







REPORT ON THE ENERGY SECTOR IN SLOVENIA

FOR 2006



The Council of the Energy Agency of the Republic of Slovenia adopted this report at its 36th regular session, on 13 June 2007. The Government of the Republic of Slovenia gave its approval to this report at its 131st regular session, on 19 July 2007.

1	INTRODUCTION	4
2	SUMMARY	6
2.1	BASIC DETAILS REGARDING THE MARKETS FOR ELECTRICITY AND NATURAL GAS IN SLOVENIA	7
2.2	The regulator's most important activities	9
2.3	THE DEVELOPMENT OF THE MARKETS FOR ELECTRICITY AND NATURAL GAS	9
2.3.1	The development of the market for electricity	10
2.3.2	The development in the market for natural gas	10
2.4	THE MAIN AREAS AND ISSUES THAT INVOLVED THE REGULATOR	11
3	ELECTRICITY	14
3.1	GENERAL INFORMATION	15
3.2	REGULATION AND REGULATED ACTIVITIES	18
3.2.1	General information	18
3.2.2	Regulation of transmission and distribution activities	18
3.2.2.1	The business operation of the transmission system operator	19
3.2.2.2	The business operations of the distribution system operators	19
3.2.2.3	The business operations of the distribution companies	20
3.2.2.4	The investments in the electricity network	21
3.2.2.5	Long-term development of the electricity network	24
3.2.2.6	The business operation of the market operator	25
3.2.3	UNBUNDLING OF SERVICES	25
3.2.4	The network charges for the transmission and distribution networks	26
3.2.4.1	The mode of setting the network charges for the transmission and distribution	
	networks	26
	CHARGING FOR THE NETWORK CHARGE	27
3.2.4.1.2		27
3.2.4.1.3	The regulatory framework for setting the network charge for the period 2006–2008	28
3.2.4.2	Supply quality	28
	Commercial quality	28
	SUPPLY SECURITY (UNINTERRUPTIBILITY)	28
	Voltage quality	29
	QUALITY OF THE SUPPLY IN 2006	29
	VOLTAGE QUALITY OF THE TRANSMISSION NETWORK IN 2006	30
3.2.4.3	The prices for the use of electricity networks	30
3.2.5	THE ALLOCATION OF CROSS-BORDER TRANSMISSION CAPACITIES AND THE CONGESTION-MANAGEMENT MECHANISMS	36

3.3	MARKET-BASED ACTIVITIES AND COMPETITION	40
3.3.1	PRODUCTION AND THE WHOLESALE MARKET	42
3.3.1.1	The production of electricity	42
3.3.1.2	The business operations of production companies	45
3.3.1.3	Emission coupons	46
3.3.1.4	Guarantees of the origin of electricity	47
3.3.1.5	Tradable RECS green certificates	47
3.3.1.6	The degree of competitiveness of the production companies	48
3.3.1.7	The provision of ancillary services	50
3.3.1.8	Trading on the organised market	51
3.3.2	The prices and the extent of the trade at the electricity exchange	53
3.3.2.1	Degree of electricity-market integration with the neighbouring countries	54
3.3.3	THE SUPPLY AND THE RETAIL MARKET	55
3.3.3.1	Degree of competitiveness in the retail market	60
3.3.3.2	The prices of electricity	61
3.3.3.2.1	The prices of electricity for eligible customers	62
3.3.3.2.2	The prices of electricity for tariff customers	64
3.3.3.3	The balancing	65
3.3.4	The measures taken to prevent any abuse of a dominant position and to ensure competition	67
3.3.4.1	The findings and measures of the Competition Protection Office of the Republic of Slovenia	67
3.3.4.2	The findings and measures of the responsible ministry	67
3.3.5	The internal electricity market in the EU	68
3.3.6	Deciding on disputes and complaints	70
4	NATURAL GAS	72
4.1	GENERAL INFORMATION	73
4.2	REGULATION AND REGULATED ACTIVITIES	74
4.2.1	Regulation of the transmission and distribution activities	74
4.2.1.1	General information	74
4.2.1.2	The transmission of natural gas	74
4.2.1.2.1	The gas transmission network	74
4.2.1.2.2	THE BUSINESS OPERATION OF THE TRANSMISSION SYSTEM OPERATOR	75
4.2.1.2.3	THE OWNERSHIP OF THE TRANSMISSION SYSTEM OPERATOR	76
4.2.1.2.4	The investments in the transmission network	76
4.2.1.3	The distribution of natural gas	77
4.2.1.3.1	The customers connected to the distribution networks	79
4.2.1.3.2	The business operations of the distribution system operators	80

2

4.2.1.3.	3 The ownership structure of the distribution system operators and the network ownership	80
4.2.1.3.	4 INVESTMENTS IN THE DISTRIBUTION NETWORKS	80
4.2.1.4	The network charges for the gas transmission and gas distribution networks	81
4.2.1.4.	1 The network charge for the gas transmission network	81
4.2.1.4.	2 The network charges for the gas distribution networks	83
4.2.1.5	Balancing	83
4.2.2	UNBUNDLING OF SERVICES	84
4.2.3	THE ALLOCATION OF CROSS-BORDER TRANSMISSION CAPACITIES AND THE CONGESTION-MANAGEMENT MECHANISMS	85
4.2.3.1	Cross-border transmission capacities of the network	85
4.2.3.2	The methods of setting the maximum technical capacity	87
4.2.3.3	The allocation of the transmission capacities of the network	87
4.2.3.4	The congestion-management mechanisms	88
4.3	MARKET-BASED ACTIVITIES AND COMPETITION	88
4.3.1	THE SOURCES OF NATURAL GAS AND THE WHOLESALE MARKET	88
4.3.2	SUPPLY AND THE RETAIL MARKET	90
4.3.2.1	The customers connected to the transmission network	91
4.3.2.2	The customers connected to the distribution networks	92
4.3.2.3	The market shares of the retail markets	93
4.3.2.4	The prices for natural gas in Slovenia	96
4.3.2.4.	1 THE PRICES FOR NATURAL GAS ON THE TRANSMISSION NETWORK	96
4.3.2.4.	2 THE PRICES FOR NATURAL GAS ON THE DISTRIBUTION NETWORKS	99
4.3.3	The internal market for natural gas in the EU	100
4.3.3.1	The prices for natural gas for typical customers compared with the EU prices	101
4.3.4	The measures taken to prevent any abuse of a dominant position and to ensure competition	104
4.3.4.1	The findings and measures of the Competition Protection Office	104
4.3.4.2	The findings and measures of the responsible ministry	104
4.3.5	Deciding on disputes and complaints	105
5	THE RELIABILITY OF THE SUPPLY	106
5.1	Electricity	107
5.1.1	The sufficiency of the production	107
5.1.2	Planned investments in the production facilities	111
5.1.3	The security of the network operation	112
5.2	NATURAL GAS	112

6	PUBLIC SERVICES	114
6.1	GENERAL INFORMATION	115
6.2	CUSTOMER PROTECTION IN THE MARKETS FOR ELECTRICITY AND NATURAL GAS	116
6.2.1	Electricity	116
6.2.1.1	The contracts regarding electricity supply to tariff customers	116
6.2.1.2	The protection of vulnerable customers	116
6.2.1.3	Publishing the price	117
6.2.1.4	The right to appeal, or the right to legal redress, and settling disputes	117
6.2.1.5	The right to compensation	117
6.2.2	NATURAL GAS	117
6.2.2.1	The protection of vulnerable customers	117
6.2.2.2	Publishing the price	117
6.2.2.3	The measures for customer protection	118
6.2.2.4	The right to appeal or to legal redress	118
6.3	REGULATION OF THE FINAL PRICE	118
6.3.1	The price	118
6.3.1.1	Electricity	118
6.3.1.2	Natural gas	118
6.3.2	FINANCING THE SUPPLIERS	119
6.3.2 <b>6.4</b>	Financing the suppliers Safeguarding transparency	119 <b>119</b>
		-
6.4	SAFEGUARDING TRANSPARENCY	119
6.4 7	Safeguarding transparency DISTRICT HEATING	119 120
6.4 7 7.1	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating	119 120 121
6.4 7 7.1 7.2	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating The distribution networks	<ol> <li>119</li> <li>120</li> <li>121</li> <li>124</li> </ol>
6.4 7 7.1 7.2 7.3	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating The distribution networks The prices for heat The tasks and activities	<ul> <li>119</li> <li>120</li> <li>121</li> <li>124</li> <li>125</li> </ul>
6.4 7 7.1 7.2 7.3 7.4	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating The distribution networks The prices for heat The tasks and activities of the Energy Agency The Act Determining the Methodology for Setting General Conditions for the Supply and Consumption of Heat from Distribution Networks The Act Determining the Methodology for the Preparation of the Tariff Systems for the Supply and Consumption of Heat from	<ul> <li>119</li> <li>120</li> <li>121</li> <li>124</li> <li>125</li> <li>126</li> <li>127</li> </ul>
6.4 7 7.1 7.2 7.3 7.4 7.4.1	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating The distribution networks The prices for heat The tasks and activities of the Energy Agency The Act Determining the Methodology for Setting General Conditions for the Supply and Consumption of Heat from Distribution Networks The Act Determining the Methodology for the Preparation of the Tariff Systems for the Supply and	<ul> <li>119</li> <li>120</li> <li>121</li> <li>124</li> <li>125</li> <li>126</li> </ul>
6.4 7 7.1 7.2 7.3 7.4 7.4.1 7.4.2	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating The distribution networks The prices for heat The tasks and activities of the Energy Agency The Act Determining the Methodology for Setting General Conditions for the Supply and Consumption of Heat from Distribution Networks The Act Determining the Methodology for the Preparation of the Tariff Systems for the Supply and Consumption of Heat from Distribution Networks Issuing Approvals to the system operation instructions for	<ul> <li>119</li> <li>120</li> <li>121</li> <li>124</li> <li>125</li> <li>126</li> <li>127</li> <li>127</li> </ul>
<ul> <li>6.4</li> <li>7</li> <li>7.1</li> <li>7.2</li> <li>7.3</li> <li>7.4</li> <li>7.4.1</li> <li>7.4.2</li> <li>7.4.3</li> </ul>	SAFEGUARDING TRANSPARENCY DISTRICT HEATING The supply of district heating The distribution networks The prices for heat The tasks and activities of the Energy Agency The Act Determining the Methodology for Setting General Conditions for the Supply and Consumption of Heat from Distribution Networks The Act Determining the Methodology for the Preparation of the Tariff Systems for the Supply and Consumption of Heat from Distribution Networks Issuing Approvals to the system operation instructions for the heat distribution networks	<ul> <li>119</li> <li>120</li> <li>121</li> <li>124</li> <li>125</li> <li>126</li> <li>127</li> <li>127</li> <li>127</li> <li>127</li> </ul>

# REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

## 1 Introduction

In 2006 the Slovenian energy market developed well. The markets for electricity and natural gas saw fewer barriers to the entry of new market participants than in most of the other Member States; however, some indicators were not satisfactory. The security and reliability of the supply remained at a satisfactory level in spite of some serious problems in the European electricity system and in the supply of natural gas from Russia. In 2006 Slovenian power stations generated a total of 13,643 GWh of electricity, while 12,825 GWh of electricity were consumed. In comparison with the previous year, the consumption increased by 3.5 percent, while the production of electricity decreased by 1.2 percent. The formation and strengthening of the so-called second production pillar indicates the development trend of the competition. The supply in the wholesale market was carried out mainly on the basis of long-term contracts. In 2006 only 0.009 percent of the total Slovenian consumption was traded at Borzen, the Slovenian electricity exchange.

In comparison with 2005, the electricity prices for industrial customers increased, on average by 3.2 percent. With respect to the consumed electricity, the level of market liberalisation was 75 percent; however, this fact did not significantly affect the market's competitiveness. About two percent of eligible customers switched supplier. In comparison with 2005, the system operators increased their funds for the development and building of the network by a quarter. In 2006 the network charges for the transmission and distribution electricity networks remained unchanged.

In 2006 the network charges for the gas distribution networks were set for the first time. The Energy Agency of the Republic of Slovenia, which gives approval to the acts setting the network charges, identified several deviations and discrepancies, and for this reason approval was not given to the network charges for all the distribution networks, i.e., municipalities. There were no new suppliers in the market – one supplier was operating on the transmission network and 17 suppliers of natural gas were active on the distribution networks. The transmission network was heavily used for both the supply in Slovenia and for transit supplies. In comparison with 2005, the investments of the transmission system operator increased by almost a fifth; in addition, 241 kilometres of new pipelines for the distribution networks were built. In comparison with 2005, the prices for the transmission of natural gas over the transmission network increased by an average of 2.4 percent. The average prices of natural gas on the transmission network increased by 17 percent.

The Energy Agency also has certain responsibilities relating to the supply of district heating. The distribution networks for the supply of heat are in place in 36 municipalities, while the five largest suppliers supply about 75 percent of all household customers.

In 2006 the Competition Protection Office of the Republic of Slovenia did not initiate any proceedings relating to an assessment of restrictive practices, abuse of a dominant position, or concentration of the companies in the markets for electricity and natural gas.

In 2006 the responsibilities and the extent of the tasks of the Energy Agency of the Republic of Slovenia increased significantly, mainly because of the preparation of the opening of the markets for electricity and natural gas for household customers in mid-2007. Households consume about a quarter of all the electricity and about a tenth of all the natural gas in Slovenia.

In its sector inquiry, the European Commission established that the basic tasks regarding the opening of the energy market in Slovenia were carried out well, and that our markets have significantly fewer difficulties and barriers than some other Member States.

Irena Praček, univ. grad. econ. Director



2

#### 2.1 BASIC DETAILS REGARDING THE MARKETS FOR ELECTRICITY AND NATURAL GAS IN SLOVENIA

#### Slovenia

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

Population (as of September 2006)	2,011,614	
Area	20,273 km <sup>2</sup>	
Number of electricity customers (on 31 Dec 2006)	877,151	
Number of natural-gas customers (on 31 Dec 2006) ———	117,514	
Gross domestic product (GDP)	——— 7,126,012 million tolars ———	—— 29,741 million euros
Increase in GDP	5.2%	
Inflation	2.5%	
Average exchange rate tolars/euro	239.60 tolars/euro	
GDP per person	3,549 million tolars	14,811 euros

#### Electricity

Sources: Companies' data

Installed capacity	2,991 MW	
Hydroelectric power		
Thermoelectric power		
Nuclear power		696 MW*
Small producers on the distribution networks		168 MW
Production of electricity	13,643 GWh	
Hydroelectric power		3,165 GWh
Thermoelectric power		4,729 GWh
Nuclear power		
Small producers on the distribution networks		468 GWh
Length of the transmission network	2,529 km	
– 400 kV		508 km
– 220 kV		
– 110 kV		1,693 km
Length of the distribution networks	61,078 km	
– 110 kV		793 km
– 35, 20 and 10 kV –		
-0.4 kV		43,393 km
Consumption of electricity	12,825 GWh	
Direct customers		2,785 GWh
Eligible customers		6,882 GWh
Tariff customers		3,158 GWh
Annual consumption per person		
Average household consumption per month	326 kWh	

\* The table includes the entire installed capacity and the production of the Nuclear Power Station Krško; however, only half of the electricity produced by the NPSK is available to Slovenia, in line with the international agreement.

#### **Natural Gas**

Sources: Companies' data

Length of the transmission network	960 km	
– more than 16 bar		741 km
-less than 16 bar		219 km
Length of the distribution networks (up to 16 bar) ———	3,121 km	
Consumption of natural gas	1,094,050,267 Sm <sup>3</sup>	
Customers on the distribution networks		282,743,294 Sm <sup>3</sup>
Industrial customers		811,306,761 Sm <sup>3</sup>
Annual consumption per person	544 Sm <sup>3</sup>	

8

#### 2.2 The regulator's most important activities

The activities of the regulator, i.e., the Energy Agency of the Republic of Slovenia (henceforth referred to as the Energy Agency), arise from the regulator's role in the energy market, the most important being the control of the natural monopolies of those energy activities that are determined by the law as public services and relate to the infrastructure. As there is no competition in the area of infrastructure, the regulator has to encourage efficiency and prevent undeserved profits. The energy market can only operate if the infrastructure is available to all interested parties under uniform conditions. In addition, the Energy Agency also supervises the operation of the market and identifies possible abuse.

With respect to electricity and natural gas, the most important tasks of the Energy Agency are as follows:

- issuing the methodologies for setting and charging for the network charges for the electricity networks and the natural-gas networks;
- setting the network charges for the use of the electricity networks, and giving approvals to the network charges for the use of natural-gas networks;
- deciding on disputes and complaints;
- issuing the licences to carry out energy-related activities;
- giving approval to or opinions on the acts of the system operators;
- supervising the market operations and the unbundling of services.

With respect to the supply of district heating, the Energy Agency issues the methodology for the preparation of the general conditions for the supply and consumption, and for the preparation of the tariff systems for the supply and consumption of heat.

The Energy Agency issues guarantees of origin and the tradable RECS certificates for the electricity from renewable energy sources. It also determines and monitors the obligation to disclose the structure of production sources.

The Energy Agency annually reports on its operations, and on the situation in the energy sector, including the level of competitiveness, to the Government of the Republic of Slovenia. The governing bodies of the Energy Agency are the director and the five-member council, giving guidelines to the Energy Agency and adopting its general acts. In 2006 the Energy Agency's structure was reorganised into sectors. Its work was carried out in three sectors: the sector for electricity, the sector for natural gas and district heating, and the sector for common activities.

#### 2.3 THE DEVELOPMENT OF THE MARKETS FOR ELECTRICITY AND NATURAL GAS

In 2006 the development of the single energy market in the EU was in progress; however, in spite of this development, the analyses of the European Commission identified serious barriers to new market entrants, and to the efficient operation of the market. In addition to focusing on the objectives relating to the competitiveness and the environment, two incidents increased the awareness of the third objective, which is the security of the supply. The situation that the EU had to face after the limited supply of natural gas from Russia at the beginning of January 2006 increased the awareness of the vulnerability of European countries, together with their economies, arising from their significant dependence on imports of natural gas. The other such incident was the disruption in the electricity supply that affected a large majority of the countries in Europe. The incident took place on 4 November 2006 and was a result of the overloading of the German electricity system, causing a collapse of a large part of the European electricity network.

With respect to the markets for electricity and natural gas, national regulators, in cooperation with the European Commission, gave initiatives for encouraging the operations of the markets at regional levels that will gradually grow into a single EU market. Within the framework of regional initiatives, the EU is divided into seven regional markets for electricity and three markets for natural gas. The regulators agreed, in cooperation with the system operators and market participants, on their priorities, identified barriers to the market operations in most of the regions, and prepared a plan relating to the removal of these barriers. In the area of electricity, the most significant progress has been achieved in relation to the harmonisation of the procedures for allocating the cross-border transmission capacities and market transparency, while in the area of natural gas, progress was

achieved in relation to the harmonisation of operation instructions, the quality of and access to the relevant data.

The Slovenian energy market also reflects the development trends of the single EU market. In the electricity market the organisational change described in the following section contributed towards the formation and strengthening of the second production pillar. There are fewer barriers to the new market entrants than in most of the other EU countries, as there is neither vertical linking nor are there long-term contracts regarding electricity supply. The retail market saw an increase in the number of customers that switched supplier. The market for natural gas is only being formed, and it is strongly affected by the long-term contracts regarding the supply of natural gas and the size of the market. There was no switching of natural-gas suppliers.

## 2.3.1 The development of the market for electricity

With respect to electricity production and the wholesale market, the most important innovation was the setting up of the second energy pillar, known as GEN energija. With the consent of the majority owner, two companies, the Sava Power Stations, Ljubljana, and the Thermoelectric Power Station, Brestanica, were split from Holding Slovenske elektrarne, which used to join several production companies (Drava Power Stations, Maribor; Sava Power Stations, Ljubljana; Soča Power Stations, Nova Gorica; Thermoelectric Power Station, Šoštanj; Thermoelectric Power Station, Brestanica). The two companies joined GEN energija, which already included the Nuclear Power Station Krško. GEN energija will trade electricity through its subsidiary known as GEN-I, whose 50-percent shareholder is Istrabenz Energetski sistemi. It is expected that in 2007 GEN-I will market almost 2.7 TWh of electricity produced by GEN energija.

With respect to trading with electricity, 2006 was very dynamic. A total of 13,872,674 MWh of electricity were recorded in the bilateral contract, which is 17.9 percent more than in 2005. According to the data kept by the market operator, in 2006 Slovenia was, for the first time, a net importer of electricity, even with the inclusion of the Croatian part of the NPSK in the Slovenian export quota. According to the contracts, a total of 7,036,469 MWh of electricity were imported into Slovenia, and a total of 6,836,205 MWh of electricity were exported. In 2005 the situation was completely different, as the surplus of exports over the imports was 261,575 MWh of electricity.

The sufficiency of production sources at the EU level was also examined by the sector inquiry that contributed a lot to the adoption of the Directive 2005/89/EC at the beginning of 2006. This directive requires that the measures for safeguarding the security of electricity supply and operation of the internal electricity market are determined at the national level. Individual countries are expected to provide sufficient production capacities, an appropriate balance between the demand and supply, and an appropriate level of inter-network connections among the Member States. Because of its large capacities of the cross-border transmission paths, Slovenia already achieved the expected level of inter-network connectivity.

In line with the Regulation (EC) No 1228/2003 on conditions for access to the network for crossborder exchanges in electricity, the guidelines including effective methods of congestion management of the cross-border interconnections for the transmission of electricity were adopted on 9 November 2006. The guidelines will significantly affect the trading in Slovenia after 1 July 2007, when market-based mechanisms of allocating the transmission capacities will apply to all the crossborder interconnections with the neighbouring networks.

In Slovenia the amendments to the Energy Act (henceforth referred to as the EA) additionally liberalised the conditions for trading, and simplified access to the network and the regulation of qualified production. With an ordinance, the government transferred the responsibilities relating to the conclusion of balance contracts from the transmission system operator to the market operator. Together with these changes, the preparations for the legal unbundling of the market-based activities and regulated activities were in progress within five distribution companies. The EA stipulates that a distribution system operator shall start to carry out its regulated service independently on 1 July 2007.

## 2.3.2 The development in the market for natural gas

In 2006 the activities relating to the setting up of the market for natural gas at the transmission and distribution levels were in progress. Two significant actions affecting the further development of the gas market in 2006 were the implementation of the Regulation of the European Parliament and of the Council on the Conditions for Access to the Natural Gas Transmission Networks, and the amendments to the Energy Act implementing the Directive of the Council Concerning Measures to Safeguard the Security of the Natural Gas Supply into the Slovenian legislation.

The harmonisation relating to the preparation of the rules for the operation of the balancing market for natural gas, the rules for charging for the imbalances, and the rules for the operation of the gas market was continued among the participants in the gas market and other institutions. These sets of rules form the foundations for a complete setting up of the gas market.

The Regulation of the European Parliament and of the Council on the Conditions for Access to the Natural Gas Transmission Networks began to apply in mid 2006. It aims at the formation of non-discriminatory rules for access to the gas transmission networks, taking into account the characteristics of national and regional markets. The basic objective is to safeguard a correct and transparent operation of the internal market for natural gas. The innovations introduced by this regulation are mainly as follows: the determination of uniform principles relating to the network charges or the methodology for calculating the network charges, the provision of the services relating to the network access, the determination of the uniform principles for allocating the capacities and congestion management relating to the capacities, the determination of the requirements relating to the transparency, the determination of the rules for balancing and charging for the imbalances, and the promotion of the trading with capacities.

To safeguard the security of the gas supply, the EA made the transmission system and distribution system operators responsible for providing a secure operation of the networks and their appropriate capacities. It defines, in detail, the responsibilities of the gas suppliers to provide a secure supply to specific customers, including households.

In 2006 the supply in the wholesale market was mainly carried out on the basis of the long-term contracts that will mostly expire in 2007. In spite of the option to switch supplier on the transmission network after the expiry of the current contracts, most of the customers of natural gas on the transmission network renewed their supply contracts with Geoplin for the following five or ten years.

#### 2.4 THE MAIN AREAS AND ISSUES THAT INVOLVED THE REGULATOR

In 2006 the Energy Agency was involved in the preparation for a full opening of the markets for electricity and natural gas taking place on 1 July 2007. To the responsible ministry, the Energy Agency gave proposals relating to the necessary measures and amendments to the executive acts. It reported on the energy sector and the market development in Slovenia, and was involved in the regional initiatives relating to the stimulation of the market operation in two electricity regions and one natural-gas region.

With respect to electricity, the Energy Agency monitored the operations of the regulated services, and the implementation of the regulatory framework setting the network charges for electricity networks. It was also involved in the preparation of the rules for allocating cross-border transmission capacities, which will be allocated on a market-based principle from 1 July 2007 onwards.

The Energy Agency continued to support the use of renewable energy sources by issuing the RECS green certificates and the guarantees of origin of electricity from renewable sources. It also supervised the implementation of the act regarding the mode of determining the shares of individual production sources for electricity, and the mode of their disclosure.

With respect to natural gas, in 2006 the main activities of the Energy Agency were associated with the setting of the network charges for distribution networks. The network charges for distribution networks were previously charged for within the price for the gas supply; however, the division between the price for the goods and the price for the transmission was not determined in a uniform way across the whole of Slovenia. For this reason, the Energy Agency set the network charges for all the distribution companies on the basis of a uniform methodology. Already at the beginning of 2006 most of the distribution system operators prepared their proposals for calculating the network charges and sent them to the Energy Agency for its approval. When examining the proposals, the Energy Agency found a number of deviations and discrepancies arising, mostly from an incorrect unbundling of energy-related activities, and specific relations between the local communities and the distribution system operations. By the end of 2006 the Energy Agency gave approval to the network charges of 8 system

operators relating to 11 acts setting the network charges for 27 local communities, and it also issued 7 acts setting the network charges for 7 local communities.

With respect to the gas transmission network, the Energy Agency gave its approval to the proposal of the gas transmission system operator relating to an increase in the network charge. The basis for this increase was mainly the new investment cycle that will be carried out, to a greater extent, in the period 2007–2010, allowing an extension to the existing transport paths of the gas transmission network.

Important aspects that the Energy Agency considered in 2006 were the harmonisation and implementation of uniform mechanisms and rules for the operation of the gas market. For this reason, the Energy Agency prepared a workshop called the Rules for the Operation of the Gas Market, which took place at the beginning of the year.

For the purpose of preparing complete legislative foundations for the operations of all the participants in the fully opened gas market, the Energy Agency, together with the Ministry of the Economy, continued the harmonisation of the rules for the operation of the gas market. It prepared draft rules that are expected to be implemented in the form of an ordinance, and will cover the areas that are not regulated in detail by the current legislation.

With respect to the supply of district heating, the Energy Agency monitored the acts published by the providers of optional public services (henceforth referred to as the PSs), and assessed whether these acts were harmonised with the Energy Agency's general acts. It also examined the status of the providers of the services in individual local communities. The providers of the optional PSs have to produce general conditions for the supply and consumption of heat from the distribution networks, and submit them for approval to the Energy Agency and to the local communities. When deciding on an approval, the Energy Agency considered uniform measures and the guidelines for good practice.

The Energy Agency also prepared the guidelines for allowing a gradual unification of the system operation instructions relating to the distribution networks for heat supply that regulate the network operations and the mode of running these networks. To increase the transparency and unify the system-operation instructions, the Energy Agency prepared draft system-operation instructions that heat distributors use as the guidelines when preparing their own acts. After harmonising them with the heat distributors, the Energy Agency published these instructions on its website and asked the holders of the licences to carry out the energy-related activities in the area of district heating to submit their system operation instructions for approval.

In order to carry out energy-related activities, the providers of energy-related activities have to obtain an appropriate licence. The Energy Agency decides on the issuing or revoking of a licence in the administrative procedure in line with the EA, and the Ordinance Relating to the Requirements and the Procedure for Issuing and Revoking a Licence to Carry Out an Energy-Related Activity. In 2006 the validity of the licences issued in 2001 expired. and for this reason the Energy Agency issued, in the administrative procedure, as many as 291 decisions that allowed the applicants to obtain the licences to carry out their energy-related activities. With the amendments to the EA, the licences to trade were abolished in 2006, so that new participants from abroad are allowed to enter the Slovenian wholesale market for electricity.

The Energy Agency decided on disputes between the network users and the system operators, or market operators. It received 21 requests for decisions on electricity-related disputes, mostly with respect to the appeals against the decisions of system operators relating to connection approval. It made final decisions on 14 requests, and 2 were referred to a responsible body. In the area of natural gas there were no requests for decisions on disputes.

The Energy Agency contributed towards improved market transparency also by preparing the report on the energy sector in Slovenia for 2005 that was submitted to the government, and sent to the CEER, the ERGEG, and to the European Commission. The report describes in detail the situation and development of individual segments of the Slovenian markets for electricity and natural gas.

The Energy Agency cooperated with the authorities in the Republic of Slovenia that have responsibilities relating to the energy sector: with the Directorate for Energy of the Ministry of the Economy, mainly in the process of preparing the amendments to the legislation and the ordinances regulating the conditions for the market operation; with the Competition Protection Office of the Republic of Slovenia, in the cases of identifying possible abuse of the dominant position in the market; and with the Statistical Office of the Republic of Slovenia, mainly for the purpose of monitoring and analysing the conditions in the market.

REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

The Energy Agency cooperated with the regulators of the other EU countries within the Council of European Energy Regulators (CEER), and with the European Commission within the European Regulators Group for Electricity and Gas (ERGEG). In this framework the regulators prepared certain reports and guidelines that are not binding, yet they significantly affect the market development. The most important are the Guidelines for Good Practice on Information Management and Transparency in Electricity Markets. The regulators also prepared a proposal for binding guidelines for the ITC mechanism; however, as by the end of 2006 a consensus on these guidelines was not yet reached, the European Commission is continuing with the harmonisation procedure. As a result, the current method of setting the payments made to and received from the compensation fund continues to be used, although the Regulation (EC) 1228/2003 requires a change of this method. For this reason, the operations of the transmission system operators are less predictable. The Energy Agency also cooperated with the European Commission in the commitment procedure relating to the adoption of the binding guidelines for congestion management that were adopted in November 2006, and are of key importance for the market operations.

The cooperation with the regulators and the EU bodies was in place also in the case of regional initiatives. These initiatives were started after the European Commission had identified the shortcomings of the market operations in the sector inquiry and in other surveys. The outcomes of the activities at the regional level mainly include the identification of concrete barriers for the market operation and for the entry into the market, as well as the proposals for their removal, and a proposed time schedule for such actions. The regulators significantly strengthened the cooperation with each other, and also with the system operators and the market participants. However, the governments of the involved countries will be of key importance for the realisation of the proposed measures. In the area of electricity, concrete progress was made with respect to the allocation of the crossborder transmission capacities, as for 2007 these were allocated on the basis of auctions that were coordinated in different ways for individual countries. In the area of natural gas, progress was made with respect to the transparency, as now much more information, important to the market, is available; as a result the transparency will continue to increase. The market operations are impeded by different levels of gas quality; this problem will be solved by the introduction a new standard.

Slovenia also has strong links with South-East Europe, where a new, slightly different, region was established with the implementation of the international Energy Community Treaty. For this reason the Energy Agency was involved in the preparations for the setting up of a new body – the Energy Community Regulatory Board.

## 3 Electricity

In 2006 a total of 12,825 GWh of electricity were consumed in Slovenia, which was 436 GWh, or 3.5 percent, more than in the previous year.

#### **3.1 GENERAL INFORMATION** The consumption of customers connected to

the distribution networks increased the most, as their consumption in 2006 was 4.4 percent higher than in 2005. The customers on the transmission network, whose share of the total Slovenian consumption is 22 percent, consumed 0.3 percent more electricity in 2006. Of the total available sources in the territory in Slovenia, the hydroelectric power stations joined in Holding Slovenske elektrarne, d. o. o., provided the most energy for the purpose of Slovenian consumption, which was 6824 GWh, or 62 percent of the total. Of the 5281 GWh of electricity generated by the Nuclear Power Station, Krško, 2640 GWh of electricity was produced for Slovenia, which was 24 percent of Slovenian production. One part of the remaining required amount, i.e., 14 percent of the electricity, was provided by the other power stations connected to the transmission and distribution networks. To cover all the domestic demand and the network losses of electricity in 2006, Slovenia had to import 2641 GWh or 19.6 percent of its electricity.

#### FIGURE 1

Balance of electricity production and consumption in 2006 – in GWh



In comparison with the previous year, the production of electricity in Slovenia was lower by 1.2 percent. This reduced production was mainly a result of the reduced production of the Nuclear Power Station, Krško. The production of electricity in the hydroelectric power stations was, in comparison with 2005, higher by 2.7 percent. In addition, there was an increase in the production of thermoelectric power stations that, on average, achieved a 2.8-percent growth in comparison with the previous year. In 2006 the structure of Slovenian electricity production consisted of 26.6 percent of the energy produced from hydro, or renewable, sources, 38.7 percent of the energy by means of nuclear energy, and 34.7 percent of the energy from the power stations using fossil fuels.

The highest hourly load was noted in January. It amounted to 2076 MW, which was 33 MW more than in 2005.

#### FIGURE 2

## Structure of the production and flows of electricity in Slovenia

Source: Energy Agency



#### TABLE 1

### Comparison of electricity production in Slovenia for 2005 and 2006 – in GWh

Source: Energy Agency

	2005	2006	06/05
Hydroelectric power stations	3,036	3,120	102.7
Thermoelectric power stations	4,601	4,729	102.8
Nuclear power station	5,613	5,281	94.1
Small, qualified producers	417	513	123.0
Total production in the Republic of Slovenia	13,667	13,643	99.8
Imports – flows to Slovenia	9,326 —	7,706 —	82.6
Total	22,993	21,349	92.8

The data about the production (Table 1) covers the whole of the production of the nuclear power station (NPSK), also the half that is exported to Croatia and is included in the table below, in the data about exports – flows from Slovenia.

## 3

#### TABLE 2

## Comparison of electricity consumption for 2005 and 2006 – in GWh

Source: Energy Agency

	2005	2006	Index 06/05
Eligible customers on the transmission network	2,775	2,785	100.3
Eligible customers on the distribution network	6,539	6,882	105.2
Tariff customers	3,075	3,158	102.7
Total consumption in the Republic of Slovenia	12,389	12,825	103.5
Exports – flows from Slovenia	9,548 —	7,662 —	80.2
Total	21,937	20,487	93.4

#### FIGURE 3

## Fluctuations in the consumption and flows of electricity

Source: Energy Agency

TWh



Deliveries made abroad Eligible customers on the transmission network Eligible customers on the distribution network Tariff customers



#### 3.2 REGULATION AND REGULATED ACTIVITIES

#### 3.2.1 GENERAL INFORMATION

In spite of the introduction of market-based principles to the electricity system, the services of electricity transmission and distribution have kept their natural monopoly. To provide for sufficient effectiveness, a high level of operational impartiality, and a high level of security, both services are subject to regulation, which is determined in advance. By means of the regulation that is determined with a three-year regulatory framework, the mode of stimulating the efficiency of these providers is set up. In 2006 the providers of the network operation showed a higher degree of transparency than the year before. An annual increase in the transparency needed for the purpose of trading is also reflected in the cross-border trading. Information on the available transmission capacities can always be found on the website of the transmission system operator.

#### 3.2.2 Regulation of transmission and distribution activities

The activities of electricity transmission and distribution are mandatory PSs carried out by the electricity system operators. 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. Elektro Slovenija, d. o. o. (henceforth referred to as Eles) provides the public service of the transmission system operator as its single service. The public service of the distribution system operator (henceforth referred to as the DSO) is carried out by five providers as a service with separate account management:

- 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.

In addition to carrying out the public service of distribution system operation, in 2006 these distribution companies also provided the mandatory public service of electricity supply to tariff customers, as well as market-based activities such as electricity supply to eligible customers and service activities.

The state is the sole owner of Eles, and the majority owner of the other public companies for electricity distribution, with an ownership share of 79.5 percent. In line with the Ordinance Regarding the Operating Mode of the Public Service of the System Operator of the Transmission Network for Electricity, the public service of the transmission system operator is financed from the network charges and other sources. In line with 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 public service of the distribution system operator is financed from the network charges and other sources. The Energy Agency sets the network charge for the use of electricity networks. The network charge includes the costs of management, operation and maintenance of the network, the network development, the costs of covering technical losses of electricity in the network, the costs of ancillary services, and the regulated return on assets.

### 3.2.2.1 The business operation of the transmission system operator

Eles ended the financial year 2006 with a profit of 7,183.9 million tolars (30 million euros), which is 333.6 percent, or 5,030.7 million tolars, more than in 2005. Very good financial results for 2006 were also influenced by additional revenues from the mechanism of cross-border trading, and additional revenues from auctioning that were not taken into account to such an extent when setting the network charge for 2006.

In the regulatory framework for 2006, the Energy Agency expected the revenues from the network charge for the transmission network to amount to 11.895.4 million tolars (49.6 million euros). As the consumption of electricity was higher than expected, the revenues from the network charge were also higher, amounting to 12,398.3 million tolars (51.7 million euros), or 4.2 percent more than expected. The expected revenues from ancillary services for 2006 were 6,786.4 million tolars (28.3 million euros), and the actual revenues were 6.842.4 million tolars (28.6 million euros). The total revenues from ancillary services and from the obtained excess reactive energy amounted to 6,930.3 million tolars (28.9 million euros), while the costs amounted to 6,211.8 million tolars (25.9 million euros).

The revenues from preferential dispatch were 10,307.7 million tolars (43 million euros), while the costs were 9,787.4 million tolars (40.8 million euros). At the end of 2006, Eles had 490 employees, which is a 4-percent increase in the number of staff in comparison with 2005.

## 3.2.2.2 The business operations of the distribution system operators

The activities of the distribution system operators organised within distribution companies finished the financial year 2006 with a total profit of 3356.9 million tolars (14 million euros), which is 14 percent, or 412.5 million tolars, more than in 2005.

#### TABLE 3

## Financial results for the services of the distribution system operators

Sources: Companies' data	in mill	ions of tolars	in millions of euros	Index
	2005	2006	2006	06/05
Elektro Celje, d. d.	244.0	288.3 _	1.20	— 118.2
Elektro Primorska, d. d.	30.0	264.0	1.10	- 880.8
Elektro Gorenjska, d. d. —	387.0	354.5 _	1.48	91.6
Elektro Ljubljana, d. d	— 1,117.6 —	1,357.9	5.67	— 121.5
Elektro Maribor, d. d.	— 1,165.8 —	1,092.2	4.56	93.7
Total distribution	— <b>2,944.4</b> —	3,356.9	14.01	- 114.0

In 2006 the revenues from the network charge were 47,462.9 million tolars (198.1 million euros) exceeding the revenues expected in the regulatory framework by 6 percent, or 2704.3 million tolars (11.3 million euros). Such a difference between the expected and actual revenues was partly a result of the higher electricity consumption (by 1.9 percent). However, the main reason for the high revenues was the fact that the customers connected with their own lines to the distributiontransformer stations, or transformer stations, did not take the opportunity to use a more costeffective tariff, which was introduced on 1 January 2006, and was taken into account when estimating the revenues from the network charge in the regulatory framework.

#### TABLE 4

## Comparison of expected and actual revenues from the network charge

Sources: Companies' data	Elektro Celje, d. d.	,	Elektro Gorenjska, d. d.		,	Total distribution	
Realisation 2005	— 8,327.4	6,558.8	5,118.9	— 13,454.5	— 10,918.7	— 44,378.3	
Regulatory framework 2005	— 8,189.1	6,572.6	5,018.6	— 13,486.3	— 10,993.8	44,260.4	ars
Index realisation/regulatory framework —	— 101.7	99.8	—— 102.0	99.8	99.3	—— 100.3	. tol
Realisation 2006 ——————————————————————————————————	- )		.,		,	,	mil
Realisation 2006	37.6	30.7	22.6	60.9	46.3	—— 198.1	SC
Regulatory framework 2006							
Index realisation/regulatory framework —	— 106.5	105.8	—— 105.0	—— 107.0	105.1	—— 106.0	mil.
Realisation index 06/05	— 108.1	—— 112.2	— 105.9	—— 108.5	—— 101.5	—— 107.0	

#### 3.2.2.3 The business operations of the distribution companies

In 2006 the total financial results of the companies for electricity distribution did not significantly differ from the results in 2005, as they were higher only by 1.4 percent, or 62.6 million tolars (0.3 million euros). However, more significant differences between the results for these two years were noted in the case of the individual companies for electricity distribution. The distribution companies made a total net profit of 4482.4 million tolars (18.7 million euros).

#### TABLE 5

## Profit or loss for electricity-distribution companies

Sources: Companies' data		in millions of tolars		Index	
	2005	2006	2006	06/05	
Elektro Celje, d. d.	517.8	731.0	3.05	— 141.2	
Elektro Primorska, d. d.	368.3	559.6	2.34	— 152.0	
Elektro Gorenjska, d. d	523.1	350.2	1.46	66.9	
Elektro Ljubljana, d. d. ————	1,784.5	2,213.8	9.24	— 124.1	
Elektro Maribor, d. d.	1,226.2	627.8 —	2.62	51.2	
Total distribution	4,419.8	4,482.4	18.7	— 101.4	
Total distribution	4,419.8	4,482.4	18.7	— 10	

In 2006 the companies for the distribution of electricity again made a loss in the public service of the supply to tariff customers, i.e., 4749.3 million tolars (19.8 million euros). In comparison with 2005, the loss in this public service was smaller by 8,7 percent.

By carrying out market-based activities in 2006, the electricity-distribution companies made a profit of 5874.9 million tolars (24.5 million euros), which was 12 percent less than in the previous year.

#### TABLE 6

#### Profit or loss by activity

Sources: Companies' data			2006			Ind	ex 06/05		
	DSO	STC	Market- based act.	Comp.	DSO	STC	Market- based act.	Comp.	
Elektro Celje. d. d. ———	288.3	— - 925.1	— 1,367.8	731.0	— 118.2 –		98.0	—— 141.2	
Elektro Primorska. d. d. —	264.0	— - 808.3	— 1,103.9	559.6	- 880.8 -	— 103.6	98.7		s
Elektro Gorenjska. d. d. ——	354.5	— - 561.8	557.5	350.2	91.6		69.8	66.9	olar
Elektro Ljubljana. d. d. ———		1,921.3	— 2,777.3	— 2,213.8	— 121.5 –	— 102.4	— 109.2	124.1	ul. t
Elektro Maribor. d. d. ———	— 1,092.2	— - 532.8	68.4	627.8	—— 93.7 —	70.2	—— 8.3	51.2	ц
Total distribution ———	- 3,356.9	- 4,749.3	- 5,874.9	- 4,482.4	— 114.0 -	— 91.3	88.0	— 101.4	
Total distrib. (mil. euros) –	14.0	- 19.8	24.5		— 114.0 –	— 91.3	88.0	— 101.4	

At the end of 2006 the companies for electricity distribution had a total of 3376 employees, which was a 0.2 percent decrease in the number of staff in comparison with 2005.

#### 3.2.2.4 The investments in the electricity network

The EA obliges the system operators, with regard to the transmission and distribution networks, to maintain and develop the network, provide longterm network capacities and to ensure the security of the electricity supply. The legislation expects 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 2006 the companies, operating in the framework of the activities of the system operator, allocated a total of 35,968.8 million tolars (150.1 million euros), or 25.2 percent more than in 2005. The value of the investments in the assets on the distribution network exceeded the investments in 2005 by 22 percent, and the value of the investments on the transmission network exceeded the investments in the previous year by 35.4 percent. The total system operators' investments in the construction and reconstruction of the electricity network exceeded the value that the Energy Agency expected in the regulatory framework for 2006 by 29.4 percent. The investments on the distribution networks exceeded the value of investments expected in the regulatory framework by 37.2 percent, and the investments on the transmission network exceeded expectations by 10.9 percent.

The differences between the investments expected in the regulatory framework and the actual investments resulted from of a relatively low estimation of the initial value of the planned investments for the first year of the regulatory framework.

In comparison with their economic plans, in 2006 the system operators exceeded the investment values by 4.1 percent. The investments on the distribution networks exceeded the expectations from the economic plans by 11.5 percent, while the investments on the transmission network were lower than the expectations in the economic plan by 12.9 percent.

#### TABLE 7

#### Review of investments in 2005 in 2006

Sources: Companies' data

		Regulatory framework		Reali- sation	Reali- sation 06/05	Index Real./ reg. fram.	Real./ econ. plan
Elektro Celje, d. d. ———	4,259.5		— 3,833.9	— 4,601.3 —	— 108.0 —	— 123.1 —	— 120.0
Elektro Gorenjska, d. d.	2,979.8	2,768.4		— 3,220.4 –	— 108.1 —	— 116.3 —	—— 101.4
Elektro Ljubljana, d. d. ———	6,386.3	5,617.4	— 8,878.3	— 9,786.2 —	— 153.2 —	— 174.2 —	<u>م</u> 110.2 م
Elektro Maribor, d. d. ———	4,985.8	4,160.8		— 5,655.5 —	— 113.4 —	— 135.9 —	— 115.4 <sup>- III</sup>
Elektro Primorska, d. d. ——	3,389.1	— 3,288.9	— 3,288.9	— 3,583.2 —	— 105.7 —	— 108.9 —	— 108.9 <del>-</del>
Total distribution ———	- 22,000.5	- 19,573.1	- 24,075.8	- 26,846.6 -	— 122.0 —	— 137.2 —	— 111.5 <sup>°</sup>
Elektro Slovenija, d. o. o. —	6,739.6	— 8,226.5	— 10,468.8	— 9,122.2 —	— 135.4 —	— 110.9 —	87.1
Total		- 27,799.6	- 34,544.5	- 35,968.8 -	— 125.2 —	— 129.4 —	— 104.1
Total distribution	91.8	81.7	— 100.5	— 112.0 –	— 122.0 —	— 137.2 —	— <b>111.5</b> ഉ
Elektro Slovenija, d. o. o. —	28.1	34.3	43.7	38.1 -	— 135.4 —	— 110.9 —	87.1 <sup>m</sup>
Total	—— 119.9	— 116.0	— 144.2	— 150.1 –	— 125.2 —	— 129.4 —	— <b>104.1</b> ਵ

In 2006 the companies allocated 21,802.6 million tolars (91 million euros) for the construction and purchase of new assets, which was 60.6 percent of all investments. For the renovation and modernisation of the energy facilities,

the companies allocated 14,166.2 million tolars (59.1 million euros). In comparison with 2005, in 2006 the ratio between the assets allocated for reconstructions and those for new investments was altered in favour of new investments.

#### TABLE 8

Reconstructions and new investments of the companies for transmission and distribution in 2006

Sources: Companies' data

	New investments		Recons	Reconstructions		Total		Structure (%)			
							New i	nvest.	Reco	nstr.	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	
Elektro Celje, d. d. ——	- 1,980.1 -	- 2,536.3 -	- 2,279.4	- 2,065.0	— 4,259.5	— 4,601.3	— 46.5	- 55.1 -	- 53.5	- 44.9	
Elektro Gorenjska, d. d.	- 1,132.8 -	- 1,132.8 -	- 1,847.0	- 2,087.5	— 2,979.8	— 3,220.4	— 38.0	— 35.2 -	- 62.0	- 64.8	
Elektro Ljubljana, d. d. –	- 4,789.8 -	- 7,074.7 -	- 1,596.5	- 2,711.4	- 6,386.3	— 9,786.2	- 75.0	- 72.3 -	- 25.0	— 27.7	
Elektro Maribor, d. d. —	- 2,641.0 -	- 3,629.9 -	- 2,344.9	- 2,025.6	- 4,985.8	— 5,655.5	— 53.0	- 64.2 -	- 47.0	- 35.8	
Elektro Primorska, d. d											
Total distribution ——	13,216.6	16,998.0	8,783.9	9,848.5	22,000.5	26,846.6	- 60.1	- 63.3 -	- 39.9	- 36.7	
Elektro Slovenija, d. o. o. –	- 1,261.0 -	- 4,804.6 -	- 5,478.6	- 4,317.6	- 6,739.6	— 9,122.2	— 18.7	- 52.7 -	- 81.3	— 47.3	
Total	14,477.6	21,802.6	14,262.5	14,166.2	28,740.1	- 35,968.8	- 50.4	- 60.6	- 49.6	- 39.4	
Total distribution —	2 -	- 70.9 -	- 36.7		91.8	— 112.0	- 60.1	- 63.3 -	- 39.9	- 36.7	
Elektro Slovenija, d. o. o. –	— 5.3 -	— 20.0 -	22.9		28.1	38.1	— 18.7	- 52.7 -	- 81.3	— 47.3	
Total											

#### FIGURE 5

#### Reconstructions and new investments of the companies for transmission and distribution in 2006

Sources: Companies' data , Energy Agency



The distribution system operators allocated most of the funds for the high-voltage network for reconstructing and modernising the existing 110/20(10)-kV distribution-transformer stations. A total of 276 new MV/0.4-kV transformer stations were built on the medium-voltage network, and 331 kilometres of new medium-voltage network were constructed. The remaining important investments were made for the reconstructions and new constructions of the low-voltage network, modernisation of the telecommunications, metering devices, and dispatch-management centres.

In 2006 the transmission system operator carried out the following important investments:

- a two-system 110-kV transmission line connecting the Combined Heat-and-Power Station, Ljubljana, Polje and Beričevo;
- a renovation and upgrade of the 110-kV connection in the 110/35/20-kV distribution-transformer station, Koper;

 an upgrade of the 400/110-kV connection in the distribution-transformer station, Okroglo, and the completion of a new transformer of 400/110 kV, 300 MVA.

In 2006 the distribution system operators financed the investments by using the amortisation costs of 13,797.1 million tolars (57.6 million euros), which was 52 percent of all the investments. They obtained the rest of the funds by using loans amounting to 7051.4 million tolars (29.4 million euros), other resources of their own amounting to a total of 4526.3 million tolars (18.9 million euros), and the co-investments of the network users, which amounted to 1471.8 million tolars (6.1 million euros).

The transmission system operator finances 62 percent of the investments by using the amortisation costs of 5662.9 million tolars (23.6 million euros), and 38 percent, or 3460.1 million tolars (14.4 million euros), by using other resources of its own.



Amortisatio

IN 2006

#### 3.2.2.5 Long-term development of the electricity network

Sources and investments in the PS transmission

In line with the requirements of the EA, the transmission system operator, and five distribution system operators prepared, at the beginning of 2005, the amended ten-year development plans for the period 2005–2014. The development plans for individual networks have been updated mainly on the basis of the realisation achieved in the previous period, the analysis of the trends of electricity consumption, and the reliability indicators. When the Minister of Economic Affairs approved the development plans and presented them to the

Government of the Republic of Slovenia, the investment plan was also determined, mainly with respect to new investments, reconstructions and renovations of the electricity infrastructure. As the development plans are updated every second year, the plan that the Ministry of the Economy approved of in 2005 also applied to 2006.

62%

Other own resources

In the development plans, the companies expect that the total investments in the next ten years will amount to 354,444 million tolars. Eles expects to invest 115,554 million tolars, while the distribution system operators plan to invest a total of 238,890 million tolars. With most of the operators the investments are expected to increase until 2008, and after this they will decrease. This is particularly obvious in the case of Eles, which plans larger investments in the 400-kV network for 2007–2011. These investments will include the development of the internal network (Beričevo–Krško), as well as constructions of new connections with Italy (Okroglo–Videm) and Hungary (Cirkovce–Hevitz). These connections will allow an increase in the cross-border transmission capacities in the east–west direction.

Distribution companies expect to invest in the development of medium-voltage and low-voltage networks, aiming at increasing the capacities, voltage quality, supply reliability, and the ability to connect new customers of electricity.

#### FIGURE 7

## Expected investments of distribution and transmission system operators for 2005–2014



## **3.2.2.6 The business operation** of the market operator

At the end of 2006, Borzen, d. o. o., had 26 employees that generated 590.6 million tolars (2.5 million euros) of revenues. These results exceeded the revenues in 2005 by 3.4 percent. The total expenditure amounted to 560.7 million tolars (2.3 million euros) and was, in comparison with the previous year, higher by 3.1 percent. The net profit amounted to 24.5 million tolars (0.1 million euros) and was, in comparison with 2005, higher by 6 percent.

#### 3.2.3 Unbundling of services

The EA stipulates that the legal entities that carry out:

- more than one energy-related activity in the area of supply with electricity,
- more than one energy-related activity in the area of supply with natural gas,
- in addition to an activity in the area of supply with electricity, also another activity (either another energy-related activity or a marketbased activity),
- in addition to an activity in the area of supply with natural gas, also another activity (either another energy-related activity or a marketbased activity),

REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006 have to provide separate management of accounts for each energy-related activity in line with Slovenian Accounting Standards.

The transmission system operator for the whole territory of the Republic of Slovenia is one legal entity that does not carry out any other activity; its sole owner is the state, and it is also the owner of the transmission network.

The activity of distribution system operator is carried out in five companies for electricity distribution; these companies have a 79.5-percent share owned by the state. The companies for electricity distribution carry out several energyrelated activities and also market-based activities.

The distribution system operator produces separate accounts for individual energy-related activities, which they make available to the public and submit to the Energy Agency. For the purpose of the separate management of accounts, legal entities have to produce the rules determining the allocation of assets, liabilities, revenues and expenses for individual energy-related activities. The rules can only be changed in exceptional circumstances and for well-justified reasons. The Energy Agency has to give approval to these rules, while their realisation has to be audited and disclosed in the annual report of each company. For 2006 the Energy Agency received audited annual reports of the transmission system operator and all the distribution system operators that disclosed the rules for producing separate accounts for individual energy-related activities. In addition, these reports include separate accounts for individual activities.

In line with the EA, companies are fined if they fail to provide for separate account management, account auditing, or the publication of separate accounts for individual energy-related activities; however, a fine can only be imposed on an infringer by a responsible authority.

The owners of the distribution networks are individual distribution companies that have to maintain separate records relating to the individual energy infrastructure needed for the provision of the activity of a distribution system operator.

The companies that provide mandatory public services, list their activities on their websites:

- Elektro Slovenija, d. o. o., Hajdrihova 2, 1000 Ljubljana, www.eles.si,
- Elektro Celje, javno podjetje za distribucijo električne energije, d. d., Vrunčeva 2a, 3000 Celje, www.elektro-celje.si,

- Elektro Primorska, javno podjetje za distribucijo električne energije, d. d., Erjavčeva 22, 5000 Nova Gorica, www.elektro-primorska.si,
- Elektro Gorenjska, javno podjetje za distribucijo električne energije, d. d., Ulica Mirka Vadnova 3a, 4000 Kranj, www.elektro-gorenjska.si,
- Elektro Ljubljana, javno podjetje za distribucijo električne energije, d. d., Slovenska cesta 58, 1516 Ljubljana, www.elektro-ljubljana.si,
- Elektro Maribor, javno podjetje za distribucijo električne energije, d. d., Vetrinjska ulica 2, 2000 Maribor, www.elektro-maribor.si

#### 3.2.4 The network charges for the transmission and distribution networks

#### 3.2.4.1 The mode of setting the network charges for the transmission and distribution networks

The Energy Agency sets the network charges for the use of electricity networks, separately for the transmission network and for the distribution networks. The year 2006 is the first year of the second three-year regulatory period defined in the Act Determining the Methodology for Charging for the Network Charge, the Methodology for Setting the Network Charge, and the Criteria for the Eligibility of Costs for Electricity Networks, as well as in the Decision on Setting the Network Charge for the Use of Electricity Networks, and the Correction Factors for Balancing the Revenues from the Network Charges. Integral parts of the above Act are the following annexes:

- The Starting points and the Parameters for Setting the Network Charge for Electricity Networks for the Regulatory Period 2006–2008,
- The Ratios between the Tariffs with Regard to the Seasons and the Daily Tariff Time.

The Decision on Setting the Network Charge for the Use of Electricity Networks and the Correction Factors for Balancing the Revenues from the Network Charges determines the network-charge tariffs for the following:

- the transmission network,
- the distribution network,
- ancillary services,
- the specialised ancillary service,
- the use of the cross-border transmission capacities of interconnecting lines

• the average cost for making a connection and the correction factors for balancing the revenues from the network charges for individual distribution system operators and for individual years of the regulatory period.

#### 3.2.4.1.1 Charging for the Network charge

To determine the charging for the network charge, the Energy Agency uses a non-transaction postagestamp method, which means that, with respect to charging for the network charge, the tariffs and average costs for making a connection are uniform for the whole territory of Slovenia within the framework of individual customer groups. This method applies to all voltages and all end customers classified in the same customer group. To divide the costs across different voltage levels, the Energy Agency takes the gross approach with respect to calculating the network charges for the transmission and distribution networks. This approach considers the costs arising from the transmission and distribution of electricity with respect to the point of change of title of an end customer. An end customer connected to medium voltage, and an end customer connected to low voltage cover proportional shares of the costs for the use of the higher-voltage networks.

#### 3.2.4.1.2 Setting the network charge

The methodology for setting the network charge is based on the price-cap method, taking into account the assumption that the revenue should be sufficient to cover eligible costs for an uninterrupted provision of the activity of a system operator. The limit for a justified increase in the prices is expressed with the ratio between the increased prices and the eligible revenue.

The eligible revenue is established by considering the following:

- controlled costs for the operation and the network maintenance,
- uncontrolled costs for the operation and the network maintenance,
- costs for electricity losses in the network,
- amortisation costs,
- return on assets,
- costs for ancillary services of the transmission system operator,
- costs for the ITC mechanism.

Part of the costs from the previous paragraph is covered with the revenues from charging for the average costs for making a connection, with the compensations received from insurance companies relating to damages, with the revenues from the telecommunications services, with the revenues relating to the remuneration for the use of cross-border transmission capacities of the interconnection lines, and with other revenues arising from the provision of a regulated activity.

Eligible revenues are established separately for the network charge for the transmission network, the network charge for the distribution network, and the network charge for ancillary services.

The eligibility of costs is assessed separately for:

- the costs related to the investments in the assets needed for the provision of the public service of a system operator;
- the costs for the operation and maintenance including the costs of materials, services and labour, and the costs of hiring the assets needed for the provision of the services, when a system operator does not own these assets, reduced by the revenues that the regulated services generate in addition to the revenues from the network charge;
- the costs of buying electricity needed for covering the losses in the network.

The tariffs for the network charge are set on the basis of the considered eligible revenues of the system operators, and the forecasted consumption of electricity in a regulatory period. The forecasted consumption by individual customer group of end customers is determined on the basis of the expected growth of electricity demand.

The network charge and the tariffs relating to the network charge are set with the aim to:

- implement economic regulation of the network charge for electricity networks in such a way that the cost-effectiveness of the providers is stimulated:
- separately for the transmission and distribution networks,
- separately for individual ancillary services, except for those services that are provided in a competitive market,
- separately for the use of the cross-border transmission capacities of the interconnecting lines;
- continually improve or maintain the level of electricity-supply quality that consists

of commercial quality, supply security (uninterruptibility), and voltage quality;

- stimulate the network users to use the networks optimally;
- ensure the transparency of tariffs;
- create conditions in which the providers of the public service of network operation will continually operate without generating losses, and with a limited return on assets;
- ensure stable and predictable conditions for the operation of the system operators, and a stable environment for the investors or owners;
- stimulate the network development in such a way that the quality of the transmission and distribution of electricity is continually improved or maintained.

For the purpose of establishing eligible costs, the Energy Agency analyses in detail the financial statements of the regulated companies by individual activity, and, on the basis of additionally required detailed data about their operation, prepares the basis for the benchmarking. In addition, the Energy Agency separately establishes eligible controlled costs for the operation and maintenance consisting of the costs of materials, services, labour, rents, and other costs relating to the operation of the system operators that are expected to improve their efficiency. On the basis of combining its own efficiency assessments and the results of the comparisons with comparable foreign companies, the Energy Agency set the required annual level of efficiency increase to be between three and five percent.

#### 3.2.4.1.3 The regulatory framework for setting the network charge for the period 2006–2008

In comparison with 2005, the network charges for the distribution and transmission networks remained unchanged in 2006, while in the next two years the network charge for the distribution networks will increase in line with the expected growth of the consumer price index (CPI), and additionally by 3.5 percent in 2007 and by 3.2 percent in 2008. In these two years, the network charge for the transmission network will increase only to cover the expected rise of the CPI.

#### 3.2.4.2 Supply quality

The quality of electricity supply is of key importance to customers, and for this reason the quality is carefully regulated at the system operators' end. The EA requires that the energy policy provides for a secure and quality supply of energy, and for ecological acceptability with respect to the production, transmission and consumption of energy. In the Act Determining the Methodology for Charging for the Network Charge, the Methodology for Setting the Network Charge, and the Criteria for Establishing Eligible Costs for Electricity Networks, the Energy Agency determined the quality parameters that it will monitor and control in the future regulatory periods.

#### 3.2.4.2.1 Commercial quality

The general commercial quality refers to the services that a system operator can provide, though they cannot be guaranteed to all network users. The reasons for this inability are the technical characteristics of a network. The indicators of the general commercial quality are the following: the time needed to reconnect the electricity supply in cases of unforecasted interruptions, the time needed to complete minor repair works, the time needed to connect a user to a network, and the time needed to answer customers' questions.

On the other hand, the individual commercial quality has to be guaranteed to all customers. Some of the indicators relating to the individual commercial quality are set in the legislative acts, while others were proposed by the Energy Agency on the basis of the CEER's Third Benchmarking Report on Quality of Electricity Supply 2005. The individual commercial quality refers to the minimum response times for the following: reconnecting, replacing a blown fuse, announcing a visit, giving information about making a connection, solving a complaint about a meter or about the costs of payments, and activating a connection. Neither the expected values of these indicators nor the mode of measuring the commercial quality have been described in any technical standard.

#### 3.2.4.2.2 Supply security (UNINTERRUPTIBILITY)

For the purpose of monitoring the supply security, two system indicators will apply in the whole territory of Slovenia: the SAIDI (the System Average Interruption Duration Index) and the SAIFI (the System Average Interruption Frequency Index). In 2006 the Energy Agency and the distribution system operators unified the provisions relating to the need for collecting and monitoring the data regarding the security of the supply.

#### 3.2.4.2.3 VOLTAGE QUALITY

During the year, the system operators monitored the voltage quality on the busbars of the distribution-transformer stations at the border between the transmission and distribution networks in line with the technical standard SIST EN 50160:2001.

#### 3.2.4.2.4 Quality of the supply in 2006

For the second consecutive year the system operators prepared reports on the voltage quality, the security of supply to customers, and the commercial quality for the previous calendar year as stipulated by 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. A review of the reports for 2006 showed that the system operators started to collect information about the commercial quality, that they fully monitor the voltage quality at the border between the transmission and distribution networks, and partly on the busbars of the HV/MV distribution-transformer stations. There is flicker in some distribution networks originating from the transmission network; this is one of the parameters that do not meet the required standard values.

The total number of complaints relating to the voltage quality remained at the same level as in the year before, as shown in Table 9. We believe that the reasons for the complaints are an increasing customer awareness of the importance of the minimum quality of electricity and the use of the computer technologies that are very sensitive to any change in the voltage quality.

#### TABLE 9

#### Number of complaints relating to the voltage quality in 2005 and 2006

Sources: Companies' data		2005		2006			
	Total complaints	Number of justifiable complaints	Percentage of justifiable complaints	Total complaints	Number of justifiable complaints	Percentage of justifiable complaints	
Elektro Celje, d. d. ———	199	180	90	119 -	91	76	
Elektro Gorenjska, d. d	20 -	15	75	46 -	41 -	89	
Elektro Ljubljana, d. d. ——	154 -	101	66	196 -	107	55	
Elektro Maribor,d. d. ——	47	43	91	61 -	57	93	
Elektro Primorska, d. d. —	26	18	69	27 -	25	93	
Total	446	357	80	449	321	71	

The data about the number and duration of interruptions provided by the Slovenian system operators are not comparable with the data of the system operators in the EU due to a different way of collecting and processing the information. In 2006 the Energy Agency started to develop a web application for collecting data relating to interruptions, and, in a consultation paper, it proposed definitions of relevant terms and the mode of data collecting. Table 10 shows the data relating to uninterruptibiliy (security) in some EU countries. When comparing this data with the data provided by two Slovenian system operators that submitted the SAIDI and SAIFI details, we can see that the SAIDI value ranges between 95 and 119 minutes per customer per year, which is comparable with the operators' data in the EU. The SAIDI indicator calculated for Slovenia shows a 99.98-percent security.

#### TABLE 10

#### Average duration of unforecasted interruptions of electricity supply per customer in 2006

Source: CEER

Country/operator	Not considering force majeure (min.)	Considering force majeure (min.)
Germany	19	30
Netherlands	23*	26
Austria ————	31	No data available
France (2004) ————	51	57
Great Britain (2004) ———	61	
Italy (2004)	76	91
Spain (2004)	118	124
Portugal (2004) ————	149	218
Ireland (2004) ———	157	163
Elektro Maribor, d. d. ———	119	No data available
Elektro Primorska, d. d. ———	95	No data available
* Estimated value		

#### 3.2.4.2.5 Voltage quality of the transmission network in 2006

Eles continually monitors the voltage quality at the most important connection points between the transmission network and the users of this network. It is clear from the analyses that in some regions the flicker values exceed the values determined by the standard. The flicker occurs in some parts of the Gorenjska region bordering Ljubljana, where it is caused by the Jesenice Steelworks, in the Koroška region, where it is caused by the Ravne Ironworks, and in the central Štajerska region, where it is caused by the Store Ironworks. To remedy these conditions, in 2006 a new transformer with a power of 300 MVA was built into the Okroglo distributiontransformer station, directly supplying the Jesenice Ironworks and, in this way, significantly reducing the flicker values. The situation in the other two regions remained unchanged; however, an activecompensation device is expected to be built, so that the flicker values will be reduced below the allowed level.

In 2006 the Energy Agency received no complaints relating to poor voltage quality.

### 3.2.4.3 The prices for the use of electricity networks

The price for the use of the networks that electricity customers pay to the system operators depending on their classification in the customer groups, and depending on their electricity consumption, is part of the total price for the supplied electricity. The price for the use of an electricity network consists of the network charge for the transmission and distribution networks, and the supplements used for the operation of the electricity system. The supplements to the network charge are used for covering the costs of the Energy Agency's operation, the compulsory purchase of electricity from qualified producers, and the recording the concluded contracts for electricity supply.

The Energy Agency sets the network charge that is used to cover the eligible costs for operating and maintaining the electricity networks, the costs for investments in the infrastructure of the public services of the transmission and distribution of electricity, and the costs of ancillary services. On the other hand, the Government of the Republic of Slovenia sets the supplements included in the use-of-network price.

Different customers pay different prices for the use of networks. Eligible customers connected to the high-voltage network used almost 22 percent of the electricity consumed in 2006; eligible customers connected to the distribution network used 54 percent, and tariff customers used 24 percent of the electricity. The average price for the use of the networks in Slovenia, taking into account all the customers by customer group, was 5.98 tolars/kWh. The customers connected to the low-voltage network were, on average, paying 10.57 tolars/kWh for the use of the network, the industrial customers connected to the mediumvoltage network were paying 3.45 tolars/kWh, and the customers connected to the high-voltage network were paying 1.29 tolars/kWh.

#### FIGURE 8

#### Average values of the elements included in the use-of-network price by voltage level

Source: Energy Agency



The use-of-network-price share included in the final price depends mainly on the price for electricity given to an individual customer group. According to the electricity suppliers, the electricity price for eligible customers, formed on the market, depends mainly on the amounts of consumed electricity and the profile of a customer's consumption. In the case of increased amounts of consumed electricity and the profile of the base-load consumption, the price of electricity decreases, while in the case of a reduced amount of consumed electricity and a volatile daily, or monthly, consumption, the price will increase.

Figures 8, 9 and 10 show the ratios of the price elements and the shares of the elements included in the use-of-network prices for typical industrial customers.



3

32



Ancillary services (0.192 SIT/KWh) Energy Agen		Energy Agency	y (0.038 SIT/KWh)	Compulsory purchase from qualified producers (0.627 SIT/KWh)	
Borzen (0.030 SIT/KWh)	Energy (11	.813 SIT/KWh)	Transmission networ	k charge (0.891 SIT/KWh)	Distribution network charge (1.609 SIT/KWh)

Shares

OF THE ELEMENTS INCLUDED IN THE FINAL ELECTRICITY PRICE 77.7%



 Ancillary services (0.128 SIT/KWh)
 Energy (0.038 SIT/KWh)
 Compulsory purchase from qualified producers (0.595 SIT/KWh)

 Borzen (0.030 SIT/KWh)
 Energy (10.33 SIT/KWh)
 Transmission network charge (0.699 SIT/KWh)
 Distribution network charge (1.262 SIT/KWh)

In 2006 the average use-of-network price for a typical industrial customer  $I_b$  was 14.42 tolars/kWh, for a typical customer  $I_e$  this price was 3.39 tolars/kWh, and for a typical customer  $I_g$  it was 2.75 tolars/kWh.

In the case of household customers, the electricity price is formed on the basis of the Ordinance on the Tariff System for the Sales of Electricity, which expects the price to be formed on the basis of the elements determined by the ordinance. The final price that the suppliers charge to tariff customers includes the price for the supplied electricity, the costs of the supplier, the price for the use of the network, the excise duty, and the value-added tax. Approximately one half of the final price is determined by the Government of the Republic of Slovenia, and one half by the Energy Agency. The largest share of the final price is taken by the price for electricity – just over 38 percent.
## FIGURE 12 Shares of the elements included in the use-of-network price, and shares of the elements included 7.7% in the final electricity price 0.2% for a typical household customer 6.0% $(D_c - 3500 \text{ kWh per year})$ 0.1% Source: Energy Agency 37.7% 38.3% Shares 7.2% OF THE ELEMENTS INCLUDED IN THE FINAL ELECTRICITY PRICE 2.8%

Ancillary services (1.685 SIT/KWh)	Energy Agency (0.038 SIT/KWh)	Preferential dispatch (1.305 SIT/KWh)	Borzen (0.030 SIT/KWh)
Energy (8.340 SIT/KWh)	Supply costs (0.60 SIT/KWh)	Transmission net. charge (1.568 SIT/KWh)	Distribution net. charge (8.210 SIT/KWh)



NO

#### Movements of the final electricity price for a typical household customer D<sub>c</sub> since 2003

Source: Energy Agency



Between 2003 and the end of 2006 the total electricity price for a typical household customer  $D_c$  was, on average, increased by 3.6 percent each year. While the use-of-network price was relatively stable during this period, the share for the energy increased by 6.6 per year relative to the prices on the open markets. In spite of that the electricity prices for households, set by the Government of the Republic of Slovenia, were below the purchase price for this energy, causing difficulties to the operations of the suppliers to tariff customers.

## 3.2.5 The allocation of cross-border transmission capacities and the congestion-management mechanisms

The allocation and use of the cross-border transmission capacities in the EU are regulated by the Regulation No 1228/2003 on Conditions for Access to the Network for Cross-Border Exchanges in Electricity. The system operators in individual countries are responsible for the operations in this area. The Regulation 1228/2003 stipulates the basic principles relating to congestion management, including the allocation of the rights to use the cross-border transmission capacities (henceforth referred to as the CBTCs), and the implementation of operational measures required for congestion management. With appropriately defined CBTCs, and then by allocating the rights to use them, it is guaranteed that the flows across the cross-border transmission lines, as well as the flows across all parts of the internal transmission networks, will be within the limits allowing secure and reliable operations on all the connected electricity systems. However, when a situation that might threaten a secure and reliable operation occurs in the system in spite of a correct allocation of the rights to use the available CBTCs, the system operator applies the procedures of congestion management, the most important being the redispatching and counter trading.

Among other things, the Regulation 1228/2003 requires a mandatory use of the market-based method for allocating the rights to use the CBTCs.

3

In 2006 this provision did not apply to Slovenia, as on 28 June 2004 the EU Council issued the Regulation 1223/2004 that allowed Slovenia to have a transition period with respect to the mandatory use of the market-base mechanisms relating to the allocation of free CBTCs. In line with this ordinance, the Slovenian system operator is able to use non-market methods for allocating free CBTCs up to a maximum of half of the total available capacity at each border until 1 July 2007. As a result Slovenia can, on all its borders, maintain the existing practice, according to which each of the neighbouring transmission system operators allocates a half of the total available capacities. The transition period only applies to the compulsory use of market-based methods for allocating cross-border transmission capacities, while all the other provisions of the Regulation No 1223/2004 apply to Slovenia.

As a result of the transition period, most of the rights to use the transmission capacities on the Slovenian borders in 2006 were already allocated in 2004. This allocation was carried out on the basis of the calls for tenders prescribed 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. These calls for tenders were based on the method of proportional reduction (the so-called "pro-rata" method). In 2004, when these calls for tenders took place, the demand was mainly for electricity imports from Austria to Slovenia, and for exports to Italy, and as a result, only the rights to use the CBTCs for these two transmission paths were

allocated. Due to an increase in the electricity available in South-East Europe, after 2004 the use of the CBTCs increased on the border with Croatia, in the direction towards Slovenia, which resulted in the restrictions relating to the transmission capacities. Similarly, after 2004 there were also occasional situations that required the use of the CBTCs in the directions that previously were not interesting for traders, i.e., imports from Italy and exports to Austria.

In 2006 all the rights to use the CBTCs, which in 2004 were not allocated by means of tenders, were allocated at explicit auctions that are a marketbased method for allocating. Similarly, in 2006 all the additionally released capacities on the transmission paths, where the rights to use the CBTCs were mostly allocated by means of tenders in 2004, were allocated at auctions. Thus, in 2006 the rights to use the CBTCs for the cross-border transmission paths from Slovenia to Italy and to Austria, and for the paths from Austria and from Croatia to Slovenia were allocated at the auctions. The auctions for allocating the rights to use the CBTCs were carried out by two companies that provide the mandatory public services. Until 30 September the auctions were carried out by Borzen, d. o. o., since 1 October this task has been performed by Elektro Slovenija, d. o. o.

On all the cross-border transmission paths, for which the rights to use the CBTCs were allocated at the auctions in 2006, a total of five billion kilo-watt hours of these rights were allocated. The total takings from these auctions exceeded three billion tolars.



## FIGURE 15

## Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Croatia–Slovenia



3

REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

38

Allocated CBTCs (MWh)



# Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Slovenia–Austria

## FIGURE 17

Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Slovenia–Italy



SECTOR

REPORT ON THE ENERGY SEC IN SLOVENIA FOR 2006 In 2006 the traders were mostly interested in the cross-border transmission paths Croatia-Slovenia, and Slovenia-Italy. The largest takings were made from trading the capacities of the transmission path Croatia-Slovenia. Most of the rights to use the CBTCs of the transmission path Slovenia-Italy were already allocated in 2004 by means of tenders, and for this reason relatively few CBTCs of this transmission path were traded at the auctions. A high correlation between the conditions on the transmission path Croatia-Slovenia and the conditions on the path Slovenia-Austria was noted, which means that the traders sell significant amounts of electricity from South-East Europe to Austria and Germany. It was also noted that during the periods when there is no interest in importing electricity from Croatia, and for exporting to Austria, the imports from Austria increase. In the first half of 2006 South-East Europe was a large source of relatively cheap electricity, which was reflected in the record imports at the border with Croatia, and in large earnings from the auctions. In the second half of the year these imports decreased significantly, mainly because of a dry autumn in the Balkans.

In 2006 an annex to the Regulation 1228/2003 was issued, comprising the guidelines for congestion management that include important amendments to the regulation relating to the congestion management. These guidelines became valid on 1 December 2006. They include additional provisions and instructions relating to the implementation of the market-based methods for allocating the CBTCs, and also new details regarding the rules for carrying out the auctions, the determination of the obligations of the market participants and the transmission operator, and of the relevant supervision.

## 3.3 MARKET-BASED ACTIVITIES AND COMPETITION

On 15 July 2001 Slovenia started to gradually liberalise its electricity market. At first only the customers who had more than 41 kW of connected power at a consumption point had the right to choose their electricity supplier. In July 2004, in line with the amendments to the EA, other customers, except for households, obtained the right to choose their electricity suppliers. Thus, in the period between the start of the liberalisation and the end of 2006, a total of 97,786 customers, or 11.3 percent of the total 877,151 customers, obtained the right to choose their supplier. In 2006 the electricity consumption of the so-called eligible customers was 9667 GWh, or 75 percent of the total electricity consumed in Slovenia. After 1 July 2007 the most numerous customers, the household or tariff customers, which annually use more than 3 TWh of electricity, will also have the right to choose electricity supplier.

As a rule, eligible customers cannot opt for electricity supply under the conditions of the tariff consumption. Only the eligible customers that did not choose supplier, and the customers that failed to carry out the procedure of switching supplier in time, and in line with the Rules for the Operations of the Electricity Market, were temporarily supplied by the supplier to tariff customers on the basis of a price that was set and published in advance. In 2006 there were 10,311 such customers with a total consumption of 103 GWh, which is one percent of electricity consumed by eligible customers.

## Dynamics of liberalisation of the electricity market in Slovenia

Sources: Energy Agency, system operators



The degree of market liberalisation did not exert a significant influence on the market competition. The number of eligible customers does not exceed 100,000, or 12 percent of all electricity customers in Slovenia. Figures 19 and 20 show the amounts of consumed electricity and the ratios between the number of eligible customers and the number of tariff customers.



THE ENERGY A FOR 2006

ON

#### Shares of electricity consumption of eligible and tariff customers

Sources: Energy Agency, system operators

22% 25% 53%

#### Eligible customers on the distribution network Eligible customers on the transmission network

Tariff customers

## 3.3.1 Production and the WHOLESALE MARKET

Since the start of the market liberalisation in Slovenia, the production of electricity has been a market-based activity. In addition to their basic activity, the selling of electricity, the companies for electricity production also provide ancillary services that the TSO needs to operate the electricity system. The predominant share of electricity production is carried out in conventional power stations (thermoelectric power stations, hydroelectric power stations, and the nuclear station). The production share at the distribution level is still small, i.e., 6 percent.

## **3.3.1.1** The production of electricity

Like before, in 2006 eight companies operating in large facilities with a capacity of over 10 MW were active in the electricity-production market:

- 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, the DPSM, the SPSL and the SPSNG, generate electricity in hydroelectric power stations, the NPSK in a nuclear power station, the TPSŠ and the TPST in thermoelectric power stations running on coal, the TPSB produces electricity from liquid and gaseous fuels, and the CHPSL cogenerates heat and electricity in a cogeneration process using coal. Since the summer of 2001 the following companies, the DPSM, the SPSL, the SPSNG, the TPSŠ and the TPSB, together with the Coalmine, Velenje, have been operating within the holding company known as Holding Slovenske Elektrane, d. o. o. (the HSE). In 2006 two companies, the Sava Power Stations, Ljubljana, and the Thermoelectric Power Station, Brestanica separated from the HSE, and joined the company known as GEN energija, forming, together with the NESK the second energy pillar in Slovenia. In spite of this change, the companies operated in the framework of their previous ties at the end of 2006, as the actual switches of balance groups were only carried out on 1 January 2007.

In May 2006 the new Hydroelectric Power Station, Boštani, began to operate within the hydroelectric chain on the lower Sava. The HPS Boštanj will also generate peak energy and allow the sale of ancillary services. Regular maintenance was carried out in the NPSK, including the replacement of both low-pressure turbines, which led to

the better efficiency of the power station, and consequently to a 10-MW increase in its capacity. In addition to the production in large power stations connected to the transmission network, the Slovenian electricity system also includes the production facilities of dispersed production connected to a distribution network. With respect to dispersed production there are two main types of important production in Slovenia, i.e., the production in small hydroelectric power stations and the production in industrial facilities for the cogeneration of heat and electricity. Most of the small hydroelectric power stations are subsidiaries of the distribution companies, but some of them are owned by individuals. Industrial facilities for cogeneration are mostly owned by industrial companies, which fulfil their own demand for heat and partly for electricity in this way, and also sell any surpluses of generated electricity to other customers. In 2006 a few micro-cogeneration units operating in both the public and private sectors became connected. There are also a few solar power stations, whose share still does not exceed one percent of the total installed capacity in Slovenia. In 2006 there was still no wind turbine operating in the Slovenian electricity system.

#### TABLE 11

## Installed capacities of the production facilities active in the Slovenian market

Source: Energy Agency

Producer Installed cap	acity (MW)	Share (in %) with respect to all the producers in Slovenia	Share (in %) on the transmission network
HSE	— 1,861 —	<b>70.4</b>	75.2
- HSE hydroelectric power stations	886	33.5	35.8
- HSE thermoelectric power stations	975 -	36.9	39.4
NPSK*	348	13.2	14.1
TPST	<b>163</b> –	6.2	6.6
CHPSL	— 103 –	3.9	4.2
Producers on the distribution network $-$	<b>168</b> –	6.4 —	
– small hydroelectric power stations	94	3.6	
– cogeneration units	40	1.5	
– other	34	1.3	
Total in the Republic of Slovenia ———	— <b>2,643</b> –	100.0	
Total on the transmission network			

\* 50-% share of the installed capacity of the Nuclear Station Krško taken into account

To support the electricity production that would not be competitive in the free market, the system of preferential dispatch is applied in Slovenia. This system allows the producers that are entitled to this 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 use-of-network price, which is determined by the Government of the Republic of Slovenia. 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 government determined the latest change to the purchase prices and premiums on 6 July 2006 with the Decision Regarding the Prices and Premiums for the Purchase of Electricity from Qualified Producers. At the end of 2006 there were 498 production facilities in Slovenia that had the status of a qualified power station. These include 18 large hydroelectric power stations with a capacity of more than 10 MW that were not eligible for support from the preferential-dispatch system, i.e., for the purchase prices and premiums on the basis of the above decision. In 2006 all the remaining 480 production facilities received support from the preferential-dispatch system.

In line with the bilateral agreement between Slovenia and Croatia, half of the production from the NPSK belongs to Croatia, which reduces the share of the NPSK in the Slovenian production of electricity. Thus, in 2006 Slovenian power stations produced a total of 13,643 GWh of electricity, but the actual Slovenian production was smaller, amounting to 11,003 GWh.

The largest amount (38.7 percent) was generated by the nuclear power station, the thermoelectric power stations generated 34.7 percent, and the hydroelectric power stations 22.9 percent. Small power stations connected to the distribution network generated 3.4 percent of the electricity, while small power stations connected to the transmission network generated 0.3 percent of all the electricity generated in Slovenia. The largest share of electricity production in Slovenia, 43 percent, that actually belongs to the Slovenian customers of electricity (taking into account half of the NPSK's production) was, in 2006, contributed by the thermoelectric power stations. These are followed by the hydroelectric power stations, 28.4 percent, and the nuclear power station, 24 percent. Small power stations on the distribution network generated 4.3 percent of the total production, and small power stations on the transmission network 0.4 percent of the total production.

#### TABLE 12

## Shares of different types of electricity production in Slovenia

Sources: Companies' data

Type of production	Production (GWh)	Share
Nuclear power station*	2,641	24.0%
Thermoelectric power stations	4,729	43.0%
Hydroelectric power stations	3,120	28.4%
Other power stations on the transmission network	45	0.4%
Power stations on the distribution network	468	4.3%
Total	11,003	——— 100.0%

\* 50-% share of the production of the Nuclear Station Krško, which is actually included in the Slovenian market, is taken into account

In 2006 a total of 47.37 MW of new production capacities were connected to the Slovenian electricity network. Most of the new production capacities relate to new facilities, the largest of them being the Hydroelectric Power Station, Boštanj on the Sava river. The remaining new capacities were set up in the existing power stations, the most important being an increase in the capacity of the Nuclear Power Station Krško, related to an increase in its efficiency due to a replacement of a steam turbine. Table 13 shows the newly acquired production capacities in 2006 by production source.

#### TABLE 13

#### Newly acquired capacities of the production facilities in the territory of the Republic of Slovenia in 2006

Sources: Companies' data **Classical TPSs** Type of power station / Cogeneusing gas and Nuclear production source Hydro Solar ration liquid fuels Other Total energy Installed power (MW) 3.09 0.55 0.78 32.68 0.26 10.00 47.37

### 3.3.1.2 The business operations of production companies

The companies for electricity production finished 2006 with a profit of 7,666.3 million tolars

(32 million euros), which was 12.9 percent more than in 2005.

TABLE 14

## Financial results of the companies for electricity production

Sources: Companies' data

	in millio	ns of tolars	in millions of euros	Index
	2005	2006	2006	06/05
Drava Power Stations, Maribor, d. o. o.	— 5,110.2 —	4,999.3 -	20.9	97.8
Sava Power Stations, Ljubljana, d. o. o.	68.8	67.7 -	0.3	98.4
Soča Power Stations, Nova Gorica, d. o. o.	362.6	1,070.4 -	4.5	295.2
Thermoelectric Power Station, Brestanica, d. o. o. ——		496.9 -	2.1	58.0
Thermoelectric Power Station, Šoštanj, d. o. o. ———	82.8	395.5 -	1.7	477.7
Thermoelectric Power Station, Trbovlje, d. o. o. ———	41.5	176.9 -	0.7	425.8
Combined Heat-and-Power Station, Ljubljana, d. o. o. –	267.6	397.4 -	1.7	
Nuclear Power Station, Krško, d. o. o.	0.0	62.2 -	0.3	0.0
Total	- 6,790.4	7,666.3 -	32.0	— 112.9

At the end of 2006 the companies for electricity production had 2309 employees, of which the hydroelectric power stations employed 538, the thermoelectric power stations employed 1198, and the Nuclear Power Station Krško employed 573 staff members. In comparison with 2005, the number of employees decreased by 42 employees, or 1.8 percent.

#### TABLE 15

#### Number of employees in the companies for electricity production

Source: Energy Agency 2005 2006 Index 06/05 Drava Power Stations, Maribor, d. o. o. 294 288 98.0 Sava Power Stations, Ljubljana, d. o. o. 126 124 98.4 Soča Power Stations, Nova Gorica, d. o. o. 126 126 100.0 123 -121 Thermoelectric Power Station, Brestanica, d. o. o. -98.4 537 Thermoelectric Power Station, Šoštanj, d. o. o. 561 95.7 Thermoelectric Power Station, Trbovlje, d. o. o. 250 235 94.0 Combined Heat-and-Power Station, Ljubljana, d. o. o. 301 305 101.3 Nuclear Power Station, Krško, d. o. o. -570 573 100.5 Total 2,351 2,309 98.2

The state is, directly or indirectly, the majority owner of all the companies for electricity production, except for the Nuclear Power Station Krško, where GEN energija, d. o. o., whose majority owner is the state, holds a 50-percent share.

#### TABLE 16

### Ownership structure of the companies for electricity production

Sources: Companies' data

bources. companies data	Republic of Slovenia	HSE	Other share- holders	City Municipality of Ljubljana	GEN energija, d. o. o.	Croatian electricity industry
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, d. o. o.		— 79.5%	20.5% -			
Thermoelectric Power Station, Brestanica, d	. 0. 0	- 100.0% -				
Thermoelectric Power Station, Šoštanj, d.	0. 0	- 100.0%				
Thermoelectric Power Station, Trbovlje, d. o.	o. — 80.3% ·		19.7% -			
Combined Heat-and-Power Station, Ljubljana, d.	o.o. — 64.6%			35.4% -		
Nuclear Power Station, Krško, d. o. o. —					— 50.0% -	— 50.0%

#### **3.3.1.3 Emission coupons**

The EU, as a joint signatory of the Kyoto Protocol, i.e., the Member States, committed themselves to significantly reducing greenhouse-gas emissions. Slovenia committed itself, by ratifying the Kyoto Protocol, to reduce greenhouse-gas emissions by eight percent by 2012 in comparison with the base year of 1986. Emissions trading is one of the instruments for achieving this objective.

The system of trading with emission coupons includes the facilities with an input heat power of 20 MW, and, with respect to the energy sector, also the facilities with an input heat power of 15-20 MW. In line with the Directive 2003/87/EC, the National Plan for the Allocation of Emission Coupons for 2005-2007 was prepared in Slovenia. This document sets, on the basis of the data about annual emissions in the period 1999-2002, the number of emission coupons distributed by the state free of charge. One emission coupon represents a tonne of  $CO_2$ . For each current year, the companies, i.e., the operators of the facilities, have to register the number of emission coupons that matches their CO<sub>2</sub> emissions. If their emissions exceed the number of distributed emission coupons, the operators have to buy the remaining emission coupons in the market. If, on the other hand, the operators have a surplus of emission coupons because they produce small amounts of emissions, they can sell the coupons.

Slovenia decided to apply two different methods of distributing emission coupons to the industry sector and the thermal-energy sector. In the thermal-energy sector emission coupons are distributed on the basis of the forecasted emissions and in line with the Operational Programme for Reducing Greenhouse-Gas Emissions. In 2006 the thermal-energy sector received 6,143,673 emission coupons, which was more than two-thirds of the emission coupons distributed in Slovenia. In comparison with 2005, the amount of received emission coupons in the thermal-energy sector was smaller by a good five percent. In spite of that, we can conclude that, with respect to the actual emissions, the price for emission coupons did not significantly affect the price for the electricity produced in Slovenia; however, it did affect the price for imported energy, as there is a correlation between these two prices in the EU market.

In 2006 the Ministry of the Environment and Spatial Planning put forward the National Plan for the Allocation of Emission Coupons for 2008-2012, which again allocates most of the emission coupons to the energy sector; however, it also requires the thermoelectric power stations to reduce their emissions by a good six percent. At the beginning of 2007, the European Commission gave approval to the proposed allocation of emission coupons.

The European market saw a rapid decrease in the price for emission coupons in May 2006. At the beginning of 2006 this price was 22 euros, and it was on the increase until April, when it reached as much as 30 euros. In May the price dropped rapidly, because the countries started to publish actual emissions for 2005. The price for emission coupons soon increased again to about 15 euros and it remained at this level until September, when it gradually started to decrease. At the end of 2006 it was only 6 euros. The trends in the market for emission coupons are shown in Figure 21.

#### FIGURE 21 Movement of the price for emission coupons at the EEX Source: EEX 35 30 Morris 25 euro/t 20 15 10 5 0 March March May July September November January May July September November 2005 2005 2005 2005 2005 2006 2006 2006 2006 2006 2006

In the EU countries, deals for more than 800 million tonnes of  $CO_2$  were made, which, financially, meant more than twice the value for 2005.

### 3.3.1.4 Guarantees of the origin of electricity

The Energy Agency issues guarantees of the origin of electricity from renewable sources and from the facilities for effective cogeneration for the territory of the Republic of Slovenia. In December 2005 the Ordinance Regarding the Issuing of Guarantees of the Origin of Electricity, regulating this area in detail, was issued. The ordinance stipulates that the Energy Agency, the Slovenian national issuer of guarantees of the origin of electricity from renewable sources and from the facilities for effective cogeneration, is also responsible for the setting up of a central database relating to these guarantees. For this reason, immediately after the adoption of the ordinance, the Energy Agency started with the activities necessary for a quick and full setting up of this database. In cooperation with Borzen, the operator of the electricity market, the Energy Agency developed the Register of Guarantees of the Origin that provides an additional functionality to the holders of guarantees of origin.

In March 2006 the Energy Agency issued the first Slovenian guarantees of the origin of electricity from renewable sources. As in 2006 the market for guarantees of the origin was not yet developed in Slovenia, the Energy Agency issued guarantees of the origin only as evidence of the origin in the case of electricity exports. It issued guarantees of the origin of electricity from renewable sources for more than two billion kilo-watt hours.

## 3.3.1.5 Tradable RECS green certificates

The system of issuing RECS certificates (the Renewable Energy Certification System) has been operating in Slovenia since 2004. This system is a voluntary European organisation that, with a standardised system of certificates, allows trading with the electricity attributes relating to the environment. The trading is made possible by distinguishing the environmental value of electricity produced from renewable sources from the physical current. In Slovenia RECS certificates are issued by the Energy Agency, which is a full member of the Association of Issuing Bodies (AIB), with its headquarters in Brussels. As an issuer, the Energy Agency monitors the transfers and the circulation of these certificates in the cases of importing or exporting electricity, and within Slovenia.

ENERGY

In 2006 a total of 31,653 RECS certificates were issued in Slovenia. A RECS certificate is issued as a proof that 1 MWh of electricity was produced from renewable sources. In this period 23,462 certificates were redeemed.

# 3.3.1.6 The degree of competitiveness of the production companies

In accordance with the Prevention of Restriction of Competition Act, a participant has a dominant position in the market in Slovenia if its market share exceeds 40 percent. The concentration rate in this area is an important indicator of the market structure. With concentration rate, we express the total market share of the largest companies in the area, and measure the level of market dominance, or oligopoly. Concentration rate is mainly affected by two factors: the number of companies in the market and their relative sizes. As concentration rate is a sum of the shares of a selected number (n) of the largest companies in the market, it does not entirely explain the distribution of the market power. The concentration rate relating to a selected number of the largest companies is marked as CRn.

The concentration of the production is very important. Figure 22 shows three different indicators of concentration rate, i.e., the market share of the largest producer ( $CR_1$ ), the market share of the two largest producers ( $CR_2$ ), and the market share of the three largest market producers ( $CR_3$ ) in Slovenia. The indicators are shown separately for the total amount of electricity produced in the NPSK, and for only half of the electricity produced by this power station.

### FIGURE 22

#### Cumulative shares of the one (CR<sub>1</sub>), two (CR<sub>2</sub>) and three (CR<sub>3</sub>) largest producers in the market with respect to the total production of electricity



In 2006 the HSE remains the dominant company, as its market share significantly exceeds 40 percent ( $CR_1$ ). Considering the total production of the NPSK, the share of the three largest producers of electricity on the transmission network ( $CR_3$ ) is 96.7 percent, which indicates a very tight oligopoly arising from close ownership ties. The Hirshmann–Herfindahl index (HHI) overcomes the shortcomings of the concentration-rate indicator. It takes into account the total number of companies in the market, and their relative

sizes. The companies with a smaller market share have a smaller weight factor. 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 HHIs listed in Tables 17 and 18 have been calculated on the basis of the total installed power, the installed power on the transmission network, and on the basis of the produced electricity.

### TABLE 17

#### HHI with respect to the installed power of the production facilities active in the Slovenian market

Sources: Companies' data

Producers po		Market share in Slovenia	нні	Market share on the trans. network	нні
HSE	1,861	70.4%	4,957	75.2%	5,654
NPSK	348	13.2%	173	14.1% -	198
TPST	163	6.2%	38	6.6%	43
CHPSL	103	3.9%	15	4.2%	17
Other producers on the distribution networ	k — 168	6.4%	40		
Total	- 2,643	<b>100%</b>		<b>_</b> -	
On the transmission network	2,475			100% -	<b>— 5,912</b>

#### TABLE 18

## HHI with respect to the production of the producers on the transmission

Sources: Companies' data

Producers	Production in GWh (100% NPSK)	Production in GWh (50% NPSK)	Market share (100% NPSK)	нні	Market share (50% NPSK)	нні
HSE	6,824	6,824	52.0%	2,701	65.3%	4,269
NPSK	5,281	2,641 -	40.2%	1,618	25.3%	639
TPST —	632 —	632 -	4.8%	23	6.1%	37
CHPSL	393	393 -	3.0%	9	3.8%	— 14
Total	——— 13,131 —	10,444 _	<b>100%</b>	4,351	———————————————————————————————————————	4,959

In 2006 there was an insignificant rise in the HHIs. Furthermore, in 2006 the HHIs easily exceeded the 1800 limit, indicating the dominant position of the producers joined within the HSE with respect to electricity production and the provision of the majority of ancillary services.

# HHI relating to the companies for electricity production

Sources: Companies' data



# 3.3.1.7 The provision of ancillary services

Ancillary services are the services provided by a system operator to safeguard the normal operation of the network. The ancillary services relating to the entire national electricity system are provided by the TSO, while the DSOs also provide these services on their respective networks. In line with the System Operation Instructions for the Electricity Transmission Network, the TSO of the Slovenian transmission network is authorised to carry out the following ancillary services:

- control of frequency and power (primary, secondary, and tertiary control),
- · control of voltage and reactive power,
- covering the imbalances in the regulatory area,
- releasing the load of the network,
- provision of a black start,
- restart of the supply after a system collapse,
- operation management of the electricity system,
- covering the losses in the transmission network.

In 2006 the providers of the ancillary services of secondary control, voltage control and black start were companies with their production sources in Slovenia. On the other hand, the services of tertiary control and covering the losses in the transmission network were also provided by companies from abroad. Large customers did not independently participate in the tenders for the provision of the reserve required for tertiary control, as this reserve was included in the bids that were submitted by their suppliers and which included the reserve in the production facilities, as well as the option of a temporary reduction of the customers' consumption. As a rule, the providers of the ancillary services are the producers of electricity, or traders acting on their behalf. The only ancillary service that can also be provided by electricity customers is the provision of the reserve for tertiary control, as this service can also be carried out by reducing the consumption of electricity.

To lease the ancillary services for 2006, two types of procedure were used. One procedure was used for the ancillary services provided by domestic providers, the other type of procedure applied to the services provided by foreign providers. The TSO ensured the ancillary services provided by domestic providers on the basis of the call for tenders. This call for tenders referred to the provision of the reserve for secondary control, 60 percent of the reserve required for tertiary control, voltage control and the provision for a black start. On the basis of the demand and the received bids, the TSO made contracts with domestic providers regarding the provision of ancillary services.

The foreign provider of the ancillary service for providing 40 percent of the reserve required for

tertiary control (a total of 135 MW) was selected on the basis of an auction. The TSO invited the interested providers to submit their bids. The TSO organised the auction for purchasing the tertiary reserve in December 2005. At this auction, Energy Financing Team AG (EFT) was selected as the most favourable bidder. Table 19 shows the final results of purchasing the reserve power required for the provision of ancillary services in 2006.

## TABLE 19

#### Review of the amounts of leased power

Source: Eles

Selected bidder	Tertiary reserve (MW)	Secondary reserve (MW)
HSE	163 -	
TPST	29 -	10
CHPSL	8 -	3
EFT (foreign bidder)	135 -	
Total	335 -	80

\* Note: During the forecasted maintenance works in the TPST and the CHPSL, the HSE provided the necessary reserve.

In 2006 the tertiary reserve was activated 61 times. In July it was activated 13 times, while in February and April it was not activated at all. In 2006, a total of 11.88 GWh of electricity was produced for the purpose of activating the tertiary reserve.

# 3.3.1.8 Trading on the organised market

Also in 2006 the trading participants at the electricity exchange could trade with the electricity to be supplied the following day, every working day on the daily market. The market participants had an opportunity to take part in the continuous trading and auction trading.

In the case of continuous trading, the participants traded with five standard products: base load, shoulder load, euro-shoulder load, night load, and euro-night load. At the auctions the products of hourly load were traded.

In 2006 there were 14 full members participating at the electricity exchange. At the annual level, their amount of traded energy was 1152 MWh, which was only 0.009 percent of the total Slovenian electricity consumption. In comparison with 2005, the turnover on the daily market was lower by 97 percent.



Source: Borzen



In 2006 the daily market saw 22 concluded deals, while 689 bids were submitted. Most of the bids were submitted for the base load, whose share of the annual extent of trade was 58 percent. These were followed by the bids for the euro-shoulder load, whose share of the annual trade was 42 percent.

IN

## 3.3.2 The prices and the extent of the trade at the electricity exchange

In comparison with 2005, the average price at the exchange in 2006 increased by 28 percent.

The exchange saw the largest price increase in the summer months; the price was also slightly above average at the beginning of the year.

## TABLE 20

#### Extent of trading and the average price by product by month for the period from 1 January 2006 to 31 December 2006

Sources: Borzen, Energy Agency

	Extent of t	rading (in MWh)	Average price	(in tolars/MWh)	Average price	(in euros/MWh
Month	Base load	Euro-shoulder load	Base load	Euro-shoulder load	Base load	Euro-shoulder load
January ———	48	0	16,800		70.12	
February ——	0	0				
March ———	0	264 -		15,013 _		52.05
April ———	0	120 -		14,400 -		60.10
May ———	0	0				
June ———	312 -	0	8,400		34.14	
July	0	96 -		47,500		
August ———	0	0				
September ——	144 -	0	9,470		39.53	
October	120	0	9,755		39.32	
November	0	0				
December ——	48	0	14,000		58.43	
Total ———	672	480				
Share	<b>58.33</b> %	<b>—— 41.67%</b> –				
Average ——			10,114	23,333 -	42.21	107.43

In 2006 the average SLOeX index amounted to 11,784 index points, the annual average price for the base load was 10,114 tolars/MWh (42.21 euros/MWh), and for the shoulder load it was 23,333 tolars/MWh (107.43 euros/MWh). With respect to other products, no deals were concluded. The highest value of the SLOeX index, i.e., 65,000 index points (271.29 euros/MWh), was recorded on 27 July 2006, and its lowest value, i.e., 5247 index points (21.90 euros/MWh), was recorded on 11 June 2006. A total of 1152 MWh of deals with the base load and the euro-shoulder load were made in the daily market. The largest number of bids submitted to the trading system organised by the market operator was for these two products. In 2006 the value for the SLOeX was 14,784 index points (an index point is 61.70 euros), which meant a 29-percent increase in the index growth in comparison with 2005.

## Monthly traded amounts and movements in the SLOeX index for 2002–2006

Sources: Borzen, Energy Agency



### 3.3.2.1 Degree of electricity-market integration with the neighbouring countries

The Slovenian electricity market is situated between three very different regional markets with very different energy prices. These are the market of Central and Eastern Europe (Germany, Austria, Poland, Czech Republic, Slovakia and Hungary), the Italian market, and the market of South-East Europe. In 2006 the market of South-East Europe still had surpluses of production capacities, and for this reason its electricity prices were, mainly in the first half of the year, relatively low. The conditions in the Italian market were completely different, as this market lacks thousands of MWs of production capacity. The market of Central and Eastern Europe has certain surpluses of production capacities (Poland and Czech Republic); its electricity is cheaper than in Italy and more expensive than in the markets of South-East Europe. A highly liquid German electricity exchange, known as the EEX, with its headquarters in Leipzig, which is also interesting for the Slovenian participants because of its liquidity and the available transmission

capacities between Slovenia and Germany, operates in the market of Central and Eastern Europe.

In 2006 the Slovenian wholesale market included one large participant and a few smaller participants. Most of them also participated in the three neighbouring markets. They were buying the electricity required in Slovenia in the markets of South-East, and of Central and Eastern Europe, as well as exporting electricity to Italy in the framework of the restricted cross-border transmission capacities, and, in the case of high prices in Germany and Italy, also to these two countries. In 2006 the total exports from Slovenia amounted to 7.662 billion of KWh of electricity. This figure includes the export of half of the electricity produced by the Nuclear Power Station, Krško, which belongs to the Republic of Croatia, in line with a bilateral agreement, as well as the amounts that were exported from the Slovenian distribution network. In 2006 the actual export of electricity amounted to 5.027 billion KWh. In the same period the total Slovenian import of electricity was 7.706 billion KWh. The difference between the imported and exported amounts is the

3

amount that Slovenian suppliers had to import to cover Slovenian demand in 2006 – 2.641 billion KWh, or a bit less than 20 percent of Slovenia's consumption of electricity.

To a large extent, the electricity prices in the Slovenian wholesale market followed the prices at the German exchange, the EEX. One reason for this is the fact that there are no liquid electricity exchanges in the Italian or South-East European markets.

2006 saw intense activities relating to the ERGEG regional initiative. In accordance with this initiative, the European Union is divided into seven regional markets for electricity, which are expected to first develop separately, and later to merge into the single European market. With respect to this initiative, Slovenia is included in two regions, in Central Eastern Europe (CEE) and in Central South Europe (CSE). The former region includes seven countries, and its head regulator is Austrian E-control. The latter region includes Italy and its six neighbouring EU countries. Switzerland is not officially included in this region, as it is neither a member of the EU nor does it have a national energy regulator. Instead of Switzerland, Germany became a member of this region. The head regulator in this region is the Italian AEEG. In the framework of regional initiatives, the activities are carried out at several levels. They are managed by the regulators of the involved countries at the so-called Regional Coordination Committees (RCCs) that are presided over by the representative of the head regulator. Implementation Groups (IGs) are responsible for implementing the tasks set by a RCC. Implementation Groups are presided over by the relevant RCC, and, in addition to the regulators' representatives, the IGs also include the representatives of the TSOs, and of the electricity

exchanges. The meetings of the interested participants from the Stakeholder Group (SG) aim at consulting a broad circle of the interested market participants. These meetings, presided over by the RCC, bring together the parties involved in the IGs, and also the representatives of the traders, producers and customers of electricity, the governments and other interested parties. The representatives of the RCC of each region regularly report on their activities and outcomes to the Florence Forum, and to the European Commission. In 2006 the Slovenian regulator was involved in the activities in both regions.

# 3.3.3 The supply and the retail market

The purchase of electricity and the sale of electricity to end customers with the right to choose their supplier are carried out in the retail market. On the other hand, the household customers were supplied with electricity by the providers of the public service of the supply to tariff customers, in line with the tariff system.

Thirteen suppliers of electricity were active in the retail market. On the basis of the contracts, these suppliers provided electricity to seven eligible customers connected to the transmission network, and to 97,779 eligible customers connected to the distribution network. The traders and suppliers could also buy electricity at the electricity exchanges, in Slovenia at Borzen, and at the foreign exchanges in the framework of the capacity or availability of the cross-border transmission paths. In 2006 the HSE, d. o. o., had the largest market share of the supply to eligible customers; it was followed by Elektro Maribor, d. d., and Elektro Ljubljana, d. d.



In 2006 eligible customers were supplied with over 9600 GWh of electricity. The companies' market shares are similar to their market shares in 2005.

Among the large suppliers, Elektro, Maribor, d. d., increased its market share the most, while the share of HSE, d. o. o. decreased the most.





In comparison with 2005, among the large suppliers to eligible customers with an annual consumption of 50 MWh, Elektro Maribor, d. d., significantly

increased its market share, and, among the small suppliers, Elektro Prodaja, d. o. o., increased its share most significantly.



ENI

In comparison with 2005, the most significant growth in market share relating to the supply to eligible customers with an annual consumption between 50 MWh and 2 GWh was achieved by Elektro Maribor, d. d., increasing its share by more than 100 percent. Among the small suppliers in this segment, the company called Električni finančni tim, d. o. o., increased its market share most significantly.



With respect to the supply to customers with the largest consumption, HSE, d. o. o., has the largest market share. In comparison with 2005, this company increased its share by a good 13 percent. One of the three suppliers with the largest market shares in this market segment is, for the first time, Elektro Celje, d. o. o.

The market shares of the suppliers not organised within the distribution companies increased. In 2006 six such companies were active. The main supplier is still the HSE, which is also a producer. Other suppliers have a very small production of their own, or do not have any at all. In their case the interaction with the producers is very small. In 2006 a good two percent of all eligible customers switched supplier. In comparison with the previous year, the number of switches decreased, which is a result of the fact that some customers made two- or multi-year supply contracts. The majority of the switches were made in 2005, following the opening of the market for the customers with a connected load below 41 kW in July 2004.

Most of the supplier switches took place at the beginning of the year, as the customers' contracts with the previous suppliers mostly expired at the end of the 2005.

## Numbers of supplier switches for 2002–2006

Sources: Companies' data



## **FIGURE 32** Dynamics of the supplier switches in 2006 with respect to the number of customers

Sources: Companies' data 36 1,176 321 12 408 9 221 4 1,400 1,200 Number of supplier switches 1,000 800 600 400 200 0 Jan.-Mar. Apr.-Jun. Jul.-Sep. Oct.-Dec. Eligible customers on MV Eligible customers on LV

59

Though the number of supplier switches was lower than in 2005, the amount of energy supplied from the distribution networks to the customers that switched supplier in 2006 was larger by about 78 percent. With respect to the total electricity supplied to eligible customers from the distribution networks, 1.95 percent of eligible customers decided to switch supplier.

## FIGURE 33

## Dynamics of the supplier switches in 2006 with respect to the amounts of electricity



# 3.3.3.1 Degree of competitiveness in the retail market

Table 21 shows the market shares of the suppliers to eligible customers on the distribution network. None of the companies in this market has a dominant position, as none of them has a share larger than 40 percent. In spite of a dispersed supply, the concentration is high, the HHI being more than 1800. With respect to ownership, the concentration is even higher, as the state is the majority owner of the Slovenian distribution companies.

## **TABLE 21**

## Market shares of the suppliers to eligible customers on the distribution network

Sources: Companies' data

Supplier	Supply to eligible customers (GWh)	Market share	нні
Elektro Ljubljana, d. d. ————	2,301.1 -	33.4%	1,118
Elektro Maribor, d. d. ————	1,402.4 _	20.4%	415
Elektro Primorska, d. d. ———		12.4%	154
Elektro Celje, d. d. ————	915.5	13.3%	177
Elektro Gorenjska, d. d. ———	700.7	10.2%	104
HSE, d. o. o.	347.5 _	5.0%	25
Električni finančni tim, d. o. o. —		1.5%	2
IG Prodaja, d. o. o. ————		1.2%	1
Elektro prodaja, d. o. o. ———	77.6	1.1%	1
Others	99.0	1.4%	2
Total	6,882.1	100%	2,000

The total market for eligible customers includes, in addition to the eligible customers on the distribution network, the large eligible customers connected to the transmission network. In this market as well, the shares do not exceed 40 percent, so none of the companies has a dominant position. In this market the HHI reaches a value of 2056, showing a high concentration in the entire market.

## **TABLE 22**

## Market shares of the suppliers to eligible customers

Sources: Companies' data

Supplier	Supply to eligible customers (GWh)	Market shares	нні
HSE, d. o. o.	3,133.1	32.4%	1,050
Elektro Ljubljana, d. d. ———	2,301.1	23.8%	567
Elektro Maribor, d. d. ————	1,402.4	14.5%	210
Elektro Primorska, d. d. ———		8.8%	78
Elektro Celje, d. d. ————	915.5	9.5%	90
Elektro Gorenjska, d. d. ———	700.7	7.2%	53
Električni finančni tim, d. o. o. —	101.8	1.1%	1
Others	258.9	2.7%	7
Total	9,667.7	<b>100%</b>	2,056

In comparison with 2005, the HHIs for both markets decreased only insignificantly, and did not exert any influence over the positions of the companies in the market. However, it should be pointed out that, among the suppliers to eligible customers on the distribution network, the share of Elektro prodaja, d. o. o., was, for the first time, more than one percent.

### 3.3.3.2 The prices of electricity

The final price for electricity consists of the price for electricity and the price for the use of the electricity networks. The price of electricity for eligible customers was formed on the market, while the price of electricity for tariff customers was set by the government.

#### 3.3.3.2.1 The prices of electricity for eligible customers

Eligible customers were supplied with electricity on the basis of contracts. The prices mainly depend on the forecasted consumption amounts and the time dynamics of the customers' consumption, relating to the load factor.

Below a comparison of electricity prices as of 1 July 2006 is presented. It refers to two typical industrial customers selected in line with the Eurostat methodology. The comparison shows final prices, including the prices for the use of electricity networks. In comparison with July 2005, the prices of electricity for different customer groups increased by an average of 3.2 percent. Thus, the price without VAT and other taxes for a typical industrial customer with an annual consumption of 50 MWh was 26.95 tolars/kWh, which is 94.2 percent of the weighted average price without VAT and other taxes in the EU (Figure 34). The price for the typical industrial customer with an annual consumption of 2 GWh was 15.20 tolars/kWh, which is 78.6 percent of the weighted average price without VAT and other taxes in the EU. The price for the typical industrial customer with an annual consumption of 24 GWh was 13.09 tolars/kWh, or 79.9 percent of the weighted average price without VAT and other taxes in the EU (Figure 35).

### FIGURE 34

Comparison of electricity prices for a typical industrial customer with an annual consumption of 50 MWh in Slovenia and in other EU countries for July 2006

Source: Eurostat



Price without VAT and other taxes

VAT and other taxes

### Comparison of electricity prices for a typical industrial customer with an annual consumption of 24 GWh in Slovenia and in other EU countries for July 2006



Price without VAT and other taxes

VAT and other taxes

3

63

# Movements of electricity prices, in tolars, for typical industrial customers in Slovenia

Source: Statistical Office of the Republic of Slovenia



## 3.3.3.2.2 The prices of electricity for tariff customers

As of 1 July 2004 the tariff customers are only those that use electricity for household purposes. In 2006 as well, the price of electricity was, for these customers, set on the basis of the Ordinance on the Tariff System for the Sales of Electricity, 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;
- the excise duty or the tax on electricity;
- the value-added tax.

On 1 August 2006 the government adopted a decision on increasing the price for electricity supply to household customers by 4.79 percent. As a result, the final prices for household customers increased by 1.9 percent.

SLOVE

ER.

#### Comparison of total electricity prices for a household customer with an annual consumption of 3500 kWh in Slovenia and in other EU countries for July 2006



The comparison of retail prices for households in the EU shows that on 1 July 2006 Slovenian prices for customers with an annual consumption of 3500 kWh amounted to 78.6 percent of the weighted average price in the EU.

### 3.3.3 The balancing

In 2006 Borzen carried out, for the third year, the activities relating to the charging for the imbalances between the delivery or consumption of electricity, and the registered operation schedules. Borzen prepared calculations of the imbalance amounts relating to the balance groups and balance subgroups, and financial accounts for the balance groups. The framework of charging for the imbalances relates to the balance groups and subgroups that include end customers or electricity producers causing imbalances. The trading balance groups do not include physical points of change of titles, and for this reason the balancing accounts are not made for them. These are prepared only in the case of imbalances arising from the registered bilateral contracts approved of by the TSO. In 2006 such cases took place in March, July, October, November and December.

During the year the CSLOeX index rarely changed, which was a result of the small number of deals made in the market. However, the main imbalance prices, P+ and P-, had an intense dynamics, following the prices abroad. The most significant rise in the balance prices took place in the second half of July, when the prices at foreign exchanges also increased a lot.

# Average daily values of the CSLOeX index, and of the main imbalance prices C+ and C–



## FIGURE 39

# Average monthly imbalances of the Slovenian network in 2006

Source: Borzen



2006 saw ten registered balance groups and nine balance subgroups included in the balance groups in the way shown in Table 23.

#### TABLE 23

## List of balance groups and balance subgroups in the territory of the Republic of Slovenia as of 31 December 2006

Source: Borzen

	Balance groups	Balance subgroups
1	APT Power Trading SL, d. o. o.	
2	C&G, d. o. o.	
3	Electras Nova, d. o. o.	
4	Električni finančni tim, d. o. o.	Elektro prodaja, d. o. o.
5	Elektro Maribor, d. d.	
6	Atel Energija, d. o. o.	
7	Ezpada energija, d. o. o.	
8	Holding Slovenske elektrarne, d. o. o.	Elektro Celje, d. d. Elektro Gorenjska, d. d. Elektro Ljubljana, d. d. Elektro Primorska, d. d. Thermoelectric Power Station, Trbovlje, d. o. o.
9	Istrabenz energetski sistemi, d. o. o.	IG Prodaja, d. o. o. Combined Heat-and-Power Station, Ljubljana, d. o. o.

10 Korlea, d. o. o.

## 3.3.4 The measures taken to prevent any abuse of a dominant position and to ensure competition

#### 3.3.4.1 The findings and measures of the Competition Protection Office of the Republic of Slovenia

According to the Competition Protection Office of the Republic of Slovenia, in 2006 this institution did not initiate any procedure relating to an assessment of the restrictions, or an abuse of a dominant position in the electricity market. The Competition Protection Office decided on two notifications of a company concentration in the electricity market. These were caused by a change to the ownership structure, or company control, of two companies: Istrabenz Gorenje, Energetski sistemi, energetske storitve, d. o. o., and Istrabenz Gorenje, trgovanje in prodaja električne energije, d. o. o. In both cases the Competition Protection Office established a compliance of the changes with the competition rules, and did not oppose them. The Competition Protection Office did not take any additional measures to ensure a sufficient number of participants in the electricity market, or stimulate cross-border exchanges, or fair and free competition. Neither did it carry out any offence procedure relating to the electricity market under its responsibility.

# 3.3.4.2 The findings and measures of the responsible ministry

In 2006 the Ministry of the Economy noticed a few cases of discriminatory behaviour of the distribution companies. These companies had not yet unbundled their services, carrying out, within the same legal entity, the activity of the distribution-system operation and the supply to eligible customers; for this reason the ministry treats them as market participants.

Discriminatory behaviour was noticed within the provision of the public service of the distributionsystem operation, more precisely, in the case of providing the data required for the operation of the suppliers, mainly relating to the balance accounts. The ministry received several complaints from a supplier that organisationally is not associated with the electricity-distribution companies.

In addition, a lack of regulations was also noticed in the above-mentioned area. The existing regulations allowed different interpretations regarding the obligation of a DSO to provide the information required by the suppliers. With respect to the abovementioned findings, the ministry took action by including in the amendments 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, detailed specification of the obligations of a DSO relating to the provision of the data to market participants. The ordinance also stipulates that the DSO's costs arising from the provision of the data relating to the customers shall be, as a rule, already included in the use-of-network price, so that this service is not charged for separately.

To allow competition in the wholesale electricity market, the Government of the Republic of Slovenia began the process of setting up the second energy pillar. First it transferred Eles Gen, the owner of half of the Nuclear Power Station, Krško, to its direct ownership (previously Eles Gen was owned by Eles, the Slovenian TSO). At the same time, Eles Gen (now called GEN energija, d. o. o.) started to participate in the wholesale market as an independent participant, while the government also started the procedure of including the Thermoelectric Power Station, Trbovlje, in the second pillar. In addition, the government also started the transfer of the Sava Hydroelectric Power Stations, and the Thermoelectric Power Station, Brestanica, from the HSE to the second pillar. In this way, the government actually divided the production of electricity industry into two parts, preventing the companies from winning a dominant position in the Slovenian wholesale market.

There are no special restrictions or requirements regarding the structure of electricity-supply contracts in the market. However, the legislation requires that the procedure of switching supplier is free of charge.

## 3.3.5 The internal electricity market in the EU

In spite of the liberalisation of the internal energy market, free competition is still restricted. Because of a significant rise in the wholesale electricity prices that were not caused only by the higher basic costs for the fuels or costs for the environmental commitments, and also because of the continual complaints with respect to entry barriers, and restricted options relating to the customers' selection of supplier, in June 2005 the European Commission started an inquiry regarding the operation of the European markets for electricity and natural gas. The purpose of this inquiry was to assess the conditions for the competitiveness, and identify the reasons for the noted irregularities relating to the market operations. It was found that most of the wholesale markets have dominant national participants carrying out most of the trading at the bilateral level, and, in this way, hindering the development of the exchange trading, as well as preventing new participants from entering the markets. Although the progress in this area is obvious, it is still too slow with respect to the price development in the market. In some EU countries (France, Germany, Spain) vertical linking between the production, transmission, distribution and supply prevents new participants from entering the markets. Great Britain and the Scandinavian countries still have the most developed markets. The inquiry has shown that there is not enough incentive for investments in the cross-border transmission capacities that would reduce congestion in the long term. In addition, Member States use different market mechanisms, which also prevents direct cross-border integration of the markets.

On the basis of the Lisbon strategy, the European Commission adopted a very important initiative for fostering the internal electricity market. The European Commission's Directorate for Energy prepared the Green Book proposing to take actions in the following areas:

- competitiveness in the internal energy market;
- diversification of energy sources;
- solidarity among the countries to prevent critical situations relating to the energy supply;
- sustainable development, together with the provision of a long-term secure and predictable investment framework for further development of clean and renewable sources of energy;
- innovations and technologies relating to energy;
- unified external policies of the EU countries with respect to a uniform participation in the global energy markets.

A developed single market is the final aim of the joint European energy policy. On the basis of the adopted Regulation (EC) 1228/2003 on conditions for access to the network for cross-border exchanges in electricity, the ERGEG proposed the formation of regional markets at the Florence Forum in 2004. Figure 40 shows these regional markets.



The year 2006 was characteristic for fluctuations in the electricity prices in the European market. In spite of this, the electricity prices were almost the same at the end of the year as at its beginning. There were two significant drops in the prices taking

place in May and at the end of the year. The reasons for these drops can be found in the decrease in the prices for emission coupons and in the relatively high temperature at the end of the year. RE

Source: EEX

#### Movements of the prices for the products in 2006 in the long-term market for the base load and shoulder load available in 2007, and the movements of the price for emission coupons in 2006

100 80 60 40 20 0 May January February March April June July August September October November December Base 2007 (euros/MWh) EU shoulder 2007 (euros/MWh) Emission coupons (euros/t)

The EU strives to reduce, as much as possible, the influences of the energy industry on the environment. In 2006 the Member States were also active with respect to setting up and implementing the mechanisms promoting the use of renewable energy sources, reducing the use of primary energy sources, and reducing greenhouse-gas emissions.

The European Union Emission Trading Scheme has been implemented, and the high-efficiency cogeneration of heat and electricity is being promoted. In addition, research into the possibilities for storing  $CO_2$  is in progress.

Another very important mechanism for the indirect reduction of environmental effects is electricity certification. The market for the so-called tradable green certificates and guarantees of the origin of electricity is in progress, and its participants are involved in the formation of a single trading system.

# 3.3.6 Deciding on disputes and complaints

In 2006 the Energy Agency received three requests to decide, in an administrative procedure in the first instance, on disputes between the network users and the system operators or market operator. Two of these cases led to the initiation of an administrative dispute.

The Energy Agency also decides, in an administrative procedure, on appeals against the decisions of the system operator relating to a connection approval, which means that in these cases the Energy Agency operates as an administrative body in the second instance. A total of 18 such requests for making a decision were submitted in 2006, of which 14 were finally resolved, and 2 cases were referred to the responsible body.
In comparison with 2005, when 24 requests for making a decision in an administrative procedure were submitted to the Energy Agency, the number of such requests remained almost the same, as a total of 21 requests were submitted. However, the structure of the submitted requests changed significantly. While 22 requests for making a decision in the fist instance were submitted in 2005, only 3 requests were lodged in 2006. On the other hand, only 2 requests for making a decision in the second instance were submitted in 2005, compared with 18 in 2006.

In 2006 the Ministry of the Economy, a second-instance authority, decided on three administrative cases, refusing the submitted complaints and affirming the decisions made by the Energy Agency.



In 2006 end customers consumed 1,094,050,000 Sm<sup>3</sup> of natural gas, or three percent less than in 2005. The number of customers increased by five percent, i.e., from 111,919 to 117,514 customers.

# 4.1 GENERAL INFORMATION

In 2006 all customers, except for households, had the status of eligible customer. Households will become eligible customers on 1 July 2007, when the market for natural gas will be fully opened. In comparison with the previous year, the number of eligible customers increased by 1041, amounting to 10,395, while the number of households increased from 102,565 to 107,119. The degree of market liberalisation is expressed as the percentage of natural gas consumed by eligible customers with respect to the total consumption of natural gas, and this value was 90 percent. In comparison with 2005, the degree of market liberalisation remained the same.

In 2006 the market for natural gas was characterised by increasing prices of natural gas and supply restrictions. Important activities were carried out in the area of regulating the access to the gas distribution network.

# FIGURE 42



# 4.2 REGULATION AND REGULATED ACTIVITIES

# 4.2.1 Regulation of the transmission and distribution activities

#### 4.2.1.1 General information

With respect to natural gas, in 2006 the following activities were regulated:

- operation of the natural-gas transmission system,
- operation of the natural-gas distribution system,
- supply of natural gas to tariff customers.

The regulated activity of operating the natural-gas transmission system is carried out as a national mandatory public service. The provider of this service is Geoplin plinovodi, d. o. o.

The regulated activities of operating the naturalgas distribution system and the supply of natural gas to tariff customers are carried out as optional local public services. In the territory of the Republic of Slovenia, the following companies for natural-gas distribution provide these two services:

- Adriaplin, d. o. o.,
- Domplan, d. d.,
- Energetika Celje, d. o. o.,
- Energetika Ljubljana, d. o. o.,
- Javno podjetje plinovod Sevnica,
- Istrabenz plini, d. o. o.,
- JEKO-IN, d. o. o.,
- Javno komunalno podjetje Slovenj Gradec, d. o. o.,
- Komunalno podjetje Velenje, d. o. o.,
- Komunalno podjetje Vrhnika, d. d.,
- Loška komunala, d. d.,
- Mestni plinovodi, d. o. o.,
- Petrol Energetika, d. o. o.,
- Petrol, d. d.,
- Petrol Plin, d. o. o.,
- Plinarna Maribor, d. d.,
- Plinstal, d. d.

In addition to the operation of the natural-gas distribution system, and supply of natural gas to tariff customers, the companies for the natural-gas distribution also provide other energy-related or market-based services. In 2006 the Energy Agency regulated the prices for the use of the transmission network, while the final prices for the customers connected to a distribution network were regulated by the local authorities.

## 4.2.1.2 The transmission of natural gas

In 2006 Geoplin plinovodi, d. o. o., an independent legal entity, provided for the transmission of natural gas across the transmission system. This public service is financed from the network charge set by the system operator on the basis of the Act Determining the Methodology for Setting the Network Charge and the Criteria for Establishing Eligible Costs for the Gas Transmission Network, and the Act Determining the Methodology for Charging for the Network Charge for the Gas Transmission Network.

The transmission system operator mainly carries out the following tasks:

- the transmission of natural gas across the highpressure and medium-pressure gas networks in Slovenia,
- the operation of the gas transmission network,
- the planning, building and maintenance of the transmission network.

The tasks of the transmission system operator arise from the provisions of the EA, the Ordinance Relating to the Operating Mode of the Public Service of the System Operator of the Gas Transmission Network, the System Operation Instructions for the Gas Transmission Network, and the General Conditions for the Supply and Consumption of Natural Gas from the Transmission Network.

#### 4.2.1.2.1 The gas transmission network

The gas transmission network runs from the border metering-regulation stations (MRSs), 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. Slovenia is connected with the gas transmission networks of Austria (the Ceršak MRS), Italy (the Šempeter MRS) and Croatia (the Rogatec MRS).

In 2006 the gas transmission network consisted of 741 kilometres of pipelines with a nominal pressure of more than 16 bars, 219 kilometres of the pipelines with a nominal pressure of less than 16 bars, 173 metering-regulation stations, 41 metering stations and a compressor station in Kidričevo.

#### Gas transmission system



Across the transmission network, 1090 million Sm<sup>3</sup> of natural gas were transported to customers in Slovenia, while 1690 million Sm<sup>3</sup> of natural gas were transported for the customers outside Slovenia (transit). As a result of a smaller consumption, in 2006 the transmission was lower than in 2005.

The transmission network is heavily used, especially the transmission path in the direction Ceršak Rogatec Šempeter. The average monthly utilization of this path was between 78 and 90 percent, and the average daily utilization was just below 97 percent. The transmission path in the direction Ceršak Rogatec is also heavily loaded, as in the summer months its average monthly utilization was up to 90 percent, while the average daily utilization was up to 99 percent.

In 2006 the transmission of natural gas for Slovenian customers was carried out within the leased capacities. The expected transmission of 967 million Sm<sup>3</sup> was exceeded by 12 percent as a result of low temperatures in the first months of the year, an additional leasing of the customers' capacities on the transmission network, and an increased demand from industrial customers for natural gas.

In 2006 there were 17 expected transmission interruptions covering a total of 125 hours. There were no unexpected interruptions. The expected and unexpected restrictions of the transmission of natural gas to the Slovenian transmission network were recorded on 237 days of the year. For this reason the supplier supplied natural gas from the storage facilities, while the transmission system operator restricted the delivery of natural gas to contractually interruptible customers.

# 4.2.1.2.2 The business operation of the transmission system operator

The revenues of the system operator include the network charge for the gas transmission network, and other revenues related to the provision of its service. Geoplin plinovodi, d. o. o., finished the financial year 2006 with a net profit of 2291.6 million tolars (9.563 million euros), which is 7.9 percent more than in 2005. Good financial results were due to an additional leasing of transmission capacities during the year, and an increased level of other activities related to the provision of the operator's service. At the end of the year the company had 139 employees or 4 fewer than the year before.

# 4.2.1.2.3 The ownership of the transmission system operator

Geoplin plinovodi, d. o. o., the gas transmission system operator, operates as an independent legal entity, not carrying out any other activity. One hundred percent of Geoplin plinovodi, d. o. o., is owned by Geoplin, d. o. o., which is a supplier of natural gas. The system operator carries out the operational and organisational actions in line with Article 31b of the EA.

#### 4.2.1.2.4 The investments in the transmission Network

In 2006 the transmission system operator allocated 2379 million tolars (9.9 million euros) for the building and renovation of the transmission network. The operator financed 79 percent of the

investments by using the amortisation costs, and the rest was financed from other sources.

By the end of 2006 the investments in the metering-regulation stations Blisk, Impol and Otiški Vrh were completed; the pipeline in Laško was relocated; and a new connection for the customers on the distribution network was built in the Celje Municipality.

The investments that will, in future, allow an increase in the transmission capacities and an improvement of the security of the transmission network were carried out in 2006, and an investment plan for the following years was also prepared. The most important planned facilities are the compressor station in Ajdovščina, and the building of the main pipeline, sections M1 and M2. Table 24 lists these activities.

# TABLE 24

# Review of activities related to the investments in the gas transmission network

Source: Energy Agency

Facility	Activities for 2006	Activities for the following years
Compressor station Ajdovščina	national detailed plan project documentation service contracts	the building permit construction
Expansion of the compressor station Kidričevo	preparation of the national detailed plan	construction in 2009 and 2010
Pipeline M1/1 Ceršak–Kidričevo	development programmes harmonised with the neighbouring country (Austria) obtained energy permit	preparation of the national detailed plan
Pipeline M1/1 Kidričevo–Rogatec	national detailed plan building permit	construction in 2007 and 2008
Pipeline M2/1 Rogaška Slatina–Trojane	preparation of the national detailed plan	construction in 2009 and 2010
Pipeline M2/1 Trojane–Vodice	preparation of the national detailed plan	construction in 2009 and 2010
Input-output purification facility Šempeter	completion of the construction obtained operating permit	

The investments in the gas transmission network are carried out on the basis of the long-term development plan prepared by Geoplin plinovodi, d. o. o., which applies to the period 2005–2014. This plan was harmonised with the Resolution on the National Energy Programme.

The investments in the transmission network will double transmission capacities and will aim at meeting the new requirements relating to the transmission of natural gas for the planned thermoelectric facilities (TPS Šoštanj, TPS Trbovlje, Combined Heat-and-Power Station, Ljubljana), for general consumption and industry. Additional transmission capacities are planned for the gas pipelines that will run from Ceršak through Kidričevo, Rogatec, Rogaška Slatina to Vodice and Ljubljana, as well as from Ajdovščina to Piran. The total length of all the planned, new transmission pipelines is 450 kilometres. In addition, the construction of two compressor stations is planned. According to the development plan of the transmission system operator, the total investments for the period 2005–2010 will amount to 86 billion tolars (359 million euros).

The investments in the new gas-production sources have not been planned; however, investigations into the technical and economic possibilities for constructing a gas-storage facility are in progress. No direct incentives were provided for the construction of new transmission paths for importing and storing natural gas.

#### 4.2.1.3 The distribution of natural gas

The distribution of natural gas is an optional local PS. It is provided by the gas distribution system operators operating the distribution networks of individual local communities. In 2006 there were 17 distribution system operators active in 63 local communities. The PS of gas distribution-

system operation can be organised within a public company established by a local community, or it is regulated with a concession act between the concessionaire and the local community as the awarding authority. In 2006 there were 48 local communities that had this service regulated with a concession contract between the concessionaire and the local community, while 13 local communities had public companies providing this service, and in 2 local communities this service was carried out in a different way.

## TABLE 25

#### Provision of the regulated services of operating a distribution network and supplying gas to tariff customers

Source: Energy Agency

Company	Form of organisation	Municipalities in which the service is carried out
Adriaplin, d. o. o.	Concession	Ajdovščina, Bled, Brežice, Ptuj, Laško, Logatec, Kamnik, Krško, Nova Gorica, Radeče, Rogaška Slatina, Šempeter - Vrtojba, Šentjur, Štore, Vipava, Vojnik, Zagorje
Domplan, d. d.	Concession, contract	Kranj, Naklo
Energetika Celje, d. o. o.	Public company	Celje
Energetika Ljubljana, d. o. o.	Public company	Brezovica, Dobrova - Polhov Gradec, Dol pri Ljubljani, Ig, Ljubljana Municipality, Medvode, Škofljica
Javno podjetje Plinovod Sevnica	Public company	Sevnica
Istrabenz plini, d. o. o.	Concession	Novo mesto
JEKO-IN, d. o. o.	Public company	Jesenice
Javno komunalno podjetje Slovenj Gradec, d. o. o.	Public company	Slovenj Gradec
Komunalno podjetje Velenje, d. o. o.	Public company	Velenje
Komunalno podjetje Vrhnika, d. d.	Public company	Vrhnika
Loška komunala, d. d.	Concession	Škofja Loka
Mestni plinovodi, d. o. o.	Concession	Ormož, Lendava, Ljutomer, Murska Sobota, Polzela, Prebold, Radenci, Zreče, Žalec, Hrastnik
Petrol Energetika, d. o. o.	Concession, investments of public capital in the activities of the private-law entities	Dravograd, Prevalje, Mežica, Ravne na Koroškem
Petrol, d. d.	Concession	Domžale, Trzin, Mengeš
Petrol Plin, d. o. o.	Concession	Beltinci, Odranci, Radovljica, Rogatec, Sežana, Turnišče, Tržič, Vodice
Plinarna Maribor, d. d.	Concession	Hoče - Slivnica, Maribor, Ruše
Plinstal, d. d.	Concession	Žirovnica

The tasks of the gas distribution system operators are listed in the provisions of the EA; these tasks include the following:

- the distribution of natural gas,
- the operation, maintenance and development of a distribution network,
- the provision of long-term network capacity.

In Slovenia the distribution of natural gas is carried out by the companies that supply natural gas to fewer than 100,000 customers. For this reason the legal unbundling of services is not required, as only the unbundling of accounts is sufficient. This means that the distribution companies have to manage separate accounts for each energy-related activity allowing, in this way, a transparent disclosure of the final price for natural gas. The gas distribution networks are well set up in large towns and settlements along the gas transmission network. In 2006 the distribution of natural gas started to be provided in Dravograd. Figure 44 shows the areas of the local communities in which the distribution system operators are active.



In 2006 Slovenia had a total of 3121 kilometres of gas-distribution pipelines with different pressure levels. The majority, as much as 55 percent of

these lines, operate at a pressure lower than 100 millibars, and only one percent of the lines have a pressure of over 4 bars.

## TABLE 26

# Technical characteristics of the gas distribution networks in Slovenia at the end of 2006

Source: Energy Agency

Length of the network with a pressure level between 4 and 16 bar	29 km
Length of the network with a pressure level between 100 mbar and 4 bar	—— 1,369 km
Length of the network with a pressure level of up to 100 mbar	—— 1,723 km
Number of metering stations	28
Number of metering-regulation stations	151

The reliable and safe operation of a gas distribution network is only possible if regular and unexpected maintenance work is carried out. The regular maintenance work is, on average, completed in one day, only in some cases does it take several days. There was a total of 542 expected supply interruptions on the distribution networks.

Unexpected interruptions were mainly caused by damage to the networks. There was a total of 68 unexpected supply interruptions, whose total duration was 296 hours.

# 4.2.1.3.1 The customers connected to the distribution networks

As a result of the development of the distribution networks, new customers of natural gas connect to them. The customers wishing to connect to a gas distribution network have to obtain the connection approval necessary for making a physical connection to a network.

In 2006 the distribution system operators issued 6514 connection approvals, and 5734 new customers were connected to a network.

# FIGURE 45

# Trends in the numbers of new customers on the distribution networks

Source: Energy Agency



On average, the distribution system operators issue a connection approval in fewer than 30 days; however, in some areas the deadline for issuing an approval is 180 days. To make a physical connection to a network takes between one and five days.

In 2006 the use-of-network prices charged to the customers connected to a gas distribution network were not yet regulated. Instead, these customers were supplied under the conditions of the tariff systems of different local communities that set the prices with respect to the contracts, or some other form of regulated relations, between a local community and a distribution company. Only those industrial customers that affect the networks with their special features agreed on the prices with the distribution companies. The gas prices for all the other industrial customers were set on the basis of the tariff system in spite of these customers' status of eligible customer.

The customers connected to the distribution networks use natural gas mainly for cooking, preparing hot water and heating. As much as 97 percent of customers use up to 4500 Sm<sup>3</sup> natural gas per year; however, these customers consume only 35 percent of the total consumption of the customers connected to a distribution network.

# 4.2.1.3.2 The business operations of the distribution system operators

In 2006 the final natural-gas price for the customers connected to the distribution networks was not yet divided into its regulated and marketbased fractions; however, the companies did manage separate accounts for individual energy-related activities.

#### 4.2.1.3.3 The ownership structure of the distribution system operators and the network ownership

The companies for gas distribution are mainly owned by domestic legal entities. Only one company is owned by an individual, and only one company is without a majority owner.

# TABLE 27

#### Ownership structure of the companies for gas distribution

Source: Energy Agency	
Ownership	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

In most cases the ownership of distribution companies is related to the ownership of the networks. As a rule, a network operated by a concessionaire is owned by the concessionaire.

#### 4.2.1.3.4 Investments in the distribution Networks

The programmes of investments in the distribution networks are, in most cases, harmonised between the system operators and the local authorities, and most often the schedule of investments is already determined in the concession contract or another act of a local community. In 2006 a lot of distribution networks were under construction, or the system operators were making necessary preparations for the constructions in line with the new concession contracts. The expansion of distribution networks and connecting customers to them will also be in progress in the future years.

In 2006 a total of 241 kilometres of the new gas pipelines of the distribution networks were constructed, which was 17 percent more than in 2005.

# Construction of new distribution networks in 2005 and 2006

Source: Energy Agency



## 4.2.1.4 The network charges for the gas transmission and gas distribution networks

The price for the use of networks consists of the network charge and the supplement, and it is used for financing the system operators and covering other costs. The network charges for the transmission and distribution networks are set by the system operators after obtaining an approval from the Energy Agency, while the supplement used for the operation of the Energy Agency is set by the Government of the Republic of Slovenia.

# 4.2.1.4.1 The network charge for the gas transmission network

The network charge for the transmission network consisted of the following:

- the price for the transmission of natural gas set with respect to the leased capacity;
- the price for a company's own use;
- the price for making measurements.

In 2006 the network charge for the gas transmission network was set by the gas transmission system operator with the Act Setting the Network Charge for the Gas Transmission Network. The foundations for setting the network charge were provided by the Act Determining the Methodology for Setting the Network Charge and the Criteria for Establishing Eligible Costs for the Gas Transmission Network, and the Act Determining the Methodology for Charging for the Network Charge for the Gas Transmission Network.

The two methodologies for setting the network charge determine the mode, conditions and method of setting the network charge, and the criteria for establishing the eligible costs of the system operator. The method of price capping was used when setting the network charge. The regulatory period took 1 year – 2006.

The prices for the transmission of natural gas across the transmission network were different depending on the leased daily capacity at the annual level (Sm<sup>3</sup>/day/year). In comparison with 2005, the prices for the transmission increased by an average of 2.4 percent.

81

SECTOR

THE ENERGY V FOR 2006

## Movements of the prices for the transmission by customer group

Source: Energy Agency



When determining eligible costs it is necessary to consider operational costs, costs relating to the losses of natural gas in the network, amortisation costs, and the return on assets of the system operator. If the Energy Agency finds that the operational cost-effectiveness of the system operator is lower than the cost-effectiveness of other comparable system operators, the Energy Agency sets the expected level of improvement in the costeffectiveness for the following regulatory period. In 2006 the network charge for the transmission network was, for individual customer groups, unified for the whole territory of Slovenia, as the postage-stamp method was used for charging for the network charge. The charge depended on the leased contractual transmission capacity, the transported amount of natural gas and the type of metering device used.

### TABLE 28

#### Prices for the use of the gas transmission network for typical industrial customers in 2006

Source: Energy Agency

Typical industrial customers	Annual gas consumption in thousands of Sm <sup>3</sup>	Customer's load factor	Use-of-network price (tolars/Sm <sup>3</sup> )
I <sub>2</sub>	111	200 days	9.62
I <sub>3-1</sub>	1,107	—— 200 days (1,600 hours) —	7.20
I <sub>3-2</sub>	1,107	—— 250 days (4,000 hours) —	6.93
I <sub>4-1</sub>	11,065	—— 250 days (4,000 hours) —	4.86
I <sub>4-2</sub>	11,065	—— 330 days (8,000 hours) —	3.73

REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

# 4.2.1.4.2 The network charges for the gas distribution networks

The network charge for a distribution network consists of the following tariff elements:

- the price for the distribution of natural gas,
- the price for making measurements.

The network charges for the distribution networks also include the costs related to the use of the transmission network.

The distribution system operators set the network charges for the gas distribution networks with the Act Setting the Network Charge for the Gas Distribution Network relating to an individual local community. The basis for the setting of a network charge is provided by the Act Determining the Methodology for Setting the Network Charge and the Criteria for Establishing Eligible Costs for the Gas Distribution Network, and the Act Determining the Methodology for Charging for the Network Charge for the Gas Distribution Network.

The two methodologies for setting a network charge determine the mode, conditions and method of setting a network charge, and the criteria for establishing the eligible costs of the system operator. The method of price capping is used when setting a network charge. The regulatory period lasts for one year.

In line with the methodology, the network charges for the distribution networks are unified for individual restricted geographic areas that the local authorities determine as the area in which the optional local public service of operating the distribution network is provided. Individual customer groups are defined in line with the methodology for charging for the network charge. The distribution system operators may join the customer groups and propose a unified price for several customer groups.

In 2006 the setting of the network charges for the gas distribution networks took place for the first time. The system operators submitted to the Energy Agency technical data relating to the provision of the services of the transport and distribution of natural gas, economic data regarding individual costs and revenues, and an assessment of financial influences of the network charges on the network users. When examining the proposals, the Energy Agency found a number of deviations and discrepancies arising, mostly from an incorrect unbundling of energy-related activities, and specific relations between the local communities and the distribution system operations.

By the end of the year, 18 acts setting the network charges for the gas distribution networks were issued. Of these, the Energy Agency gave approval to 11 acts of 8 distribution system operators for a total of 27 municipalities, and, on the basis of Article 87a of the EA, it also issued 7 acts for 5 distribution system operators carrying out their activities in 7 municipalities. These acts set the network charges for the gas distribution networks coming into force on 1 January 2007 and applying to the following local communities: Ajdovščina, Bled, Brežice, Celje, Domžale, Dravograd, Jesenice, Kamnik, Krško, Laško, Logatec, Maribor, Mengeš, Mežica, Nova Gorica, Novo mesto, Prevalje, Ptuj, Radeče, Ravne na Koroškem, Rogaška Slatina, Slovenj Gradec, Šempeter - Vrtojba, Šentjur, Škofja Loka, Štore, Trzin, Velenje, Vipava, Vodice, Vojnik, Vrhnika, Zagorje and Žirovnica.

#### 4.2.1.5 Balancing

Imbalances between the users' forecasted and actual deliveries and the receipts of natural gas can directly affect the operational reliability of the transmission network. In 2006 the establishing and charging for the imbalances were carried out in line with the Act Determining the Methodology for Charging for the Network Charge for the Gas Transmission Network.

The transmission system operator carries out the balancing of the allowed daily imbalance amounts as an ancillary service, and the balancing of the unallowed imbalance amounts as a specialised ancillary service. In the framework of ancillary services, the balancing of hourly and daily imbalance amounts is carried out. With respect to the tolerance, the imbalances are divided into the allowed and unallowed imbalances. The tolerance for the allowed, positive or negative, daily imbalance amounts is two percent of the total contractual transmission capacities of a network user. The tolerance for the allowed, positive or negative, cumulative monthly imbalances is up to 10 percent of the total contractual transmission capacities of a network user.

In the framework of specialised ancillary services, the transmission system operator carries out the balancing of the overrun of contractual transmission capacities on a daily or monthly basis, and of the unallowed imbalance amounts that the system operator charges the network users for separately. The latter indirectly encourages the customers to balance their own imbalances. For the purpose of balancing, in 2006 the transmission system operator purchased natural gas at the regulated price  $P_b$  (Figure 48) from Geoplin, d. o. o, the sole supplier in the wholesale market in Slovenia. This supplier allowed the

customers of natural gas to have larger allowed imbalances than determined by the transmission system operator, which was made possible because of the intra-balancing among the members of a balance group.

### FIGURE 48

Source: Energy Agency

Movements of the price for natural gas (P<sub>b</sub>) required for balancing imbalance amounts in 2006

62 60 58 56 54 52 50 48 46 Feb. 06 Mar. 06 Apr. 06 May 06 Jun. 06 Jul. 06 Aug. 06 Sep. 06 Oct. 06 Nov. 06 Dec. 06 Jan. 06

## 4.2.2 Unbundling of services

In 2006 the mandatory public service of operating the gas transmission network was carried out within an independent legal entity. The EA does not require service unbundling within those distribution companies that have fewer than 100,000 customers connected to the distribution network. As none of the 17 distribution companies in Slovenia exceeds this number, legal unbundling of the service of operating a gas distribution network from other services was not carried out. In addition to operating a distribution network, all the distribution system operators also carried out other energy-related and market-based activities, managing separate accounts for each activity.

The transmission system operator is wholly owned by a domestic legal entity supplying natural gas to the Republic of Slovenia. Table 27 shows the ownership structure of the distribution system operators. Article 37 of the EA expands the group of entities obliged to have their accounts audited in line with Article 57 of the Companies Act by including all legal entities (also small companies) carrying out energy-related activities relating to the supply of electricity, natural gas and heat. For 2006, the Energy Agency received the audited annual report from the transmission system operator, and 16 audited annual reports from the 17 gas distribution system operators. Audited annual reports have to include the rules used for the production of separate accounts by energy-related activity, for which the operators had previously obtained approval from the Energy Agency. In line with Slovenian Accounting Standards, individual companies also have to disclose in their annual reports all the important items relating to the operations of the associated entities. In doing this, they disclose the items that relate to a company as a whole, not only to the activity of the system operator. Individual companies define the levels of importance of these items in their internal acts,

tolars/Sm<sup>3</sup>

indicating also the person responsible for the preparation of the accounts and including separate accounts by energy-related activity.

The provisions of the EA provide for a fine to be imposed on the companies if they fail to provide separate account management for individual energy-related activities. However, only an administrative-offence body can impose a fine on an infringer.

# 4.2.3 The allocation of cross-border transmission capacities and the congestionmanagement mechanisms

# 4.2.3.1 Cross-border transmission capacities of the network

Cross-border transmission capacities are used for the provision of a reliable supply with natural gas in Slovenia and for the transit of natural gas.

The biggest load of the transmission network was noted in the first quarter of the year, as a result of cold weather, when the largest daily consumption amounted to 4.962 million Sm<sup>3</sup>/day.

In comparison with 2005, the peak-load consumption increased. In 2006 the supply to customers was not even interrupted in the periods of the largest demand; occasionally only the supply to interruptible customers was restricted. As a result of a mild winter, in 2006 the annual amount of transported gas for the customers in Slovenia was lower than the annual amount transported in 2005. The annual amount of all the transits was also slightly lower.

Cross-border transmission capacities of the network depend mainly on the entry pressures of the neighbouring transmission networks, on the network load, on the required exit pressures and on other operational conditions, such as the external temperature. The exit pressure on the transmission network is adapted to the annual changing of the flow conditions in the network and to the maximum load of the compressor station in Kidričevo. A 100-percent network utilisation is possible when the temperature is above 4°C; when the temperature is  $-5^{\circ}$ C only the contractually guaranteed supply can be provided; and when the temperature falls below  $-5^{\circ}$ C, the supply to interruptible customers may be restricted.

In 2006 the average annual utilisation of the capacity of the most important border-entry metering-regulation station, Ceršak, was 84.6 percent, and the average monthly utilisation of the entry-exit station Rogatec was 82.5 percent. Figures 49 to 51 show the highest daily utilisation and the average monthly utilisation of individual border metering-regulation stations. Table 29 shows the utilisation of the transmission capacities at the border metering-regulation stations for 2006.

## TABLE 29

# Utilisation of the capacity

at the border metering-regulation stations

Source: Geoplin	plinovodi, d. o. o.	Nominal capacity*		Utilisation of the capa different temperatur	•
Location		(Sm³/h, 15 °C)	above 4 °C	– 5 °C	– 15 °C
Ceršak		295,000	up to 100%	100%, contractually guaranteed supply	100%, restrictions for interruptible customers
Rogatec	direction: central Slovenia	140,000	up to 100%	100%, contractually guaranteed supply	100%, restrictions for 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%

\* Nominal capacities are the maximum flows at the border metering-regulation stations under optimum operational conditions

# Utilisation of the capacities at the border metering-regulation station Ceršak

Source: Geoplin plinovodi, d. o. o.



# **FIGURE 50** Utilisation of the capacities at the border metering-regulation station Šempeter



REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

# Utilisation of the capacities at the border metering-regulation station Rogatec

Source: Geoplin plinovodi, d. o. o.



# 4.2.3.2 The methods of setting the maximum technical capacity

The transmission system operator sets the maximum technical capacity of the gas network on the basis of the model of calculating the gas network capacity by way of considering possible combinations of the supply and consumption of natural gas, and the statistical model of forecasting the gas consumption of domestic customers. The following two models for simulating the gas consumption are used:

- the online model that can, on the basis of current conditions in the gas network, forecast the conditions for the following 48 hours;
- the offline model used for assessing the conditions and the transitional features, depending on the expected data and expected expansions, or changes, of the gas network.

The forecasting of the daily gas consumption is based on the model of forecasting by way of autolearning, which activates historical data on gas consumption in different operational conditions. The expected daily consumption is calculated on the basis of this data, the forecasted operational conditions, and daily forecasts of individual gas customers.

The technical capacity of the gas network, therefore, depends on the operation of the system and also on the current distribution of consumption points for domestic consumption. The maximum technical capacity of the gas network is assessed to be the flow at the border metering-regulation stations that could, in individual seasons (mostly in winter), provide a normal consumption in Slovenia, as well as the gas transport carried out in line with the concluded contracts regarding the transport between different transmission networks.

#### 4.2.3.3 The allocation of the transmission capacities of the network

On 1 July 2006 the Regulation (EC) No 1775/2005, regulating access to the gas transmission networks came into force. In line with this regulation, the transmission system operator publishes the following details for all relevant points:

- a list of all exit points;
- a list of all entry points;

SECTOR

THE ENERGY A FOR 2006

ENI

PORT

- a review of the available, technical and leased capacities for the current month;
- the capacities expected to be available in the following 17 months;
- historical minimum and maximum networkutilisation rates;
- a review of average annual flows.

With respect to the allocation and the best possible utilisation of the transmission capacities, in 2006 the harmonisation of the rules for trading transmission capacities was continued.

In 2006 there was no contractual or physical congestion on any of the 24 relevant points in Slovenia; however, the entry and exit capacities were almost fully used.

In 2006 the contracts regarding access to the gas transmission network were, in most cases, made for the whole calendar year. Four out of nine concluded contracts provided for an interruptible supply, while the others guaranteed an uninterruptible supply.

In line with the legal requirements and on the basis of the applications submitted by 31 October 2005, the transmission system operator allocated the available capacities for 2006 using the pro-rata principle.

In 2006, a total of 52 percent of leased capacities was allocated for the supply with natural gas in Slovenia, while the rest was used for the transport of natural gas between the transmission networks of the neighbouring countries. The gas transit ran between Austria and Croatia, Austria and Italy, and Italy and Croatia.

In 2006 the transmission system operator had no swap contracts, but only the contracts for the transport of natural gas between the neighbouring transmission networks. These contracts in no way threatened the provision of the transport of natural gas to the customers in Slovenia.

# 4.2.3.4 The congestion-management mechanisms

In spite of the high utilisation rate of the transmission network there was neither contractual nor physical network congestion. For this reason the congestion-management mechanisms based on the UIOLI (use-it-or-lose-it) principle were not used. The year 2006 also saw the start of the preparation of the rules that will allow better utilisation of the current capacities by promoting different forms of capacity trading. Higher capacity utilisation will also lead to a decrease in the network congestion.

# 4.3 MARKET-BASED ACTIVITIES AND COMPETITION

## 4.3.1 The sources of natural gas and the wholesale market

Slovenian production of natural gas is insignificant, for this reason it entirely depends on the natural gas supplied from abroad. Most of it, as much as 51.2 percent, was supplied from Russia, 32.3 percent from Algeria, and 16.5 percent from Austria. In 2006, smaller amounts of natural gas were supplied from Russia as a result of a decrease in the forecasted and unforecasted gas supplies. The supplies of Russian gas decreased because of the Russia-Ukraine dispute, and the maintenance work on the transmission pipelines abroad; this shortage was covered by the gas delivered from a storage facility in Austria.

#### Sources of natural gas

Source: Geoplin, d. o. o.



In 2006 the demand of Slovenian customers for natural gas decreased. In comparison with the previous year, the sales of gas were smaller by 1097 million Sm<sup>3</sup> of natural gas, or 3 percent.

The two reasons for the smaller demand were a decreased consumption of the largest gas customer and a mild winter at the end of 2006.

### TABLE 30

#### Trends in gas sales in Slovenia for 2004–2006

Source: Geoplin, d. o. o.

	2004 – in Sm <sup>3</sup>	2005 – in Sm <sup>3</sup>	2006 – in Sm <sup>3</sup>
Geoplin, d. o. o.	1,094,255,926 —	1,131,651,760 —	1,097,584,249
EstEnergy Gruppo Acegas Aps ———	1,327,188	1,559,022	1,780,350
Humcon, d. o. o.	1,350,563	1,400,782	1,276,685
Total	1,096,933,677	1,134,611,564	1,100,641,284

In 2006, in addition to Geoplin, d. o. o., two foreign suppliers, from Italy and Croatia, were active as sellers of gas in the Slovenian wholesale market, supplying natural gas to the Slovenian border. The buyers in the wholesale market were the customers connected to the transmission network, and the companies for gas distribution, which are the suppliers in the retail market. The share of Geoplin, d. o. o., in the wholesale market was 99.7 percent. The selling of Geoplin's gas to the other gas suppliers was carried out on the basis of longterm contracts, which will mostly expire in 2007. In 2006 it was noticeable that domestic and foreign suppliers, as well as eligible customers, were very active in seeking the most favourable conditions for gas supply relating to the period following the expiry of long-term contracts. In 2006 Geoplin, d. o. o., made new, long-term contracts regarding the gas supply from 1 January 2008 onwards for 5-year or 10-year periods with most of its customers.

As a result of the fluctuation in the gas prices and the customers' demand for short-term gas consumption, short-term supply contracts were also concluded.

Slovenia has no organised market for natural gas, where demand and supply regarding certain standard products would meet. Furthermore, there were no programmes related to gas-release mechanisms introduced to Slovenia, and as a result there were no new market entrants.

## 4.3.2 Supply and the retail market

In the retail market the following market participants meet: the suppliers to eligible customers, the suppliers to tariff customers, eligible customers, and household customers of natural gas.

The retail market consists of two parts that differ significantly from each other: one part includes the customers connected to the transmission network, and the other includes the customers connected to the distribution networks.

In comparison with 2005, the share of the retail suppliers did not change in 2006. Geoplin, d. o. o., has a 74.1-percent share of the Slovenian retail market, while the suppliers to the customers on the distribution networks have a total of 25.9 percent of the market. Table 31 and Figure 53 show the market shares and the HHIs (the Hirshmann-Herfindahl index) relating to the retail market.

#### TABLE 31

#### Market shares and the HHIs relating to the retail gas market in Slovenia

Sources: Companies' data and Energy Agency

Company	Share	нні
Geoplin, d. o. o	74.1%	5,488
Energetika Ljubljana, d. o. o. —	6.7%	45
Plinarna Maribor, d. d.	5.0%	25
Adriaplin, d. o. o.	4.3%	19
Energetika Celje, d. o. o.	2.5%	6
Others	7.4%	54
Total	100%	5,637



# 4.3.2.1 The customers connected to the transmission network

In 2006 Geoplin, d. o. o., supplied natural gas to large industrial customers connected to the

gas transmission network. There were 160 such customers consuming 811 million Sm<sup>3</sup> of natural gas. Geoplin, d. o. o., had 100 percent of the market for the supply to the customers connected to the transmission network.

# FIGURE 54

#### Breakdown of Geoplin's supply to the industrial customers connected to the transmission network, by industry



In 2006 the customers connected to the transmission network had the right to switch supplier. However, there were no supplier switches, the most important reasons being the long-term supply contracts and an unclear procedure for switching supplier.

As the supply continued to be reliable and there was no abuse of a dominant position of the supplier to customers connected to the transmission network, no measures for the promotion of competition, such as the Gas Release Programme, were taken.

# 4.3.2.2 The customers connected to the distribution networks

Household customers and eligible customers are connected to the distribution networks. Eligible customers were supplied by the suppliers to eligible customers under the conditions of the tariff systems, or under other specifically agreed conditions. Household customers were supplied by the suppliers to tariff customers under the conditions of the tariff system. The suppliers to eligible customers and the suppliers to tariff customers are organised within the companies for gas distribution. Table 25 includes 17 distribution companies operating in the Slovenian gas market in 2006. A total of 117,354 distribution customers were supplied with 282,743,522 Sm<sup>3</sup> of natural gas. In comparison with 2005, the number of these customers increased by 5597, and their consumption was increased by one percent. The suppliers to the customers on the distribution networks mainly supply gas to households. With respect to the total number of customers, households amount to 91 percent of all customers, while their consumption accounts for only 41 percent of the total consumption of the customers connected to the distribution networks.

## FIGURE 55

# Ratio between the number of eligible customers and households, and their consumption on the distribution networks



Energetika Ljubljana supplied most of the customers, delivering a total of 73 million Sm<sup>3</sup> of gas to 54,363 customers. The smallest supplier is Plinstal, which sold only 0.5 million Sm<sup>3</sup> of

natural gas to 295 customers. Figure 56 shows the movement of gas consumption on the distribution networks by month.

Sm<sup>3</sup>/month



# Movement of gas consumption of the customers connected to the distribution networks by month

In 2006 there were no new suppliers in the Slovenian gas market. Natural gas was being supplied by the public companies for gas distribution or by private companies.

Only two companies for gas distribution, Adriaplin, d. o. o., and Javno podjetje plinovod Sevnica, d. o. o., have ownership links with Geoplin, d. o. o., which has an 11-percent share and 6-percent share of these companies.

The eligible customers connected to the gas distribution networks did not have the option of switching supplier. In 2006 the network charges for the distribution networks were only being set; in addition, the procedure for switching supplier, the operation of balance groups, and general conditions for the supply and consumption were not yet determined.

# 4.3.2.3 The market shares of the retail markets

The retail market had 18 suppliers delivering natural gas to 160 end customers connected to the transmission network, and 117,354 customers connected to the gas distribution networks. The market shares of suppliers are important indicators of the competition in the energy market. Figure 53 in Section 4.3.2 shows the market shares of the suppliers relating to all the customers in Slovenia, while this section will show the market shares of the suppliers relating to three customer groups with different amounts of annual consumption:

- the customers with an annual consumption of more than a million Sm<sup>3</sup> of natural gas;
- the customers with an annual consumption of between 4500 and a million Sm<sup>3</sup> of natural gas;
- the customers with an annual consumption of less than 4500 Sm<sup>3</sup> of natural gas.

In Slovenia there is a total of 117,514 customers of natural gas, but only 120 of them consume more than a million Sm<sup>3</sup> of gas per year. These customers consume a total of 848 million Sm<sup>3</sup> of gas or 78 percent of the total consumption. Geoplin supplies 93 percent of these customers. THE ENERGY V FOR 2006



# TABLE 32

#### HHIs for the largest suppliers to the customers with an annual consumption of more than a million Sm<sup>3</sup> of gas

Source: Energy Agency

Company	Share	нні
Geoplin, d. o. o.	92.8%	
Plinarna Maribor, d. d.	2.7%	
Energetika Celje, d. o. o.	1.4%	2
Adriaplin, d. o. o.	1.0%	1
Domplan, d. o. o.	0.8%	1
Others	1.2%	1
Total ————	100%	8,625

The HHIs show that Geoplin has a dominant position in this market.

About 4058 customers in Slovenia have an annual consumption of between 4500 and 1,000,000  $\rm Sm^3$ 

of gas, and their total consumption is about 143 million Sm<sup>3</sup> of gas, which is 13.1 percent of the total consumption.



# TABLE 33

# HHIs for the largest suppliers to the customers with an annual consumption of between 4500 and 1,000,000 Sm<sup>3</sup> of gas

Source: Energy Agency

Company	Share	нні
Energetika Ljubljana, d. o. o. ——————————	23.1%	536
Adriaplin, d. o. o.	17.8%	316
Geoplin, d. o. o.	15.1%	228
Plinarna Maribor, d. d.	11.0%	121
Mestni plinovodi, d. o. o.	6.7%	46
Others	26.2%	688
Total	100%	1,934

The HHIs show that no supplier has a dominant position in this market.

The customers with an annual consumption of less than 4500 Sm<sup>3</sup> of gas mainly include the households using natural gas for various purposes, as well

as small industrial customers and commercial customers. The number of these customers is over 113,000, but their total consumption in 2006 was about 100 million Sm<sup>3</sup> of gas.

# 

Energetika Ljubljana, d. o. o.	Plinarna Maribor, d. d.	Adriaplin, d. o. o.
Energetika Celje, d. o. o.	Mestni plinovodi, d. o. o.	Others

### TABLE 34

#### HHIs for the largest suppliers to the customers with an annual consumption of up to 4500 Sm<sup>3</sup> of gas

Source: Energy Agency

Company	Share	HIHI
Energetika Ljubljana, d. o. o. ———————————————————	37.3%	1,394
Plinarna Maribor, d. d.	15.8%	249
Adriaplin, d. o. o.	13.1%	172
Energetika Celje, d. o. o.	7.4%	55
Mestni plinovodi, d. o. o.	6.2%	38
Others	20.2%	408
Total	<b>100</b> %	2,316

The HHIs show that Energetika Ljubljana, d. o. o., has a partly dominant position in this market.

#### 4.3.2.4 The prices for natural gas in Slovenia

4.3.2.4.1 The prices for natural gas on the transmission network

The price for the customers connected to the gas transmission network consists of its regulated portion, which is the price for the use of the network, and the market-based portion, which is the price for the natural gas. In comparison with the previous year, in 2006 the price for the use of the network increased, on average, by 2.4 percent, while the market-based price followed the increase in the price for oil derivatives.

In 2006 the prices for natural gas followed the trend in the price increase in 2005. In line with the methodology used by Eurostat and the Statistical Office of the Republic of Slovenia, the prices for natural gas are monitored with respect to the typical customers using natural gas for a specific purpose. Industrial customers are classified into the following standard customer groups:

96

SLOVE

Source: Statistical Office of the Republic of Slovenia

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

At the end of 2006, the prices for natural gas on the transmission network increased, in comparison with the prices at the end of 2005, on average, by 17 percent. In comparison with 2005, the average price for 2006 increased by 31 percent. Figure 60 shows the trend in the average prices on the transmission network by month for 2006, while Figure 61 shows the changes in the gas prices for typical industrial customers in 2005 and 2006.

# FIGURE 60

Average prices for natural gas on the transmission network

Source: Geoplin, d. o. o.



# Figure 61

#### Gas prices including all the taxes for typical industrial customers

Source: Statistical Office of the Republic of Slovenia



For industrial customers connected to the transmission network, the use-of-network price covers a small share of the final price for natural gas. In the case of the typical industrial customers  $I_2$ , the price for the use of the transmission network covers 10 (or 10.5) percent of the final

price, while in the case of the largest industrial customers it covers only 5 (or 4.6) percent of the final price. Figure 62 shows the structure of the gas prices for the typical industrial customers on the transmission network for the past 2 years.

SECTOR

THE ENERGY

NO

REPORT OVE



# Structure of gas prices for typical industrial customers connected to the transmission network

#### 4.3.2.4.2 The prices for natural gas on the distribution networks

In 2006 the gas prices for the customers connected to the distribution networks were within the province of the local authorities, and were formed in line with the tariff systems. With respect to the final gas price, only the duties and the value-added tax were disclosed, but the price was not divided into the regulated and market-based fractions.

The gas prices for these customers are not set in a unified way and are formed at the level of individual local communities, or several communities joined together. For this reason, in addition to the purchase prices for natural gas, these prices are also affected by the network characteristics in a certain area, the policies of local authorities and business policies of the companies for gas distribution.

The gas prices for customers on the distribution networks can only be compared among typical customers with standard characteristics of gas consumption:

Group	Consumption in 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

#### Source: Statistical Office of the Republic of Slovenia

Figure 63 shows the average gas prices in Slovenia for typical household customers. These prices have

been calculated as a weighted average of the prices in the larger towns in Slovenia.

# **FIGURE 63** Gas prices including all the taxes for typical households

Source: Statistical Office of the Republic of Slovenia



In Slovenia the gas price for households included in the customer group  $D_2$  (the group using natural gas mainly for cooking) increased in the first half of 2006 by 6 percent, amounting to 3609 tolars/GJ or 136.5 tolars/Sm<sup>3</sup> in July 2006. The gas price for the customer group  $D_3$  (the group also using gas for central heating) was 3306 tolars/GJ or 125 tolars/Sm<sup>3</sup> in July 2006. An international comparison shows that in January 2006 the retail gas price for the customer group  $D_3$  in Slovenia was at the level of the weighted average price in the European Union.

## 4.3.3 The internal market for natural gas in the EU

The consumption of gas in the EU countries has been continually on the increase. It is expected to continue to increase in the future, by an average of 2.1 percent by 2010, and by another 1.4 percent between 2011 and 2020. A decrease in gas consumption is expected to take place during the period 2021–2030, annually by 0.2 percent. With respect to European consumption, the most important gas markets are those in Great Britain, Germany, Italy and France.

About 42 percent of the gas consumed in the EU countries is also produced in these countries, most of it in Great Britain, the Netherlands and Denmark; some of it is also produced in Italy, Austria, Poland and Germany. The rest of the gas (58 percent) is imported from countries outside the EU.

Because of the large dependence on gas imports, investments in obsolete infrastructure and new pipelines will be necessary. Several factors influence the decision to invest in a gas network, the most important being: the level of costs and taxes, the technical, economic and political risks, the strategies of the existing and new market participants, the long-term environmental policy and the technological development. As a rule, investors decide to invest in new networks only on

REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

the basis of long-term contracts that guarantee a permanent income.

Because of the heavy dependence on gas imports, the vulnerability to fluctuations of the gas supplies is very significant. In its Green Book, the European Commission has established that the total energyimport dependency might increase from the current 50 percent to 70 percent, or even more, in the next 20 to 30 years. For this reason the storing of natural gas is becoming increasingly important in the EU countries. Only a few Member States, including Slovenia, have no gas-storage facilities.

#### 4.3.3.1 The prices for natural gas for typical customers compared with the EU prices

The increase in the gas prices follows the trend in the increase in prices for energy sources in international markets. The years 2005 and 2006 saw an increase in the prices for oil derivatives, resulting in a significant increase in gas prices. The relationship between the gas prices and the prices for oil derivatives arises from the past, when the gas prices were set on the basis of the prices for oil derivatives that can replace natural gas. The gas prices will follow the prices for oil derivatives until the market for natural gas becomes liquid enough to send signals regarding the changes to gas prices.

A comparison of the price trend in Slovenia with the EU-25 shows that the price increase in Slovenia follows the trends in the other Member States.

Figure 64 shows the movement of gas prices for households in all 25 Member States, as well as in Bulgaria, Romania and Croatia. In the period between July 2005 and July 2006 the gas prices increased by an average of 20 percent in most of these countries, the exceptions being Hungary (a one-percent decrease) and Croatia (prices remained the same). The largest increases were noted in Lithuania (43 percent), Latvia (38 percent) and Denmark (34 percent).

The trend in the price increase was also noted for industrial customers.

### FIGURE 64

#### Movement of gas prices for households D3 (without taxes) – July 2006/July 2005



# Movement of gas prices for typical industrial customers $I_{3-1}$ with an annual consumption of 1.1 million Sm<sup>3</sup> (without taxes) – July 2006/July 2005

Sources: Eurostat and Energy Agency



Figure shows the movement of gas prices for typical industrial customers in all 25 EU countries (except for Ireland, which did not submit data relating to this customer group), in Bulgaria, Romania and Croatia. In all of these countries gas for industrial customers became more expensive.

Over the period between July 2005 and July 2006, the gas prices for typical industrial customers

increased by an average of 29 percent. They increased the most in Great Britain (53 percent), Lithuania (51 percent) and Spain (43 percent). Slovenia follows the movement of gas prices in the EU, and its gas price is close to the average EU price. Figures 66, 67 and 68 show the trends in the gas prices for the past three years.

SECTOR

THE ENERGY A FOR 2006

#### Gas prices for very large industrial customers with an annual consumption of about 11 million Sm<sup>3</sup> (I<sub>4-1</sub>)

Sources: Eurostat and Energy Agency



# FIGURE 67

# Gas prices for large industrial customers with an annual consumption of 1.1 million $Sm^3$ (I<sub>3-1</sub>)



SECTOR

PORT ON THE ENERGY SLOVENIA FOR 2006

2Z

#### Gas prices for households with an annual consumption of 2241 $Sm^3$ (D<sub>3</sub>)

Sources: Eurostat and Energy Agency 0.60 0.50 0.40 euros/Sm<sup>2</sup> 0.30 0.20

# 0.10 0.00 Jan. 04 Jul. 04 Jul. 05 Jan. 06 Jul. 06 Jan. 05 EU Slovenia

# 4.3.4 The measures taken TO PREVENT ANY ABUSE OF A DOMINANT POSITION AND TO ENSURE COMPETITION

#### 4.3.4.1 The findings and measures of the Competition Protection Office

According to the Competition Protection Office, in 2006 this office did not initiate any procedure for assessing restrictions, abuse of a dominant position or a concentration of the companies in the naturalgas market. Neither did the office take additional measures for ensuring a sufficient number of market participants, or for promoting the crossborder exchange, and fair and free competition. The office did not carry out any procedure regarding an offence relating to the natural-gas market within its responsibility.

## 4.3.4.2 The findings and measures of the responsible ministry

No serious irregularities were recorded in the market for natural gas. For this reason, neither the Ministry of the Economy nor the government took any measures in the market.

Some suppliers wishing to bring new market participants and expanding their sales, made comments relating to the market restrictions caused by the narrow tolerances (two percent on a daily basis) and high prices for the overrun determined by the act of the Energy Agency (the methodology for charging for the network charge). For this reason, these suppliers suggest that, with respect to small market entrants, the tolerances should be increased, or the prices for the imbalances should be decreased.

SECTOR

THE ENERGY

PORT

In 2006 the ordinance relating to the operation of the gas market that will provide for a more efficient market was being prepared. As a result of this ordinance, the Energy Agency will also have to prepare amendments to the Methodology for Charging for the Network Charge. For this purpose the tolerances will be re-examined and reset.

No mechanisms included in the Gas Release Programme were applied.

In 2006 the suppliers and other participants were not yet required to report on the measures for safeguarding the security of the natural-gas supply, as the Ordinance on Safeguarding the Security of the Supply with Natural Gas only came into force in February 2007.

No direct incentives for constructing new transmission paths for importing and storing natural gas were allocated. However, the responsible ministry issued an approval of the development plan of the gas transmission system operator. In the methodology for setting the network charge, the Energy Agency took into account the costs of such investments, and their return. An energy permit is not required for constructing new pipelines. No requests for deciding on disputes were submitted; however, a few clarifications of the EA and other regulations regarding the relations between the distribution companies and the local communities were prepared.

No special restrictions or requirements regarding the structure of a gas supply contract are in force in the market. The legislation requires that the procedure of switching supplier is free of charge.

## 4.3.5 Deciding on disputes AND COMPLAINTS

With respect to natural gas, in 2006 the Energy Agency did not receive any requests to decide, in the administrative procedure in the first instance, on disputes between the network users, or the interested parties, and the system operator. Neither did it receive any request to decide, in the administrative procedure, on complaints against the decision regarding an approval for connecting to the natural-gas network.

# 5 The reliability of the supply




# 5.1 Electricity

The reliability of the electricity supply depends on two parameters - the sufficiency of production sources and the security of the network. The sufficiency of production sources is the ability of all the available production sources to cover the demand for electricity. The ability of a network to allow the electricity to be supplied from the producers to the customers is called the network security. As errors can occur in the operation of the production facilities and network elements causing interruptions to the operation, it is also necessary to safeguard the supply in such cases. For this reason, a sufficient reserve of the production sources has to be provided for; this reserve can be found outside the domestic electricity system, while the domestic network has to fulfil certain security measures, the most commonly used being the n-1 criterion. This criterion determines that in the case of an outage of any transmission element (pipeline, transformer), the supply to any network user should not be interrupted. In Slovenia the n-1 criterion is used for the transmission network, and for higher levels of distribution networks, while, for economic reasons, it is not used for the lower levels of the distribution networks.

# 5.1.1 The sufficiency of the production

Figures 69 and 70 show how electricity demand was covered in the period 1990-2006. In the period 1998-2002 Slovenia had large surpluses of electricity, but since 2003 it has had a deficit of electricity that has increased every year. The main reason for the surplus was an unclear situation with Croatia with respect to the status of the Nuclear Power Station, Krško, resulting in Slovenia using the entire capacity of NPSK and the energy produced until April 2003. Since then Slovenian suppliers have had to top up the shortfall in electricity by buying energy in foreign markets. The amount of domestic electricity production is also affected by the hydrological conditions, as, due to a relatively large share of the hydroelectric power stations in the Slovenian system, their production strongly influences the total Slovenian electricity production.

### Production and consumption of electricity on the Slovenian transmission network for 1990–2006 (period 1998–2002 includes the total production of the NPS Krško)

Sources: Milan Vidmar Electric Power Research Institute, Eles



# FIGURE 70

# Surpluses and deficits of electricity on the Slovenian transmission network for 1990–2006 (period 1998–2002 includes the total production of the NPS Krško)

Sources: Milan Vidmar Electric Power Research Institute, Eles



### Structure of electricity production on the Slovenian transmission network for 1990–2006 (period 1998–2002 includes the total production of the NPS Krško)



The conditions relating to the peak power, or production reserves, were like the conditions relating to fulfilling the energy demand, which can be described as the ratio between the available power of the hydroelectric power stations and the peak power of consumption (Table 35). When this ratio is calculated for the period 1998–2002, it also shows surpluses caused by the availability of the total power from the NPS Krško to the Slovenian electricity market. The installed power of the transmission network is a sum of the busbar power of all the hydroelectric power stations connected to the Slovenian electricity transmission network, while the available power of the transmission network is the sum of the power of the hydroelectric power stations available on the Slovenian electricity market.

# TABLE 35

### Trends of installed power and peak power in the Slovenian electricity system

Sources: Milan Vidmar Electric Power Research Institute, Eles

Year	Available power of the transmission network (MW)	Installed power of the transmission network (MW)	Peak consumption (MW)	P available / P consumed	P installed / P consumed
1990 —	2,061	2,375	1,688	1.22	1.41
1991 —	2,061	2,375	1,616	1.28	1.47
1992 —	2,061	2,375	1,423	1.45	1.67
1993 —	2,100	2,414	1,484	1.42	1.63
1994 —	2,100	2,414	1,507	1.39	1.60
1995 —	2,100	2,414	1,551	1.35	1.56
1996 —	2,100	2,414	1,599	1.31	1.51
1997 —	2,100	2,414	1,652	1.27	1.46
1998 —	2,100	2,414	1,734	1.21	1.39
1999 —	2,414	2,414	1,686	1.43	1.43
2000 —	2,682	2,682	1,705	1.57	1.57
2001 —	2,682	2,682	1,838	1.46	1.46
2002 —	2,749	2,749	1,901	1.45 —	1.45
2003 —	2,422	2,765	1,923	1.26	1.44
2004 —	2,441	2,784	1,991	1.23	1.40
2005 —	2,462	2,805	2,043	1.21	1.37
2006 —	2,475	2,823	2,075	1.19 —	1.36

# FIGURE 72

## Installed power of production facilities, the power available to the Slovenian market, and the peak power of consumption on the transmission network for 1990–2006



5

# 5.1.2 Planned investments in the production facilities

For the purpose of constructing new production capacities in Slovenia, an authorisation procedure is applied; this procedure includes the issuing of energy permits relating to the production facilities, or the concessions for the use of natural sources. In the case of the construction of production capacities being insufficient, the government can also publish a call for tenders to construct new facilities.

In 2006 energy permits for several important production units were issued. These energy permits were issued for a total of 1100 MW, the majority (92.5 percent) of them being for the production capacities using fossil fuels, i.e., coal and natural gas. The remaining 7.5 percent referred to the planned capacities using renewable energy sources, mostly wind turbines. On the basis of the development plan for the transmission network for the period 2007–2016, the construction of the following new production units can be expected by 2009:

 the Pumped-Storage Power Station, Avče: 178 MW in the turbine and pumping regimes, is already under construction, and is expected to start operating in 2008;

- the TPS Šoštanj: two additional gas generators (2 x 42 MW) as part of Block 5, expected to start operating in 2009;
- a wind power station at Volovja reber: 33 wind turbines with a total power of 28 MW are expected to be built.

In addition to constructing new facilities, the reconstruction of an existing production facility is planned – the HPS Zlatoličje will have its available power increased by 24 MW. It is expected to start operating in 2009.

No power station is expected to shut down its operation before the end of 2009.

If these plans are realised, Slovenian production capacities will increase by 314 MW by 2009.

In 2005 the Energy Agency commissioned a study entitled Scenarios of the Growth of the Electricity Consumption. One outcome of the study was the forecasted peak consumption using different scenarios. Table 36 shows a comparison of the expected growth in installed power of the power stations with the increasing peak consumption for two different scenarios. In most cases the reserve power does not cover 20 percent of the peak consumption, which shows that, in the period until 2008, the shortfall in electricity will have to be topped up by imports.

### TABLE 36

# Installed power of the Slovenian power stations and the growth of the peak consumption for 2005–2009

Sources: Milan Vidmar Electric Power Research Institute, Eles

Year	2006 (actual)	2007 (estimate)	2008 (estimate)	2009 (estimate)
Available power of the transmission network (M	W) — 2,475 —	2,475	2,653	2,789
Peak consumption – high scenario (MW) ———	2,075	2,173 _	2,241 -	2,310
Ratio P available/Peak <sub>HS</sub>	—— 1.19 —	1.14 _	1.18 -	1.21
Peak consumption – low scenario (MW) –	2,075	2,129	2,176	2,222
Ratio P available/Peak <sub>LS</sub>	—— 1.19 —	1.16	1.22 _	1.25

# Meeting the demand of the Slovenian electricity system in the period until 2009

Sources: Eles, Milan Vidmar Electric Power Research Institute



# 5.1.3 The security of the network operation

In 2006 the transmission system operator managed to successfully balance the production and demand of electricity. The total amount of unsupplied electricity was 43 MWh, and was a result of an incident taking place in the European electricity network UCTE, on 4 November 2006. At that time, due to an overload in the German electricity system, a large part of the UCTE network collapsed. Even though the transmission system operator partly restricted the supply, we can assess that the operator took the appropriate actions and managed to safeguard operational security. Though Slovenia does not have sufficient production resources to meet domestic demand, the supply was never interrupted as a result of an electricity shortage.

# 5.2 NATURAL GAS

Slovenia does not have its own sources of natural gas, and is entirely dependent on foreign sources. Forecasting the demand is very important for the provision of a reliable supply. A projection of the natural-gas supply until 2015 has been described in the Resolution on the National Energy Programme, which expects as much as a 3.5-percent annual growth for the period 2000–2015.

To provide for a reliable supply, in 2005 a development plan for the gas transmission network for 2005–2014 was adopted. This plan expects extensive investments in the gas transmission network. The construction of additional transmission capacities should meet the expected increased demand for natural gas. For 2006, 2007 and 2008 a 23-percent growth in demand is expected in comparison with the gas demand in 2005. The expected increase in the gas demand includes an increased demand of the distribution customers, and additional amounts required by the electricity producers. The supply of natural gas to the electricity producers is expected to start in 2008 (TPS Šoštanj). The recent rapid increase in the gas prices lessens the interests of investors in the investments in the production facilities using natural gas as an energy source.

In 2006 the gas supply to the customers on the transmission and distribution networks was reliable and of high quality.

At the end of 2006 the amendments to the Energy Act implementing the Directive Concerning Measures to Safeguard the Security of the Natural Gas Supply came into force. Legislation obliges the system operators of the transmission and distribution networks to provide for a reliable operation of the networks and their appropriate capacities, and, above all, it obliges the gas suppliers to provide a reliable supply to specific customers, including households. The gas supply is guaranteed to specific customers in the case when a partial failure of the supply does not exceed 20 percent of the total supply in the Republic of Slovenia, and also in the case of a very low outside temperature lasting for five days during the winter. In the cases of larger disturbances to the supply, or a very low temperature, the legislation obliges the system operators to restrict the supply to certain types of customers, or to gas-fired equipment. Thus, the system operators are – irrespective of their contractual obligations with respect to the suppliers, users and customers – obliged to reduce, or interrupt, the supply of natural gas at the customers' consumption points in the prescribed order, according to which households are the last to be disconnected, while the facilities producing steam or hot water, and having access to a substitute fuel, are the first to be disconnected.

Each supplier supplying natural gas to specific customers is, therefore, obliged to provide sufficient amounts of natural gas by way of additional measures (interruptible supply, leasing of gas-storage facilities, additional supply contracts). Suppliers have to report on the measures taken to safeguard the security of the gas supply to the ministry responsible for energy. In these reports, suppliers to specific customers have to prove that they guarantee sufficient amounts of natural gas to these customers by way of the measures to safeguard a secure gas supply, mainly the contracts relating to the interruptible gas supply and the storage of natural gas.



# 6 Public services



# 6.1 GENERAL INFORMATION

In line with the EA and the Public Utilities Act, the organisation and the operating mode of the national public services are regulated by the Government of the Republic of Slovenia, while the local public services are regulated by the local authorities. For the provision of the public services listed in the table below it is necessary to obtain a licence. The providers of public services are mainly responsible for the safe operation, the reliable supply of energy, the supply under general conditions to all customers, a regular and permanent operation, the provision of required quality, sensible energy prices, and the protection of the environment.

The EA identifies the following public services relating to the supply of electricity, natural gas and district heating:

## TABLE 37

### **Review of public services**

Source: Energy Agency

Activity	Form	<b>Regulated PS</b>
electricity transmission-system operation	mandatory national public service	YES
electricity distribution-system operation	mandatory national public service	YES
electricity supply to tariff customers	mandatory national public service	YES
electricity-market operation	mandatory national public service	YES
gas transmission-system operation	mandatory national public service	YES
gas storage-facility operation	optional national public service	
liquefied-gas terminal operation	optional national public service	
gas-market operation	optional national public service	_
gas distribution-system operation	optional local public service	YES
gas supply to tariff customers	optional local public service	YES
heat distribution	optional local public service	NO
supply of energy gases other than natural gas	optional local public service	NO

REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006 In 2006 the optional national public services of the gas storage-facility operation, liquefied-gas terminal operation, and gas-market operation were not provided.

Prior to granting relevant concessions, the public services relating to electricity supply will be carried out by public companies.

The mandatory public service relating to the gas supply on the transmission network is to be provided on the basis of a granted concession. Prior to the implementation of a concession contract, the public service of the gas transmissionsystem operation will be carried out by the gas transmission system operator that started to provide this service as a separate legal entity on 1 January 2005. In 2006 the concession contract was not implemented. The optional local public services are carried out, on the basis of granted concessions, by public companies, and by individuals subject to private law, receiving investments of public capital.

# 6.2 CUSTOMER PROTECTION IN THE MARKETS FOR ELECTRICITY AND NATURAL GAS

In Slovenia the customer protection relating to the supply with electricity and natural gas is provided with the general regulations, i.e., the Code of Obligations and the Consumer Protection Act, as well as with specific regulations relating to the operations of the markets for electricity and natural gas. The provisions of all these regulations have been harmonised with the requirements of the directives concerning the common rules for the internal markets in electricity and natural gas (directives 2003/54/EC and 2003/55/EC).

# 6.2.1 Electricity

## 6.2.1.1 The contracts regarding electricity supply to tariff customers

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 (henceforth referred to as the ordinance on the supply to tariff customers), a supplier to tariff customers is obliged to make a supply contract with each tariff customer connected to the distribution network in the area in which the system operator carries out its public service. This ordinance, as well as the Ordinance Regarding General Conditions for the Supply and Consumption of Electricity, determines the most important elements, or details, that have to be included in a contract regarding the supply to tariff customers. These provisions have been harmonised with the requirements of the relevant directive.

The contracts regarding electricity supply are made as adhesion contracts, or accession contracts, which are prepared in advance, but the parties have the options to accept the proposed contractual clauses, reject them or amend them. In line with the ordinance on the supply to tariff customers, the content of the supply contract should be available to the tariff customers before its conclusion. In addition, the tariff customers should also be informed, in due time, about any amendments made to the contractual requirements. If the tariff customers do not agree with the amendments, they can withdraw from the contract.

# 6.2.1.2 The protection of vulnerable customers

The protection of vulnerable customers is one of the most important forms of customer protection, and it is regulated by the EA. This act determines that a system operator should not stop the amount of supplied electricity below the limit that is, with respect to circumstances, necessary so that the lives and health of a customer, and the persons living with the customer, are not threatened. The supplier's costs arising from such a situation are covered by the revenues from the use-of-network price.

A supplier to tariff customers has to supply the above-mentioned customers if these customers have an appropriate decision regarding a customer's inability to pay electricity, issued by a social service. In 2006 the system operators interrupted, or stopped, the supply due to unpaid electricity bills to less than 0.6 percent of the customers.

# TABLE 38

# Number and percentage of disconnections due to unpaid electricity bills, by system operator

Sources: Companies' data

System operator	Number of disconnections due to unpaid bills	Percentage of disconnections based on the total number of customers
Elektro Celje, d. d	1,050	
Elektro Gorenjska, d. d. ————	459	
Elektro Ljubljana, d. d. ————	2,098	0.24%
Elektro Maribor, d. d. ————	2,050	0.23%
Elektro Primorska, d. d.	4,366	0.50%
Total	10,023	1.14%

### 6.2.1.3 Publishing the price

On the basis of the Ordinance on the Tariff System for the Sales of Electricity, a supplier has to have its final price for electricity published all the time on its website, and each change of the price has to be published on the website and in daily newspapers.

## 6.2.1.4 The right to appeal, or the right to legal redress, and settling disputes

In Slovenia the customer's right to legal redress is appropriately provided for, as the regulations relating to the electricity market determine several ways of exercising this right. In line with the EA, a network user has the right to appeal against the decision of a system operator relating to issuing or denving a connection approval. The Energy Agency decides on the appeal. In line with the Ordinance Regarding General Conditions for the Supply and Consumption of Electricity, the tariff customers have the right to submit, to the supplier, their comments, or complaints, regarding a received bill or statement. This ordinance also prescribes that one of the key elements of a contract regarding the supply to tariff customers is an agreement on the mode of dispute-settling arising from the contractual relationship. In line with the general rules of the civil law, the court is responsible for settling the disputes arising from the contractual relationship that are not under the authority of the Energy Agency. In Slovenia any breaches of the general rules relating to consumer protection are addressed and also appropriately sanctioned by the Market Inspectorate.

### 6.2.1.5 The right to compensation

The Ordinance Regarding General Conditions for the Supply and Consumption of Electricity gives a network user the right of compensation for damages, if the system operator interrupted, or stopped, the electricity supply without due cause, if a supply interruption lasted for an unreasonably long period, if the quality of the electricity does not meet the current standards or the contractually agreed value, or if another user has been causing disturbances.

# 6.2.2 NATURAL GAS

# 6.2.2.1 The protection of vulnerable customers

As in the area of electricity, the protection of vulnerable gas customers is also regulated by the EA. This document stipulates that a system operator should not stop the supply of an amount of energy below the limit that is, with respect to circumstances, necessary, so that the lives and health of a customer, and the persons living with the customer, are not threatened. The supplier's costs arising from such a situation are covered by the revenues from the use-of-network price.

# 6.2.2.2 Publishing the price

In 2006 the gas suppliers to tariff customers had to obtain, prior to the publication of their pricelists, approvals from the local authorities. The prices for the gas supply were published. In 2006 the price for the gas supply was not yet divided into the use-of-network price and the price for the gas.

# REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

# 6.2.2.3 The measures for customer protection

The providers of the public services of the gas distribution-system operation, and the supply to tariff customers, were required to adopt, on the basis of the Energy Agency's general acts and methodologies passed in 2005, the acts for which they have to obtain approval from the Energy Agency, or from the local authorities, prior to their publication.

In 2006 the Energy Agency gave approval to six acts (the system operation instructions for a gas distribution network) of three system operators relating to the geographical areas of the Municipalities of Dravograd, Prevalje, Ravne na Koroškem, Mežica, Jesenice and Žirovnica. In 2006 no approval was given to the general conditions for the supply and consumption of natural gas, which will also have to include the measures for the customer protection determined by the Directive Concerning the Common Rules for the Internal Market in Natural Gas, such as:

- the rights relating to the contracts between the households and their suppliers;
- information about intended changes to the contractual conditions;
- the transparency of current prices, tariffs, and general conditions relating to the network access and the use of services;
- the option to select from among different payment modes;
- the option to switch supplier without paying for the costs of the switch;
- the right to transparent, simple and cheap procedures in the case of a complaint;
- the information about the right to a supply with natural gas of a certain quality, and at a reasonable price.

Switching gas supplier is free of charge.

# 6.2.2.4 The right to appeal or to legal redress

In line with the EA, a network user has the right to appeal against a decision of a system operator relating to issuing or denying a connection approval. The Energy Agency decides on an appeal.

# 6.3 REGULATION OF THE FINAL PRICE

# 6.3.1 The price

Among the public services determined by the EA, the final price is regulated for the electricity supply to tariff customers, and the gas supply to tariff customers. Eligible customers cannot require a supply under the conditions determined by a tariff system for tariff customers.

# 6.3.1.1 Electricity

The final price for electricity supplied to tariff customers is regulated by the Government of the Republic of Slovenia in line with the Ordinance on the Tariff System for the Sales of Electricity.

The final price for the electricity supplied in the framework of guaranteed supply is also regulated. The guaranteed supply is a mechanism aimed at customers whose supplier stops supplying electricity without it being their fault, for example, in the case of the supplier going bankrupt. The guaranteed supply is provided by a supplier to tariff customers setting the electricity price in the framework of guaranteed supply in such a way that it covers the long-term price for purchasing electricity, and the costs for providing the guaranteed supply. However, the price should not be more than 15 percent higher than the price paid by a comparable eligible customer under a contract made with the same electricity supplier.

# 6.3.1.2 Natural gas

With respect to natural-gas distribution, the Energy Agency issued the general acts setting the network charges, including the Act Determining the Methodology for the Preparation of a Tariff System for a Gas Distribution Network. This general act determines the elements of the accounts relating to the energy supplied to different customer groups with respect to the power, type and characteristic of their consumption. The suppliers to tariff customers are expected to issue, on the basis of the general act of the Energy Agency, the tariff systems for the geographical areas in which they provide the respective public service. Prior to publishing a tariff system, they will have to obtain approval from the local authorities.

# 6.3.2 Financing the suppliers

The suppliers of electricity to tariff customers are financed by the price fraction covering the suppliers' costs relating to the supply of electricity to tariff customers. The Government of the Republic of Slovenia gives approval to the evaluation of the suppliers' costs. The suppliers to tariff customers also provide the guaranteed supply of electricity, which is financed by the price for electricity in the framework of guaranteed supply.

The suppliers of natural gas to tariff customers are financed, on the basis of the provisions of individual ordinances of the local communities, by the final price for natural gas. In certain cases the local communities stipulated in an ordinance, and consequently also in a concession contract, or in an instrument of constitution relating to a public company, that the difference between the actual costs and the revenues from the final price, which may not cover all the costs, can be covered by the budget funds and other sources.

In 2006 all 107,119 household customers, consuming 10.5 percent of the total gas supply, were supplied at regulated prices. On the other hand, 89 percent of electricity customers, consuming 25 percent of the total electricity supply, were supplied at regulated prices.

# 6.4 SAFEGUARDING TRANSPARENCY

In the Slovenian markets for electricity and natural gas, the transparency of prices, the relevant data, and the conditions for the supply and consumption are provided.

The transparency of the conditions for the supply and consumption is provided for by the general acts that are publicly published and in this way available to all the market participants. With respect to electricity, the system operators adopt the general conditions for the supply and consumption of electricity from the transmission and distribution networks after obtaining a positive opinion from the Energy Agency and approval from the Government of the Republic of Slovenia. With respect to natural gas, the relevant documents are the General Conditions for the Supply and Consumption of Natural Gas from the Transmission Network, which is adopted by the transmission system operator after obtaining a positive opinion from the Energy Agency and approval from the Government of the Republic of Slovenia, and the General Conditions for the Supply and Consumption of Natural Gas from the Distribution Network, which is adopted by the transmission system operator after obtaining approval from the Energy Agency and the relevant local authority. The Energy Agency is responsible for deciding on disputes arising from alleged breaches of the general supply conditions.

The general conditions for the supply and consumption of electricity and natural gas determine, among other matters, the framework structure of the contracts relating to the supply to tariff customers. Other aspects of the contracts are determined freely, and are reviewed in line with the provisions of the Code of Obligations. The settling of disputes arising from the provisions of these contracts is the responsibility of the court. The Energy Agency cannot influence the formulating of the contractual provisions, i.e., the content of the contracts.

The current final electricity price and the price for electricity relating to guaranteed supply are permanently published on the websites of the suppliers to tariff customers. Each change to these prices is published on the website and in daily newspapers.

In line with the EA, the system operators provide, to eligible customers, the data required for effective use of the network access.

The transparency of the data relating to electricity production is also provided for, as the suppliers of electricity to end customers 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 operating in the previous year.



# 7 District heating

The distribution of heat is defined as a local optional public service including the supply of heat or cold from the distribution networks, and the distribution-system operation. By way of distributing heat or cold (henceforth referred to as heat), the supply with heat, required for the heating or cooling systems in the buildings of the customers of heat or cold, is provided for. Distributors of district heating and the producers of heat required for district heating of above 1 MW have to obtain a licence to carry out this type of energy-related activity. Below, only the data relating to the licensed distributors of district heating and the producers of heat for district heating of above 1 MW is shown.

# 7.1 The supply of district heating

In the Republic of Slovenia, 54 of 67 licensed companies involved in heat supply were active in 2006. Of these companies, 37 were involved in both heat distribution for district heating, and heat production for district heating of above 1 MW of installed power; 9 companies were only involved in the distribution, while the remaining 8 companies only produced heat for the purpose of supplying distributors of district heating. With respect to district cooling, no distribution systems are in place in Slovenia; however, in some municipalities studies of their feasibility, or economic viability, were carried out. The main reasons for an increasing justification of new investments in the systems of cogeneration of heat, electricity and cold are the continual increase in the prices of some energy sources, mainly electricity, and relatively warm winters. These conditions have negative effects on the operational economics of the distributors and producers of district heating. For the purpose of heat supply, in 2006 licensed producers of heat produced 3.301 TWh of heat and 4.953 TWh of electricity, or 4.349 TWh of electricity at the busbar of the cogeneration processes. The largest share of heat - 1.082 TWh or 32.8 percent – was used for the supply to 111,283 households, while 0.957 TWh or 29 percent of heat was used for the supply to 2782 non-household customers in 36 municipalities. The difference between the produced and distributed heat, 1.362 TWh or 38.2 percent of heat, was used for the producers', or distributors', industrial processes, and for covering the heat losses in the distribution networks. Non-households, i.e., industrial customers used 0.619 TWh or 18.8 percent of all the heat in the form of industrial steam. Figure 74 shows the heat consumption by type of customers and the customer numbers.

# Heat consumption by type of customers and the customer numbers



In 2006 natural gas was mostly used as a primary energy source for the heat production; it had a 49.4-percent share in the structure of the used energy sources. This was followed by coal, with a 41.6-percent share, and residual fuel oil, with a 5-percent share. Wood biomass and other renewable energy sources had a 3.1-percent share in the structure of primary energy sources used for heat production.



# REPORT ON THE ENERGY SECTOR IN SLOVENIA FOR 2006

In 2006 the largest five companies for heat distribution supplied 84,254 households, or 75.7 percent of all households, distributing 85.4 percent of the heat used for district heating. Figure 76 shows the largest distributors of heat with respect to the amount of heat distributed to households in 2006, and the customer numbers.

### FIGURE 76 The largest distributors of heat to households in 2006 Source: Energy Agency 100,000 800 600 10,000 Heat (GWh) 400 1,000 200 100 0 10 Javno podjetje Komunalno podjetje Javno podjetje Toplotna Domplan, d. d., Energetika Celje, Energetika Ljubljana, d. o. o. Velenje, d. o. o. oskrba, d. o. o., Maribor Kranj javno podjetje, d. o. o. Heat consumption (GWh) No. of customers

The largest five distribution companies supplied heat to 57.5 percent of all non-household

customers, distributing as much as 87.6 percent of the heat consumed by these customers.

# The largest distributors of heat to non-household customers



# 7.2 The distribution NETWORKS

The distribution networks for the supply of heat are in 36 municipalities, and their total length is 652 kilometres. With respect to the temperature regime of operation, the warm-water networks and hot-water networks cover 96.8 percent, and steam networks cover 3.2 percent of the total length of the distribution networks. The municipalities with the most extensive networks are Ljubljana, with 225 kilometres of hot-water and warm-water networks, and Velenje, together with Šoštanj, with 156 kilometres of warm-water network. Figure 78 shows the length of the heat distribution networks in individual municipalities, and the numbers of connected users.



# Length of heat-distribution networks by municipality, and the numbers of connected users

# 7.3 The prices for heat

We can compare the average prices for the heat supply from the distribution networks charged to the standard customer group of households  $D_{3b}$  using the heat for hot water and central heating in different municipalities with district heating.

The details relating to the prices for heat in individual Slovenian towns have been taken from the current price-lists of selected companies for the production and supply of district heating. The prices for selected towns in Slovenia are shown in this section; the total amount of heat supplied to the selected households amounted to 84.8 percent of the total heat supplied to the households in the whole country. The presented prices apply to the customer group with a connected load of 10 kW and an annual consumption of 34.9 MWh. The average Slovenian price, calculated as a weighted average of the prices in the considered towns, is also shown.

Figure 79 shows the prices of heat from the distribution networks for district heating relating to selected Slovenian municipalities, calculated as a weighted average of retail prices versus the number of customers.

# Average retail price of district heating for households by Slovenian municipality in 2006

Source: Statistical Office of the Republic of Slovenia



# 7.4 THE TASKS AND ACTIVITIES OF THE ENERGY AGENCY

With respect to heat supply, the Energy Agency performs the following tasks:

- issuing general acts regarding the performance of the public authorities relating to:
  - the methodology for setting general conditions for the supply and consumption of heat from the distribution networks;
  - the methodology for the preparation of the tariff systems for the supply and consumption of heat from the distribution networks;
- giving approval to the system operation instructions for the heat distribution networks;
- deciding on issuing and revoking the licences for the provision of energy-related activities.

The Energy Agency issued the Act Determining the Methodology for Setting General Conditions for the Supply and Consumption of Heat from Distribution Networks and the Act Determining the Methodology for the Preparation of the Tariff Systems for the Supply and Consumption of Heat from Distribution Networks in 2005 after obtaining approval from the Government of the Republic of Slovenia. These methodologies provide for the transparency and comparability with the other heating systems, and the protection of the heat customers.

General conditions for the supply and consumption of heat from the distribution networks and the tariff systems relating to the heat on distribution networks are prepared and adopted, under public authorisation, by the heat distributors for the areas in which they provide their local optional public service of heat distribution in line with the above general acts. Prior to publishing these two documents, a heat distributor has to obtain approval from a relevant local authority, or the authority from Article 35 of the EA that reviews the general conditions, or a tariff system, with respect to their compliance with the above-mentioned methodologies.

# 7.4.1 The Act Determining the Methodology for Setting General Conditions for the Supply and Consumption of Heat from Distribution Networks

This act determines the methodology for the preparation of general conditions for the supply and consumption of heat from the distribution networks, and the mandatory framework structure of such a document. The methodology regulates the transparency of general conditions issued by the heat distributors, and they all have to be comparable with respect to their form and structure.

# 7.4.2 The Act Determining the Methodology for the Preparation of the Tariff Systems for the Supply and Consumption of Heat from Distribution Networks

This act determines the methodology for the preparation of the tariff systems for the supply and consumption of heat from distribution networks, and the mandatory framework structure of the tariff systems for the supply and consumption of heat from distribution networks, including the elements of the accounts relating to the energy supplied to different customer groups with respect to the power, type and characteristic of their consumption, the quality of supply and other elements. With a tariff system, a heat distributor sets the tariffs for the heat supply, as well as a uniform and transparent mode of forming and using different account elements. When putting together a tariff system, a heat distributor considers the following objectives: an efficient use of heat, a reliable supply to heat customers, a supply with the heat of an appropriate quality, protection of the environment and of the customers.

# 7.4.3 Issuing approvals to the system operation instructions for the heat distribution networks

On the basis of the fourth paragraph of Article 40 of the EA, the Energy Agency gives approval to the system operation instructions for the heat distribution networks. These system instructions are issued, under public authorisation, by the system operators (heat distributors) providing the system operation on these networks.

The system operation instructions regulate the operating mode of the heat distribution networks. They mainly prescribe the technical and other conditions for a safe network operation, allowing a reliable and high-quality energy supply; they also prescribe the mode of providing ancillary services, the procedures for the operation in critical situations, the technical and other requirements for making a connection to a network, and the technical requirements for interconnections and operations of the networks of different operators. The system operation instructions have to be transparent, objective and non-discriminatory.

To make the system operation instructions uniform and increase their transparency with respect to the required framework structure, the Energy Agency prepared draft system operation instructions, providing guidelines to the heat distributors for the preparation of their documents. After reconciling the document with the heat distributors, the Energy Agency published the draft system operation instructions on its website and asked the heat distributors, or holders of the licences to carry out energy-related activities relating to district heating, to submit their own operation instructions for approval.

A heat distributor that submits its system operation instructions to the Energy Agency for its approval has to prove that it is a provider of the public service of heat distribution, organised in one of the legally prescribed forms of providing this service in line with the provisions of the Public Companies Act. The Energy Agency also prepared a written clarification as to which entities are obliged to submit their operation instructions for approval, and sent it to the holders of the licences to carry out energy-related activities associated with district heating. On its website, the Energy Agency published detailed explanations as to which entities are obliged to submit operations instructions for approval to the Energy Agency, and what requirements these entities have to fulfil.

In 2006 the Energy Agency received two requests for obtaining approval to the system operation instructions for the heat distribution networks; however, the reconciliation exercise has not yet been completed.

# 8 LIST OF FIGURES

Figure 1	Balance of electricity production and consumption in 2006 – in GWh	15
Figure 2	Structure of the production and flows of electricity in Slovenia	16
Figure 3	Fluctuations in the consumption and flows of electricity	17
Figure 4	Structure of production sources for electricity in Slovenia for 2006	18
Figure 5	Reconstructions and new investments of the companies for transmission and distribution in 2006	23
Figure 6	Structure of sources of funds used for the investments within public services	24
Figure 7	Expected investments of distribution and transmission system operators for 2005–2014	25
Figure 8	Average values of the elements included in the use-of-network price by voltage level	31
Figure 9	Shares of the elements included in the use-of-network price, and shares of the elements included in the final electricity price for a typical industrial customer ( $I_b - 50$ kW, 50 MWh)	32
Figure 10	Shares of the elements included in the use-of-network price, and shares of the elements included in the final electricity price for a typical industrial	33
Figure 11	customer ( $I_e - 500$ kW, 2 GWh) Shares of the elements included in the use-of-network price, and shares of the elements included in the final electricity price for a typical industrial customer ( $I_e - 4$ MW, 24 GWh)	34
Figure 12	customer ( $I_g$ – 4 MW, 24 GWh) Shares of the elements included in the use-of-network price, and shares of the elements included in the final electricity price for a typical household customer ( $D_c$ – 3500 kWh per year)	35
Figure 13	Movements of the final electricity price for a typical household customer D <sub>c</sub> since 2003	36
Figure 14	Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Austria–Slovenia	38
Figure 15	Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Croatia–Slovenia	38
Figure 16	Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Slovenia–Austria	39
Figure 17	Allocated rights to use the CBTCs, and the price achieved at the auction, for the transmission path Slovenia–Italy	39
Figure 18	Dynamics of liberalisation of the electricity market in Slovenia	41
Figure 19	Numbers of eligible customers and tariff customers at the end of 2006	41

Figure 20	Shares of electricity consumption of eligible and tariff customers	42
Figure 21	Movement of the price for emission coupons at the EEX	47
Figure 22	Cumulative shares of the one ( $CR_1$ ), two ( $CR_2$ ) and three ( $CR_3$ ) largest producers in the market with respect to the total production of electricity	48
Figure 23	HHI relating to the companies for electricity production	50
Figure 24	Movements of monthly amounts and the prices for concluded deals on the daily market in 2006	52
Figure 25	Monthly traded amounts and movements in the SLOeX index for 2002–2006	54
Figure 26	Market shares of the electricity suppliers to eligible customers	56
Figure 27	Market shares of the suppliers to households and eligible customers with an annual consumption of up to 50 MWh	56
C C	Market shares of the suppliers to eligible customers with an annual consumption of up to 50 MWh	57
Figure 29	Market shares of the suppliers to eligible customers with an annual consumption between 50 MWh and 2 GWh	57
Figure 30	Market shares of the suppliers to eligible customers with an annual consumption of over 2 GWh	58
Figure 31	Numbers of supplier switches for 2002–2006	59
Figure 32	Dynamics of the supplier switches in 2006 with respect to the number of customers	59
Figure 33	Dynamics of the supplier switches in 2006 with respect to the amounts of electricity	60
Figure 34	Comparison of electricity prices for a typical industrial customer with an annual consumption of 50 MWh in Slovenia and in other EU countries for July 2006	62
Figure 35	Comparison of electricity prices for a typical industrial customer with an annual consumption of 24 GWh in Slovenia and in other EU countries for July 2006	63
Figure 36	Movements of electricity prices, in tolars, for typical industrial customers in Slovenia	64
Figure 37	Comparison of total electricity prices for a household customer with an annual consumption of 3500 kWh in Slovenia and in other EU countries for July 2006	65
Figure 38	Average daily values of the CSLOeX index, and of the main imbalance prices C+ and C–	66

8

\_\_\_\_\_

8

Figure 39	Average monthly imbalances of the Slovenian network in 2006	66
Figure 40	Areas of regional markets for electrycity	69
-	Movements of the prices for the products in 2006 in the long-term market for the base load and shoulder load available in 2007, and the movements of the price for emission coupons in 2006	70
Figure 42	Number of eligible customers and household customers of natural gas and their consumption	73
Figure 43	Gas transmission system	75
	Areas of gas distribution in the local	, .
	communities in Slovenia	78
U	Trends in the numbers of new customers on the distribution networks	79
	Construction of new distribution networks in 2005 and 2006	81
Figure 47	Movements of the prices for the transmission by customer group	82
Figure 48	Movements of the price for natural gas (P <sub>b</sub> ) required for balancing imbalance amounts in 2006	84
Figure 49	Utilisation of the capacities at the border metering-regulation station Ceršak	86
Figure 50	Utilisation of the capacities at the border metering-regulation station Šempeter	86
Figure 51	Utilisation of the capacities at the border metering-regulation station Rogatec	87
Figure 52	Sources of natural gas	89
Figure 53	Market shares of the gas suppliers in the retail gas market in Slovenia	90
Figure 54	Breakdown of Geoplin's supply to the industrial customers connected to the transmission network, by industry	91
Figure 55	Ratio between the number of eligible customers and households, and their consumption on the distribution networks	92
Figure 56	Movement of gas consumption of the customers connected to the distribution networks by month	93
Figure 57	Market shares of the suppliers to the customers with an annual consumption of more than a million Sm <sup>3</sup> of gas	94
Figure 58	Market shares of suppliers to the customers with an annual consumption of between 4500 and 1,000,000 Sm <sup>3</sup> of gas	95
Figure 59	Market shares of the suppliers to the customers with an annual consumption of up to 4500 Sm <sup>3</sup> of gas	96
Figure 60	Average prices for natural gas on the transmission network	97
Figure 61	Gas prices including all the taxes for typical industrial customers	98

Figure 62	Structure of gas prices for typical industrial customers connected to the transmission network	99
Figure 63	Gas prices including all the taxes for typical households	100
Figure 64	Movement of gas prices for households D3 (without taxes) – July 2006/July 2005	101
Figure 65	Movement of gas prices for typical industrial customers I <sub>3-1</sub> with an annual consumption of 1.1 million Sm <sup>3</sup> (without taxes) – July 2006/July 2005	102
Figure 66	Gas prices for very large industrial customers with an annual consumption of about 11 million $Sm^3$ (I <sub>4-1</sub> )	103
Figure 67	Gas prices for large industrial customers with an annual consumption of 1.1 million Sm <sup>3</sup> (I <sub>3-1</sub> )	103
Figure 68	Gas prices for households with an annual consumption of 2241 Sm <sup>3</sup> (D <sub>3</sub> )	104
Figure 69	Production and consumption of electricity on the Slovenian transmission network for 1990–2006 (period 1998–2002 includes the total production of the NPS Krško)	108
Figure 70	Surpluses and deficits of electricity on the Slovenian transmission network for 1990–2006 (period 1998–2002 includes the total production of the NPS Krško)	108
Figure 71	Structure of electricity production on the Slovenian transmission network for 1990–2006 (period 1998–2002 includes the total production of the NPS Krško)	109
Figure 72	Installed power of production facilities, the power available to the Slovenian market, and the peak power of consumption on the transmission network for 1990–2006	110
Figure 73	Meeting the demand of the Slovenian electricity system in the period until 2009	112
Figure 74	Heat consumption by type of customers and the customer numbers	122
Figure 75	Structure of primary energy sources for the production of heat used for district heating	122
Figure 76	The largest distributors of heat to households in 2006	123
Figure 77	The largest distributors of heat to non-household customers	124
Figure 78	Length of heat-distribution networks by municipality, and the numbers of connected users	125
Figure 79	Average retail price of district heating for households by Slovenian municipality in 2006	126

# 9 LIST OF TABLES

Table 1	Comparison of electricity production in Slovenia for 2005 and 2006 – in GWh	16
Table 2	Comparison of electricity consumption for 2005 and 2006 – in GWh	17
Table 3	Financial results for the services of the distribution system operators	19
Table 4	Comparison of expected and actual revenues from the network charge	20
Table 5	Profit or loss for electricity-distribution companies	20
Table 6	Profit or loss by activity	21
Table 7	Review of investments in 2005 in 2006	22
Table 8	Reconstructions and new investments of the companies for transmission and distribution in 2006	22
Table 9	Number of complaints relating to the voltage quality in 2005 and 2006	29
Table 10	Average duration of unforecasted interruptions of electricity supply per customer in 2006	30
Table 11	Installed capacities of the production facilities active in the Slovenian market	43
Table 12	Shares of different types of electricity production in Slovenia	44
Table 13	Newly acquired capacities of the production facilities in the territory of the Republic of Slovenia in 2006	44
Table 14	Financial results of the companies for electricity production	45
Table 15	Number of employees in the companies for electricity production	45
Table 16	Ownership structure of the companies for electricity production	46
Table 17	HHI with respect to the installed power of the production facilities active in the Slovenian market	49
Table 18	HHI with respect to the production of the producers on the transmission	49
Table 19	Review of the amounts of leased power	51
Table 20	Extent of trading and the average price by product by month for the period from 1 January 2006 to 31 December 2006	53
Table 21	Market shares of the suppliers to eligible customers on the distribution network	61
Table 22	Market shares of the suppliers to eligible customers	61
Table 23	List of balance groups and balance subgroups in the territory of the Republic of Slovenia as of 31 December 2006	67

Table 24	Review of activities related to the investments in the gas transmission network	76
Table 25	Provision of the regulated services of operating a distribution network and supplying gas to tariff customers	77
Table 26	Technical characteristics of the gas distribution networks in Slovenia at the end of 2006	78
Table 27	Ownership structure of the companies for gas distribution	80
Table 28	Prices for the use of the gas transmission network for typical industrial customers in 2006	82
Table 29	Utilisation of the capacity at the border metering-regulation stations	85
Table 30	Trends in gas sales in Slovenia for 2004–2006	89
Table 31	Market shares and the HHIs relating to the retail gas market in Slovenia	90
Table 32	HHIs for the largest suppliers to the customers with an annual consumption of more than a million Sm <sup>3</sup> of gas	94
Table 33	HHIs for the largest suppliers to the customers with an annual consumption of between 4500 and 1,000,000 Sm <sup>3</sup> of gas	95
Table 34	HHIs for the largest suppliers to the customers with an annual consumption of up to 4500 Sm <sup>3</sup> of gas	96
Table 35	Trends of installed power and peak power in the Slovenian electricity system	110
Table 36	Installed power of the Slovenian power stations and the growth of the peak consumption for 2005–2009	111
Table 37	Review of public services	115
Table 38	Number and percentage of disconnections due to unpaid electricity bills, by system operator	117

# 10 LIST OF ABBREVIATIONS

1

\_

-

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
DPSM	Drava Power Stations, Maribor, d. o. o.
DSO	Distribution System Operator
EA	Energy Act (the Official Gazette of the Republic of Slovenia, No. 26/05 – the officially consolidated version)
EEX	European Energy Exchange AG, Leipzig
EFT	Električni finančni tim, d. o. o.
Eles	Eles – Elektro Slovenija, d. o. o.
Energy	
Agency	Energy Agency of the Republic of Slovenia
ERGEG	European Regulators Group for Electricity and Gas
GDP	gross domestic product
HHI	Hirshmann–Herfindahl index
HPS	hydroelectric power station
HSE	Holding Slovenske elektrarne, d. o. o.
HSE	Holding Slovenske elektrarne, u. o. o.
HSE	high voltage
	-
HV	high voltage
HV LV	high voltage low voltage
HV LV MRS	high voltage low voltage metering-regulation station
HV LV MRS MV	high voltage low voltage metering-regulation station medium voltage
HV LV MRS MV NPSK	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o.
HV LV MRS MV NPSK P	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power
HV LV MRS MV NPSK P P+, P-	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price
HV LV MRS MV NPSK P P+, P– PS pumped	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service
HV LV MRS MV NPSK P P+, P- PS pumped storage	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service
HV LV MRS MV NPSK P P+, P- PS pumped storage RECS	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service pumped-storage power station Renewable Energy Certificate System
HV LV MRS MV NPSK P P+, P– PS pumped storage RECS RS	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service pumped-storage power station Renewable Energy Certificate System Republic of Slovenia
HV LV MRS MV NPSK P P+, P– PS pumped storage RECS RS SAIDI	high voltagelow voltagemetering-regulation stationmedium voltageNuclear Power Station, Krško, d. o. o.powermain energy imbalance pricepublic servicepumped-storage power stationRenewable Energy Certificate SystemRepublic of SloveniaSystem Average Interruption Duration Index
HV LV MRS MV NPSK P P+, P- PS pumped storage RECS RS SAIDI SAIFI	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service public service public service System Average Interruption Duration Index System Average Interruption Frequency Index
HV LV MRS MV NPSK P P+, P– PS pumped storage RECS RS SAIDI SAIFI SIT	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service public service pumped-storage power station Renewable Energy Certificate System Republic of Slovenia System Average Interruption Duration Index System Average Interruption Frequency Index
HV LV MRS MV NPSK P P+, P– PS pumped storage RECS RS SAIDI SAIFI SIT SLOeX	high voltage low voltage metering-regulation station medium voltage Nuclear Power Station, Krško, d. o. o. power main energy imbalance price public service public service public service spupped-storage power station Renewable Energy Certificate System Republic of Slovenia System Average Interruption Duration Index System Average Interruption Frequency Index Slovenian tolar

STC	supply to tariff customers
Т	tolerance
TPSB	Thermoelectric Power Station, Brestanica, d. o. o.
TPSŠ	Thermoelectric Power Station, Šoštanj, d. o. o.
TPST	Thermoelectric Power Station, Trbovlje, d. o. o.
TPS	thermoelectric power station
TS	transformer station
TSO	Transmission System Operator
UCTE	Union for the Co-ordination of the Transmission of Electricity
UNP	use-of-network price



Javna agencija RS za energijo

ENERGY AGENCY OF THE REPUBLIC OF SLOVENIA				
Strossmayerjeva 30, SI-2000 Maribor			P.O. Box 1579	
Phone: +386 2 234 03 00		Fax: +386 2 234 03 20		
www.agen-rs.si	info@agen-rs.si			)

# Report on the Energy Sector in Slovenia for 2006

August 2007

Translation: Mirjam Novak Proofreading: Paul McGuiness Design: Sašo Gorjup Likovnik Typesetting and printing: Tiskarna Lithos





