great extent by the end of the year. The right to change supplier was mainly exercised by customers that wanted to have one electricity supplier in different

Slovenian geographical areas, or by customers choosing their suppliers on the basis of public tenders and an assessment of the bids from individual suppliers.

In 2004 the number of customers that changed their electricity suppliers was 276, which is three percent of the total number of the eligible customers connected to the distribution network. The share of energy used by these customers, with regard to the total energy consumed by the eligible customers on the distribution network, is 6.4 percent. Most of the changes of supplier were made by eligible customers connected to the medium voltage. With regard to their total number, 13.5 percent of these customers changed their suppliers; and with regard to their total energy consumption, 7.8 percent of them carried out the change.

The figures below show the dynamics of the changes by consumed amount and by the number of customers.

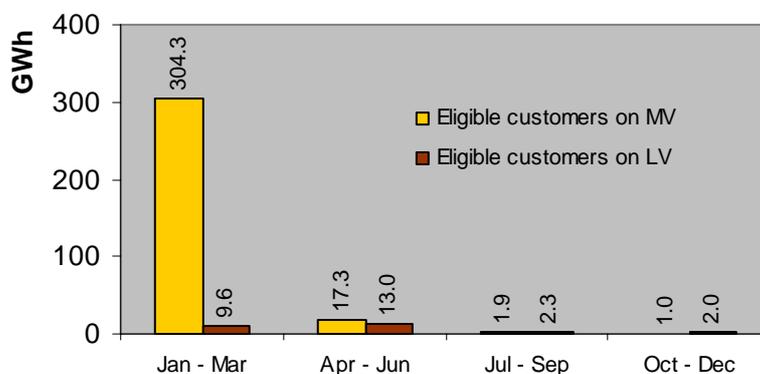


Figure 31 : Dynamics of the changes of the supplier by the amount of electricity consumed in 2004

Source: Energy Agency

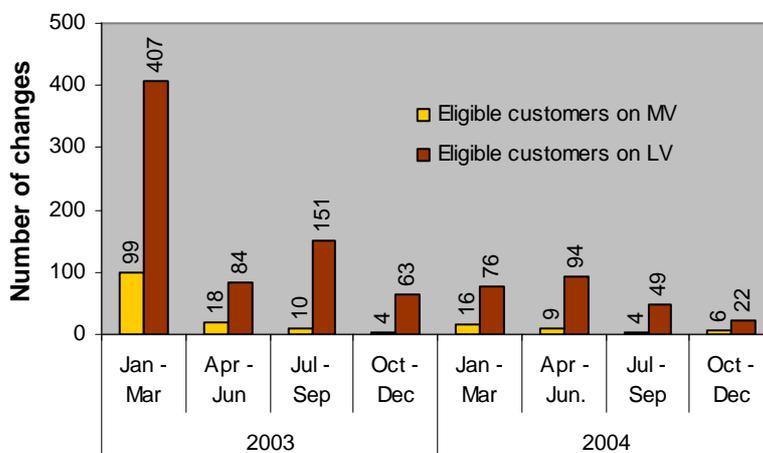


Figure 32 : Dynamics of the changes of the supplier by the number of customers

Source: Energy Agency

### 3.12 The internal market for electricity in the European Union

By July 2004 the EU Member States had to harmonize their legislation with the requirements of the new Directive 2003/54/EC concerning Common Rules for the Internal Market in Electricity. In addition, in 2004 the Regulation 1228/2003 on Conditions for Access to the Network for Cross-Border Exchanges in Electricity came into force. The aim of the new regulations is to create a competitive electricity sector throughout the European Union.

#### 3.12.1 The characteristics of the electricity markets in the countries of the European Union

In 2004 the electricity markets in the Netherlands and Portugal became fully liberalised. In Belgium, Italy, France, Greece and Slovenia, the markets only saw an increased level of liberalisation. Of all 25 EU states, in 2004 nine countries had fully liberalised electricity markets. Figure 33 shows the degree of liberalisation of the electricity markets in 15 EU countries and in Slovenia.

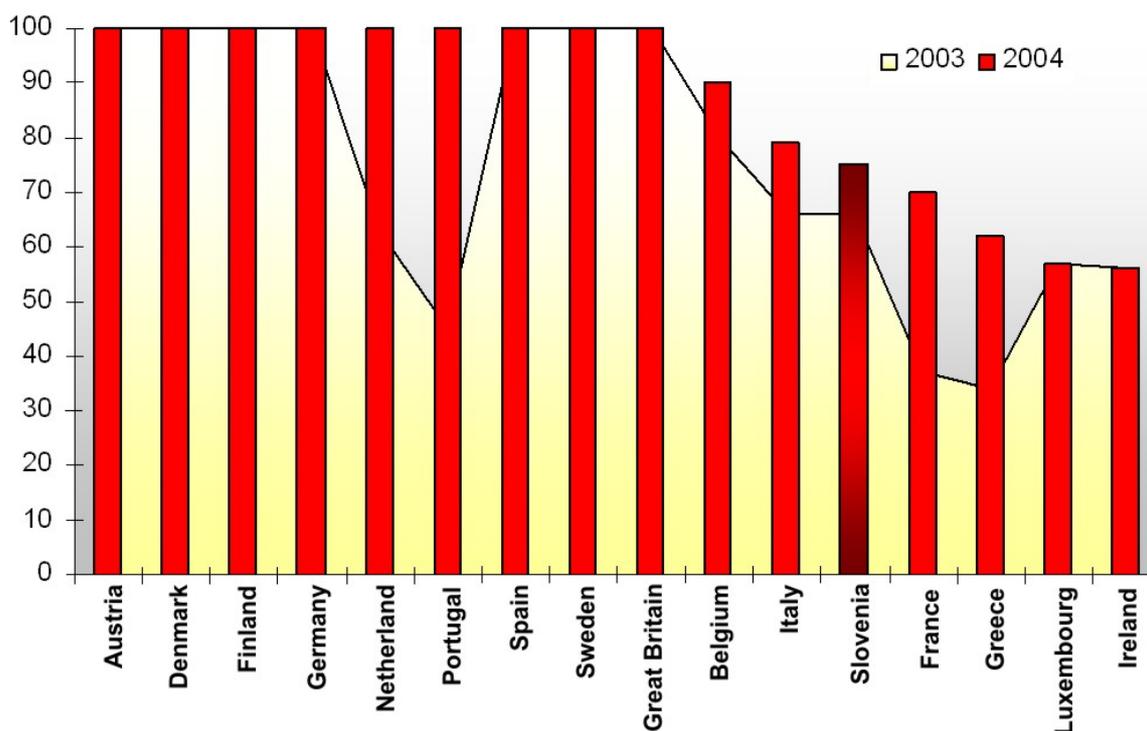


Figure 33: Degrees of market liberalisation in 2003 and 2004

Source: European Commission

In 2004 the consumption of electricity in all 25 countries of the European Union amounted to 2222 TWh; 59 percent of this amount, or 1314 TWh, relates to the countries with a 100-percent market liberalisation. Seven countries have a consumption bigger than 100 TWh; five of these countries have fully liberalised markets.

In 2004 Germany had the largest liberalised electricity market, where all the customers were eligible customers consuming a total of about 500 TWh of electricity (Figure 34).

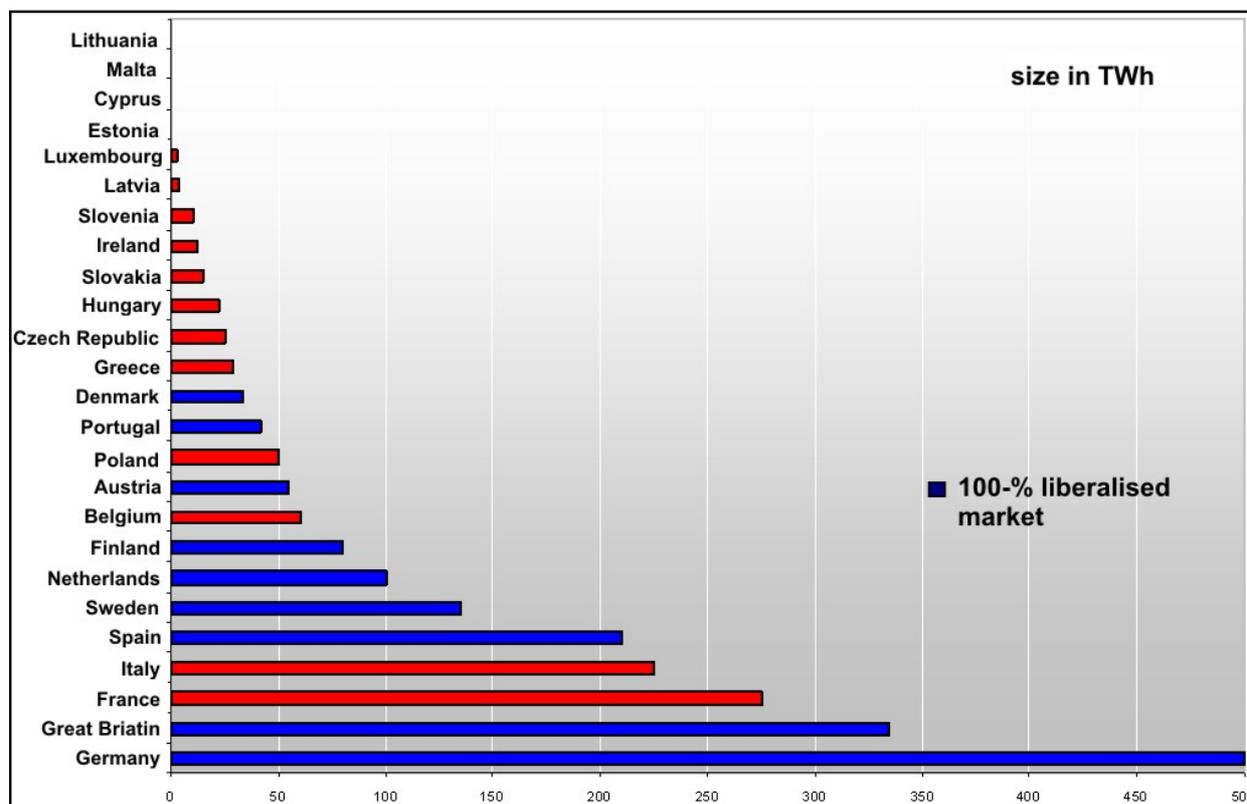


Figure 34: Size of the liberalised markets in individual EU countries in 2004

Source: European Commission

### 3.12.2 The effects of liberalisation of the electricity markets in the countries of the European Union

Since the introduction of competition, significant progress has been achieved, including the introduction of the principles of the legally regulated third-party access, the separation of the activities of the network operators from the other activities, and a certain degree of integration of the national markets. The development of a more lively competition at the EU level is, at present, mainly obstructed by the concentration on individual national markets.

For the purpose of further development of the electricity markets, the following conditions are necessary: the independence of the transmission system operators, the control over the transparency of the market operation, and new investments in the connections between countries and areas. Without the appropriate investments the competitiveness of the market will continue to be restricted, while the traditionally strong companies will maintain their position. To encourage the

competition at the EU level, cooperation between the state regulators and the bodies responsible for the protection of competition was started in 2004.

### 3.12.2.1 The prices for electricity

An important indicator for electricity prices in the EU is the price on the German exchange, the EEX. It is interesting to compare the average monthly prices for the electricity sold on the Slovenian and on the German daily markets in 2004, as shown in Figure 35. In 2004 the average prices on Borzen were much closer to the prices on the EEX than in 2003. The prices on the Slovenian daily market were, on average, still higher, by 3.82 percent, than the Phelix base on the EEX, but the difference became significantly smaller in comparison with 2003. In 2003 the average prices on Borzen were higher, by as much as 31 percent, than the prices for the electricity sold on the German market. For most of the year, except for the period April–June, the average prices on Borzen were higher than the prices on the German market. In 2004 the average value of the SLOeX index was higher than the Phelix-base price on the EEX by 1.03 euro per MWh.

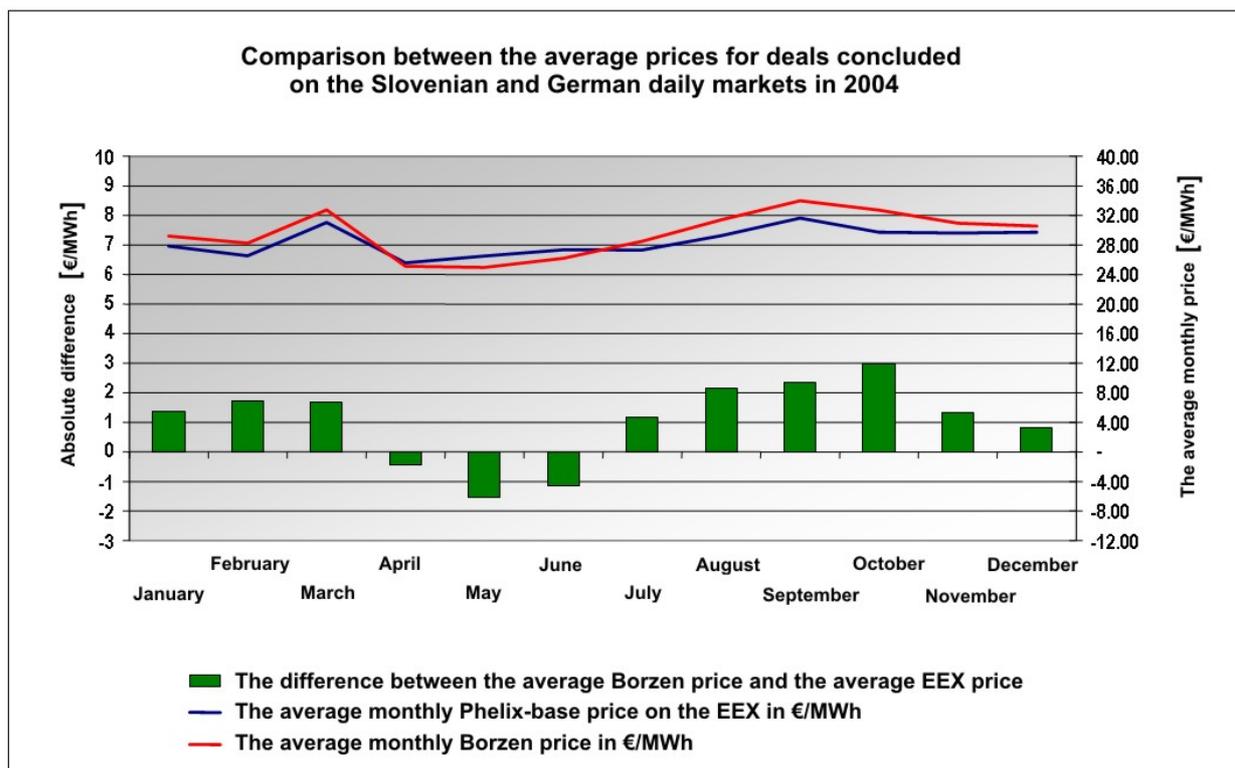


Figure 35: Comparison between the prices for base energy on Borzen, d.o.o. and the EEX in 2004

Source: Borzen

### 3.12.3 The use-of-network prices

In different EU countries the use-of-network prices (UNPs) are set differently and, for this reason, they are difficult to compare. The difference in the price setting occurs in the mode of charging the network users, as in some countries the producers and customers of electricity pay for the use of the networks, while in

other countries, including Slovenia, only electricity customers pay for it. In addition, the price structures differ as well, as they can cover the costs for the network use, ancillary services, stranded investments, subsidies for renewable sources, various supplements and taxes.

In Slovenia, the non-transaction postage-stamp method is used for setting the use-of-network price, which means that the customers pay unified tariffs for the whole territory of Slovenia. This method applies to all voltage levels and to all types of customers classified in the same customer groups. When setting the network charge, the gross method of distributing the costs arising from the transmission and distribution of electricity is taken into account, which means that the customers only cover the proportional costs for the use of the network to which they are connected, and the proportional costs for the high-level network. The use-of-network price consists of the following elements:

1. the network charge for the transmission network,
2. the network charge for the distribution network,
3. the network charge for ancillary services,
4. the fraction for the Energy Agency's operation,
5. the fraction for the preferential dispatch,
6. the fraction for recording the contracts on the organised market.

The Energy Agency is responsible for setting the network charges (points 1-3), and the government is responsible for setting the remaining fractions.

In the total end price for the supplied electricity, the use-of-network price represents the fraction that depends on the customer group of a specific customer and the customer's monthly consumption of electricity. The customers taking the electricity at the higher voltage levels, pay, accordingly, a lower use-of-network price in line with the adopted methodology, as shown in Figure 36.

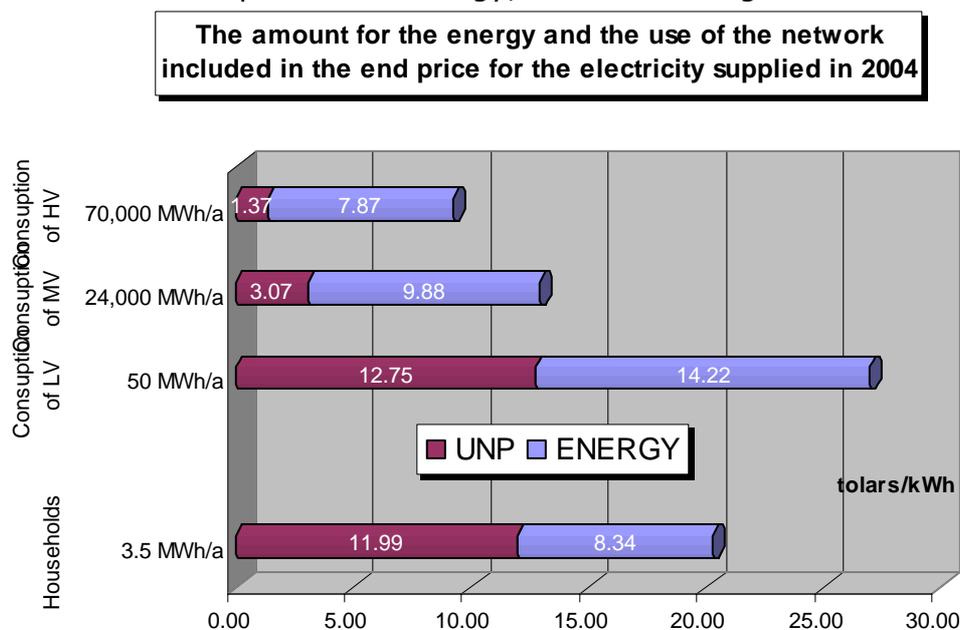


Figure 36: The UNP amounts and the prices for the supplied energy by typical customer group

Source: Energy Agency

The DG TREN (the Directorate-General for Energy and Transport of the European Commission) annually monitors the network charges in the European countries and publishes them in its reports. The diagrams below show the prices based on the latest available information taken from the Fourth Benchmarking Report of the European Commission; they show significant differences among the countries relating to industrial, as well as household customers.

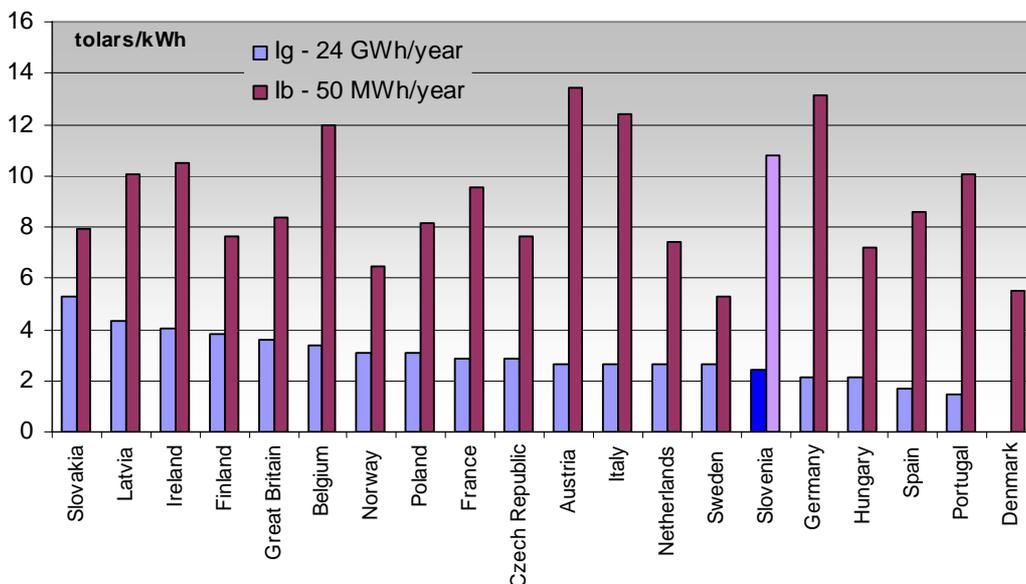


Figure 37: Average network charges for typical industrial customers (the values for the network charges exclude supplements, VAT and other taxes)

Source: European Commission

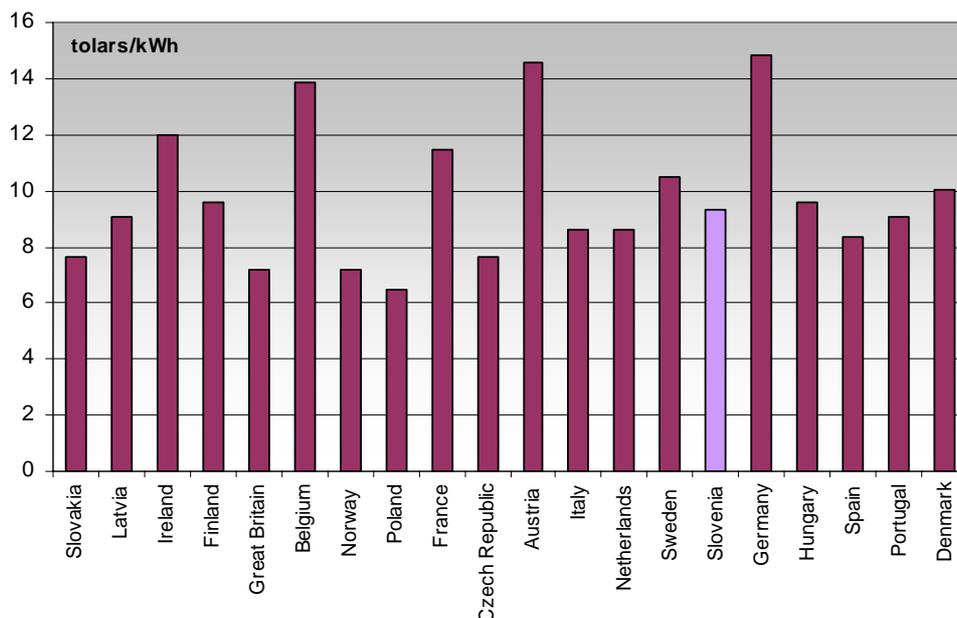


Figure 38: Average network charges for a typical household customer (the values for the network charges exclude supplements, VAT and other taxes)

Source: European Commission

### 3.12.4 Cross-border trading among EU Member States

To ensure further development of the electricity markets and a higher degree of competition, it is vital to have a higher level of the available connections among the countries. General improvements are, among other things, also a result of the implementation of the Regulation (EC) No 1228/2003 on Conditions for Access to the Network for Cross-Border Exchanges in Electricity. The harmonization of the mode of allocating cross-border capacities, about which lively discussions took place at various forums in the EU in 2004, will increase the liquidity and allow the entry of new participants into the market.

The creation of larger markets would lead to better operation of the markets, especially those in which large participants have dominant positions. However, an integration of the national electricity markets requires additional infrastructure, as well as clear and consistent rules regarding the allocation of transmission capacities, interactions associated with congestion management, and the wholesale electricity market.

The figure below shows that in 2004 the level of interconnection capacities was rather low, especially in comparison with the Scandinavian market. Slovenia has a relatively high level of openness to cross-border exchanges, which is mainly a result of a large transmission capacity at the Slovenia-Croatia border.

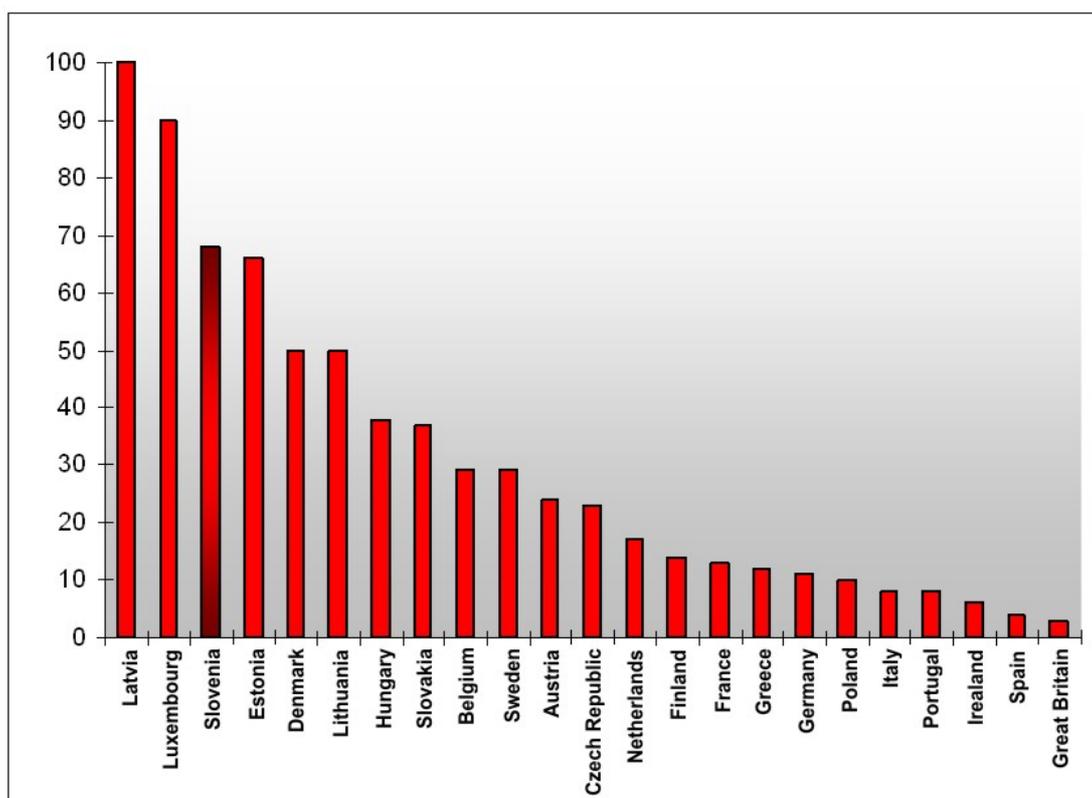


Figure 39: Interconnections and the market structure; the import capacity as a percentage of the installed capacity

Source: European Commission

### 3.13 Regulation of customer protection

In addition to the other legislation regarding this area, the EA also regulates customer protection; it stipulates that general conditions for supply and consumption should determine the measures of customer protection relating to the content of a contract between a supplier and a customer, the provision of an appropriate advance warning about any change made to the contract and of the information on the tariff and prices, the right of a customer to change supplier without paying any costs, various options of paying for electricity, and the decision-making procedures regarding the customer's complaints.

Similarly, additional protection of household customers and small customers carrying out a commercial activity or any other activity is also determined. Thus, a provider of the public service of supplying electricity to a tariff customer, under general conditions for the supply and consumption, has to supply electricity, on request, to any household and to any customer carrying out a commercial activity, or any other activity, employing fewer than 50 employees and with an annual turnover of less than 10 million euros in the tolar-equivalent value.

## 4 NATURAL GAS

### 4.1 The sources and consumption of natural gas in Slovenia

Slovenia depends entirely on foreign sources of natural gas. The main source is natural gas from Russia, which, in 2004, represented 56.8 percent of the total sources.

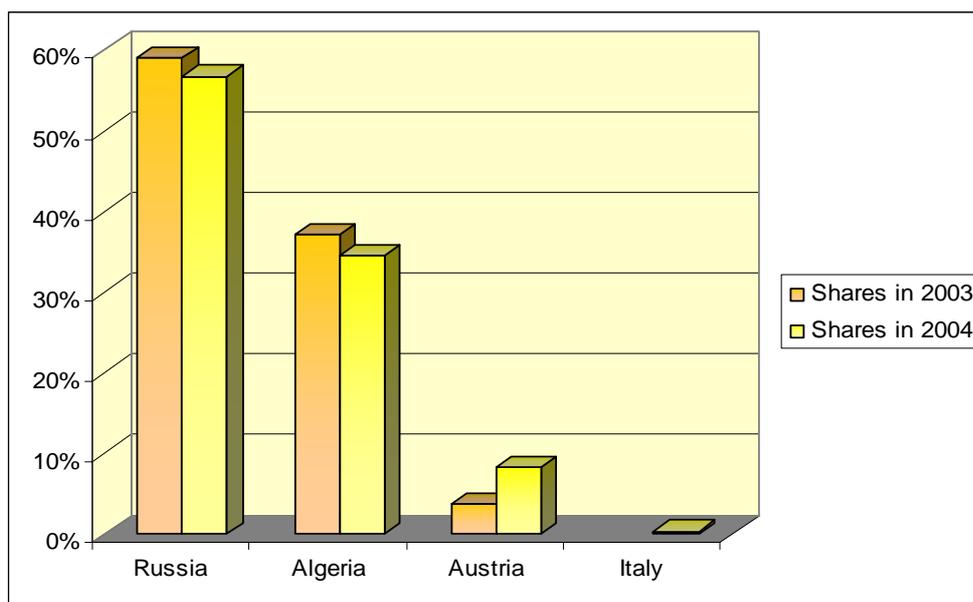


Figure 40: Sources of natural gas in 2003 and 2004

Source: Geoplin, d. o. o.

In comparison with 2003, in 2004 the supply of natural gas from Austria increased, and we also began to use a new source – natural gas from Italy.

In comparison with 2003, in 2004 the consumption of natural gas decreased by 10,350,000 Sm<sup>3</sup>.

Year	2002	2003	2004
The amount of natural gas sold in Slovenia in Sm <sup>3</sup>	998,683,855	1,104,606,557	1,094,255,926

Table 24: Trend in gas consumption in Slovenia

Source: Geoplin, d. o. o.

The projections of gas consumption in Slovenia until 2015, taken from the Resolution on the National Energy Programme (the Official Gazette of the Republic of Slovenia, No. 57/04), expect natural gas to have the fastest growing consumption among the energy products. The consumption of natural gas is expected to increase, in the period 2000-2015, by almost 70 percent, which means

a 3.5-percent annual growth. The trend in gas-consumption growth is expected to be the fastest because of the generation of electricity in gas power stations. A significant increase in gas consumption, by more than 80 percent, is expected to take place within the general consumption.

## 4.2 The transmission of natural gas and the provision of the tasks of the transmission system operator

In 2004 the transmission of natural gas over the transmission network was carried out by Geoplin, d. o. o., providing the service of the transmission system operator in line with the provisions of the EA and the Ordinance Relating to the Operating Mode of the Public Service of the System Operator of the Gas Transmission Network (the Official Gazette of the Republic of Slovenia, Nos. 97/04, 8/05). In line with the regulations, the accounts of the service of the transmission system operator were separated from the other energy activities.

The gas transmission network runs from the border metering-regulation stations, at which natural gas is taken from the neighbouring transmission networks, to the exit points, at which natural gas is delivered to the end customers, or to a distribution network for further distribution. The Slovenian transmission network is connected with the gas transmission networks of Austria (near Ceršak), Italy (near Šempeter) and Croatia (near Rogatec). These gas-transmission connections ensure a reliable supply of natural gas to Slovenia. Another important part of the transmission network is the compression station in Kidričevo, which maintains the required pressure on the transmission network.

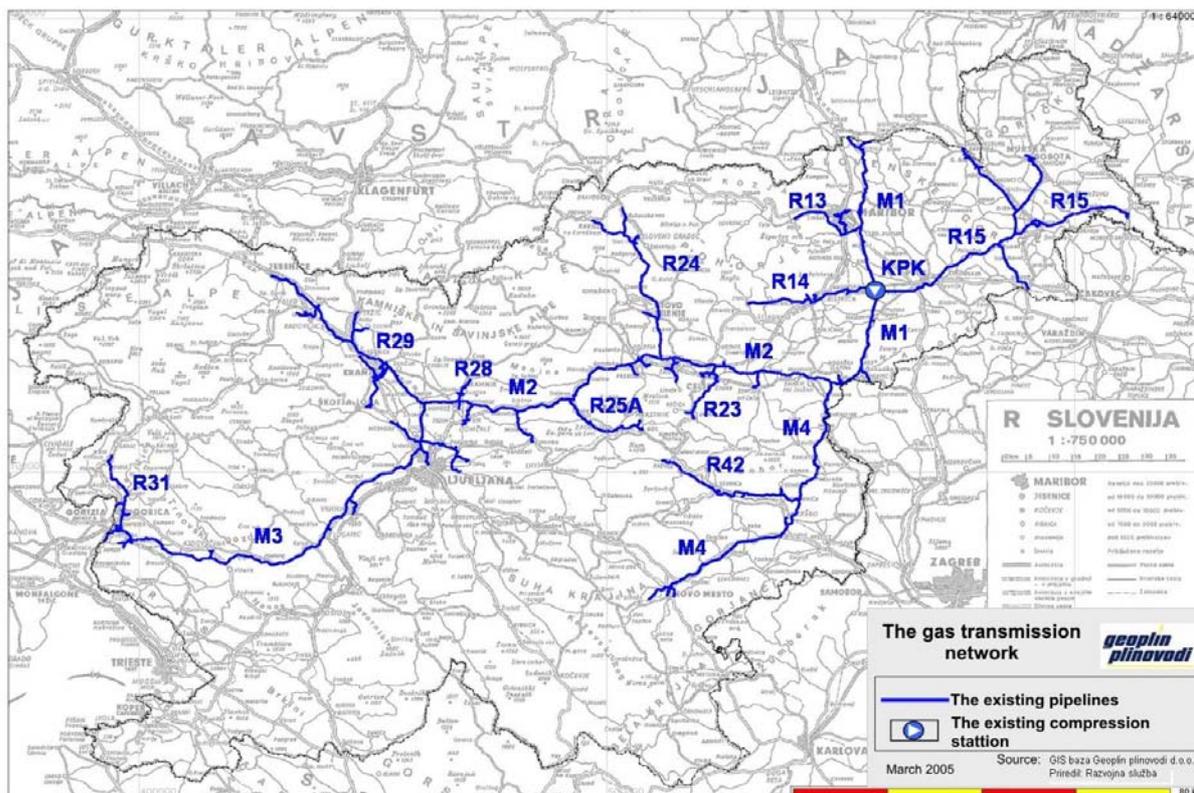


Figure 41: The gas transmission network

Source: Geoplin, d. o. o.

In 2004 Geoplin, d.o.o., made a net profit of 4,574 million tolar, and sold, over the network, a total of 1,094,255,926 Sm<sup>3</sup> of natural gas.

The largest owner of Geoplin, d.o.o., is the Republic of Slovenia, holding 31 percent of the subscribed capital of the company. The second largest owner is Petrol, d.d., which, in 2004, increased its ownership share by three percent, and owned almost 20 percent of Geoplin, d.o.o., at the end of the year.

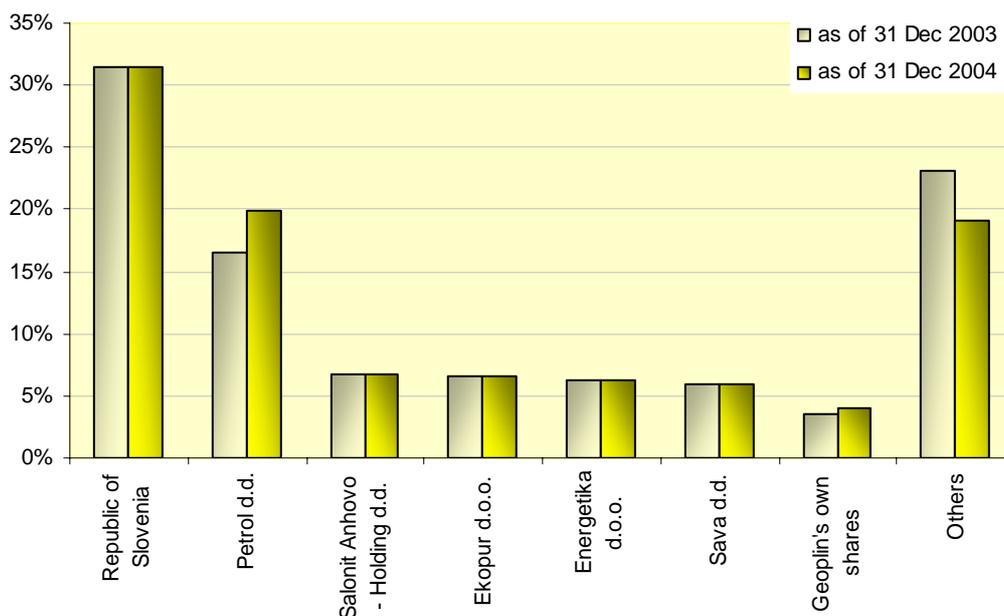


Figure 42: Ownership structure of Geoplin, d. o. o.

Source: Geoplin, d. o. o.

In 2004 Geoplin, d.o.o., mainly carried out the following activities:

- the purchase and transmission of natural gas to the Slovenian border,
- the supply of the Slovenian wholesale market with natural gas,
- the transmission and transit of natural gas across the network,
- the planning, developing, maintaining and operating of the transmission gas network,
- the calibration and servicing of gas meters and correctors.

#### 4.2.1 Investments

The transmission system operator prepares a plan of investments in the network for a period of ten years. The plan has to be harmonized with the national energy programme, as the investments in the transmission network are adapted to the requirements of the investments in the electricity network. When including the planned investments into the calculation of the network charge, the Energy Agency assesses whether a particular investment is needed for an expansion or renewal of the transmission system.

The increasing consumption of natural gas in Slovenia is associated with the need for new transmission paths. The gas transmission network was constructed at the end of the 1970s and 1980s, and it has not been adapted to meet the expected increase in the gas transmission needed for electricity production in the future. For this reason, large investments in the transmission network are being planned. In 2004 the transmission system operator carried out works that were part of the ongoing works on the transmission facilities and the network upgrade expected in the development plan for 2003–2013. In 2004 there were no major investments in the transmission network; however, 1,100 million tolaras were allocated for this purpose. Most investments were used for constructing new gas connections on the transmission network, and for increasing the reliability and effectiveness of the supply.

### 4.3 The distribution of natural gas and the provision of the tasks of the distribution system operators

The distribution system operators carry out an optional local public service of a system operator of a particular network, and they operate as public companies, or concessionaries, on the territories of particular local communities.

The tasks of the system operators, as defined by the EA, are as follows:

- the distribution of natural gas;
- the operation, maintenance and development of the network;
- the provision of long-term network capacity, which allows reasonable requests for connecting to and accessing the network;
- a reliable supply with natural gas by providing the appropriate capacity and reliability of a network;
- an non-discriminatory treatment of the network users;
- the provision of the required data to the other system operators whose networks are connected with the respective network operated by the respective operator;
- the provision of the required data to the eligible customers, so that they can effectively implement their right to access the network;
- the forecasting of the gas consumption by applying the method of integrated least-cost planning, considering economy measures on the customers' side.

The amendments of the EA, adopted in May 2004, changed the negotiated third-party access to the regulated third-party access, which significantly affected the relations between the system operators, the local communities and the Energy Agency. The opening of the market to all non-household customers on 1 July 2004 showed a need for non-discriminatory and transparent network access. In 2004 various activities were carried out in Slovenia with the aim to adopt executive regulations regulating the operation of the system operators. The executive regulations issued by the Energy Agency were adopted in 2004, while the Energy Agency's executive regulations relating to the distribution of natural gas are expected to be adopted in 2005.

The gas distribution networks are in more than sixty Slovenian municipalities. About 96,680 households are supplied with natural gas, which is 12.5 percent of all

Slovenian households. In the following years we can expect an increase in the construction of new gas transmission networks.

The system operators of the gas distribution networks own, or manage, 2086 km of gas pipelines with a nominal pressure of less than 4 bar.

#### 4.3.1 The companies for gas distribution

In 2004 the conditions for the operation of the companies for gas distribution changed significantly. The amendments to the EA, arising from the Directive 2003/55/EC, influenced the accelerated opening of the market for natural gas and introduced the regulated third-party access to distribution networks.

In 2004 the following companies for gas distribution operated in the listed areas:

Company	Municipalities, in which the respective activities are carried out
Adriaplin, d. o. o.	Ptuj, Rogaška Slatina, Šentjur, Vojnik, Štore, Laško, Zagorje, Kamnik, Bled, Nova Gorica, Šempeter - Vrtojba, Ajdovščina, Vipava, Logatec, Brežice, Radeče, Krško
Domplan, d. d.	Naklo, Kranj
Javno podjetje Energetika Celje, d. o. o.	Celje
Javno podjetje Energetika Ljubljana, d. o. o.	Ljubljana, Medvode, Ig, Dol pri Ljubljani, Dobrova - Polhov Gradec, Brezovica, Škofljica
Javno podjetje plinovod Sevnica, d. o. o.	Sevnica
Istrabenz plini, d. o. o.	Novo Mesto
JEKO-IN, d. o. o.	Jesenice
Komunala Slovenj Gradec, d. o. o.	Slovenj Gradec
Komunalno podjetje Velenje, d. o. o.	Velenje, Šoštanj, Šmartno ob Paki
Komunalno podjetje Vrhnika, d. d.	Vrhnika
Loška komunala, d. d.	Škofja Loka
Mestni plinovodi, d. o. o.	Zreče, Ormož, Radenci, Murska Sobota, Lendava, Žalec, Polzela, Prebold, Ljutomer
Petrol Energetika, d. o. o.	Ravne na Koroškem, Prevalje, Mežica
Petrol, d. d.	Domžale, Trzin, Mengeš
Petrol Plin, d. o. o.	Tržič, Radovljica, Rogatec, Sežana, Turnišče, Odranci, Beltinci
Plinarna Maribor, d. d.	Maribor, Ruše
Plinstal, d. d.	Žirovnica

Table 25: Operating areas of the companies for gas distribution

Individual companies for gas distribution carry out at least the following activities:

- the activity of the distribution system operator,
- the activity of the supply to tariff customers,
- the activity of the supply to eligible customers.

The activity of the distribution system operator and the activity of the supply to tariff customers remain regulated activities in the framework of the optional local public services, while the activity of the supply to eligible customers became, on 1 July 2004, a market-based activity.

The direction of the operation of the companies for gas distribution was set by the amendments to the EA in 2004, by the adopted Ordinance relating to the Operating Mode of the Public Service of the System Operator of the Gas Transmission Network

and by the Energy Agency's methodologies regarding the setting and calculating of the network charge for the gas transmission network.

In 2004 the complete transparency of the individual activities of the distribution companies was not yet possible, as the final price for natural gas was not yet divided into the use-of-network price and the gas price.

In 2004 the companies for gas distribution were getting ready for the separation of the regulated activities from the market-based activities, and they already had in place separate account management for all the activities related to gas distribution. The companies made a low net profit, or a loss, with the activities of the system operator and the supply of natural gas. Eight companies made a net profit, while five made a net loss. In four companies, the total expenditure was balanced by the total revenues. The companies have different operating policies, different ownership structures and different operating conditions, and for this reason it is not possible to make general conclusions regarding the operation of the companies for gas distribution.

Table 26 lists the different ownership structures and the numbers of companies with a similar ownership structure.

Ownership structure	Number of companies
Majority ownership of one or more municipalities	6
Majority ownership of a domestic legal entity	7
Majority ownership of a foreign legal entity	2
Majority ownership of an individual	1
No majority owners	1

Table 26: Ownership structure of the companies for gas distribution

Source: Companies' data

#### 4.4 Information on separate accounts

For the area of supply with natural gas, 71 licences were issued by the end of 2004. In the cases of the licence holders that are legal entities, the Energy Agency checked, under Article 38 of the EA, whether they allow the separate management of accounts for individual energy activities in line with the Slovenian accounting standards.

On the basis of the received data, the Energy Agency has established that 24 percent of the licence holders do not carry out the energy activity for which they were granted a licence. Of the other licence holders that responded to the Energy Agency's request, half of them allow a separate account management for individual energy activities.

All the providers of energy services obliged by the law to maintain a separate account management for individual energy activities have to submit to the Energy Agency their rules on how the individual activities are divided in order to obtain the

Energy Agency's approval. In addition, an auditor has to annually audit the implementation of these rules.

In 2004 only six legal entities involved in the supply with natural gas submitted their rules to the Energy Agency to obtain its approval. The Energy Agency gave its approval to four companies, and asked two companies to complete or clarify their rules.

## 4.5 Regulated activities

In the area of the supply with natural gas, the following public services are defined as regulated activities in line with the provisions of the EA:

Activity	Form
the activity of the system operator of the gas transmission network	a mandatory national public service
the activity of the system operator of the gas storage facility	an optional national public service
the activity of the system operator of the terminal for liquefied natural gas	an optional national public service
organising the market for natural gas	an optional national public service
the activity of the system operator of the gas distribution network	an optional local public service
the supply of natural gas to tariff customers	an optional local public service

*Table 27: Public services in the area of natural gas*

The mandatory and optional public services are carried out on the basis of a concession that is granted for a maximum of 35 years; however, a granted concession does not include an exclusive right to carry out these public services.

In 2004 the provider of the services of the gas transmission system operator was Geoplin, d.o.o., which was that year getting ready for a legal separation of the regulated activity from the market-based activity of the supply of natural gas. Both the regulated and market-based activities could be carried out on the transmission network by only one legal entity until 31 December 2004.

As a result, in April 2004 Geoplin, d.o.o., established a new company, Geoplin plinovodi, d.o.o., so that this company would take over the provision of the services of the transmission system operator on 1 January 2005. Geoplin transferred the ownership of the entire energy infrastructure, together with all the corresponding rights and obligations, to the newly established company, Geoplin plinovodi.

For the activities of the system operator of the gas storage facility, the system operator of the terminal for liquefied natural gas, and the organising of the natural-gas market, which have to be provided as optional national public services, no concession was granted in 2004, as there was no demand for the provision of these services on the Slovenian natural-gas market.

The activities of the gas distribution system operator and the supply of natural gas to tariff customers are optional local public services, which have to be regulated with a concession act between the concessionaire and the local community acting as the conceder, or they have to be organised as a public company established by the local community. In 2004, in 45 local communities these activities were organised as a concession between a concessionaire and the local community, and in 15 local communities these activities were carried out by public companies.

The companies for gas distribution have to maintain separate account management for each energy activity, so that the final gas price for the customers can be set in a transparent and non-discriminatory way.

The economic regulation of public services is necessary for those activities for which it is not possible to introduce a competitive market, and for this reason the amended EA obliges the Energy Agency to prepare the methodologies for setting and calculating the network charge.

In 2004 the first two methodologies, necessary for a division of the total gas price into the price for natural gas as material and the use-of-network price, were adopted. In future, the price for natural gas as a material will be set on the basis of demand and supply, while the use-of-network price will consist of the network charge and the supplements to the network charge. The network charge is a source of income for the system operator of the natural-gas network for the service of transmitting natural gas across the network.

In 2004 the Energy Agency prepared and adopted two acts regulating the operation of regulated activities in the area of the transmission network:

- Act determining the methodology for setting the network charge and the criteria for establishing eligible costs for the gas transmission network (the Official Gazette of the Republic of Slovenia, No. 131/04);
- Act determining the methodology for calculating the network charge for the gas transmission network (the Official Gazette of the Republic of Slovenia, Nos. 131/04, 132/04).

On the basis of these acts, the transmission system operator set the network charge and submitted it to the Energy Agency for its approval. The network charge for the transmission network was first published in the Act Setting the Network Charge for the Gas Transmission Network (the Official Gazette of the Republic of Slovenia, No. 139/04), which set the network charge for the gas transmission network for 2005.

As the network charge for 2004 had not been set on the basis of the methodologies for setting and calculating the network charge, it is not possible to establish, for that year, the fraction for the network charge included in the gas prices for typical customers.

The acts necessary for setting the network charge for the gas distribution network were being prepared, but in 2004 they were not yet harmonized among the participants of the market for natural gas. For this reason, the network charge, as a part of the gas price for customers, was not yet separately specified in 2004.

## 4.6 The market for natural gas

### 4.6.1 Characteristics of the natural-gas market

The Directive 2003/55/EC concerning Common Rules for the Internal Market in Natural Gas accelerated the opening of the natural-gas market. In July 2004 all customers, except the households, became eligible customers. With the opening of the market, eligible customers obtained the right to choose their supplier of natural gas, while the households, classified as tariff customers, will be, until 1 July 2007, when the gas market becomes fully opened, supplied by the suppliers of tariff customers under the conditions determined in the tariff systems.

Within the process of natural-gas market liberalisation, several activities associated with determining the powers and responsibilities of individual market participants were carried out. In 2004 not all the executive regulations needed for full market operation were adopted, and a free selection of the supplier to eligible customers was not yet possible. Eligible customers on the transmission network were supplied under the conditions of the Tariff System for the Supply of Natural Gas to the Tariff Customers on the Transmission Network (the Official Gazette of the Republic of Slovenia, No. 96/02), and the eligible customers on the distribution networks were supplied under the conditions of individual tariff systems or concession contracts for the supply of natural gas in the areas of individual local communities.

As a result of the missing executive regulations regulating the deviation calculation, the Energy Agency also included the rules on the deviation calculation in the Act Determining the Methodology for Calculating the Network Charge for the Gas Transmission Network (the Official Gazette of the Republic of Slovenia, Nos. 131/04, 132/04). Their influence on the market participants will only be possible to assess in 2005.

### 4.6.2 The supply of natural gas

In 2004 Goeplin, d.o.o., supplied natural gas to the eligible customers connected to the gas transmission network. The same company also supplied natural gas to the companies for gas distribution that supplied gas to their customers. In 2004 Geoplín supplied natural gas to a total of 180 customers.

In 2004 there was no competition among the suppliers, as not all of the executive regulations that would regulate the division between the market-based activities and regulated activities, and would allow the change of supplier, were adopted. In addition, eligible customers have long-term contracts with their suppliers that were concluded before the implementation of the acts introducing changes to the market for natural gas.

As a wholesale supplier, Geoplín supplied natural gas to all large industrial customers and the companies for gas distribution, so that its market share of the wholesale supply was 100 percent.

In 2004 the supply of natural gas to customers was not significantly affected in spite of occasional disturbances in the supply of the natural gas from Russia between May and September 2004, and an occasional decrease in the supply of the Algerian source between May and December 2004. The customers whose supply of natural gas can be interrupted by the suppliers in accordance with the contract had their supply restricted in January and February 2004.

The suppliers supplying natural gas to eligible customers connected to the distribution network operated as the companies for gas distribution and supplied natural gas to all eligible customers connected to the network of the distribution system operator operating within the same legal entity. Eligible customers on the distribution network were supplied under the conditions of the tariff system of each company for gas distribution.

The following are the largest suppliers operating on the distribution network in Slovenia:

- Javno podjetje Energetika Ljubljana, d. o. o. (the Public Company of Energetika Ljubljana, d.o.o.);
- Plinarna Maribor, d. d. (Maribor Gas, d.d.);
- Adriaplin, d. o. o.;
- Javno podjetje Energetika Celje, d. o. o. (the Public Company of Energetika Celje, d.o.o.).

In 2004 the Public Company of Energetika Ljubljana, d. o. o., supplied more than 55,000 customers in the Municipality of Ljubljana and the suburban municipalities. It sold a total of 71,094,000 Sm<sup>3</sup> of natural gas and was, with these sales, the largest company for gas distribution.

Maribor Gas, d. d., was the second largest distribution company with regard to the total amount of gas sold on the distribution network, as well as with regard to the number of customers. In 2004 this company supplied 20,500 customers with 46,727,000 Sm<sup>3</sup> of natural gas.

Adriaplin, d. o. o., supplied 8,900 customers in 17 municipalities with a total of 41,011,000 Sm<sup>3</sup> of natural gas.

With regard to the amount of gas sold, the next largest supplier was the Public Company of Energetika Celje, d.o.o., supplying 7,200 customers with 28,389,000 Sm<sup>3</sup> of natural gas.

Petrol Plin, d.o.o., had a contract regarding the supply of customers in the local communities of Rogatec and Sežana concluded with two foreign suppliers. The customers were supplied with 2,677,000 Sm<sup>3</sup> of natural gas.

In 2004 the companies for gas distribution sold a total of 255,345,000 Sm<sup>3</sup> of natural gas and supplied 105,572 customers in 62 municipalities. The customers included 96,680 households consuming 100,951,000 Sm<sup>3</sup> of natural gas for their own use. The companies for gas distribution will continue to supply these customers with natural gas, by providing the service of supply to tariff customers, until 1 July 2007.

The companies for gas distribution are retail suppliers, as they supply small industrial companies and households. Figure 43 shows the market shares of the retail suppliers.

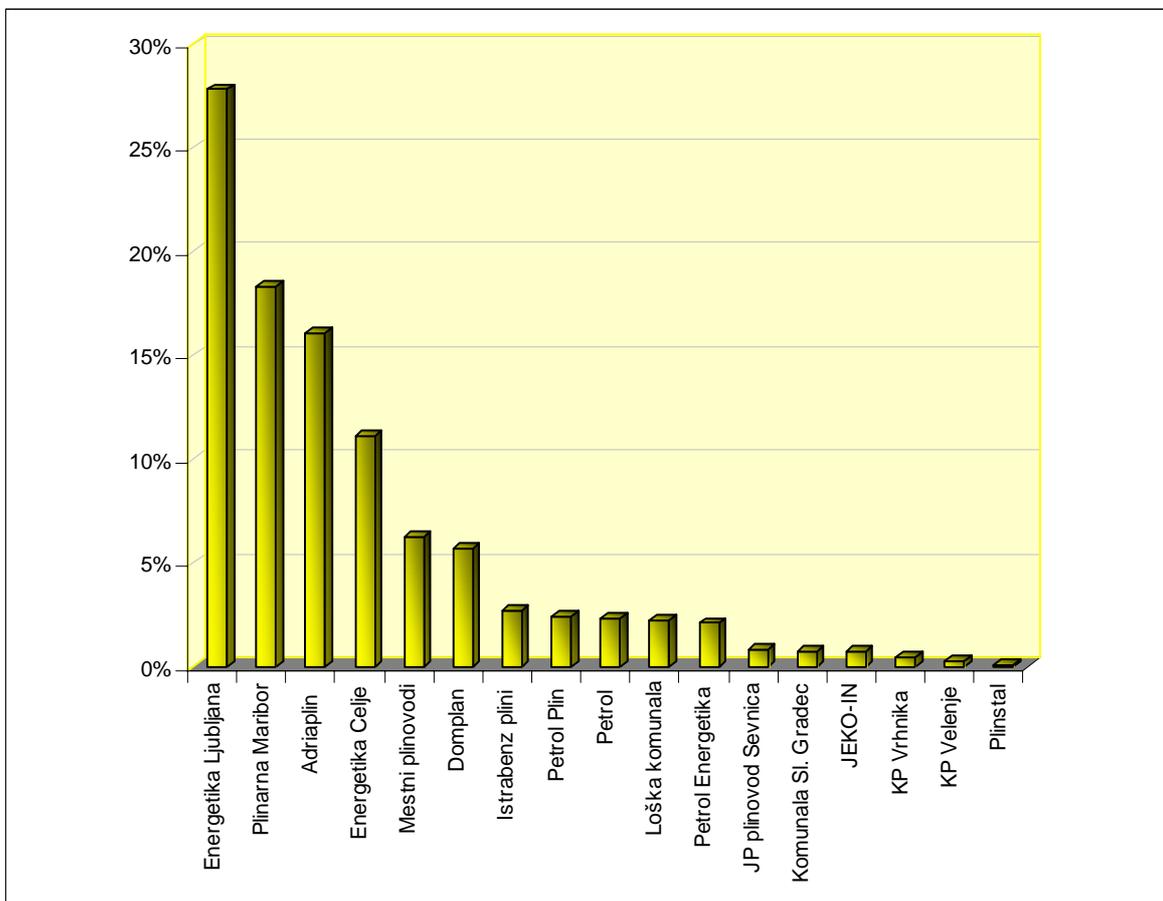


Figure 43: Market shares of the retail suppliers

Source: Companies' data

In 2004 there was no dominant retail supplier in Slovenia, as the market share of the largest three suppliers amounted to 62 percent, which indicates a medium concentration of suppliers in this market.

The retail suppliers mainly supplied households, and in 2004 no new suppliers appeared in the natural-gas market.

With regard to the number of customers, in 2004 the majority of Slovenian customers were small households with a consumption of up to 924 Sm<sup>3</sup> of natural gas. The share of households, with regard to the number of customers, is 92 percent of all the customers; however, households consume less than 10 percent of the total gas consumption. On the other hand, there are very few large or very large industrial customers consuming more than 2,100,000 Sm<sup>3</sup> of natural gas per year, as the share of the number of these customers is only 0.06 percent, but they consume as much as 64 percent of the natural gas (with respect to the total consumption in Slovenia).

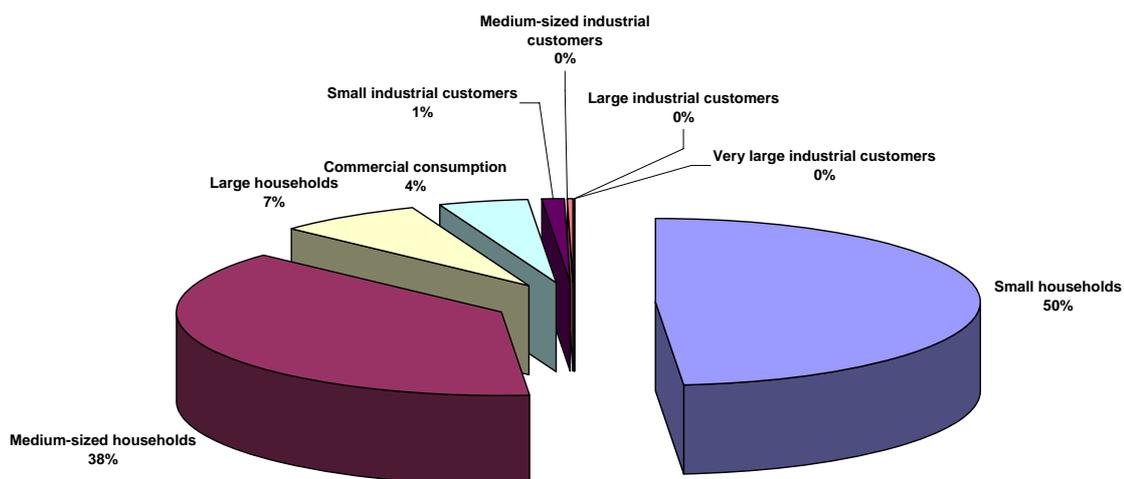


Figure 44: Number of customers in terms of markets  
Source: Companies' data

#### 4.6.2.1 The prices for natural gas

The customers connected to the gas transmission network had long-term contracts for the supply of natural gas. In these cases the price was set on the basis of the conditions of the Tariff System for the Supply of Natural Gas to the Tariff Customers on the Transmission Network (the Official Gazette of the Republic of Slovenia, No. 96/02), although all the customers on the transmission network gained the status of eligible customer on 1 July 2004. The price for natural gas was not divided into the regulated use-of-network price and the market-based price for natural gas.

In 2004 the price for natural gas changed in response to the movement in prices for oil and oil derivatives on the international markets, and the trends of the foreign-currency rates. Figure 45 shows the trends for the net selling price for gas on the transmission network. The prices include the excise duty for natural gas (1.5 tolars/Sm<sup>3</sup>) and the CO<sub>2</sub> tax (5.7 tolars/Sm<sup>3</sup>).

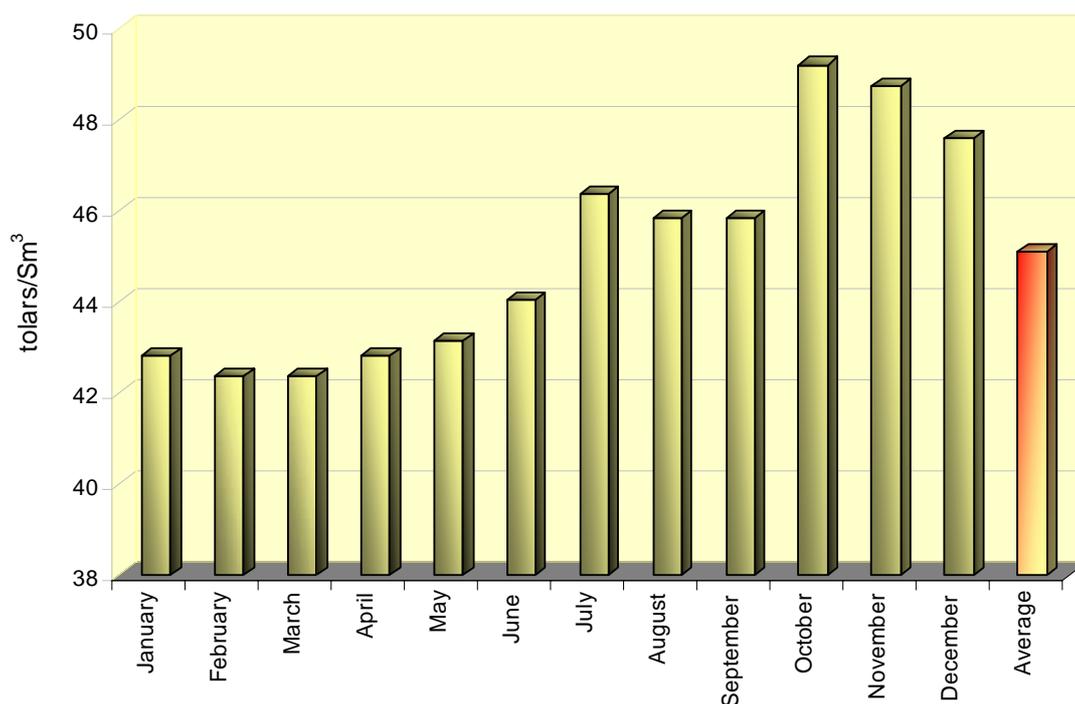


Figure 45: Gas prices including the discount for the customers on the transmission network, the excise duty and the CO<sub>2</sub> tax

Source: Geoplin, d. o. o.

The average gas price for the customers on the transmission network, including the taxes, was 45.10 tolar per Sm<sup>3</sup>. The price paid by a customer from a specific customer group is calculated in line with the methodology harmonized with Eurostat, and with the methodology stipulated by the Directive 90/377. The customers from a specific customer group are typical customers with regard to the purpose of gas consumption, annual consumption and the load factor. Industrial customers are classified into several standard customer groups, whereby the customer group I<sub>2</sub> consists of the customers with an annual consumption of 110,000 Sm<sup>3</sup>, and the customer group I<sub>4-2</sub> consists of the customers with an annual consumption of 11,065,000 Sm<sup>3</sup>. The latter consume natural gas, on average, for 24 hours per day and for 330 days per year.

Group	Consumption in thousands of Sm <sup>3</sup>	Load factor
I <sub>2</sub>	111	200 days
I <sub>3-1</sub>	1,107	200 days and 1,600 hours
I <sub>3-2</sub>	1,107	250 days and 4,000 hours
I <sub>4-1</sub>	11,065	250 days and 4,000 hours
I <sub>4-2</sub>	11,065	330 days and 8,000 hours

Table 28: Customer groups of industrial customers

Source: Statistical Office of the Republic of Slovenia



Figure 46: The price for natural gas in industry by customer group as of 1 July 2004  
Source: Statistical Office of the Republic of Slovenia

The gas prices for customers on the distribution network can only be compared for typical customers with a standard gas consumption. The gas prices in Slovenia are not set uniformly, as the companies for gas distribution take into account the tariff systems of individual municipalities and, accordingly, adjust the prices for individual customer groups.

Group	Consumption in thousands of Sm <sup>3</sup>	Purpose of consumption
D <sub>1</sub>	221	Cooking and preparing hot water
D <sub>2</sub>	443	Cooking and preparing hot water
D <sub>3</sub>	2,241	Cooking, preparing hot water and heating
D <sub>3b</sub>	3,323	Cooking, preparing hot water and heating

Table 29: Households' consumption of natural gas by customer group

The average gas price for Slovenian households is calculated as a weighted average of the prices in larger Slovenian towns.

Figure 47 shows that the gas price for the customers with a small consumption of natural gas, used only for cooking and preparing hot water, is much higher than the prices for the natural gas also used for heating.

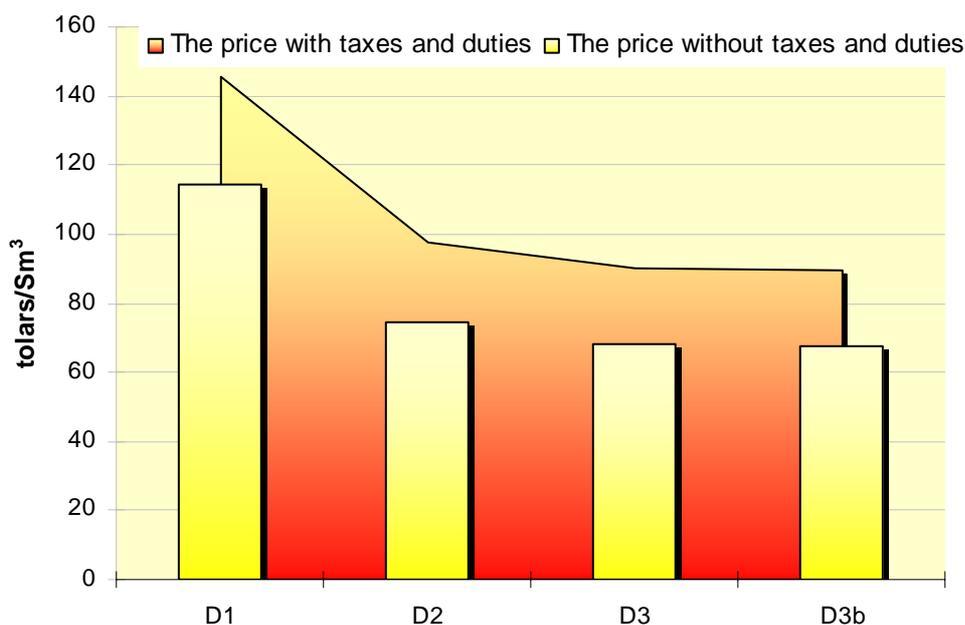


Figure 47: Average gas prices for households by customer group as of 1 July 2004  
Source: Statistical Office of the Republic of Slovenia

In 2004 the prices for natural gas were not divided into the price for natural gas as material and the use-of-network price; only duties and the value-added tax were specified.

#### 4.6.3 Access to the networks and storage facilities for natural gas

Access to the network was provided to all 180 customers on the transmission network. Of these 180 customers on the transmission network, 16 are the companies for gas distribution.

In September 2004 the Ordinance relating to the Operating Mode of the Public Service of the System Operator of the Gas Transmission Network regulating the right of new customers to access the transmission network was adopted. The ordinance sets the division between the gas transmission and gas distribution networks with regard to new customers. The transmission system operator can connect a customer of natural gas to its network only if the conditions for the connection have been met and if the public service of the distribution system operator is not provided in the customer's area, or if the distribution system operator refuses to connect the customer due to an insufficient capacity of the distribution network.

The network access is regulated in line with the executive regulations regulating general conditions for the supply and consumption, and the system operation instructions. The transmission system operator issues a connection approval in line with the general administrative procedure within 30 days. The time needed for a

physical connection of a customer depends on the extent of the required activities carried out by the transmission system operator and the customer.

The transmission system operator had no gas-storage facilities in Slovenia, but it used the leased storage facilities in Austria and Croatia.

Connecting to the distribution network was regulated by the general conditions for the supply and consumption of individual companies for gas distribution, as there was no unified methodology stipulating unified rules on accessing the distribution network.

Distribution system operators have no gas-storage facilities.

In 2004 there were no refusals of third-party access to the networks.

#### **4.6.4 The reliability of the supply with natural gas and congestion management**

In 2004 the provider of the public service of the transmission system operator ensured a reliable and high-quality supply with natural gas to the customers on the transmission network, in spite of occasional disturbances to the supply of Russian gas between May and September 2004, and an occasional decrease in the supply of the Algerian source between May and December 2004. The interruption of the supply to interruptible customers took place at the beginning of the year. In 2004 there were no faults on the transmission system that would have affected the gas supply to customers. Large loads on the transmission system during peak times did cause a large pressure oscillation in the transmission system; however, they did not affect supply reliability.

In 2004 the transmission system operator carried out work on the transmission network in line with the agreements.

In 2004 the distribution system operators did not register any problems regarding network congestion, and, for this reason, no congestion-management mechanisms were put in place.

#### **4.7 The degree of transparency and competitiveness in the market for natural gas**

In Slovenia in 2004 activities relating to the adoption of the legislative and executive regulations required for liberalisation, i.e., the operating of the market, were being carried out in the area of the gas market. No new suppliers appeared on the market, as the wholesale market operates under the conditions set in the long-term contracts that are valid until at least 2007. Almost all the customers connected to the transmission network have long-term contracts.

#### 4.7.1 The extent of the market for natural gas in Slovenia

In 2004 Geoplin, d.o.o., operating as the supplier and the transmission system operator, supplied natural gas to the entire market. The total amount of natural gas sold was 1,094,255,000 Sm<sup>3</sup>, which was less than one percent below the amount sold in 2003. There were no changes regarding the sales of natural gas to different economic activities.

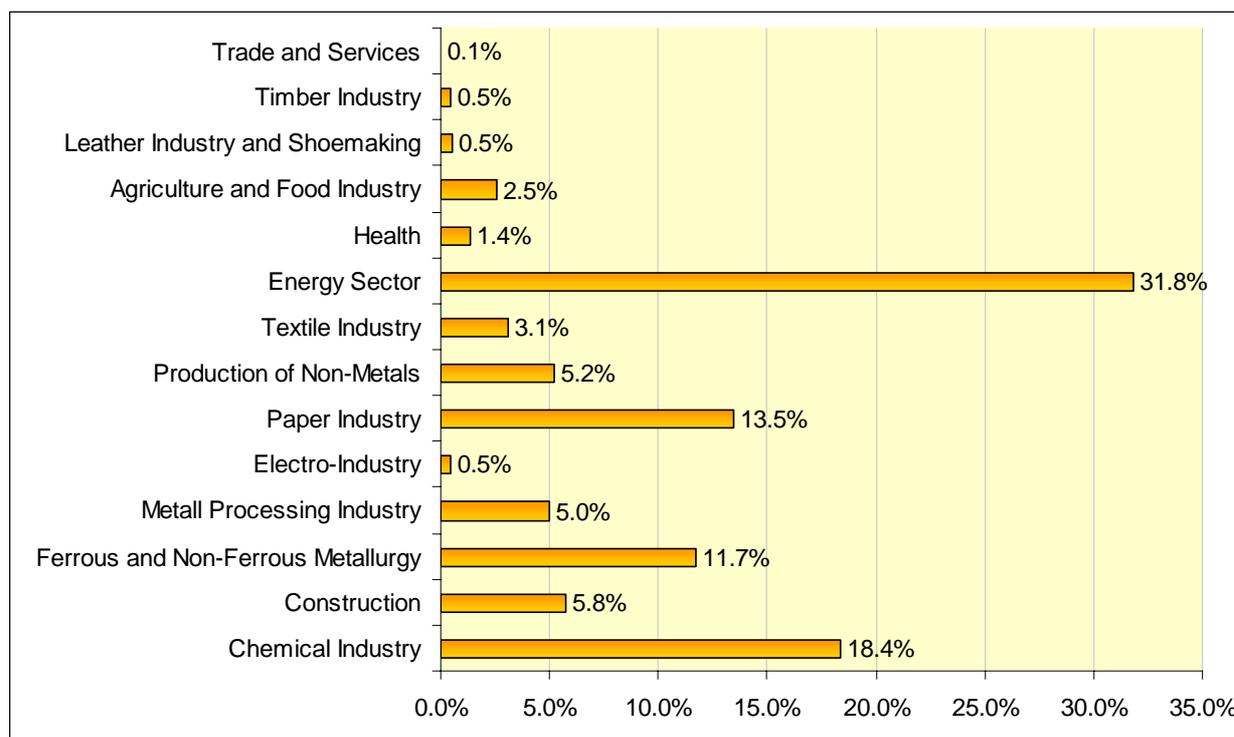


Figure 48: Breakdown of gas consumption by industry

Source: Geoplin, d. o. o.

In 2004 the extent of the natural-gas transit decreased, in comparison with the previous year, by less than one percent, and amounted to 1,601,086,000 Sm<sup>3</sup>.

The gas from the transmission network is taken by industrial companies and the companies for gas distribution supplying general customers (households, small industrial customers, institutions, etc.). These companies took from the transmission network, for the purpose of general consumption, less than 28 percent of the total gas consumption in 2004.

#### 4.7.2 The degree of liberalisation and new participants in the market for natural gas

In 2004 the market for natural gas in Slovenia opened up for all the customers connected to the gas transmission network, and for the non-household customers connected to the distribution network. These are eligible customers that can choose their suppliers. Of all the natural-gas customers in Slovenia, 8892 customers had the status of eligible customer.

In 2004 eligible customers consumed 951,801,000 Sm<sup>3</sup> of natural gas, which was 90.4 percent of the total gas consumption in Slovenia. The share of the gas consumed by eligible customers indicates the degree of liberalisation in the market for natural gas, which, in 2004, increased, in comparison with 2003, from 50 percent to 90.4 percent.

In 2004 no new suppliers appeared in the market for natural gas, as customers had long-term contracts with their suppliers and, at the same time, the mechanisms allowing the change of suppliers were not yet put in place. In 2004 the necessary executive regulations were being prepared and are expected to be adopted in 2005.

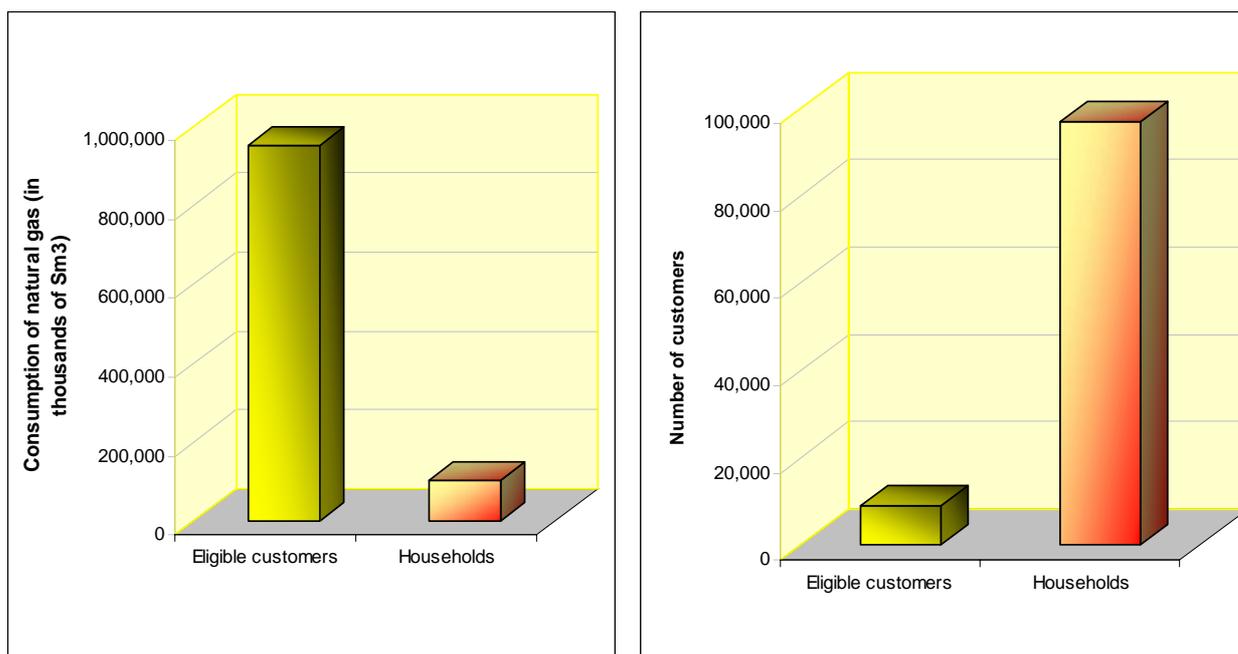


Figure 49: Numbers of eligible and household customers, and their consumption of natural gas

Source: Companies' data

#### 4.7.3 Cross-border trading and the details about the allocations of cross-border transmission capacities

Free capacities at the border metering-regulation stations depend on the entry pressures of the neighbouring transmission networks, on the gas-system load and on the required exit pressures. The exit pressure on the transmission network is adapted to the annual changing of the flow conditions in the gas pipeline and to the largest possible load of the compressor station in Kidričevo. A 100-percent network utilization is possible when the temperature is above 4 °C; when the temperature is -5 °C only the contractually guaranteed supply can be provided; and when the temperature falls below -5 °C, the supply to interruptible customers may be restricted.

Location		Capacity* Sm <sup>3</sup> /h, 15 °C	Utilization of the capacity at different temperatures (%)		
			above 4 °C	-5 °C	-15 °C
Ceršak		295,000	up to 100 %	100 %, contractually guaranteed supply	100 %, restricted supply to interruptible customers
Rogatec	direction: central Slovenia	120,000	up to 100 %	100 %, contractually guaranteed supply	100 %, restricted supply to interruptible customers
	direction: Croatia	210,000	up to 100 %	up to 100 %	up to 100 %
Šempeter		110,000	up to 77 %	up to 77 %	up to 77 %

Note: \*capacities are the maximum flows at the border metering-regulation stations under optimum transit conditions

*Table 30: Utilization of the capacity at the border metering-regulation stations*

*Source: Geoplin plinovodi, d. o. o.*

In 2004 cross-border capacities were used for the provision of a reliable supply with natural gas in Slovenia and for the provision of transit in the case of free capacities.

## 4.8 The internal market for natural gas in the European Union

In July 2004 the directive 2003/55/EC was put into effect. Its aim is to speed up the opening of the markets for natural gas in the EU countries, and to unify these markets. The objective of the new rules on the operation of the internal market for natural gas, set by the directive, is a competitive European market for natural gas.

### 4.8.1 The degree of liberalisation of the markets for natural gas in the countries of the European Union

In 2004 a noticeable increase in the opening of the markets for natural gas took place, mainly in the countries that, in the same year, became members of the EU. The lowest degree of liberalisation was registered in Poland and Slovakia. The market for natural gas became completely liberalised in the Netherlands.

The degree of market liberalisation is defined by the amount of natural gas consumed by eligible customers with regard to the total amount of consumed natural gas. Figure 50 shows the degrees of liberalisation in the markets for natural gas in the EU countries.

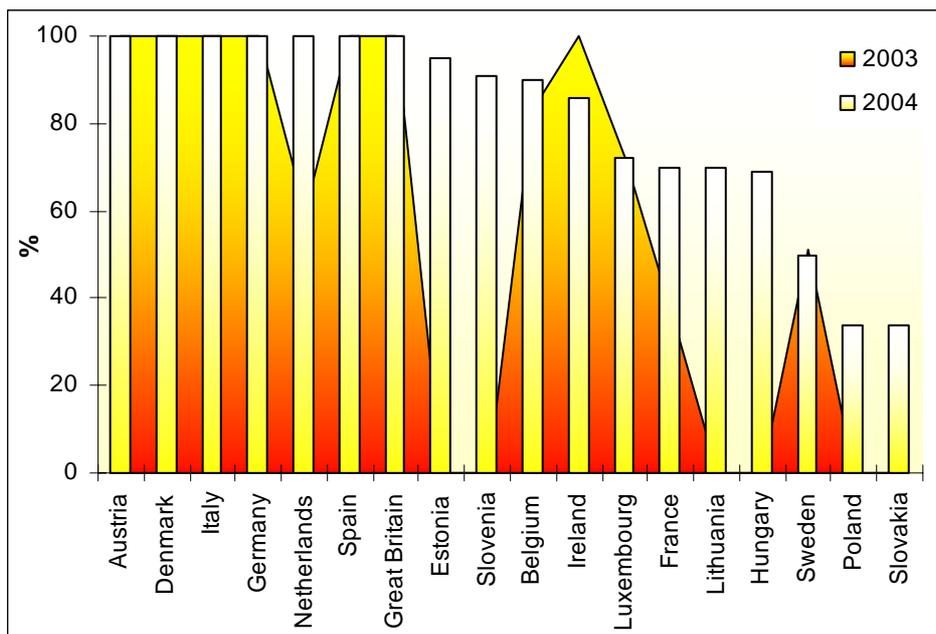


Figure 50: Degrees of market liberalisation in the countries of the European Union in 2003 and 2004  
Commission

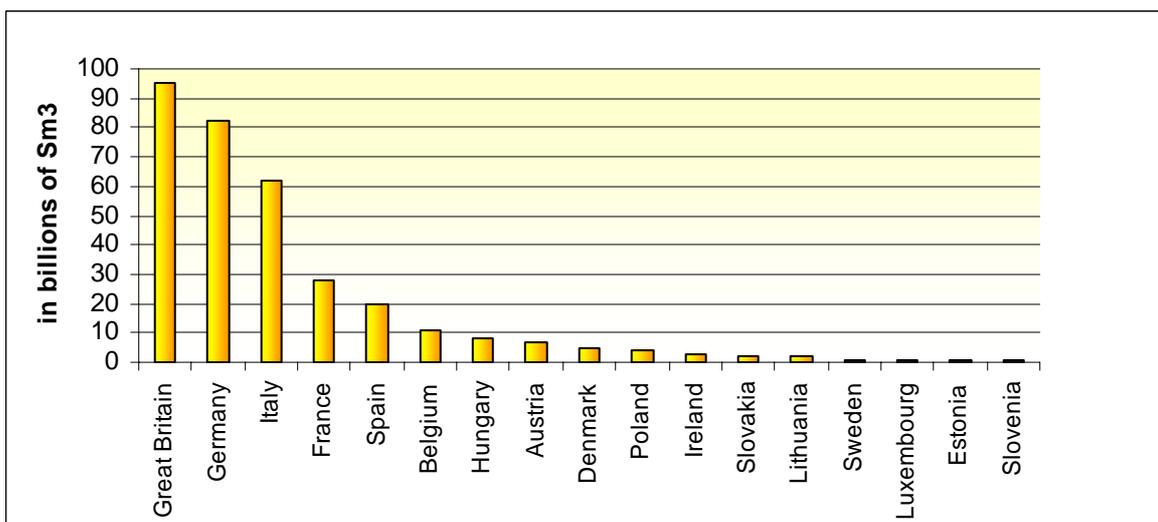


Figure 51: Sizes of the markets for natural gas in the countries of the European Union  
Source: European Commission

In 2004 Great Britain, Germany and Italy had the largest markets in the European Union.

#### 4.8.2 The effects of the liberalisation of the markets for natural gas in the European Union

The Member States of the EU that have various sources of natural gas and opened up the markets with free network capacities achieved better results in the liberalisation of the market for natural gas and developed competition among the suppliers. The best results in market liberalisation were achieved in Great Britain, Ireland, Belgium, Denmark and the Netherlands. On the other hand, the countries that have few connections with the neighbouring countries and a restricted access to external sources encounter problems in the development of competition. Little progress in market liberalisation was noticed in France, Germany and Austria.

##### 4.8.2.1 The prices for natural gas

The prices for natural gas significantly depend on the international prices for oil and oil derivatives. They are often set on the basis of the contracts between the importers and producers of natural gas. In 2004 the increase in the oil price was also reflected on the market for natural gas. The gas prices for customers increased – the wholesale price increased from about 10 euros per MWh to 12 euros per MWh.

Although the wholesale prices for natural gas are similar in the EU countries, the gas prices for industrial customers and households differ a lot. The figures below show the gas prices for specific customer groups. It is clear from these prices that the gas prices for large industrial customers are below the EU average, while the prices for small industrial customers and households are about the same as the EU average.

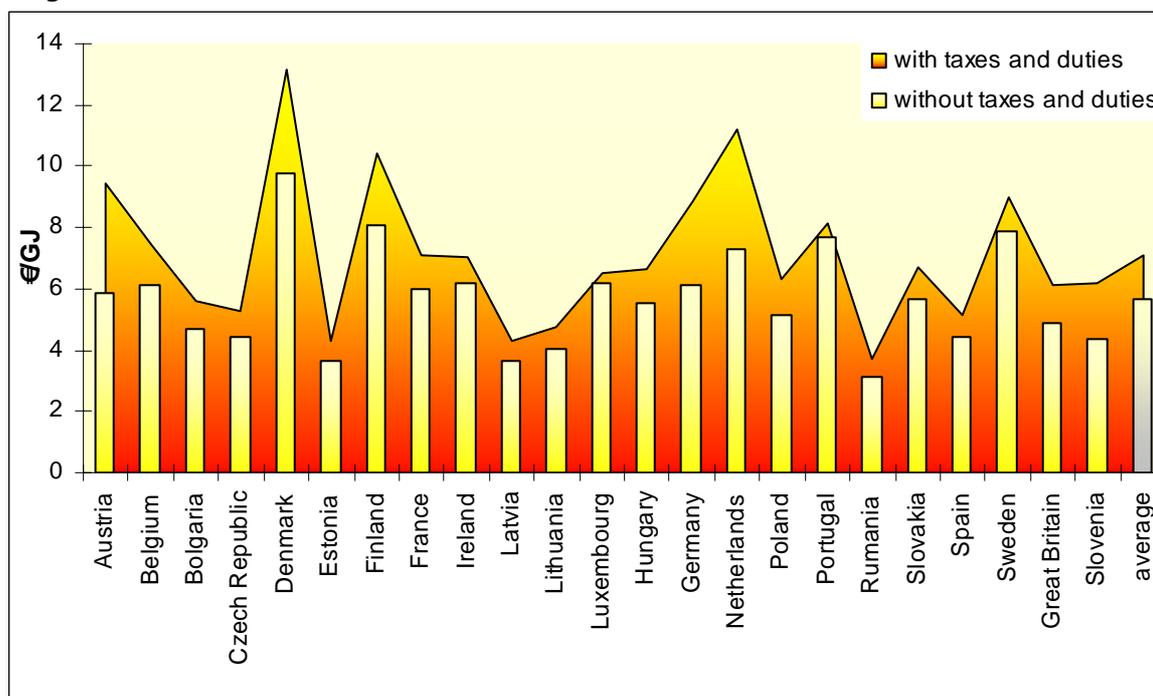


Figure 52: Standard customer group I<sub>2</sub> – industry with an annual consumption of 110,700 Sm<sup>3</sup>

Source: Eurostat

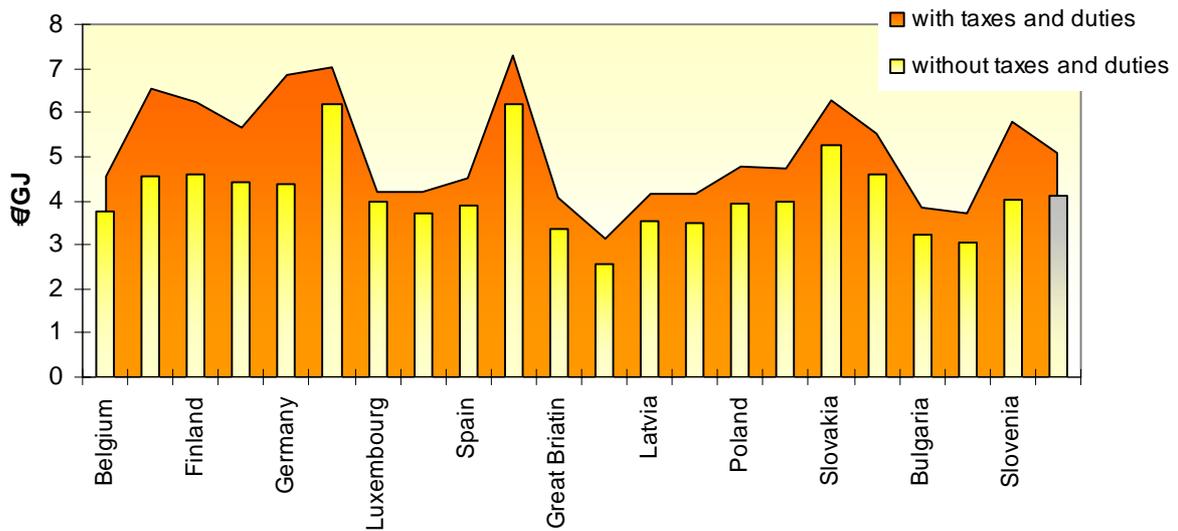


Figure 53: Standard customer group  $I_4 - 1$ : industry with an annual consumption of 11,065,000  $Sm^3$   
Source: Eurostat

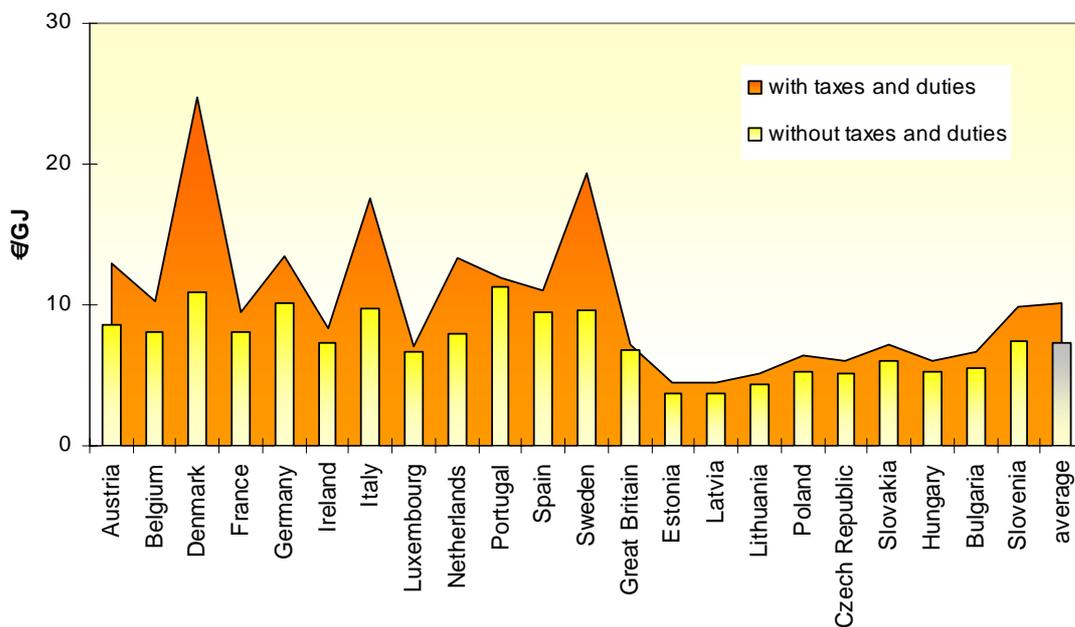


Figure 54: Standard customer group  $D_{3b}$ : cooking, preparing hot water and central heating, an annual consumption of 3,323  $Sm^3$   
Source: Eurostat

#### 4.8.2.2 Change of supplier and access to gas networks

The change of supplier is an indicator of market competitiveness pointing to an active role of eligible customers in changing suppliers and to the implementation of appropriate mechanisms needed for this change. In Great Britain, Belgium, Italy, Spain, Ireland, Denmark and the Netherlands, at least 30 percent of large customers have already changed their suppliers, which shows that the gas markets in these countries are well developed.

Access to the network has to be provided in such a way that it reflects the arising costs and allows the conditions for the entry of new participants into the market. It is generally believed that the entry-exit method contributes the most to the development of market competitiveness, and, for this reason, an increasing number of EU countries use it when setting the use-of-network price.

#### 4.8.2.3 The prices for the use of gas networks

Prices for the use of gas networks depend on several factors. Important factors are the specific characteristics of a country and its gas system. As a result, prices for the use of gas networks differ among the EU Member States and are difficult to compare.

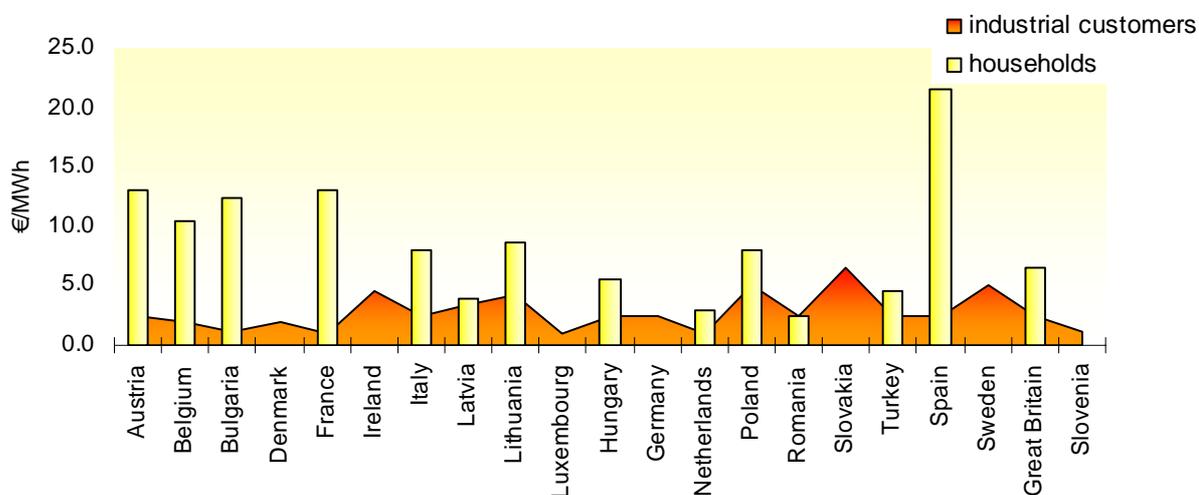


Figure 55: Average prices for the use of gas networks in some European countries  
Source: CEER

The figure above shows average use-of-network prices in 2004 for typical customers, such as industrial customers and households.

## 5 DISTRICT HEATING

The activity of the supply of heat energy from the network is an optional local public service. Its purpose is to provide the heat needed for heating systems in customers' facilities.

The amendments to the EA, adopted in May 2004, stipulate a gradual unification of general conditions for the supply and consumption of heat from the distribution network, and the unification of the form and the mode of issuing the tariff system for the consumption of heat from the distribution network for all the local communities.

With regard to the supply of heat energy, the Energy Agency carries out the following tasks:

- issues the general act regarding the methodology for determining general conditions for the supply and consumption of heat from the distribution network;
- issues the general act regarding the methodology for the preparation of tariff systems for the consumption of heat from the distribution network;
- gives approval to the system operation instructions;
- decides on the issuing and revoking of licences.

General conditions for the supply and consumption of heat from the distribution network have to be in line with the methodology determined by the Energy Agency following the approval of the government. In 2004 the Energy Agency prepared the draft general act determining the methodology for setting general conditions for the supply and consumption of heat from the distribution network, and submitted it, in December, for public discussion.

In line with the provisions of the EA, the Energy Agency determines the mandatory methodology for the preparation of the tariff systems with a general act, which has to be approved by the government. In 2004 the Energy Agency prepared the draft general act determining the methodology for the preparation of the tariff systems for the supply and consumption of heat from the distribution network, and submitted it, in December, for public discussion.