





- REPORT ON
- THE ENERGY SECTOR
- IN SLOVENIA
- FOR 2007



The Council of the Energy Agency of the Republic of Slovenia adopted this report at its 24th extraordinary session, on 30 June 2008. The Government of the Republic of Slovenia gave its approval to this report at its 243rd correspondence session, on 24 July 2008.

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The year 2007 saw the completion of the multiannual period for the opening of the markets for electricity and natural gas. The market became fully liberalised when, on 1 July 2007, household customers also got the right to choose their suppliers, and, as a result, become market participants. In this way Slovenia, together with some of the other Member States, complied with the commitments related to EU membership that oblige Member States to allow all energy customers to choose their suppliers. By publishing a special brochure, the Energy Agency informed all the households about the change, their new rights, and the other consequences of market liberalisation. In addition to the liberalisation of the internal energy markets, 2007 also saw significant progress in the market integration that is coordinated at the regional level.

Slovenia provided for the changes in the electricity market by modifying the organisational structure of the electricity production companies. It set up two energy pillars with comparable capacities and production characteristics. Since 1 July 2007 the distribution companies have been operating within a new organisational structure, bringing together the suppliers and the network owners, while the public service of the distribution system operation has been carried out by a new company called SODO, d. o. o. After several years of preparation, at the end of 2007 the Energy Agency introduced and started to use a system for collecting and assessing the data relating to the quality of electricity supply in an internationally comparable way.

In 2007 the market for natural gas became regulated in detail with the governmental ordinance that, among other things, specified the relations between the market participants and the network operators, and determined the switching procedure. In addition, in the first half of 2007 the network charges for the distribution networks were also implemented in the areas in which previously these network charges had not been in place. In this way all the local communities that offer the supply with natural gas also facilitate the rights to switch supplier and to participate in the market.

The liberalisation of the markets for electricity and natural gas, and the completion of the market regulation allow an increased level of energy trading. Throughout the year the suppliers provided sufficient amounts of energy, so that the supply was never disrupted.

In addition to the requirement to provide sufficient amounts of energy, the contribution of the energy sector towards achieving the objectives of the European energy policy relating to combating climate change is becoming an increasingly important challenge for the future. Both requirements will significantly affect the future development projects relating to the reliability of energy supply. The supply reliability is becoming a motivation for the new development mission, as the networks for electricity and natural gas will have to allow the integration of new electricity-production facilities in the energy system.

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The Energy Agency of the Republic of Slovenia prepared the Report on the Energy Sector as an integrated text covering all the issues stipulated by the Energy Act, as well as the issues prescribed by the Commission of the European Communities relating to market dominance, and predatory and anti-competitive behaviour in the electricity market. In addition, the report covers all the issues stipulated by the Commission of the European Communities in the prescribed framework structure of an annual report that is prepared, for the purpose of comprehensive reporting to the Commission, by all the Member States' energy regulators.

Section 3 summarizes the development of the markets for electricity and natural gas, and the main activities that the regulator carried out in 2007.

Section 4 gives a detailed description of the electricity-market operation including regulated and market-based services. In 2007 the electricity production in Slovenia increased, in comparison with the previous year, by 0.3 percent. A total of 12,998 GWh of electricity was consumed, which was 1.3 percent more than in 2006. The consumption of the customers connected to the distribution networks was 2.6 percent higher than in 2006, while the consumption of the customers connected to the transmission network decreased by 3.5 percent. The electricity prices for household customers were increased, on average, by 1.6 percent. With respect to the total energy consumption in Slovenia, about 3.6 percent of customers switched supplier, which is 69 percent more than in the previous year.

Another important innovation was the introduction of the market-based principle of allocating cross-border transmission capacities. Since 1 July 2007 the Slovenian transmission system operator has been allocating cross-border transmission capacities relating to the Slovenian northern and western borders on the market-based principle. And at the end of 2007 the capacities for 2008 were allocated in a coordinated way, involving the neighbouring operators.

Section 5 gives a detailed description of the market for natural gas. In 2007 end customers consumed 1,117,743 thousand Sm<sup>3</sup> of natural gas, which is two percent more than in 2006. The consumption of industrial customers connected to the transmission network increased by about five percent, while the consumption of the customers connected to the distribution networks decreased by six percent. At the end of 2007 the gas prices for end customers did not change significantly in comparison with the prices at the end of 2006. The end of 2007 saw the start of the switching procedures that were actually implemented on 1 January 2008.

Section 6 gives a brief review of the supply reliability relating to electricity and natural gas, while Section 7 describes the provision of public services, customer protection, especially the protection of vulnerable customers, and the ensuring of transparency.

The supply with district heating is, together with the regulator's tasks relating to this area, described in Section 8. 3 Development of the Energy Markets and the Main Activities of the Regulator

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

SLOVENIA	
Population (September 2007)	2,024,335
Area	20,273 km <sup>2</sup>
Number of electricity customers (on 31 Dec 2007)	893,659
Number of natural-gas customers (on 31 Dec 2007)	124,799
Gross domestic product (GDP)	33,542 million euros
Increase in GDP	6.1%
Inflation	5.6%
GDP per person	16,569 euros
SOURCES: STATISTICAL OFFICE OF THE REPUBLIC OF SLOVENIA, THE ENERGY AGENCY	

# ELECTRICITY

Installed capacity	3,006 MW	
Hydroelectric power		886 MW
Thermoelectric power		1,241 MW
Nuclear power		696 MW
Qualified producers and other small producers on the distribution networks		183 MW
Production of electricity	13,636 GWh	
Hydroelectric power		2,814 GWI
Thermoelectric power		4,817 GW
Nuclear power		5,422 GW
Qualified producers and other small producers on the distribution networks		583 GW
Length of the transmission network	2,563 km	
– 400 kV		508 kr
– 220 kV		328 kn
– 110 kV		1,727 kr
Length of the distribution networks	62,000 km	
– 110 kV		793 kr
– 35, 20 and 10 kV		17,215 kr
– 0.4 kV		43,992 kr
Consumption of electricity	12,998 GWh	
Direct customers		2,688 GW
Eligible customers		7,247 GW
Tariff customers		3,063 GW
Annual consumption per person	6,335 kWh	
Average household consumption per month	320 kWh	

Source: Companies' data

with the bilateral agreement, only half of the electricity produced by this power plant is available to Slovenia.

# NATURAL GAS

Length of the transmission network	970 km	
– more than 16 bar		759 km
– less than 16 bar		211 km
Length of the distribution networks (up to 16 bar)	3,525 km	
Consumption of natural gas	1,117,742,895 Sm <sup>3</sup>	
Customers on the distribution networks		266,960,128 Sm <sup>3</sup>
Industrial customers		850,782,768 Sm <sup>3</sup>
Annual consumption per person	552 Sm <sup>3</sup>	
Sources: Companies' data		

# 3.2 THE REGULATOR'S MOST IMPORTANT ACTIVITIES AND ITS ORGANISATIONAL STRUCTURE

The Energy Agency of the Republic of Slovenia (henceforth referred to as the Energy Agency) acts as the regulator of energy-related activities, in line with the provisions of the energy-related legislation. The regulator compensates for the lack of competition in the cases of the naturalmonopoly services associated with the networks. By determining the methodologies for setting and charging of the network charges for the electricity and gas networks, and by setting the network charges for the electricity and gas networks, the regulator sets the objectives with respect to the operational efficiency of the regulated services, and the incentives for achieving these objectives. The regulator controls the non-discriminatory network access, and the operation of the market, where it also identifies possible cases of abuse and reports on them. In addition, the regulator decides on disputes and appeals, issues the licences for those energy-related activities that require licences, and gives approval to, or opinions on, the acts of the system operators.

With respect to the supply of district heating, the Energy Agency issues the methodology for the preparation of the general acts of the heat suppliers. The Energy Agency also issues the guarantees of origin and the tradable RECS certificates for the electricity that comes from renewable energy sources. It also determines and monitors the obligation to disclose the structure of the production sources.

The Energy Agency annually reports to the Government of the Republic of Slovenia (henceforth referred to as the government) on its operations and on the conditions in the energy sector, as well as on the development of the competition in the energy markets. It also submits a report to the European Commission.

The governing bodies of the Energy Agency are the director and the five-member council, who give guidelines to the Energy Agency and adopt its general acts. The Energy Agency has three sectors: the sector for electricity, the sector for natural gas and district heating, and the sector for common services.

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

The turning point in the development of the markets for electricity and natural gas in the European Union was the publication of the draft Energy Policy for Europe that was implemented with the decisions of the Council of the European Union on 8–9 March 2007 (7224/1/07, Annex I). This document sets out ambitious and binding objectives relating to competitiveness, supply security, and combating climate change. These issues became priority topics, guiding the operations in the energy markets, the activities of the European Commission and the activities of the regulatory authorities.

In the future the electricity market will certainly be strongly influenced by these binding objectives, requiring the EU to reduce its greenhouse-gas emissions by 20 percent by 2020, to increase energy efficiency by 20 percent and to increase the share of electricity produced from renewable sources to 20 percent of the end consumption.

In Europe we are striving to create a transparent and efficiently operating internal market for electricity and natural gas. For this purpose the European Commission published a proposal for the third legislative package of directives that will amend the current regulations. The main requirements of this proposal are a more efficient unbundling of production and supply from the network operation, an increase in crossborder energy trading, the empowerment of the regulators at the national level, and an increased transparency of operations.

The regulatory authorities and market participants contributed to more competitive and unrestricted market operations, mostly with their activities carried out at the regional level. In the regions that also include the Slovenian market, in 2007 the largest progress was made with respect to market transparency and data availability. However, the established shortcomings and obstacles relating to market operation and market accessibility are only slowly being removed. In the area of electricity, the market-based principle of allocating crossborder transmission capacities, directly affecting energy prices, has finally been introduced.

For the Slovenian energy market the turning point was 1 July 2007, when the markets for electricity and natural gas were also opened up for household customers, and when the regulation of electricity prices for end customers was abolished. In spite of a large increase in the number of eligible customers, we found no irregularities in the market that would have required the responsible authorities to take action.

### 3.3.1 THE DEVELOPMENT OF THE MARKET FOR ELECTRICITY

During the first half of 2007 a number of organisational and normative preparations for the full opening of the electricity market, and for the provision of the market conditions concerning the allocating of cross-border transmission capacities, took place.

The Energy Act (henceforth referred to as the EA), which implemented Directive 2003/54/EC into the Slovenian legislation, required the market to open up to all electricity customers, including households. On 9 March 2007 the National Assembly adopted the Act Amending the Energy Act that, among other things, implemented the commitments from Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market. When recasting the normative acts, the focus was on the implementation of the protection mechanisms providing, for the vulnerable customers, fair and clear conditions for participating in the open electricity market. One of the important changes to the structure of the electricity companies was the legal unbundling of the distribution-system operators from the electricity suppliers, which took place on 1 July 2007. The legal unbundling was one of the most important requirements of the European legislation, as it is the basic principle needed for the operation of the internal European electricity market. The Ministry of the Economy thus prepared a package of executive regulations and established a new company, SODO, sistemski operater distribucijskega omrežja z električno energijo, d. o. o. (henceforth referred to as SODO) that has been, since 1 July 2007, responsible for the operation of the electricity-distribution system. The year 2007 also saw the adoption of the Ordinance Regarding the Concession for the Public Service of Operating the Electricity Distribution Network (the Official Gazette of the Republic of Slovenia, No. 39/07), and the Act Establishing the Limited Liability Company called SODO, sistemski operater distribucijskega omrežja z električno energijo, d. o. o. (the Official Gazette

of the Republic of Slovenia, No. 27/07). On the basis of these acts, SODO also took up the tasks of the last-resort supply that has to be provided to all households, as well as to customers that carry out a public service or another service, or have fewer than 50 employees and whose annual turnover is below 10 million euros. The new General Conditions for the Supply and Consumption of Electricity from the Distribution Network (the Official Gazette of the Republic of Slovenia, No. 126/07), prepared by SODO, thus determine new relations between the system operator, the suppliers and the users with respect to switching supplier, supply quality, and customer protection.

The preparations for the transition to the market-based allocation of available cross-border capacities were carried out at the level of the transmission system operator. Namely, the threeyear transition period, during which Slovenia was still allowed to use non-market methods for allocating available cross-border capacities, finished on 1 July 2007. On the basis of Regulation 1228/2003 and the corresponding guidelines (2006/770/EC), the transmission system operator - Elektro Slovenija, d. o. o., (henceforth referred to as Eles) - harmonised the organisation of auctions with the neighbouring, Italian and Austrian, transmission operators. The auctions were harmonised within the regions defined at the EU level. The concerned procedures and rules are determined in the new Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities (the Official Gazette of the Republic of Slovenia, Nos. 50/07, 103/07), the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities at the Slovenia-Italy Border (the Official Gazette of the Republic of Slovenia, No. 103/07), and the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities at the Slovenia-Austria Border (the Official Gazette of the Republic of Slovenia, No. 105/07).

The liberalisation of the wholesale market for electricity attracted foreign companies wishing to join the Slovenian balance scheme. In 2007 a total of 21 new balance groups joined the Slovenian balance scheme. At the end of 2007 this scheme included 29 balance groups (18 foreign and 11 Slovenian groups) and 11 subgroups (4 foreign and 7 Slovenian subgroups). The reason for the large number of newly established balance groups was the change in the legislation that made the entry to the Slovenian electricity market easier by ending the requirement, according to which foreign companies were obliged to obtain a licence for trading in the Slovenian wholesale market. The implementation of this change meant that foreign companies no longer needed a licence for trading in Slovenia; consequently, the procedures for market entry and for obtaining membership at the electricity exchange have been simplified.

The year 2007 also saw the integration of the producers and traders. GEN-I, d. o. o., the company for trading with the electricity from the group known as GEN energija, d. o. o., (Krško Nuclear Power Plant, d. o. o., Sava Hydroelectric Power Plants, Ljubljana, d. o. o., and Brestanica Thermoelectric Power Plant, d. o. o.) is becoming increasingly competitive with the largest energy pillar, Holding Slovenske elektrarne, d. o. o. The latter produces more than 60 percent of the electricity consumed in Slovenia. In spite of a reduced share of the total imports and exports, to fulfil the electricity demand in 2007, Slovenia had to import two percent more electricity than in the previous year. The share of our import dependency, therefore, already amounted to 23 percent.

The trading and electricity supply increased: in 2007 a total of 50,702 bilateral contracts amounting to a total of 50,658,707 MWh of electricity were recorded. In comparison with 2006, in 2007 the number of recorded bilateral contracts was higher by as much as 121.7 percent, while their total amount was smaller by 5.0 percent. Electricity prices were largely dependent on the price trends in the neighbouring markets. One of the most important price-trend indicators for Slovenia is the trend at the German exchange, the EEX, where the traders selling electricity in Slovenia also trade.

## 3.3.2 THE DEVELOPMENT IN THE MARKET FOR NATURAL GAS

One of the most important events that influenced the further development of the gas market in 2007 was its full opening. Access to the transmission network continued to be regulated. The customers directly connected to the transmission network were charged, on their bills, separately for the regulated part of the price, i.e., the network charge, and for the price of the goods, i.e., the natural gas. They could choose between making an access contract directly with the system operator, or through the supplier. In 2007 regulated access to the distribution networks was not yet fully resolved. The network charges for the gas distribution networks were set, and the system operation instructions were adopted for all the distribution system operators; the only outstanding documents are the general conditions for the supply and consumption for the gas distribution networks. The preparation and adoption of the general conditions followed the adoption of the Ordinance on Natural-Gas Market Operations, which provides the basis for adopting general conditions for supply and consumption.

In 2007 the trading with natural gas in the wholesale market was carried out mainly on the basis of long-term contracts that mostly expired during this period. In spite of the option to switch supplier on the transmission network at the time of the contract's expiry and the making of new contracts, in 2007 a good majority of these customers renewed their supply contracts with Geoplin, d. o. o., valid for the following five or ten years.

In 2007 the gas prices followed the prices for oil derivatives in the international markets, and the trends of foreign-currency exchange rates. The basic price for natural gas on the transmission network fluctuated a great deal; however, the price at the end of 2007 was comparable with the price at the end of 2006.

Aiming at an efficient, transparent, and nondiscriminatory operation of the market for natural gas, in 2007 the Ordinance on Natural-Gas Market Operations (the Official Gazette of the Republic of Slovenia, No. 95/07) was implemented. The ordinance regulates, in detail, the relationships among the gas-market participants, the method of charging for imbalances, the switching procedures, the customer protection, and the penalty provisions relating to the breaches of the provisions of this ordinance and of Regulation No 1775/2005 (EU).

In 2007 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.

In 2007 the network charges for the gas distribution networks were set for 64 municipalities in the Republic of Slovenia, in which gas distribution is already carried out. In some municipalities the gas suppliers started to disclose the network charge and the gas price separately on 1 July 2007, and they also introduced a new method of charging for the final gas price, as well as of the free setting of the portion of the price charged for the gas.

# 3.4 THE MAIN AREAS THAT INVOLVED THE REGULATOR

The most significant change in the Slovenian energy market was the full market opening that took place on 1 July 2007, when household customers also became active market participants. The Energy Agency was involved in the preparations for this change and gave proposals relating to the necessary measures and amendments to the executive acts. Just before the market opening it also informed all the households about their new rights by sending them a special brochure.

Together with the market opening, the new rules for allocating cross-border electricity transmission capacities, harmonised with the responsible authorities and the participants in the two regional electricity markets that include Slovenia, also began to apply. The Energy Agency gave its approval to the rules prepared by Eles. On the basis of these new rules, the cross-border transmission capacities (henceforth referred to as the CBTSs) are allocated using the market-based method, at explicit auctions.

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. In line with the EA, the Energy Agency thoroughly examined all the legal acts relating to the unbundling of the distribution system operators' services, as well as all the contracts and other acts regulating the relations between the new system operator and the other providers.

With respect to promoting the use of renewable energy sources in the production of electricity, it is the Energy Agency's responsibility to issue the tradable RECS green certificates and the guarantees of origin for electricity from renewable sources. In 2007 the Energy Agency issued guarantees of origin for a total amount of 2,348,449,592 kWh of electricity, and the RECS certificates for 31,653 MWh of electricity that were also redeemed.

With respect to natural gas, at the beginning of 2007 the Energy Agency gave approval to the network charges for the distribution networks for two operators operating in 9 local communities, and also issued 11 acts setting the network charges for 21 local communities. Thus, since May 2007 the network charges for the use of the gas distribution networks have been set for all the local communities in Slovenia in which gas distribution is carried out. The Energy Agency gave approval to 15 system operators, and also issued 7 acts regulating this area.

In mid-2007 the Energy Agency prepared the grounds for, and then was involved in, the production of the ordinance with which the gasmarket model was redefined. With this ordinance, the government determined the relations among the market participants, the method of balancing the imbalances, the switching procedure, and resolved some other issues that had not been regulated, such as the partial regulation of customer protection. The ordinance has applied since November 2007, allowing a full opening of the gas market. The Energy Agency also prepared the generic document called the General Conditions for the Supply of Natural Gas from the Distribution Networks that the distribution system operators use as the foundation for the preparation of the general conditions relating to the networks on which they perform the public service.

The transmission system operator prepared, with the approval of the Energy Agency, a list of relevant points on the transmission network, and began to regularly publish data concerning these points as required by regulation (EC) 1775/2005. None of the market participants complained against the list or the published data relating to these points.

The Energy Agency also issues approvals to the system operation instructions for the heat distribution networks; these are published by a system operator (a heat distributor) providing the service of operating a heat distribution network, and acting under public authorisation. In 2007 the Energy Agency issued six approvals to the system operation instructions for the heat distribution networks, and the harmonisation procedures concerning the content of the system operation instructions involving 19 heat

distributors were carried out. Because, on the basis of the first paragraph of Article 33 of the EA, heat distribution is an optional local public service, only a self-governing local community can grant the status of a heat distributor. For this reason a heat distributor submitting its system operation instructions for the Energy Agency's approval has to prove itself to be a provider of the public service of heat distribution, organised in line with the provisions of the Public Services Act and the Public-Private Partnership Act. In 2007 the Energy Agency was obtaining the data on the heat distributors also from the municipalities. In the process of establishing the appropriateness of the legal arrangements relating to the status of heat distributors, the Energy Agency identified some shortcomings. It reported on its findings to the relevant ministry, and informed the relevant inspection authorities about the heat distributors that did not hold the appropriate licence to carry out this energy-related activity.

The providers of energy-related services need to have the 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 2007 the Energy Agency issued, in the administrative procedure, 108 decisions that allowed the applicants to obtain the licences to carry out their energy-related activities. The Energy Agency also prepared a proposal for the amendments to the ordinance, on the basis of which licences are issued or revoked. These amendments are necessary because of the changes in the legislation and because of the need to improve the efficiency of the licence-issuing procedure.

The Energy Agency also played an important part by deciding on disputes between the network users and the system operators, or market operators. With respect to electricity, it received 26 requests for decisions, of which 15 decisions were made in the first instance, and 9 in the second instance. With respect to natural gas, in 2007 the Energy Agency for the first time received requests for decisions, and it made final decisions concerning 3 requests.

The Energy Agency cooperated with the authorities in the Republic of Slovenia that have responsibilities relating to the energy sector, and regularly reported on its work and on the situation in the energy sector. The Energy Agency also 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). The most important task was the contribution to the proposal for the so-called third legislative package of directives and regulations relating to the internal energy market that the European Commission published in September 2007.

The cooperation with the regulators and the EU bodies was continued as part of regional initiatives. It is expected that, with the implementation of the third legislative package, this cooperation will become an official requirement. The results of the activities carried out at the regional level were mainly the identification and removal of certain barriers for market operation and for market entry, and an increased transparency of the markets for electricity and natural gas. With respect to electricity, the most significant achievement was the introduction of the coordinated allocation of the CBTCs at the auctions. The allocation of the CBTCs and the development of the market methods that make the allocating less restrictive remain as the development challenges for future years. The progress made with respect to market operation at the regional level is, in spite of some success, still slow and increasingly dependent on the regional governments that, for now at least, remain rather passive.

The Slovenian electricity system has strong links with the Non-Member States that are the signatories of the Energy Community Treaty included in the newly formed, eighth electricity region. Furthermore, the gas market of these countries became a part of one of the existing gas regions. The progress relating to the introduction of the market rules in the signatory states was slow; one of the most important issues, dealt with by the working groups and the Energy Community Regulatory Boards, was the borders of the newly emerging region and the complex preparations for the market-based allocating of the CBTCs. Due to the large energy flows across the borders of this region, the developments in the region significantly affect the developments in the Slovenian market.



# 4 Electricity



#### 4.1 THE GENERAL INFORMATION

In 2007 the total consumption of electricity in Slovenia was 12,998 GWh, which was 173 GWh or 1.3 percent more than in 2006. In comparison with 2006, the consumption of the customers connected to the distribution networks increased by 2.6 percent, while the consumption of the customers connected to the transmission network decreased by 3.5 percent. The total consumption in Slovenia is a combination of the consumption of all the customers and the losses in the networks, and it amounted to 13,864 GWh, of which the customers used 12,998 GWh, while the losses on the transmission and distribution networks amounted to 866 GWh.

Slovenian producers generated 13,636 GWh of electricity. Of this amount 10,925 GWh of electricity was available to the Slovenian electricity system. The power plants included in Holding Slovenske elektrarne, d. o. o., contributed 6587 GWh or 60.3 percent of the electricity, while the Krško Nuclear Power Plant (only half of its production is available to Slovenia) generated 2711 GWh or 24.8 percent of Slovenian production. A part of the remaining required amount of electricity, 14.9 percent, was provided by the other power plants connected to the transmission and distribution networks. To completely cover the domestic demand for electricity in 2007, it was necessary to import 2939 GWh, or 21.2 percent, of the electricity consumed in Slovenia.

In comparison with the previous year, the production of electricity in Slovenia was higher by 0.3 percent. Due to the lower water levels in 2007, the production of electricity in the hydroelectric power plants was, in comparison with 2006, lower by 9.8 percent. The production in the Krško Nuclear Power Plant was, in comparison with 2006, higher by 2.6 percent. The production of the thermoelectric power plants was higher than expected, having, on average, a 1.9-percent growth in comparison with the previous year. In 2007 the structure of Slovenian electricity production consisted of 25 percent of the electricity produced from hydro, or renewable sources, 40 percent of the electricity by means of nuclear energy, and 35 percent of the electricity from the power plants using fossil fuels.

The highest hourly load in 2007 was noted in December. It amounted to 2060 MW, which was 15 MW less than the year before.





# COMPARISON OF THE ELECTRICITY PRODUCTION FOR 2006 AND 2007 - IN GWh

	2006	2007	Index 07/06
Hydroelectric power plants	3,120	2,814	90.2
Thermoelectric power plants	4,729	4,817	101.9
Nuclear power plant	5,281	5,422	102.6
Small, qualified producers	468	583	124.5
Total production in Slovenia	13,598	13,636	100.3
Imports	7,706	6,106	79.2
Total	21,304	19,742	92.7
Source: Energy Agency			

The data about the production (Table 1) covers the whole of the production of the nuclear power plant (Krško NPP), also the half that is exported to Croatia and is included, in Table 2, in the data about exports.

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#### COMPARISON OF THE ELECTRICITY CONSUMPTION FOR 2006 AND 2007 - IN GWh

	2006	2007	Index 07/06
Eligible customers on the transmission network	2,785	2,688	96.5
Eligible customers on the distribution networks	6,882	7,247	105.3
Tariff customers	3,158	3,063	97.0
Total consumption in Slovenia	12,825	12,998	101.3
Exports	7,662	5,878	80.2
Transformer and network losses	817	866	106.0
Total	21,304	19,742	92.7

# FLUCTUATIONS IN ELECTRICITY CONSUMPTION



[4]"]



SOURCE: ENERGY AGENCY

STRUCTURE OF THE PRODUCTION SOURCES FOR ELECTRICITY IN SLOVENIA FOR 2007

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# 4.2 THE REGULATION AND REGULATED ACTIVITIES

#### 4.2.1 THE GENERAL INFORMATION

Regulation is a process, with which a regulatory institution, by creating the rules for setting or capping the prices or revenues, and by establishing the eligibility of costs and revenues, influences the regulated companies, so that they can achieve the expected operational, technical, and other objectives set for a particular regulatory period. With the regulation that is, with respect to electricity, determined by a three-year regulatory framework, an appropriate level of efficiency and a high level of non-discrimination of the public-service providers are provided for. The two regulated activities are the transmission and distribution of electricity that, in spite of the introduction of market-based principles in the electricity system, kept their natural monopoly. In 2007 the provision of the regulated activity of electricity distribution underwent a reorganisation in line with European and Slovenian legislation.

# 4.2.2 THE REGULATION OF TRANSMISSION AND DISTRIBUTION ACTIVITIES

The activities of electricity transmission and distribution are mandatory public services carried out by the electricity system operators. The mode of carrying out a public service is determined by the government with an ordinance, in which it also defines the sources for financing.

The public services of the transmission system operation and the distribution system operation are financed from the network charges and other sources. 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. The network charge for the use of electricity networks is set by the Energy Agency.

Elektro Slovenija, d. o. o., whose sole owner is the state, provides the public service of the transmission system operation as its single service. With respect to the provision of the distribution system operation, a reorganisation of this service was carried out in 2007. In this way a requirement, according to which the distribution system operation has to be provided within an independent legal entity that does not provide any other service, was implemented on 1 July 2007.

Until 30 June 2007 the public service of the distribution system operation was carried out by five providers as a service with a separate organisational and 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.

Until 30 July 2007 these companies for the distribution of electricity also provided the mandatory public service of the electricity supply to tariff customers, as well as market-based activities, such as electricity supply to eligible customers and service activities. On 1 July 2007 these companies ceased providing the mandatory public services of the distribution system operation and the electricity supply to tariff customers. With the Act Establishing the Limited Liability Company Called SODO, sistemski operater distribucijskega omrežja z električno energijo, d. o. o. (the Official Gazette of the Republic of Slovenia, No. 27/07), the government set up SODO, d. o. o., that has had, since 1 July 2007, the exclusive right and obligation to provide the public service of the distribution system operation for the entire territory of the Republic of Slovenia.

After 1 July 2007 the electricity infrastructure remained the property of the companies for electricity distribution. However, SODO made a contract with the owners of the infrastructure, i.e., the distribution companies, which regulates all the issues relating to the extent and the purpose of the network use, the renting costs, the conditions and the mode of the current and extraordinary network maintenance, and other issues allowing the distribution system operator to carry out its tasks effectively.

Thus, since 1 July 2007 the companies for electricity distribution have carried out marketbased activities, including the supply of electricity to eligible customers, the provision of the services for SODO, hiring out the electricity-distribution infrastructure to SODO, and other services.

#### 4.2.2.1 THE BUSINESS OPERATION OF THE TRANSMISSION SYSTEM OPERATOR

In accordance with the unaudited financial statements. Eles ended the financial year 2007 with a profit of 18.90 million euros, which is 11.08 million euros, or 36.96 percent, less than in 2006.

In 2007 the transmission system operator generated revenues from the network charge for the transmission network, the network charge for the ancillary services, the network charge for the specialised ancillary service, from charging for the average cost for making a connection, from allocating cross-border transmission capacities, and from other services.

In the regulatory framework for 2007 the Energy Agency expected the revenues from the network charge for the transmission network to amount to 53.92 million euros. As the consumption of electricity was higher than expected, the revenues from the network charge were also higher, amounting to 56.32 million euros, or 4.5 percent more than expected. The expected revenues from ancillary services for 2007 were 17.79 million euros, and the actual revenues were 18.07 million euros. The actual revenues from the auctions for allocating congested cross-border transmission capacities, together with the revenues from the ITC mechanism, amounted to 28.80 million euros, while the Energy Agency expected these revenues, in the regulatory framework for 2007, to be 4.28 million euros.

The financial results for 2007 were also affected by additional revenues from allocating congested cross-border transmission capacities, and the

increased costs of purchasing electricity for covering the losses.

At the end of 2007 Eles had 513 employees, which is a 4.7-percent increase in the number of staff in comparison with 2006.

#### 4.2.2.2 THE BUSINESS OPERATIONS OF THE DISTRIBUTION SYSTEM OPERATORS

The total profit of the companies that in 2007 provided the public service of the distribution system operation amounted to 0.40 million euros or 97.1 percent less than in the year before.

Until 30 June 2007 the companies for electricity distribution made a profit of 0.34 million euros from the service of the distribution system operation. Since 1 July 2007 this service has been carried out only by SODO, d. o. o., which finished the financial year 2007 with a profit of 0.06 million euros.

SODO provides the public service of the distribution system operation as its only activity. and it is wholly owned by the state. At the end of the year this company had nine employees.

In 2007 the distribution system operators generated revenues from the network charge for a distribution network, from the network charge for the specialised ancillary service, from charging for the average cost for making a connection, and from other services.

In 2007 the revenues from the network charge for the distribution networks were 209.18 million euros, exceeding the revenues expected in the regulatory framework by 5.0 percent, or 9.9 million euros. The main reason for the high revenues was the electricity consumption that exceeded the expected consumption by 3.9 percent.

#### IN MILLIONS OF EUROS 2006 JANUARY-JUNE 2007 JULY-DECEMBER 2007 **TOTAL 2007** Elektro Celje, d. d. 1.20 -0.99 -0.99 Elektro Primorska, d. d. 1.10 -0.37 -0.37Elektro Gorenjska, d. d. 0.97 1.48 0.97 Elektro Ljubljana, d. d. 5.67 0.26 0.26 Elektro Maribor, d. d. 0.47 0.47 4.56 0.06 SODO, d. o. o. 0.06 14.01 0.34 0.06 0.40 Total system operation

### FINANCIAL RESULTS FOR THE SERVICES OF THE DISTRIBUTION SYSTEM OPERATORS

SOURCES: COMPANIES' DATA (UNAUDITED FINANCIAL RESULTS FOR JANUARY-JUNE 2007)

# 4.2.2.3 THE BUSINESS OPERATIONS OF THE DISTRIBUTION COMPANIES

In 2007 the distribution companies made a total net profit of 6.26 million euros, which is 66.5 percent less than in 2006.

## PROFIT OR LOSS BY ACTIVITY

						IN M	ILLIONS OF EUROS
		Elektro Celje, d. d.	Elektro Primorska, d. d.	Elektro Gorenjska, d. d.	Elektro Ljubljana, d. d.	Elektro Maribor, d. d.	Total distribution companies
	Distribution system operator	1,20	1,10	1,48	5,67	4,56	14,01
2006	Supply to tariff customers	-3,86	-3,37	-2,34	-8,02	-2,22	-19,82
20	Market-based activities	5,71	4,61	2,33	11,59	0,29	24,52
	Company	3,05	2,34	1,47	9,24	2,63	18,71
ne	Distribution system operator	-0,99	-0,37	0,97	0,26	0,47	0,34
/-Ju 07	Supply to tariff customers	-1,70	-1,32	-1,01	-3,10	-0,13	-7,26
January–June 2007	Market-based activities	2,01	2,12	1,05	4,43	1,65	11,26
Jan	Company	-0,68	0,43	1,01	1,59	1,99	4,34
nber	Hiring and services	-0,58	0,11	0,62	1,60	-1,67	0,08
Decei 2007	Market-based activities	1,65	0,68	-0,24	-2,08	1,83	1,84
July-December 2007	Company	1,07	0,79	0,38	-0,48	0,16	1,92
tal 007	Company	0,39	1,22	1,39	1,11	2,15	6,26
Total for 2007		12,79	52,14	94,56	12,01	81,75	33,46

Sources: Companies' data (unaudited financial results for 2007)

On 1 July 2007 the distribution companies ceased providing the public services of the distribution system operation and the electricity supply to tariff customers; however, they have carried out marketbased activities, including the supply of electricity to eligible customers, the provision of the services for SODO, hiring out the electricity-distribution infrastructure to SODO, and other services.

At the end of 2007 the companies for electricity distribution had a total of 3394 employees, which was a 0.5-percent increase in the number of staff in comparison with 2006.

#### 4.2.2.4 The investments in the electricity networks

The system operators of the transmission and distribution networks are responsible for maintaining and developing the networks, providing long-term network capacities and ensuring 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 networks.

SODO made contracts with the owners of the electricity-distribution infrastructure, i.e., the distribution companies (Elektro Celje, d. d., Elektro Gorenjska, d. d., Elektro Ljubljana, d. d., Elektro Maribor, d. d., and Elektro Primorska, d. d.) on hiring the electricity-distribution infrastructure. The contracts also determine the relations between SODO and the distribution companies with respect to the development, planning and investing in the distribution network. The hiring contracts oblige the distribution companies to invest in the electricity infrastructure in line with the development plans regarding distribution networks. These plans are produced, assessed and approved of in accordance with the provisions of the EA.

In 2007 the distribution companies allocated 125.5 million euros for investments, which was 12 percent more than in 2006. In their development plans for 2007–2016, which were assessed and approved of by the ministry responsible for energy, these companies allocated, for 2007, a total of

112.5 million euros for investments. This was 13 million euros less than they actually spent for this purpose. However, this realisation of investments in 2007 exceeded, by 36 percent, the amount that the Energy Agency expected to be spent by the owners of the electricity-distribution infrastructure in the regulatory period 2006–2008. The reasons for such a significant discrepancy can be found in the relatively low starting amount invested during the first year of the regulatory period, and in the intense investments in the development and reconstruction of the distribution network that were expected, in the development plans for the distribution network for 2007–2016, to take place in the period before 2010.

Eles, the provider of the public service of the transmission system operation, allocated 30.4

million euros for investments, which is 20 percent less than in 2006. In the Development Plan for the Transmission Network for 2007–2016, which was also assessed and approved of by the ministry responsible for energy, the transmission system operator expected, for 2007, the investments to amount to 70.9 million euros. This is 40.5 million euros, or 57 percent, more than the amount of the actual investments. In 2007 the investment realisation was lower, by 22 percent, than expected by the Energy Agency in the regulatory framework for 2006–2008 as regards the transmission system operator's investments in 2007.

In 2007 the total investments of the companies for electricity distribution and transmission amounted to 155.9 million euros.

#### AMOUNTS OF REALISED INVESTMENTS IN 2006 AND 2007

20062006INDEXReal- ISATIONReal- REGULATORY REAL- ISATIONDEVELOP- MENT PLAN (2007-2016)Real- ISATIONRealisation REGULATORY PLANReal- DEVELOP- MENT PLAN (2007-2016)Real- SATIONRealisation REGULATORY PLANRealisation DEVELP- PLANElektro Celje, d. d.19.217.822.926.1136147114Elektro Gorenjska, d. d.13.412.515.816.3122131103Elektro Ljubljana, d. d.40.826.735.940.9100153114Elektro Maribor, d. d.23.619.822.726.0110131115Elektro Primorska, d. d.15.015.516.1108103106Total distribution112.092.4112.5125.5112136112Elektro Slovenija, d. o. o.38.139.270.930.4807843							IN MIL	LIONS OF EUROS
REAL- ISATIONREGULATORY FRAMEWORKMENT PLAN (2007-2016)REAL- ISATIONREGULATORY 2007/2006REGULATORY FRAMEWORKDEVELP. PLANElektro Celje, d. d.19.217.822.926.1136147114Elektro Gorenjska, d. d.13.412.515.816.3122131103Elektro Ljubljana, d. d.40.826.735.940.9100153114Elektro Maribor, d. d.23.619.822.726.0110131115Elektro Primorska, d. d.15.015.615.316.1108103106Total distribution112.092.4112.5125.5112136112Elektro Slovenija, d. o. o.38.139.270.930.4807843		2006			2007			Index
Elektro Gorenjska, d. d.13.412.515.816.3122131103Elektro Ljubljana, d. d.40.826.735.940.9100153114Elektro Maribor, d. d.23.619.822.726.0110131115Elektro Primorska, d. d.15.015.615.316.1108103106Total distribution112.092.4112.5125.5112136112Elektro Slovenija, d. o. o.38.139.270.930.4807843				MENT PLAN			REGULATORY	DEVELP.
Elektro Ljubljana, d. d.40.826.735.940.9100153114Elektro Maribor, d. d.23.619.822.726.0110131115Elektro Primorska, d. d.15.015.615.316.1108103106Total distribution112.092.4112.5125.5112136112Elektro Slovenija, d. o. o.38.139.270.930.4807843	Elektro Celje, d. d.	19.2	17.8	22.9	26.1	136	147	114
Elektro Maribor, d. d.23.619.822.726.0110131115Elektro Primorska, d. d.15.015.615.316.1108103106Total distribution112.092.4112.5125.5112136112Elektro Slovenija, d. o. o.38.139.270.930.4807843	Elektro Gorenjska, d. d.	13.4	12.5	15.8	16.3	122	131	103
Elektro Primorska, d. d.15.015.615.316.1108103106Total distribution112.092.4112.5125.5112136112Elektro Slovenija, d. o. o.38.139.270.930.4807843	Elektro Ljubljana, d. d.	40.8	26.7	35.9	40.9	100	153	114
Total distribution         112.0         92.4         112.5         125.5         112         136         112           Elektro Slovenija, d. o. o.         38.1         39.2         70.9         30.4         80         78         43	Elektro Maribor, d. d.	23.6	19.8	22.7	26.0	110	131	115
Elektro Slovenija, d. o. o.         38.1         39.2         70.9         30.4         80         78         43	Elektro Primorska, d. d.	15.0	15.6	15.3	16.1	108	103	106
	Total distribution	112.0	92.4	112.5	125.5	112	136	112
Total (distribution	Elektro Slovenija, d. o. o.	38.1	39.2	70.9	30.4	80	78	43
and transmission) 150.1 131.6 183.4 155.9 104 118 85	Total (distribution and transmission)	150.1	131.6	183.4	155.9	104	118	85

Of the total 125.5 million euros spent for the investments in the electricity infrastructure, the distribution companies used 104 million euros for the distribution. Of this amount they used 68.4 million euros, or 55 percent, for the new electricity facilities, and 35.6 million euros, or 28 percent, for the reconstruction and modernisation of the existing facilities. They spent 21.5 million euros, or 17 percent of the invested amount, for other necessary investments.

For the high-voltage distribution network, most of the funds were spent on the construction of the new distribution-transformer stations (henceforth referred to as the DTSs), and for the reconstruction and upgrading of the existing 110-kV DTSs to medium-voltage, 110/20(10)-kV DTSs. In the medium-voltage network, 288 new DTSs, transforming medium voltage to low voltage (MV/0.4 kV), were constructed. In addition, 310 kilometres of the new medium-voltage network were built, including 49 kilometres of the overhead network and 261 kilometres of the cable network. Other important investments include new constructions on the low-voltage network, including 57 kilometres of overhead network and 125 kilometres of cable network, as well as the upgrade of the telecommunications and metering devices.

The transmission system operator invested 25.6 million euros in the electricity-transmission infrastructure, of which 11.3 million euros, or 37 percent, were spent for the new electricity facilities, while 14.3 million euros, or 47 percent, were spent for the reconstruction and upgrade of the existing electricity facilities. For the other necessary investments, the transmission system operator spent 4.9 million euros, or 16 percent, of all the funds.

In 2007 the transmission system operator did not manage to invest to the extent expected in the Development Plan for the Transmission Network for 2007–2016; one of the reasons for this was the difficulty associated with the placing of electricitytransmission facilities in the environment. With respect to investing in the new electricity facilities, the transmission system operator mainly spent the allocated funds for acquiring the necessary documentation and the right of access relating to the construction of a new electricity-transmission infrastructure, and the construction of telecommunications connections. The transmission system operator used the funds allocated for the reconstruction and upgrade of the existing electricity facilities for restructuring the existing 110-kV lines, the 400/110-kV DTSs, the 110/20-kV DTSs, and the secondary systems.

#### NEW INVESTMENTS IN THE ELECTRICITY INFRASTRUCTURE AND RECONSTRUCTIONS

			IN MILLIONS OF EUROS				Share in $\%$
	New in- vestments	Recon- structions	Other invest- ments	Total	New in- vestments	Recon- STRUCTIONS	OTHER IN- VESTMENTS
Elektro Celje, d. d.	10.9	10.5	4.7	26.1	42	40	18
Elektro Gorenjska, d. d.	6.6	7.7	2.1	16.3	40	47	13
Elektro Ljubljana, d. d.	23.5	9.9	7.5	40.9	58	24	18
Elektro Maribor, d. d.	18.5	4.9	2.5	26.0	71	19	10
Elektro Primorska, d. d.	8.9	2.5	4.7	16.1	55	16	29
Total distribution	68.4	35.6	21.5	125.5	54	28	17
Elektro Slovenija, d. o. o.	11.3	14.3	4.9	30.4	37	47	16
Total (distribution and transmission)	79.6	49.9	26.4	155.9	51	32	17

Sources: Companies' data



# AMOUNTS AND SHARES OF THE INVESTMENTS IN THE ELECTRICITY INFRASTRUCTURE AND ITS RECONSTRUCTIONS



In 2007 the distribution companies financed the

investments by using the amortisation costs of 56.2 million euros, which was 45 percent of all the investments. They obtained the rest of the funds by using other resources of their own amounting to a total of 15.7 million euros, loans amounting to 47.3 million euros, and the co-investments of the network users, which amounted to 6.3 million euros.

The transmission system operator financed 82 percent of the investments by using the amortisation costs of 24.8 million euros, and 18 percent, or 5.6 million euros, by using other resources of its own.

In 2007 the transmission system operator paid 42.8 million euros as the advance payment for the planned investments in the transmission network.

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figure 2

# 4.2.2.5 THE LONG-TERM DEVELOPMENT OF THE ELECTRICITY NETWORK

In line with the requirements of the EA, the transmission system operator and five distribution system operators prepared, at the beginning of 2007, the amended ten-year development plans for the period 2007–2016. These plans consider the strategic national energy policies, and are harmonised with each other. When making these plans, the system operators used a uniform methodology considering long-term consumption expectations, the analyses of the expected operational conditions, the level of supply security, and economic analyses.

The transmission-network plans also consider all the possible sites for new, large production sources that have been identified so far. In 2007 the Ministry of the Economy gave approval to the plans for 2007–2016. In this way the investment plan, especially with respect to the new investments, reconstructions, and upgrades of the electricity infrastructure, has been determined. In their development plans, the companies expected the total investments for the following 10 years to amount to 1,799.3 million euros, of which Eles is to spend 527.5 million euros, and the distribution system operators are to invest a total of 1,271.5 million euros. Eles expects the investments in the concerned period to be the highest in 2008, and later to be on a decrease until 2011. It mainly expects to invest in the enhancement of the internal network, i.e., the following 400-kV connections: Beričevo-Krško, Podlog-Šoštani, Beričevo-Trbovlie, Divača-Beričevo-Podlog, the international connections with Italy (Okroglo-Videm), and Hungary (Cirkovce-Heviz). To ensure the operational stability, the installation of a transverse transformer in Divača is also planned. It is characteristic of all these investment plans that with each new 10-year plan the deadlines for their realisation are extended by a few years, mainly because of the difficulties associated with the placing of the line facilities in the environment. Eles also plans to invest in the reconstructions of the existing distributiontransformer stations and overhead power lines.

With respect to the distribution companies, the investments are expected to be on an increase until 2009; after this time the investments of Elektro Gorenjska, Elektro Maribor, and Elektro Ljubljana will decrease. The distribution companies plan to invest in the development of the medium-voltage and low-voltage networks, meeting, in this way, the needs for an increased capacity, connecting new customers, as well as improving the voltage quality and the supply security.

EXPECTED INVESTMENTS OF THE TRANSMISSION AND DISTRIBUTION COMPANIES FOR 2007–2016





# 4.2.2.6 The business operations of the market operator

In 2007 Borzen, d. o. o., the electricity-market operator, generated 2.37 million euros of revenues, which were, in comparison with the revenues in the previous year, lower by 3.8 percent. The total expenditure for 2007 amounted to 2.27 million euros, and was, in comparison with the previous year, lower by 2.9 percent. The net profit was 0.07 million euros. At the end of the year the company had 28 employees.

## 4.2.3 The unbundling of services

The EA stipulates that 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),

have to provide for the 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.

Until 1 July 2007 the activity of distribution-system operation was carried out in five companies for electricity distribution, whose majority shares were owned by the state. These companies carry out several energy-related activities and also market-based activities. Since the above date, the distribution-system operation has been provided by a single legal entity that does not carry out any other activity, is wholly owned by the state and has been hiring the infrastructure.

In line with the legislative requirements, the distribution companies that, in the first half of the year, also carried out the distribution-system operation, produced separate accounts for individual energy-related activities. The distribution companies have to make these accounts available to the public and submit them 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 energyrelated activities. The rules can only be changed in exceptional circumstances. 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. Prior to the preparation of this report, the Energy Agency received audited annual reports for 2007 from Elektro Celje, d. d., and Elektro Maribor, d. d., and also unaudited reports from Elektro Primorska, d. d., and SODO, d. o. o.

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

The owners of the distribution networks are individual distribution companies. They have to maintain separate records relating to the individual energy infrastructure hired by the system operator for the purpose of operating the networks.

The companies that, in 2007, provided the mandatory public service of operating electricity networks, list their activities on their websites:

- Elektro Slovenija, d. o. o., Hajdrihova 2, 1000 Ljubljana, www.eles.si,
- Elektro Celje, podjetje za distribucijo električne energije, d. d., Vrunčeva 2a, 3000 Celje, www.elektro-celje.si,
- Elektro Primorska, podjetje za distribucijo električne energije, d. d., Erjavčeva 22, 5000 Nova Gorica, www.elektro-primorska.si,
- Elektro Gorenjska, podjetje za distribucijo električne energije, d. d., Ulica Mirka Vadnova 3a, 4000 Kranj, www.elektro-gorenjska.si,
- Elektro Ljubljana, podjetje za distribucijo električne energije, d. d., Slovenska cesta 58, 1516 Ljubljana, www.elektro-ljubljana.si,
- Elektro Maribor, podjetje za distribucijo električne energije, d. d., Vetrinjska ulica 2, 2000 Maribor, www.elektro-maribor.si,
- SODO, sistemski operater distribucijskega omrežja z električno energijo, d. o. o., Zagrebška cesta 85, 2000 Maribor, www.sodo.si.

# 4.2.4 THE NETWORK CHARGES FOR THE TRANSMISSION AND DISTRIBUTION NETWORKS

#### 4.2.4.1 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 2007 was the second year of the second 3-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. Integral parts of the above act are also in 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 provisions of the above act provided for the following changes to the network charges for 2007, as compared with 2006, that also took into account the Consumer Price Index (CPI):

- an increase of the transmission-network charge by 2.7 percent (CPI),
- an increase of the distribution-network charge by 6.2 percent (3.5 percent + CPI),
- an increase of the ancillary-services network charge by 6.3 percent (3.6 percent + CPI),
- an increase of the costs for making a connection by 2.7 percent (CPI).

In line with Article 84 of the above act, the Energy Agency used a part of the surplus of the realised revenues of the transmission system operator over the eligible revenues for the previous regulatory period, 2004-2005, as the source for covering the costs of the ancillary services in 2007. For this reason the Energy Agency did not increase the network charge for ancillary services as previously expected, but decreased this charge by 37.6 percent.

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 determining the network-charge tariffs for:

- the transmission network,
- the distribution network,

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- the ancillary services,
- the specialised ancillary services,
- 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, was published in November 2006, in the Official Gazette of the Republic of Slovenia, No. 122.

Since 1 July 2007 the distribution-system operation has been provided by a single, newly established company – SODO, d. o. o. For this reason the Energy Agency published the decision setting the correction factor for the second half of 2007 in the Official Gazette of the Republic of Slovenia, No. 55, in June 2007.

4.2.4.1.1 THE 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. The end customers connected to medium voltage (henceforth referred to as the MV), and the end customers connected to low voltage (henceforth referred to as the LV) cover proportional shares of the costs for the use of the higher-voltage networks.

#### 4.2.4.1.2 The setting of 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 of the increased prices to the eligible revenue. The eligible revenue is established by considering the following:

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

- implementing the 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 improving or maintaining the level of electricity-supply quality, which consists of the commercial quality, the supply security (continuity), and the voltage quality;
- stimulating the network users to use the networks optimally;
- ensuring the transparency of tariffs;
- creating 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;
- ensuring stable and predictable conditions for the operation of the system operators, and a stable environment for the investors or owners;
- stimulating 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 operations, 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 increase 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.

#### 4.2.4.2 The supply quality

The activities of the transmission and distribution operators are natural-monopoly services. Their quality is controlled by the regulator of the energy market – the Energy Agency – as the requirements to reduce the costs of operations can quickly lead to a reduced supply quality.

The quality of electricity supply is divided into:

- the commercial quality,
- the supply continuity,
- the voltage quality.

By monitoring and controlling the different parameters of commercial quality, supply continuity, and voltage quality, the Energy Agency can carry out the regulation that allows the maintenance or improvement of the supply-quality level. The Energy Agency has been gradually introducing certain instruments, the first being the publication of the data on the supply quality in Slovenia.

#### 4.2.4.2.1 THE COMMERCIAL QUALITY

The general commercial quality refers to the services provided by the distribution companies. The quality of these services is expressed as the average times needed to perform certain tasks. As a result of the technical network characteristics, certain services cannot be provided to all the customers. The indicators of the system (general) commercial quality are as follows:

- the average time needed to reconnect the electricity supply in the cases of unforecasted interruptions;
- the average time needed to complete minor repair works;
- the average time needed to connect a user to a network;
- the average time needed to answer customers' queries.

On the other hand, the individual commercial quality is expressed in the form of guaranteed standards, and is provided to all the customers. The values of the parameters of the individual commercial quality are stipulated by the legislative acts. The individual commercial quality refers to the minimum standards relating to the following:

- the time needed to reconnect,
- the time needed to replace a blown fuse,

- the time needed by the distribution-company representative to visit a customer at the customer's request,
- the time needed to provide information about making a connection,
- the time needed to solve a complaint about a meter or about the costs of payments,
- the time needed to activate a connection.

The mode of measuring the commercial quality has not yet been determined by any technical standard.

#### 4.2.4.2.2 The supply continuity

For the purpose of monitoring the supply continuity, two system indicators, the SAIDI and the SAIFI, defined by the electro-technical standard IEC, are used. The SAIDI (the System Average Interruption Duration Index) or the CML (the Consumer Minute Lost) refers to the average duration of the interruptions, over a chosen period. per a customer connected to the system. In other words, this indicator tells us how long, on average, a customer was not supplied with electricity. The SAIFI (the System Average Interruption Frequency Index) or the CI (the Customer Interruption) refers to the average number of interruptions of a customer's supply over a chosen period. In other words, this indicator tells us how often, on average and over a chosen period, a customer was not supplied with electricity.

#### 4.2.4.2.3 THE VOLTAGE QUALITY

The voltage quality is defined with the technical standard SIST EN 50160:2001– Voltage Characteristics of Public Distribution Networks. It is continually monitored at the border between the transmission and distribution networks, and at the points of change of title of large producers and large customers. Occasional monitoring is done in the places chosen in advance, and in all the cases of complaints.

# 4.2.4.2.4 The supply quality at the distribution level

The system operators, or the distribution companies, already prepared the third annual report, relating to 2007, on the voltage quality, supply continuity, and commercial quality. The preparation of this report is required 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 (the Official Gazette of the Republic of Slovenia, No. 117/04). Irrespective of the organisational changes of the distribution system operators in the second half of 2007, the data monitoring and the distribution companies' quality reports relating to their respective areas have remained the same. The control of the supply quality and its assessment carried out by the Energy Agency also remained unchanged.

It is clear from the reports for 2007 that the companies monitor the data on commercial quality, 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. In 2007 the distribution companies did not yet collect the data on supply continuity in a uniform way, but by using their own methodologies that did not allow an intercomparison with each other or with the internationally used methodologies. In line with the standard, the SAIDI and the SAIFI are calculated on the basis of long-term interruptions, i.e., interruptions longer than three minutes.

On the basis of the reports we can establish that in the period 2005–2007 the total number of complaints about voltage quality was on the increase, while the share of justifiable complaints was on the decrease. Figures 11 and 12, and Table 7 show the total number of complaints, the number of justifiable complaints and their shares by distribution company.

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# NUMBERS OF ALL THE COMPLAINTS RELATING TO QUALITY FOR 2005-2007 BY COMPANY



SOURCES: COMPANIES' DATA

# SHARES OF JUSTIFIABLE COMPLAINTS RELATING TO QUALITY FOR 2005-2007



ST BLINGL
			2005			2006			2007
Company	Total com- plaints	Num. of justifi- able comp.	Share of Justifia- ble comp. (%)	Total com- plaints	Num. of justifi- able comp.	Share of justifia- ble comp. (%)	Total com- plaints	Num. of justifi- able comp.	Share of justifia- ble comp. (%)
Elektro Celje, d. d.	199	180	90	110	91	76	103	66	64
Elektro Gorenjska d. d.	20	15	75	46	41	89	77	59	77
Elektro Ljubljana, d. d.	154	101	66	196	107	55	236	120	51
Elektro Maribor, d. d.	47	43	91	61	57	93	79	67	85
Elektro Primorska, d. d.	26	18	69	27	25	93	25	24	96
Total	446	357	80	440	321	71	520	336	65

### NUMBERS AND SHARES OF JUSTIFIED COMPLAINTS RELATING TO VOLTAGE QUALITY FOR 2005–2007

In 2007 the Energy Agency prepared, within the consultation and decision-making process, definitions of the parameters relating to supply continuity, allowing a clearer and more uniform classification of incidents with respect to their causes (internal causes, external causes, force majeure). The Energy Agency also developed a web application that finally allowed a uniform reporting on supply continuity. In 2007 the distribution companies adapted their data collecting and calculating to the methodology determined by the Energy Agency, creating, in this way, conditions for a comprehensive and comparable monitoring of the data relating to the supply continuity in Slovenia starting on 1 January 2008.

Figure 13 shows the available data relating to the supply continuity in some EU countries for 2004–2006. The listed SAIDI values include only the long-term interruptions caused by the internal problems of the distribution system operators. A direct comparison of this data with

the data relating to the three Slovenian system operators listed in Table 8 is not possible, as the SAIDI values relating to the Slovenian operators for 2007 include all the long-term interruptions. The SAIDI values that include only the long-term interruptions caused by the internal problems of the distribution system operators are, in accordance with the Energy Agency's findings and the specialist studies, smaller by 30 to 50 percent, which is the share taken up by the interruptions caused by the external problems and force majeure. If the above estimation is taken into account, we can conclude that the average level of the supply continuity at the distribution level in Slovenia is within the average SAIDI values relating to the listed EU countries.

On the basis of the SAIDI, including the unforecasted interruptions, we can calculate that the supply availability was, in the case of the three (out of five) Slovenian distribution companies, between 99.97 and 99.98 percent.

### AVERAGE DURATION OF UNFORECASTED INTERRUPTIONS OF ELECTRICITY SUPPLY PER CUSTOMER IN DIFFERENT YEARS (EXCLUDING FORCE MAJEURE AND EXTERNAL CAUSES)



### AVERAGE DURATION OF UNFORECASTED INTERRUPTIONS OF ELECTRICITY SUPPLY PER CUSTOMER FOR 2005–2007 (INCLUDING ALL THE CAUSES)

			S	SAIDI (MIN/CUSTOMER)
OPERATOR (DISTRIBUTION COMPANY)		2005	2006	2007
Elektro Maribor, d. d.*		95	119	100
Elektro Primorska, d. d.*		111	95	129
Elektro Gorenjska, d. d.*		-	83	108
	* The methodology for	monitoring and calculating t	he indicators for the compani	es (not a uniform methodology)

Sources: Distribution companies' data

" The methodology for monitoring and calculating the indicators for the companies (not a uniform method

### 4.2.4.2.5 The voltage quality of the transmission network

In line with the Ordinance Regarding General Conditions for the Supply and Consumption of Electricity (the Official Gazette of the Republic of Slovenia, No. 117/02), Eles is obliged to control, as part of the ancillary services, the frequency and nominal voltage. On the transmission network, Eles has to ensure such voltage quality that allows the system operators of the distribution networks to provide for the voltage quality in line with the Slovenian standard SIST EN 50160. For this purpose, Eles continually monitors the voltage quality at the most important connection points between the transmission network and the users of this network (producers, distribution companies, and large customers).

Continual monitoring has shown that only the flicker values exceed the values determined by the SIST EN 50160 standard. The flicker values larger than 1 are caused by large arc furnaces. This flicker is also transmitted to the MV and LV networks and is shown, for example, as the flickering of the light from bulbs with a filament, and the flickering of television or computer monitors. In the Koroška region an excessive flicker is caused by the Ravne Ironworks, in the Gorenjska region, across the area towards Ljubljana, the flicker is caused by the Jesenice Steelworks, and in the Štajerska region it is caused by the Štore Ironworks. In the Gorenjska region,

the level of flicker was reduced by about 24 percent after the installation of the transformer in the Okroglo distribution-transformer station; however, it still exceeds the allowed value.

The other voltage-quality parameters are in line with the requirements of the standards.

In 2007 Eles received no complaints relating to poor voltage quality.

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

The total, or final, price for electricity supply includes the energy price, the price for the network use, the excise duty, and the valueadded tax. Electricity customers pay the price for the use of the networks to the system operators with respect to their classification in the customer groups, and with respect to their electricity consumption. The price for the use of an electricity network consists of the network charge for the transmission and distribution networks, the network charge for ancillary services 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 recording the concluded contracts for electricity supply.

The Energy Agency sets the network charge that is used to cover the eligible costs of the system operators, while the government sets the supplements to the network charge.

Different customers paid different prices for the use of networks. The customers connected to the high-voltage network used almost 21 percent of the electricity consumed in 2007: the customers connected to the distribution network used 55 percent, and household 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 25.05 euros/MWh. The customers connected to the low-voltage network were, on average, paying 44.18 euros/MWh for the use of the network, the industrial customers connected to the mediumvoltage network were paying 14.35 euros/MWh, and the customers connected to the high-voltage network were paying 5.30 euros/MWh.

AVERAGE VALUES OF THE ELEMENTS INCLUDED IN THE USE-OF-NETWORK PRICE BY VOLTAGE LEVEL



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 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 fluctuating daily, or monthly, consumption, the price will increase.

Figures 15 to 20 show the ratios of the price elements and the shares of the elements included in the use-of-network prices for typical industrial customers.

ELEMENTS INCLUDED IN THE FINAL ELECTRICITY PRICE FOR A TYPICAL INDUSTRIAL CUSTOMER I<sub>b</sub> ( $I_b$  – 50 kW, 50 MWh) WITHOUT THE VAT





# ELEMENTS INCLUDED IN THE FINAL ELECTRICITY PRICE FOR A TYPICAL INDUSTRIAL CUSTOMER I<sub>e</sub> ( $I_e - 500 \text{ kW}$ , 2 GWh) WITHOUT THE VAT

7.11

0.50

0.13 2.61 0.13

euros/MWh



<u>71 9 1161 1</u>



ELEMENTS INCLUDED IN THE FINAL ELECTRICITY PRICE FOR A TYPICAL INDUSTRIAL CUSTOMER Ig (Ig – 4 MW, 24 GWh) WITHOUT THE VAT





### ELEMENTS INCLUDED IN THE USE-OF-NETWORK PRICE FOR A TYPICAL INDUSTRIAL CUSTOMER Ig (Ig – 4 MW, 24 GWh) WITHOUT THE VAT

In 2007 the use-of-network price for a typical industrial customer  $I_b$  was 59.91 euros/MWh, for a typical customer  $I_e$  this price was 14.29 euros/MWh, and for a typical customer  $I_g$  it was 11.72 euros/MWh.

Until 30 March 2007 the electricity price for household customers was formed on the basis of the Ordinance on the Tariff System for the Sales of Electricity (the Official Gazette of the Republic of Slovenia, No. 36/04). In April a higher price was set with the governmental Decision Setting the Prices for the Supply of Electricity to Household Customers, and the Prices for Covering the Costs of a Supplier Arising from the Supply of Electricity (the Official Gazette of the Republic of Slovenia, No. 27/07). The final price that the suppliers charged to tariff customers included 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. On 1 July 2007 the tariff, or household, customers also became eligible customers with the right to choose supplier.

In 2007 the use-of-network price for a typical household customer  $D_c$  was 49.75 euros/MWh. The use-of-network price for a household customer with the average Slovenian consumption of 3840 kWh was 47.13 euros/MWh, which was 55 percent of the final price without the VAT.





<u>Faire 21</u>



Source: Energy Agency

## ELEMENTS INCLUDED IN THE USE-OF-NETWORK PRICE FOR A TYPICAL HOUSEHOLD CUSTOMER D<sub>c</sub> (D<sub>c</sub> – 3500 kWh PER YEAR) WITHOUT THE VAT



17 17 13



### ELEMENTS INCLUDED IN THE USE-OF-NETWORK PRICE FOR A TYPICAL HOUSEHOLD CUSTOMER WITH AN AVERAGE CONSUMPTION OF 3840 kWh IN 2007 WITHOUT THE VAT



Between 2003 and the end of 2007 the total electricity price for a typical household customer  $D_c$  was, on average, increased by 2.2 percent each year. While the use-of-network price was relatively stable during this period, the share for the energy increased by 4.8 percent per year

relative to the prices on the open markets. In spite of this the electricity prices for households, set by the government until 1 July 2007, were below the purchase price for this energy in the wholesale market (Figure 25).

### MOVEMENTS OF THE FINAL ELECTRICITY PRICE FOR A TYPICAL HOUSEHOLD CUSTOMER D<sub>c</sub> FOR 2003–2007



### 4.2.5 THE ALLOCATION OF CROSS-BORDER TRANSMISSION CAPACITIES AND THE CONGESTION-MANAGEMENT MECHANISMS

The allocation and the use of the CBTCs in the EU are regulated by Regulation No 1228/2003 on the 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 CBTCs, and the implementation of the operational measures required for congestion management. With appropriately defined CBTCs, and 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 re-dispatching and counter trading.

Among other things, Regulation 1228/2003 requires the mandatory use of the market-based method for allocating the rights to use the CBTCs. In Slovenia this provision only began to apply on 1 July 2007, as until then we had a 3-year transition period, in which the Slovenian system operator was able to use non-market methods for allocating available CBTCs up to a maximum of half of the total available capacity at each border. As a result, a part of the CBTCs for the first half of 2007 was already allocated in 2004.

Throughout 2007 the transmission system operator held auctions for the capacities at the Slovenia-Croatia border, in the direction to Slovenia, and for the capacities at the Slovenia-Austria border, in the direction to Austria. During the period May-August the transmission system operator also held auctions for the capacities at the Slovenia-Italy border, in the direction to Slovenia. Although most of the available CBTCs at the Slovenia-Italy border, in the direction to Italy, and at the Slovenia-Austria border, in the direction to Slovenia, for the period January-June 2007, had already been allocated in 2004, the transmission system operator held the auctions for these two transmission paths also in the first half of 2007. It was mainly allocating small amounts of the CBTCs that were made available at a later stage, when the CBTC holders announced using the capacities that were smaller than the ones actually available to them. At all of these auctions the CBTCs were allocated a day in advance.

In July 2007 all the CBTCs for the transmission paths from Slovenia to Italy and from Austria to Slovenia were made available. The transmission system operator started to carry out monthly and daily auctions. Prior to these auctions, it also adopted new Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities.

Since 2006 Slovenia has been involved in the regional initiative known as the European Regulators Group for Electricity and Gas (henceforth referred to as the ERGEG). Because of its geographical position, Slovenia is included in two regional markets for electricity – Central and Eastern Europe, and Central and South-East Europe. Slovenia's involvement in these two regions, for the purpose of congestion management, is also expected in the Congestion Management Guidelines that are an integral part of Regulation 1228/2003. Among other things, the guidelines expect the coordinated allocation of the CBTCs to be introduced in both of these two regions.

Since the beginning of 2007 the bilaterally coordinated allocating of the CBTCs has been in place in Central and South-East Europe, which means that for each regional border joint allocations have been carried out. This also means that each of the two involved transmission system

operators allocates all the available CBTCs in the export direction. This new rule has replaced the previous one, according to which the CBTCs at a border were, for both directions, divided into two halves and each system operator allocated its half of the CBTCs independently of the neighbouring operator. Due to the transition period, until the end of June 2007 it was not possible to introduce the new rule at the Slovenia-Italy border. After 1 July 2007 it became possible to introduce the new rule; however, it was necessary to change the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities. This new document began to apply on 11 August 2007. Consequently, the jointly coordinated auctions for the capacities at the Slovenia-Italy border were carried out between September and December. During this period, the Slovenian transmission system operator allocated all the available CBTCs in the direction to Italy, while the Italian operator allocated the CBTCs in the direction to Slovenia. The system operators divided all the revenues from the auctions in the ratio 50:50.

Similarly, the jointly coordinated allocating of the CBTCs at the Slovenia–Austria border (Central and Eastern Europe) was introduced, and the new Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities relating to the CBTCs at this border were adopted. Consequently, the monthly auction for December and all the daily auctions in December relating to the CBTCs for the transmission path Slovenia– Austria were carried out by the Slovenian operator, while the auctions for the transmission path Austria–Slovenia were carried out by the Austrian operator.

Together with the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities for the Slovenia– Austria Border, the new Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities for the Slovenia–Italy Border were also adopted. This document began to apply on 14 November 2007. Consequently, the general rules apply only to the border, for which no specific rules had been produced. Thus, at the end of 2007 the general Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities applied only to the Slovenia–Croatia border.

As the rules for allocating the CBTCs for the Slovenia–Italy border, which are part of the joint rules for allocating the CBTCs in Central and South-East Europe, applied only to 2007, the new rules relating to 2008 were adopted before the end of 2007.

In 2007 there were no internal congestions on the Slovenian transmission network. This is also indicated by the fact that, during this period, the transmission system operator did not carry out any reallocation of the capacities. The congestions occurred only on the cross-border transmission paths.

### 4.3 THE 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. Since 1 July 2007 the households, which are the most numerous customers, have also been able to choose their suppliers. Thus, on 1 July 2007 the Slovenian electricity market became fully opened to all 894,545 customers of electricity, whose total consumption in 2007 was 12,998 GWh.

Figure 26 shows the dynamics of liberalisation for the Slovenian electricity market since 2001.



### DYNAMICS OF LIBERALISATION FOR THE ELECTRICITY MARKET IN SLOVENIA

The full opening of the electricity market did not have a significant influence on competitiveness, as the most numerous customers, the households, kept the same suppliers under the same conditions. In 2007 the suppliers did not change the electricity prices for household customers, and the prices of different suppliers also remained the same. Figures 27 and 28 show the ratios between the consumed electricity and the number of customers by consumption type.



SHARES OF ELECTRICITY CONSUMPTION WITH RESPECT TO CONSUMPTION TYPE FOR 2007



Figure 22

### 4.3.1 THE PRODUCTION AND THE WHOLESALE MARKETS

Since the beginning of the market opening, all the companies for electricity production have, freely and independently of the system operators, traded in Slovenia, and since 2003 they have also traded abroad. In spite of an increased number of balance groups in 2007, the wholesale trading in the Slovenian market did not increase, as the main focus was put on the international trading. Since 1 July 2007 the market mechanisms that were put in place at all the Slovenian borders have allowed more liberal business operations, resulting also in an increased number of foreign companies participating in the Slovenian market.

### 4.3.1.1 The production of electricity

In 2007 the following companies operating large facilities with a capacity of over 10 MW were active in the electricity-production market:

- Drava Hydroelectric Power Plants, Maribor, d. o. o. (Drava HPPs),
- Sava Hydroelectric Power Plants, Ljubljana, d. o. o. (Sava HPPs),
- Soča Hydroelectric Power Plants, Nova Gorica, d. o. o. (Soča HPPs),
- Krško Nuclear Power Plant, d. o. o. (Krško NPP),
- Šoštanj Thermoelectric Power Plant, d. o. o. (Šoštanj TPP),
- Trbovlje Thermoelectric Power Plant, d. o. o. (Trbovlje TPP),
- Ljubljana Combined Heat-and-Power Plant, d. o. o. (Ljubljana CHP),
- Brestanica Thermoelectric Power Plant, d. o. o. (Brestanica TPP).

Three companies, the Drava HPPs, the Sava HPPs and the Soča HPPs, generate electricity in hydroelectric power plants, the Krško NPP in a nuclear power plant, the Šoštanj TPP and the Trbovlje TPP in thermoelectric power plants running on coal, the Brestanica TPP produces electricity from liquid and gaseous fuels, and the CHP Ljubljana cogenerates heat and electricity in a cogeneration process using coal. In 2007 the links among the production companies became reorganised. Six companies, the Drava HPPs, the Sava HPPs, the Soča HPPs, the Šoštanj TPP, the Trbovlje TPP, and the Brestanica TPP, were operating within the group known as Holding Slovenske elektrarne, d. o. o., (the HSE) forming the first energy pillar. This group also had access to about 70 percent of the energy generated in the Krško NPP, with which the HSE traded in the wholesale market. GEN energija, d. o. o., the company that forms the second energy pillar in the wholesale market, had access to about 30 percent of the energy from the Krško NPP. In the following years the share available to GEN energija will increase. Since their separation from the HSE in November 2007, the production companies Brestanica TPP and the Sava HPPs have operated within GEN energija. In spite of the division of the production companies into two energy pillars, they both cooperated in the project of building the hydroelectric chain on the lower Sava. The aim of the joint project is to increase the stability of financing the new hydroelectric power plants on the Sava River.

In addition to the production in large power plants connected to the transmission network, the Slovenian electricity system also includes small production facilities connected to the distribution network. With respect to distributed production there are two main types of important production in Slovenia, i.e., the production in small hydroelectric power plants and the production in industrial facilities for the cogeneration of heat and electricity. Most of the small hydroelectric power plants 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 2007 a few new micro-cogeneration units operating in both the public and private sectors became connected. This year saw a significant increase in the number of solar power plants; however, their share still does not exceed one percent of the total installed capacity in Slovenia. In 2007 there was still no wind turbine operating in the Slovenian electricity system.

### INSTALLED CAPACITIES OF THE PRODUCTION FACILITIES ACTIVE IN THE SLOVENIAN MARKET

Producer	Installed capacity (MW)	Share – all producers in Slovenia	Share on the transmission network
HSE	2,230	84.4%	90.7%
– hydroelectric power plants	918	34.7%	37.3%
- thermoelectric power plants	1,080	40.9%	43.9%
– nuclear power plant*	232	8.8%	9.4%
GEN energija*	116	4.4%	4.7%
Ljubljana Combined Heat-and-Power Plant	103	3.9%	4.2%
Other small producers (on the transmission network)	10	0.4%	0.4%
Other small producers (on the distribution network)	183	6.9%	-
– small hydroelectric power plants	97	3.7%	-
- cogeneration units	34	1.3%	-
– other	51	1.9%	-
Total in Slovenia	2,641	100%	-
– on the transmission network	2,459	-	100%
* The division of the 50-% share of t	he installed capacity of th	e Krško NPP (1/3 to Gen energija, 2/3	3 to the HSE) is taken into account

> To support financially the electricity production that would not be competitive in the free market, the system of compulsory electricity purchase from qualified producers is applied in Slovenia. The Slovenian support system is one of the socalled feed-in systems. Each producer that is entitled to this support can choose one of the two methods of receiving the support. The first method is a guaranteed purchase of all the produced electricity at prices that are higher than the prices in the open electricity market. In this case all the electricity generated by the producer that has chosen this method of support is purchased by the system operator of the network, to which the production facility is connected. The difference between the purchase prices and the market prices is covered with the supplement to the network charge – compulsory purchase of electricity – set by the government. In the case of the other method, the producer entitled to support can freely sell electricity in the market, and is then entitled to a premium that actually represents the difference between the subsidised and the marketbased prices. The government sets the purchase prices and the premiums with the Decision Regarding the Prices and Premiums for the Purchase of Electricity from Qualified Producers. In 2007 neither the purchase prices nor the premiums

were changed, so the ones that the government published on 6 July 2006 were still valid.

At the end of 2007 there were 524 production facilities in Slovenia that had the status of a qualified power plant. These include 18 large hydroelectric power plants with a capacity of more than 10 MW that were not eligible for the support by means of purchase prices and premiums. In 2007 all the remaining 508 production facilities received support from the compulsory-purchase system.

In line with the bilateral agreement between Slovenia and Croatia, half of the production from the Krško NPP belongs to Croatia, which reduces the share of the Krško NPP in the Slovenian production of electricity. Thus, in 2007 Slovenian power plants produced a total of 13,637 GWh of electricity, but the actual Slovenian production was smaller, amounting to 10,926 GWh.

The largest share of electricity production in Slovenia was, in 2007, contributed by the thermoelectric power plants producing a little less than half of all the electricity. These are followed by the hydroelectric power plants, and the nuclear power plant, each producing about a quarter of all the electricity. The rest of the electricity was contributed by smaller units connected to the transmission and distribution networks.

### SHARES OF DIFFERENT TYPES OF ELECTRICITY PRODUCTION IN SLOVENIA

Production (GWh)	Share	Production – 50% of Krško NPP (GWh)	Share
5,422	39.8%	2,711	24.8%
4,817	35.3%	4,817	44.1%
2,815	20.6%	2,815	25.8%
77	0.6%	77	0.7%
506	3.7%	506	4.6%
13,637	100%	10,926	100%
	(GWh) 5,422 4,817 2,815 77 506	(GWh) SHARE   5,422 39.8%   4,817 35.3%   2,815 20.6%   77 0.6%   506 3.7%	(GWh)SHAREOF KRŠKO NPP (GWh)5,42239.8%2,7114,81735.3%4,8172,81520.6%2,815770.6%775063.7%506

Sources: Companies' data

In 2007 no new large production facility was connected to the Slovenian electricity network. All of the newly connected production facilities are small facilities connected to the distribution network. The total installed capacity of the newly connected production units in 2007 was 9.86 MW. The cogeneration facilities have the largest share of the newly connected power plants. None of the large production facilities was disconnected in 2007. However, a few small production units on the distribution network were shut down. The total installed capacity of the power plants halted in 2007 was 3.68 MW.

### CONNECTIONS OF THE NEW FACILITIES AND DISCONNECTION OF THE OLD PRODUCTION FACILITIES IN 2007

				Type of po	OWER PLANT	– PRODUCTIO	N SOURCE
	Hydro	Solar	COGENERATION	BIOMASS	BIOGAS	Other	Total
Installed capacity of the new power plants (MW)	0.40	0.11	4.40	2.43	1.90	0.63	9.86
Installed capacity of the disconnected power plants (MW)	0.08	0.00	3.60	0.00	0.00	0.00	3.68

SOURCES: COMPANIES' DATA

### 4.3.1.2 The business operations of production companies

The companies for electricity production finished 2007 with a profit of 70.17 million euros, which was 123.1 percent more than in 2006. The Sava

Hydroelectric Power Plants, Ljubljana, d. o. o., had the largest share of the total net profit of the companies for electricity production – 70.5 percent.

### NET PROFITS OF THE COMPANIES FOR ELECTRICITY PRODUCTION

	IN MILLIONS OF EUROS		Index	
	2006	2007	07/06	
Drava Hydroelectric Power Plants, Maribor, d. o. o.	20.86	49.45	237.1	
Sava Hydroelectric Power Plants, Ljubljana, d. o. o.	0.28	-1.16	-414.3	
Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.	4.47	3.88	86.8	
Brestanica Thermoelectric Power Plant, d. o. o.	2.07	1.45	70.0	
Šoštanj Thermoelectric Power Plant, d. o. o.	1.65	10.39	629.7	
Trbovlje Thermoelectric Power Plant, d. o. o.	0.20	0.29	145.0	
Ljubljana Combined Heat-and-Power Plant, d. o. o.	1.66	5.80	349.4	
Krško Nuclear Power Plant, d. o. o.	0.26	0.07	26.9	
Total	31.45	70.17	223.1	

Sources: Companies' data (unaudited accounts for 2007)

At the end of 2007 the companies for electricity production had 2264 employees, of which the hydroelectric power plants employed 525, the thermoelectric power plants employed 1166, and the Krško Nuclear Power Plant employed 573 staff members. In comparison with 2006, the number of employees decreased by 45 employees, or 1.9 percent.

### NUMBER OF EMPLOYEES IN THE COMPANIES FOR ELECTRICITY PRODUCTION

	2006	2007	INDEX 07/06
Drava Hydroelectric Power Plants, Maribor, d. o. o.	288	277	96.2
Sava Hydroelectric Power Plants, Ljubljana, d. o. o.	124	123	99.2
Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.	126	125	99.2
Brestanica Thermoelectric Power Plant, d. o. o.	121	131	108.3
Šoštanj Thermoelectric Power Plant, d. o. o.	537	508	94.6
Trbovlje Thermoelectric Power Plant, d. o. o.	235	225	95.7
Ljubljana Combined Heat-and-Power Plant, d. o. o.	305	302	99.0
Krško Nuclear Power Plant, d. o. o.	573	573	100.0
Total	2,309	2,264	98.1
	,		

Sources: Companies' data

The state is, directly or indirectly (through the ownership of the HSE and GEN energija), the majority owner of all the companies for electricity production, except for the Krško Nuclear Power Plant, where it holds a 50-percent share.

	Republic of Slovenia	Holding Slovenske elektrarne, d. o. o.	GEN energija, d. o. o.	City Muni- cipality of Ljubljana	Other share- holders	Croatian electricity industry
Drava Hydroelectric Power Plants, Maribor, d. o .o.		100.0%				
Sava Hydroelectric Power Plants, Ljubljana, d. o. o.			79.5%		20.5%	
Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.		100.0%				
Brestanica Thermoelectric Power Plant, d. o. o.			100.0%			
Šoštanj Thermoelectric Power Plant, d. o. o.		100.0%				
Trbovlje Thermoelectric Power Plant, d. o. o.		81.3%			18.7%	
Ljubljana Combined Heat-and-Power Plant, d. o. o.	64.6%			35.4%		
Krško Nuclear Power Plant, d. o. o.			50.0%			50.0%
Sources: Companies' data			50.0%			i

### OWNERSHIP STRUCTURE OF THE COMPANIES FOR ELECTRICITY PRODUCTION

#### 4.3.1.3 The 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. Emission 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 Distribution Plan for Emission Coupons in the period 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<sub>2</sub>. 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 their coupons.

Slovenia decided to apply two different methods of distributing emission coupons to the industrial 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 2007 the thermal-energy sector received 5,799,216 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 10.6 percent, and in comparison with 2006, it was smaller by 6.6 percent. With respect to the actual emissions and the prices for emission coupons in the market, we can conclude that the price for emission coupons did not significantly affect the price for the electricity produced in Slovenia.

#### Electricity



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### MOVEMENT OF THE PRICE FOR EMISSION COUPONS FROM THE FIRST TRADING PERIOD IN 2007 AT THE EEX



1000 |1001 |1101 |1101 

SOURCE: NATIONAL PLAN FOR THE DISTRIBUTION OF EMISSION COUPONS

In 2007 in the European market the prices for emission coupons from the first trading period continued to decrease, getting close to zero. On the other hand, the price for emission coupons from the second trading period, 2008–2012, exceeded 20 euros per tonne of CO<sub>2</sub>. The reasons for such a low price for the emission coupons from the first trading period are their excessive number with respect to the actual emissions, and the fact that the emission coupons from the first trading period could not be transferred to the second trading period.

In 2007 the European Commission gave approval to the national distribution plans for emission coupons for the second trading period, 2008-2012, of all the Member States. This time as well, the Slovenian plan allocates the largest number of emission coupons to the thermal-energy sector. As the prices for emission coupons for the second trading period are higher than the prices at the end of the first trading period, we expect that this change will cause an increase in the price for the electricity produced in thermoelectric power plants.

#### 4.3.1.4 THE GUARANTEES OF THE ORIGIN OF ELECTRICITY AND THE **RESC** CERTIFICATES

In Slovenia the Energy Agency issues guarantees of the origin of electricity from renewable sources and from the facilities for effective cogeneration. The issuing of guarantees is carried out on the basis of the provisions of the EA and the governmental Ordinance Regarding the Issuing of Guarantees of the Origin of Electricity.

In 2007 the regulations changed due to the implementation of the EU Directive on the promotion of cogeneration based on a useful heat demand (2004/8/EC). The Commission Decision No 2007/74/EC establishing harmonised efficiency reference values for the separate production of electricity and heat in the application of Directive 2004/8/EC was published in the Official Journal of the EU on 6 February 2007. Since 6 August 2007 these efficiency reference values have been taken into account when issuing guarantees of the origin of electricity from the facilities for effective cogeneration. For this reason the governmental Ordinance Relating to the Conditions for Obtaining the Status of Qualified Producer of Electricity was amended, so that it now includes the above efficiency reference values.

In 2007 the Energy Agency, being a member of the Association of Issuing Bodies (the AIB), adopted the CHP-GO model used for determining the

amounts of electricity from cogeneration facilities, for which guarantees can be issued.

In 2007 the Energy Agency issued guarantees for a total of 2,348,449,592 kWh of electricity from renewable sources. These guarantees were mainly issued as evidence of the origin in the case of electricity exports. In Slovenia the guarantees were only used as evidence of the production-source structure of electricity suppliers; however, they were not used as evidence of the origin of electricity trademarks. In 2007 the Energy Agency did not issue any guarantee for the origin of electricity from a facility for effective cogeneration.

Since 2004 the Energy Agency has also been issuing green, i.e., tradable, RECS certificates (Renewable Energy Certification System). Within the RECS, its members defined the procedures for identifying the origin and traceability of electricity trading.

The Energy Agency is a full member of the AIB. In 2007 it issued 31,570 RECS certificates, while 31,653 were redeemed. A RECS certificate is a proof that 1 MWh of electricity was produced from renewable sources. In Slovenia the suppliers use the RECS certificates as evidence of the origin of the product known as Blue Energy.

### 4.3.1.5 HE DEGREE OF COMPETITIVENESS OF THE PRODUCTION COMPANIES

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 the 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  $CR_n$ .

In accordance with the Prevention of Restriction of Competition Act, in Slovenia a market participant has a dominant position in the market if its market share exceeds 40 percent. The concentration of the production is of utmost importance.

The figures below show three different indicators of concentration rate in Slovenia, 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 ( $CR_3$ ).

Figure 31 shows the CR indicators with respect to the installed capacity, separately for all the producers in Slovenia, and for the producers on the transmission network (50 percent of the capacity installed at the Krško NPP is taken into account).

### CUMULATIVE SHARES OF THE ONE ( $CR_1$ ), TWO ( $CR_2$ ) AND THREE ( $CR_3$ ) LARGEST PRODUCERS IN THE MARKET WITH RESPECT TO THE INSTALLED CAPACITY (50 PERCENT OF THE PRODUCTION FROM THE KRŠKO NPP IS INCLUDED)



Figure 32 shows the CR indicators  $(CR_n)$  with respect to electricity production (50 percent of the

electricity generated at the Krško NPP is taken into account).

### 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 ELECTRICITY PRODUCTION (50 PERCENT OF THE PRODUCTION FROM THE KRŠKO NPP IS INCLUDED)



In 2007 the HSE, whose market share significantly exceeded 40 percent (CR<sub>1</sub>), remained the dominant production company. As it also had access to most of the production from the Krško NPP, its market share increased significantly in comparison with the share in 2006, when we treated the Krško NPP as an independent producer. However, the HSE has not exceeded the level of 90 percent that would indicate a market monopoly. On the other hand, the share of the three largest electricity producers on the transmission network (CR<sub>3</sub>) exceeded 99 percent, showing an extremely tight oligopoly in the production market.

The Hirshmann–Herfindahl index (HHI) 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 15 and 16 have been calculated on the basis of the total installed capacity, the installed capacity on the transmission network, and on the basis of the produced electricity, taking into account 50 percent of the production from the Krško NPP.

### HHI WITH RESPECT TO THE INSTALLED CAPACITY OF THE PRODUCERS ACTIVE IN THE SLOVENIAN MARKET

Producer	HHI based on the installed capacity – total for the RS	HHI BASED ON THE INSTALLED CAPACITY – ON THE TRANSMISSION NETWORK
HSE	7,125.9	8,223.9
GEN energija	19.3	22.3
Ljubljana CHP	15.2	17.6
Other small producers (on the transmission network)	0.1	0.2
Other small producers (on the distribution network)	47.8	-
Total for Slovenia	7,208	-
Total on the transmission network	-	8,264

Sources: Companies' data

### HHI WITH RESPECT TO THE PRODUCTION OF THE PRODUCERS ON THE TRANSMISSION NETWORK

Producer	HHI based on the production – on the transmission network (including 50 percent of the Krško NPP's production)
HSE	7,731
GEN energija	54
Ljubljana CHP	16
Other small producers	1
Total	7,802

In 2007 the HHIs increased significantly in comparison with the previous year, as the Krško NPP was not any longer treated as an independent producer. The HHIs significantly exceed the upper limit of the medium concentration (HHI = 1800), showing the dominant position of the producers joined in the HSE with respect to the production of electricity and the provision of ancillary services. The values of both indicators show that there is hardly any competition in the Slovenian production market. The conditions for competition will begin to develop when GEN energija, setting up the second production pillar in the wholesale market, can have access to the whole of the Slovenian share of the electricity produced by the Krško NPP, as well as the production from the Sava HPPs, and the Brestanica TPP.

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### HHIS RELATING TO THE COMPANIES FOR ELECTRICITY PRODUCTION

### 4.3.1.6 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 Slovenian electricity system are provided by the transmission system operator (the TSO), while the distribution system operator also provides these services on individual parts of the distribution network. In line with the System Operation Instructions for the Electricity Transmission Network (the Official Gazette of the Republic of Slovenia, No. 49/07), the TSO, in order to ensure the safe operation of the electricity system, provides the following ancillary services:

- the control of frequency and power (primary, secondary, and tertiary control),
- the control of voltage,
- the covering of the imbalances in the regulatory area,
- the provision of a black start,
- the covering of the technical losses in the transmission network,
- the releasing of the load of the network.

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. In 2007 the providers of the ancillary services of the primary and secondary control of frequency and power, the voltage control, and the black start were the 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. In 2007 the TSO did not provide the service of releasing the load of the network by reallocating the production sources.

To lease the ancillary services for 2007, 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 providers of the ancillary service for providing 40 percent of the reserve required for tertiary control (a total of 145 MW) were 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 on 14 December 2006. Table 17 shows the final results of purchasing the reserve power required for the provision of ancillary services in 2007.

### REVIEW OF THE AMOUNTS OF LEASED RESERVE POWER

Selected bidder	Tertiary reserve (MW)	Secondary reserve (MW)
HSE	163	67
Trbovlje TPP	29	10
Ljubljana CHP	8	3
EFT	145	-
Total	345	80
Source: Eles		

#### 4.3.1.7 THE TRADING ON THE ORGANISED MARKET

In 2007 the electricity-production companies and the traders still traded mostly on the basis of bilateral contracts. The share of the organised trading at the exchange did not increase significantly in 2007. This was especially true of the Slovenian exchange, at which the price for electricity was formed on the basis of too small a number of concluded contracts. For this reason the traders and suppliers mostly considered the trends at the EEX, the largest European exchange.

4.3.1.7.1 The prices and the extent of the trade at the electricity exchange

In 2007 as well, the trading participants at Borzen, d. o. o., the operator of the electricity market, could trade with the electricity to be supplied the following day, every working day. On the basis of the adopted rules, the trading in the daily market took place on every working day between 6.00 am and 10.30 am. 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 2007 there were 15 full members participating at the electricity exchange. At the annual level, their amount of traded energy was 1852 MWh. The turnover on the daily market was two-thirds higher than in the previous year, yet it represented only 0.014 percent of the total Slovenian consumption.



# MOVEMENTS OF MONTHLY AMOUNTS AND THE PRICES FOR CONCLUDED DEALS ON THE DAILY MARKET IN 2007



In 2007 the daily market saw 33 concluded deals for a total of 1852 MWh, while 395 bids were submitted. Most of the bids, as many as two thirds, were submitted for the base load; a total of 1224 MWh of the base load was traded. This was followed by the euro-shoulder load, the night load, and the euro-night load. Individual shares of these products were about ten percent of the total annual turnover. In 2007 no deal was made for the hourly load.

In comparison with 2006, the total turnover increased by 700 MWh. The largest monthly turnover was made in October, when the deals were made for 908 MWh, which was 49 percent of the total turnover in 2007.

The values of the SLOeX show the trends of the average prices in the organised daily market, and are calculated as the weighted mean values of the prices and amounts of the deals concluded at the exchange on a particular day. The average SLOeX for 2007 was 47.7 euros/MWh, which was lower by 22.7 percent than in 2006. The lowest value of the SLOeX was recorded in March (38.41 euros/

MWh), while the highest value was recorded in November (59.8 euros/MWh). The price for the base load was the highest in October (64.04 euros/ MWh), when the largest number of deals was made in the daily market.

The extent of the trade at the Slovenian electricity exchange is small, especially in the period since 2005. However, the two promising changes in 2007 were the increase in the number of foreign companies' balance groups active in the Slovenian market, and the entry of some of these companies into the Slovenian electricity exchange.

### 4.3.1.7.2 The prices for electricity in the EU states

The prices for electricity in the EU states were on the increase in 2007. A representative indicator of these prices is the price index at the EEX. The price for the base load, at the European exchange, to be supplied in 2008, exceeded 60 euros/ MWh, while the price for the euro-shoulder load amounted to as much as 85 euros/MWh.



### 4.3.1.8 THE 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 2007 the market of South-East Europe had serious shortages of electricity that led to a significant price increase in the region. Similar conditions have been noted, for several years, in the Italian market, which 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 was cheaper than in Italy and in the markets of South-East Europe. The 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 2007 the number of participants in the Slovenian wholesale market increased significantly, which was mainly a result of the amendments to the Slovenian legislation. The participants in the Slovenian electricity market not supplying electricity to end customers no longer need a licence to trade or a subsidiary in Slovenia. Most of these traders participated also in the three markets bordering Slovenia. The outstanding amounts of electricity required in Slovenia were bought in the markets of Central and Eastern Europe, and, in the cases of occasional surpluses, also in the markets of South-East Europe. Within the limited availability of the CBTCs, some energy was also exported to Italy. When the prices at the German and Austrian markets were high, electricity was also exported to these countries. Slovenian traders also occasionally imported electricity from Italy.

In 2007 the total exports from Slovenia amounted to 5683 GWh of electricity. This figure includes the export of half of the electricity generated by the Krško NPP, which belongs to the Republic of Croatia on the basis of a bilateral agreement. The actual exports of electricity in 2007 were 3167 GWh. In the same period Slovenia imported a total of 6106 GWh of electricity. The difference between the imports and the exports is the amount of electricity that the Slovenian suppliers had to import to cover Slovenia's demand in 2007 – 2939 GWh or 21.2 percent of the total Slovenian electricity consumption. Most of the imported electricity came from Austria (3616 GWh), while most of the exported electricity went to Italy (2281 GWh). 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 is no other liquid electricity exchange in the region.

In 2007 the Slovenian regulator was active in both regions – Central and Eastern Europe, and Central and South-East Europe (see Section 3.2.5). The integrated regional market is being developed mainly due to the increasing cooperation in the area of the joint allocation of CBTCs.

In 2007 Central and Eastern Europe was getting ready for the transition to a new method of allocating CBTCs that will replace the current method of the net transmission capacities (NTC) used by the TSOs. The new method of allocating the capacities will be based on the actual network flows. For the purpose of a joint allocation of the CBTCs, a common auction house is expected to be set up. It is expected that the joint auctions will start at the end of 2008, when the joint annual auction for 2009 is to be held. In 2007 the activities in Central and South-East Europe mainly focused on harmonising the regional auction rules. Thus, the common auction rules for 2008 were prepared. However, these rules have not yet been completely unified to apply to all the borders.

# 4.3.2 The supply and the retail market

Until 30 June 2007 all the customers, except for households, had the right to choose their supplier. These were supplied with electricity by the providers of the public service of the supply to tariff customers, in line with the tariff system. Since 1 July 2007 the household customers can also choose their supplier and are supplied with electricity on market-based principles.

### 4.3.2.1 The suppliers in the retail market

In 2007 fourteen suppliers of electricity were active in the retail market. On the basis of the contracts, these suppliers provided electricity to seven customers connected to the transmission network, and to 893,652 customers connected to the distribution network. Electricity could also be bought 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.

2%

4%

### MARKET SHARES OF THE ELECTRICITY SUPPLIERS AT THE END OF 2007



SOURCES: SODO, ELES

In 2007 the customers in Slovenia were supplied with 13 TWh of electricity. The HSE still had the

largest market share. GEN-I, d. o. o., became one of the suppliers that had at least a 3-percent share.

### MARKET SHARES OF THE SUPPLIERS TO NON-HOUSEHOLD CUSTOMERS





With respect to the supply to non-household customers, the HSE's market share decreased, which was mainly

a result of the increasing shares of GEN-I, d. o. o., Elektro Celje, d. d., and Elektro Primorska, d. d.





Figure 33





### MARKET SHARES OF THE SUPPLIERS TO THE CUSTOMERS WITH AN ANNUAL CONSUMPTION OF OVER 2 GWh



With respect to the customers with an annual consumption of 50 MWh, the first three largest suppliers only reinforced their position, while the shares of the other suppliers decreased. With respect to the customers with an annual consumption between 50 MWh and 2 GWh, the shares of Elektro Ljubljana, d. d., and Elektro Celje, d. d., increased. With respect to the supply to the customers with the highest consumption, the HSE still had the largest share. It is followed by Elektro Ljubljana, d. d., and the company with the third largest share became Elektro Primorska, d. d.



In 2007 a total of 3695 customers, all connected to the distribution network, switched supplier. In comparison with the previous year, the number of supplier switches in 2007 was higher by 69 percent. With respect to the type of electricity supplied to them across the distribution network, more than 4.5 percent of the customers switched their supplier. With respect to all the energy consumed in Slovenia, this is a 3.6-percent share.

DYNAMICS OF THE SUPPLIER SWITCHES IN 2007 WITH RESPECT TO THE NUMBER OF CUSTOMERS ON THE DISTRIBUTION NETWORKS



# DYNAMICS OF THE SUPPLIER SWITCHES IN 2007 WITH RESPECT TO THE AMOUNTS OF ELECTRICITY FROM THE DISTRIBUTION NETWORKS



SOURCES: SODO, ELES

Most of the customers decided to switch supplier at the beginning of the year, which shows that, as a rule, the customers' contracts expire at the end of the year.

# DYNAMICS OF SWITCHING THE SUPPLIERS TO HOUSEHOLDS IN THE SECOND HALF OF THE YEAR 2007



<u>- Tan 44</u>

After the full market opening in mid 2007, only 94 household customers of electricity decided to switch supplier. The reason for such a small number of switches was probably the very small differences in the supply. New products were created (the so-called packets); however, the prices for the basic supply to households did not change significantly, and were very similar with respect to the different suppliers.

### 4.3.2.2 The degree of competitiveness in the retail market

The full opening of the electricity market eliminated the differences between the eligible and the tariff customers that, until then, had not had the right to choose supplier. Consequently, in the second half of 2007, the conditions with respect to the degree of competitiveness in the retail market changed significantly, and are described in the sections below.

#### 4.3.2.2.1 The conditions in the partly opened retail market

Table 18 shows the market shares of the suppliers to eligible customers on the distribution network (without the households) relating to the first half of 2007.

None of the companies in the retail market for electricity received from the distribution network had a dominant position, as none of them has a share larger than 40 percent. Nevertheless, in spite of a distributed supply, the concentration is high, the HHI being more than 1800. It is also clear that the market share of Elektro Ljubljana, d. d., is relatively high, its HHI exceeding the upper limit of low concentration. With respect to ownership, the concentration is even higher, as the state is the majority owner of the Slovenian distribution companies.

MARKET SHARES OF THE SUPPLIERS TO ELIGIBLE CUSTOMERS ON THE DISTRIBUTION NETWORK

Supplier	SUPPLY TO ELIGIBLE CUSTOMERS (GWh)	Market share	HHI
Elektro Ljubljana, d. d.	2,292.2	31.6%	1,000
Elektro Maribor, d. d.	1,488.4	20.5%	422
Elektro Celje, d. d.	1,112.3	15.3%	236
Elektro Primorska, d. d.	820.8	11.3%	128
Elektro Gorenjska, d. d.	637.5	8.8%	77
GEN-I, d. o. o.	472.4	6.5%	42
HSE, d. o. o.	188.9	2.6%	7
Others	234.8	3.2%	10
Total	7,247.3	100%	1,923

The total market for eligible customers, without the households, also includes 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, in 2007, reached a value of 1858, showing a high market concentration that already slightly exceeded the upper limit of medium concentration (HHI = 1800).

### MARKET SHARES OF THE SUPPLIERS TO ELIGIBLE CUSTOMERS

Supplier	SUPPLY TO ELIGIBLE CUSTOMERS (GWh)	Market share	HHI
HSE, d. o. o.	2,877.2	29.0%	839
Elektro Ljubljana, d. d.	2,292.2	23.1%	532
Elektro Maribor, d. d.	1,488.4	15.0%	224
Elektro Celje, d. d.	1,112.3	11.2%	125
Elektro Primorska, d. d.	820.8	8.3%	68
Elektro Gorenjska, d. d.	637.5	6.4%	41
GEN-I, d. o. o.	472.4	4.8%	23
Others	234.8	2.4%	6
Total	9,935.5	100%	1,858

Sources: Companies' data

The HHIs for both markets have been on the decrease since 2005, and the largest change occurred in 2007, mainly because of an increased market share of GEN-I, as shown in Figure 45.

The upper limit of medium concentration is the HHI of 1800.

### TRENDS OF THE HHIS IN THE RETAIL MARKET FOR 2005–2007



Sources: Companies' data

#### 4.3.2.2.2 The conditions after the full opening of the retail market

In the fully opened market all the customers can choose their supplier. In the second half of 2007 the market shares in the retail market changed, in comparison with the first half of the year, as they were calculated on the basis of the amounts also including the household consumption.

In the retail market for electricity delivered across the distribution network, the concentration

increased in this period, and the total HHI increased to a value of 2032. In this period as well, none of the suppliers had a dominant position, as none of the market shares exceeded 40 percent.

In the second half of the year, the market shares of the previous suppliers to tariff customers did not significantly change also because there were hardly any supplier switches among the household customers.

MARKET SHARES OF THE SUPPLIERS TO ELIGIBLE CUSTOMERS ON THE DISTRIBUTION NETWORK

Supplier	Supply to eligible customers (GWh)	Market share	HHI
Elektro Ljubljana, d. d.	3,336.0	32.4%	1,047
Elektro Maribor, d. d.	2,228.2	21.6%	467
Elektro Celje, d. d.	1,655.0	16.1%	258
Elektro Primorska, d. d.	1,239.3	12.0%	144
Elektro Gorenjska, d. d.	955.8	9.3%	86
GEN-I, d. o. o.	472.4	4.6%	21
HSE, d. o. o.	188.9	1.8%	3
Others	234.8	2.3%	5
Total	10,310.4	100%	2,032

When considering all the customers, including the customers on the transmission network, we found that the market concentration decreased, showing medium level, as the total HHI is below the upper limit of 1800.

### MARKET SHARES OF THE SUPPLIERS TO ELIGIBLE CUSTOMERS

Supplier	Supply to eligible customers (GWh)	Market shares	HHI
Elektro Ljubljana, d. d.	3,336.0	25.7%	659
HSE, d. o. o.	2,877.2	22.1%	490
Elektro Maribor, d. d.	2,228.2	17.1%	294
Elektro Celje, d. d.	1,655.0	12.7%	162
Elektro Primorska, d. d.	1,239.3	9.5%	91
Elektro Gorenjska, d. d.	955.8	7.4%	54
GEN-I, d. o. o.	472.4	3.6%	13
Others	234.8	1.8%	3
Total	12,998.7	100%	1,766
Sources: Companies' data			

•• 70•••• Electricity ••

The decrease in the HHI shows that the competition in the area of electricity supply in the open market is on the increase.

#### 4.3.2.3 The prices for 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, throughout the year, formed on the market, while the price for household customers was, during the first half of the year, still set by the government.

### 4.3.2.3.1 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 amounts of consumption and the time dynamics of the customers' consumption, related to the load factor.

Below is a comparison of the electricity prices as of 1 July 2007. It refers to two typical industrial customers selected in line with the Eurostat methodology. The comparison shows the final prices, including the prices for the use of electricity networks.

### COMPARISON OF ELECTRICITY PRICES FOR A TYPICAL INDUSTRIAL CUSTOMER WITH AN ANNUAL CONSUMPTION OF 50 MWh IN THE EU COUNTRIES AND IN SLOVENIA FOR JULY 2007



Without VAT and other taxes

With VAT and other taxes

SOURCE: EUROSTAT
COMPARISON OF ELECTRICITY PRICES FOR A TYPICAL INDUSTRIAL CUSTOMER WITH AN ANNUAL CONSUMPTION OF 24 GWh IN THE EU COUNTRIES AND IN SLOVENIA FOR JULY 2007



terre 42



### 4.3.2.3.2 The prices of electricity for tariff customers

As of 1 July 2004 the tariff customers were only those that use electricity for household purposes. Until 30 June 2007 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 consisted of:

- the use-of-network price;
- the price for the 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 26 March 2007 the government adopted a decision on increasing the price for the electricity supply to household customers by 4.94 percent. As a result, the final prices for household customers increased by 1.6 percent. In spite of the liberalisation of the electricity market as of 1 July 2007 for the household customers, the final electricity price for households did not change by the end of 2007.

• •



7X



SOURCE: EUROSTAT

#### 4.3.2.4 THE BALANCING

On the basis of the Rules Regarding the Operation of the Electricity Market (the Official Gazette of the Republic of Slovenia, Nos. 30/01, 118/03), Borzen, the market operator, carries out the balancing in two stages. First, it calculates the imbalance amounts for each balance group and subgroup on the basis of the established imbalances; later it prepares financial accounts that provide the grounds for the settlement of imbalances. An imbalance amount is calculated as the difference between the total realisation of a balance group, or subgroup, and the forecasted operation schedule of the same balance group, or subgroup, for an individual accounting interval.

The price for imbalances is set for each accounting interval on the basis of the electricity price at the exchange, and the TSO's costs related to the balancing, separately for each category ( $P_+$  and  $P_-$ ). The financial accounts for an individual balance group equal the sum of the products of the imbalance amount and the imbalance price for each accounting interval of an accounting period.

The financial accounts are prepared only for the balance groups that include suppliers to end customers or electricity producers; in the cases of imbalanced operation schedules, the financial accounts are also prepared for the trading balance groups. In 2007 the imbalances relating to the trading balance groups occurred in January, February, July, September and December.

In 2007 the average daily values of the  $C_{SLOeX}$  changed less than the average daily values of the main imbalance prices. The reason for the low dynamics of the  $C_{SLOeX}$  is mainly the small number of concluded deals at the electricity exchange.

In the first half of the year the main imbalance prices were lower, and moved within a smaller range, than in the second half of the year. The largest positive imbalances occurred in August, amounting to 2.4 percent of the Slovenian consumption for this month.

### AVERAGE DAILY VALUES OF THE $C_{\text{SLOeX}}$ and of the main imbalance prices $P_{\text{+}}$ and $P_{\text{-}}$





In 2007 the balance scheme included 21 new balance groups. The total number of registered balance groups was 29 (18 from abroad and 11 from Slovenia); there were also 11 subgroups (4 from abroad and 7 from Slovenia). The reason for a large number of newly established balance groups was the amendment to the legislation, according to which a licence is no longer required for participation in the wholesale market. Consequently, the procedures for market entry and for obtaining membership at the electricity exchange have been simplified.

### BALANCE GROUPS AND BALANCE SUBGROUPS AS OF 31 DECEMBER 2007

BALANCE SUBGROU	BALANCE GROUPS	No.
Verbund-Austrian Power Trading	APT Power Trading SL, d. o. o.	1
	C&G, d. o. o.	2
Energy Financing Team (Switzerland)	Električni finačni tim, d. o. o.	3
	Elektro Maribor, d. d.	4
Atel Energia S. p	Atel Energija, d. o. o.	5
	Ezpada Energija, d. o. o.	6
Elektro Celje, d		
Elektro Gorenjska, d		
Elektro Ljubljana, d		-
Elektro Primorska, d	Holding Slovenske elektrarne, d. o. o.	7
Elektro prodaja, d. o		
ENI S. p		
Termoelektrarna Toplarna Ljubljana, d. o	ODVI 1	0
GEN energija, d. o	GEN-I, d. o. o.	8
	Korlea, d. o. o.	9
	Lumius, spol. s. r. o.	10
	EDF Trading Limited	11
	Ezpada s. r. o.	12
	Electrabel NV/SA	13
	Elektrizitäts-Gesellschaft Laufenburg AG	14
	ENEL Trade S. p. A.	15
	e&t Energiehandelsgesellschaft GmbH	16
	EON Sales & Trading GmbH	17
	Merrill Lynch Commodities Limited	18
	JAS Budapest Zrt.	19
	Danske Commodities A/S	20
	RE Trading CEE, s. r. o.	21
	RWE Trading GmbH	22
	Rudnap- Hungary Energia-Kereskedelmi KFT.	23
	STE Energetika, d. o. o.	24
	Exergia S. p. A.	25
	Energieallianz Austria GmbH	26
	Edison Trading S. p. A.	27
	Interenergo, energetski inženiring, d. d.	28
	Atel Energy AG	29
	E3, energetika, ekologija, ekonomika, d. o. o.	30

SOURCE: BORZEN

### 4.3.3 THE MEASURES TAKEN TO PREVENT ANY ABUSE OF A DOMINANT POSITION AND TO ENSURE COMPETITION

In the wholesale market the same rules apply to electricity as to other commodities, mainly with respect to preventing the restriction of competition and any abuse of a dominant position. The market transparency is provided for by publishing the relevant information, which is mostly available on the web sites of individual market participants. The companies providing a public service also have to observe the prescribed mode of publishing this information, as required by the current general acts. Most of the information relating to the wholesale market is maintained and disclosed by Eles and Borzen. In 2007 the Slovenian facilities for distributed production did not merge in order to act in the market as the so-called virtual power plants.

The suppliers have to observe, in addition to the legislation regulating general customer protection, also the provisions of the specific customer protection stipulated by the energy legislation. The structure and the content of the contracts on the supply of electricity or natural gas are not determined; however, the General Conditions for the Supply and Consumption list certain issues that have to be regulated by these contracts. At least once per year, the suppliers have to inform their customers about their annual consumption of electricity and the structure of production sources for the energy supplied.

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

On 7 December 2007 the Competition Protection Office of the Republic of Slovenia issued, of its own motion, the decision on initiating the proceedings for establishing the existence of infringements of Article 5, associated with Article 3, of the Law Preventing the Restriction of Competition, and of Article 81 of the Treaty Establishing the European Community, against five companies: Elektro Primorska, d. d., Elektro Maribor, d. d., Elektro Ljubljana, d. d., Elektro Gorenjska, d. d., and Elektro Celje, d. d. These companies announced an increase in the electricity price for customers at the same time, and published their price lists, from which it was clear that the intended increase was almost the same in all cases, starting on the same day, 1 January 2008. It is possible that these companies acted together, or agreed on the price setting and on the other conditions relating to the market operation.

The Competition Protection Office did not initiate any other proceedings relating to the electricity market, nor did it 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.

#### 4.3.3.2 THE FINDINGS AND MEASURES OF THE RESPONSIBLE MINISTRY

In 2007 the responsible ministry did not notice any irregularities in the electricity market's operations, incorrect behaviour of the market participants, or unsuitability of the rules regulating the market, and, consequently, took no actions in this area. The development of competition was stimulated by the legal unbundling of the distribution system operator from the electricity suppliers, and by the introduction of the market-based method of allocating the CBTCs, as of 1 July 2007.

### 4.3.4 THE DECISIONS ON DISPUTES AND APPEALS

The Energy Agency decides, in an administrative procedure in the first instance, on disputes between the network users and the system operators or the market operator. It also decides, as an administrative body in the second instance, on appeals against the decisions of the system operator relating to a connection approval.

The content of the decisions changed in the last three years. In 2005 most of the decisions were made in the first instance relating to the disputes associated with the failures to submit the metering data regarding individual customers. In 2006 most of the decisions were made with respect to the appeals against the issued connection approvals. In 2007 the content of the disputes and appeals was much more varied. The most important issues were the attempts to prevent a supplier switch (two cases), an unjustified disconnection (two cases), infringement of the general conditions for supply and consumption (three cases), and complaints against the conditions for making a connection to the network set by the distribution system operators (five cases).

In 2007 the Energy Agency received 15 requests to decide on disputes, of which 10 were finally resolved and 5 decisions were followed by an appeal. In addition, the Energy Agency received 11 requests to decide on appeals, of which 9 were finally resolved, and 2 decisions were followed by an administrative dispute.

In comparison with 2005, when 24 requests to decide on an administrative procedure were submitted to the Energy Agency, and 2006, when the Energy Agency received 21 such requests, the number of these requests increased in 2007 to 26. The structure of the submitted requests has been changing from year to year, as 22 requests to make a decision in the first instance were submitted in 2005, in 2006 only 3 such request were submitted, and in 2007 the Energy Agency received 15 requests to make a decision in the first instance. With respect to the deciding in the second instance, only 2 such requests were filed in 2005, in 2006 they were 18, and in 2007 the Energy Agency received 11 such requests.

# 5 Natural

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### **5.1 The general Information**

In 2007 the end customers consumed 1,117,743,000 Sm<sup>3</sup> of natural gas, or two percent more than in 2006. The consumption of industrial customers connected to the transmission network increased by about five percent, while the consumption of the customers connected to the distribution networks decreased by six percent. In 2007 the number of end customers increased by five percent – to 124,799 customers.

In the natural-gas market as well, all the customers obtained the status of eligible customer as of 1 July 2007, which means that the market was also opened for household customers. Thus in 2007 the degree of market liberalisation, expressed as a percentage of the natural gas consumed by eligible customers with respect to the total consumption of natural gas, increased, in comparison with 2006, by 10 percent. The gas market is now 100-percent liberalised.

In 2007 the market for natural gas was mainly characterised by the activities associated with implementing the natural-gas legislation. The network charges for the distribution networks were set, so that, in 2007, the access to these networks was also regulated.

### NUMBER OF HOUSEHOLD AND NON-HOUSEHOLD CUSTOMERS OF NATURAL GAS AND THEIR CONSUMPTION



### 5.2 The regulation and the regulated activities

With respect to natural gas, in 2007 the following activities were regulated:

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

The gas supply to tariff customers ceased to be a regulated service as of 1 July 2007, when the gas market fully opened.

The services of gas storage-facility operation, liquefied-gas terminal operation, and gas-market operation could also be organised as optional national public services; however, in 2007 there was no need for these services.

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.

### 5.2.1 THE REGULATION OF THE TRANSMISSION AND DISTRIBUTION ACTIVITIES

The regulated activities of operating the naturalgas distribution system and the supply of natural gas to tariff customers were carried out as optional local public services. In Slovenia, the following companies for natural-gas distribution provided 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 podjetje Komunala 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 the supply of natural gas to tariff customers, the companies for natural-gas distribution also provided other energy-related or market-based services.

In 2007 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, until 1 July 2007, by the local authorities.

#### 5.2.1.1 THE TRANSMISSION OF NATURAL GAS

In 2007 Geoplin plinovodi, d. o. o., was responsible 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.

#### 5.2.1.1.1 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 the natural gas is delivered to the end customers, or to a distribution network for further distribution. The Slovenian gas transmission network is connected with the gas transmission networks of Austria (the Ceršak MRS), Italy (the Sempeter MRS) and Croatia (the Rogatec MRS). In 2007 the gas transmission network (Figure 53) consisted of 759 kilometres of pipelines with a nominal pressure of more than 16 bars, 211 kilometres of pipelines with a nominal pressure of less than 16 bars, 172 metering-regulation stations, 41 metering stations and a compressor station in Kidričevo. The transmission network is owned and operated by the transmission system operator.

Across the transmission network, 1115 million Sm<sup>3</sup> of natural gas were transported to customers in Slovenia, while 1219 million Sm<sup>3</sup> of natural gas were transported to customers outside Slovenia (transit).

The transmission capacities are heavily used, especially the transmission path in the direction Ceršak–Rogatec–Šempeter. The highest monthly utilisation of this path was, at Ceršak, 94 percent, and the highest daily utilisation was just below 99 percent.

#### Natural gas





In 2007 the transmission of natural gas for Slovenian customers was carried out within the leased capacities. The expected transmission of 992 million Sm<sup>3</sup> was exceeded by 12 percent as a result of low temperatures in the last 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. The transmission of natural gas for the customers outside Slovenia (transit) was, in comparison with 2006, lower by 28 percent due to the change in the leased capacities, and a mild winter resulting in smaller amounts of gas being kept in the gas-storage facilities.

In 2007 there were 15 expected transmission interruptions covering a total of 179 hours. There were no unexpected interruptions. The expected and unexpected restrictions of the transmission of natural gas to the Slovenian transmission network occurred in all months of the year, and were recorded on 183 days. In spite of that, the transmission system operator provided for a stable operation of the transmission network, and a reliable supply in line with contractual obligations.

### 5.2.1.1.2 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 2007 with a net profit of 10.51 million euros, which was 10 percent more than the year before. Good financial results were due to an additional leasing of transmission capacities during the year, and an increased level of other services. At the end of 2007 the company had 143 employees or 4 more than in 2006.

### 5.2.1.1.3 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.

#### 5.2.1.1.4 The investments in the transmission network

In 2007 the transmission system operator allocated 25.2 million euros for the building and renovation of the transmission network. The operator financed 40 percent of the investments by using the amortisation costs, and the rest was financed from other sources.

Most of the funds were allocated for increasing the transmission capacities and improving the network reliability. The year 2007 saw the completion of the first pipeline facility from the investment programme: the 8-kilometres-long pipeline Rogatec–Rogaška Slatina. This year also saw the start of construction of the 17-kilometreslong pipeline Šentrupert–Šoštanj, and the compressor station in Ajdovščina. The activities associated with the most important investments are listed in Table 23.

### REVIEW OF ACTIVITIES RELATED TO THE INVESTMENTS IN THE GAS TRANSMISSION NETWORK

Facility	Activities for 2007	ACTIVITIES FOR THE FOLLOWING YEARS
Pipeline M2/1 Rogatec–Rogaška Slatina	Completion of the construction	
Pipeline R25D Šentrupert–Šoštanj	Obtaining a building permit Starting the construction	Construction
Compressor station Ajdovščina	Obtaining a building permit Starting the construction	Construction
Pipeline M1/1 Kidričevo-Rogatec	Obtaining a building permit Archaeological works	Construction
Pipeline M1/1 Ceršak–Kidričevo	Adopting the ordinance on the national detailed plan	Obtaining a building permit Construction
Expansion of the compressor station Kidričevo	Preparation of the national detailed plan	Construction in progress from 2009 to 2010
Pipeline M2/1 Rogaška Slatina-Trojane	Preparation of the national detailed plan	Construction in progress from 2009 to 2010
Pipeline M2/1 Trojane-Vodice	Preparation of the national detailed plan	Construction in progress from 2009 to 2010
Pipeline R21A Šmarje pri Jelšah– Slovenske Konjice	Production of the project documentation	Obtaining a building permit Construction

SOURCES: GEOPLIN PLINOVODI, THE ENERGY AGENCY

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., assessed and approved of by the Ministry of the Economy. This plan applies to the period 2007–2016 and has been harmonised with the Resolution on the National Energy Programme.

The investments in the transmission network will double transmission capacities and aim at meeting the new requirements relating to the transmission of natural gas for the planned thermoelectric facilities (the Šoštanj TPP, the Trbovlje TPP, and the Ljubljana CHP), 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 in the main pipelines and compressor stations in the period 2007–2016 will amount to 286 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.

#### 5.2.1.2 The distribution of natural gas

The distribution of natural gas is an optional local public service. It is provided by the gas distribution system operators operating the distribution networks of individual local communities. In 2007 there were 17 distribution system operators active in 68 local communities. The service 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 2007 there were 49 local communities that had this service regulated with a concession contract between the concessionaire and the local community, while 16 local communities had public companies providing this service, and in 3 local communities this service was carried out in a different way.

### PROVISION OF THE REGULATED SERVICE OF OPERATING A DISTRIBUTION NETWORK

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, 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 podjetje Komunala Slovenj Gradec, d. o. o.	Public company	Slovenj Gradec
Komunalno podjetje Velenje, d. o. o.	Public company	Velenje, Šoštanj
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, Središče ob Dravi
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, Komenda, Odranci, Radovljica, Rogatec, Sežana, Slovenska Bistrica, Turnišče, Tržič, Vodice
Plinarna Maribor, d. d.	Concession	Hoče - Slivnica, Maribor, Ruše, Šentilj
Plinstal, d. d.	Concession	Žirovnica

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

- the distribution of natural gas,
- the operation, maintenance and development of a distribution network,
- the provision of the 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, and only the unbundling of accounts is sufficient. This means that the distribution companies have to manage separate accounts for each energy-related activity.

The gas distribution networks are well set up in large towns and settlements along the gas transmission network. In 2007 Slovenia had a total of 3525 kilometres of gas-distribution pipelines with different pressure levels. The majority, as much as 51 percent of these lines, operate at a pressure between 100 millibars and 4 bars, and only one percent of the lines have a pressure of over 4 bars (Table 25). The distribution lines, together with the corresponding facilities, are mainly owned by the system operators.

### DISTRIBUTION LINES

Length of the network with a pressure level between 4 and 16 bar	39 km
Length of the network with a pressure level between 100 mbar and 4 bar	1,781 km
Length of the network with a pressure level of up to 100 mbar	1,705 km
Number of metering or regulation stations	40
Number of metering-regulation stations	156

SOURCE: ENERGY AGENCY

The reliable and safe operation of a gas distribution network is only possible if regular and extraordinary maintenance work is carried out. The regular maintenance work is, on average, completed in a few hours, only in some cases does it take a few days. There was a total of 61 expected supply interruptions on the distribution networks. Unexpected interruptions were mainly caused by damage to the networks. There was a total of 129 unexpected supply interruptions, the total duration of which was 234 hours.

#### 5.2.1.2.1 The customers connected to the DISTRIBUTION NETWORKS

In 2007 a total of 124,637 gas customers, in 68 local communities, were connected to all the distribution networks. The distribution system operators distributed 266.96 million Sm<sup>3</sup> of natural gas.

As a result of the development of the distribution networks, new customers of natural gas connected 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 2007 the distribution system operators connected 5251 new customers.

### NUMBERS OF NEW CUSTOMERS ON THE DISTRIBUTION NETWORKS FOR 2006 AND 2007



Number of new customers in 2006

Number of new customers in 2007

SOURCE: ENERGY AGENCY

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

In 2007 the use-of-network prices charged to the customers connected to a gas distribution network were regulated. Until 30 June 2007, 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. On 1 July 2007, the introduction of a fully opened gas market, the local communities ceased to have the responsibility of setting the final gas prices for the tariff customers.

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> of natural gas per year; however, these customers consume only 34 percent of the total consumption of the customers connected to a distribution network.

#### 5.2.1.2.2 The business operations of the DISTRIBUTION SYSTEM OPERATORS

In 2007 six distribution companies had a total net profit of 555,141 euros, made with the service of distribution-system operation. The remaining eleven companies had a total net loss amounting to 2,455,485 euros.

5.2.1.2.3 The ownership structure of the distribution system operators and the network ownership

The companies for gas distribution are mainly owned by the local communities and by domestic legal entities. Only one company is without a majority owner, as it is owned by several individuals.

### OWNERSHIP STRUCTURE OF THE COMPANIES FOR GAS DISTRIBUTION

Ownership of distributin companies	NUMBER OF COMPANIES
Majority ownership of one or more municipalities	7
Majority ownership of a domestic legal entity	7
Majority ownership of a foreign legal entity	2
No majority owners	1

SOURCE: ENERGY AGENCY

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. Distribution networks are mostly owned by the system operators.

#### 5.2.1.2.4 The 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 2007 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 the connecting of customers to them are also planned for future years.

In 2007 a total of 188 kilometres of the new gas pipelines of the distribution networks were constructed, which was 22 percent less than in 2006.



SOURCES: COMPANIES' DATA AND THE ENERGY AGENCY

### 5.2.1.3 THE NETWORK CHARGES FOR THE GAS 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.

#### 5.2.1.3.1 The network charge for the gas transmission network

The network charge for the transmission network consists 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.

The network charge for the gas transmission network is set by the gas transmission system operator with the Act Setting the Network Charge for the Gas Transmission Network. The system operator publishes and implements this act after obtaining approval from the Energy Agency. The foundations for setting the network charge are 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 methodologies were adopted by the Energy Agency after obtaining approval from the government.

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 is used when setting the network charge. The regulatory period is determined as a period of one year. Return on the new network's investments equals the return on the current assets. When establishing eligible costs in 2007, operating expenses, the costs for the gas losses in a network, the amortisation costs, and the system operator's return on assets were considered.

#### Natural gas

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 2006, the prices for the transmission increased by

an average of 5.8 percent. These prices were not set on the basis of benchmarking foreign system operators' prices; however, they reflect the eligible costs of the system operator.

### MOVEMENTS OF THE PRICES FOR THE GAS TRANSMISSION BY CUSTOMER GROUP FOR 2005–2007



In 2007 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.

### PRICES FOR THE USE OF THE GAS TRANSMISSION NETWORK FOR TYPICAL INDUSTRIAL CUSTOMERS IN 2007

Typical industrial customers	Annual gas consumption in thousands of Sm <sup>3</sup>	Customer's load factor	Use-of-network price (euros/Sm³)
I <sub>2</sub>	111	200 days	4.21
I <sub>3-1</sub>	1,107	200 days (1,600 hours)	3.17
I <sub>3-2</sub>	1,107	250 days (4,000 hours)	3.05
I <sub>4-1</sub>	11,065	250 days (4,000 hours)	2.14
I <sub>4-2</sub>	11,065	330 days (8,000 hours)	1.64

SOURCE: COMPANIES' DATA, THE ENERGY AGENCY

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On the bills for the customers connected to the gas transmission network, the network charge is disclosed separately from the other price items.

#### 5.2.1.3.2 The network charges for the gas distribution networks

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

- the price for the distribution of natural gas,
- the price for metering.

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 a Gas Distribution Network, and the Act Determining the Methodology for Charging for the Network Charge for a Gas Distribution Network. These methodologies were adopted by the Energy Agency, after obtaining approval from the government, in 2005.

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 a 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 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.

The year 2007 saw the implementation of 32 acts setting the network charges for the gas distribution networks. Of these, the Energy Agency gave approval to 14 acts of 9 distribution system operators for a total of 36 municipalities, and, on the basis of Article 87a of the EA, it also issued 18 acts for 8 distribution system operators carrying out their activities in 28 municipalities. The publication of the act setting the network charges provides the basis for separate disclosure of the use-of-network price and the price for natural gas on the customers' bills. At the end of 2007 the Energy Agency checked the separate disclosure of price items on the bills and found that only in 50 local communities (out of 64) did the customers connected to a distribution network have their use-of-network prices and the gas prices disclosed separately.

The network charges for the gas distribution networks are not the same for all typical customers in different distribution areas, as their prices reflect different costs of the system operators in individual areas. In 2007 the average network charge for a distribution network for a typical customer  $D_3$  with an annual gas consumption of 2241 Sm<sup>3</sup> was 0.1462 euros/Sm<sup>3</sup>, covering, on average, 26 percent of the final gas price, including the VAT and other taxes.

#### 5.2.1.4 THE 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 2007 the establishing and charging for the imbalances, as well as for the gas amounts needed for the transmission system operator's own use, were carried out in line with the provisions stipulated by 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 not-allowed 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 not-allowed imbalances. The tolerance for the allowed, positive or negative, daily imbalance amounts is 2 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 not-allowed imbalance amounts that the system operator charges the network users for separately. The latter indirectly encourages the customers to balance their own imbalances. In addition, the transmission system operator regularly informs the customers of the intended changes to the prices for balancing the allowed and notallowed imbalances, and about the changes of the acts and methodologies, on the basis of which the amount imbalances are charged for.

The transmission system operator charged for the gas required for balancing imbalance amounts, amounting to 2.7 percent of the Slovenian annual gas consumption in 2007, at the regulated price  $P_B$  (Figure 57). In 2007 the average regulated price for balancing imbalance amounts was 0.2235 euros/Sm<sup>3</sup>.

MOVEMENTS OF THE PRICE FOR NATURAL GAS (Pb) REQUIRED FOR THE COMPANY'S OWN USE, FOR BALANCING IMBALANCE AMOUNTS AND FOR SPECIALISED ANCILLARY SERVICES (CB) IN 2007



In 2007 the transmission system operator charged the users of the transmission network for the amounts of gas required for the transmission system operator's own use (operating of the compressors, technological gas for heating) on the basis of the monthly deliveries of natural gas, and the gas price for the company's own use that was the same as the regulated price  $P_B$ .

### 5.2.2 THE UNBUNDLING OF SERVICES

In Slovenia the mandatory national public service of the gas transmission-system operation is carried out by one provider, while the optional local public service of the gas distribution-system operation is carried out by 17 providers.

The gas transmission system operator carries out its service within an independent legal entity, and

it is 100-percent owned by a domestic legal entity supplying natural gas to the Republic of Slovenia. The gas transmission system operator owns the assets required for the provision of this service.

None of the 17 gas distribution system operators were subject to legal unbundling, as the EA does not require service unbundling within those distribution companies that have fewer than 100,000 customers connected to a distribution network. Table 26 in Section 5.2.1.2.3 shows the ownership structure of the gas distribution system operators. In 2007 all the distribution system operators also carried out other energy-related and market-based activities, and for this reason they maintained separate accounts for each activity, in line with Article 38 of the EA. The providers of energy-related services relating to the supply of electricity, natural gas or heat are, in line with Article 37 of the EA, obliged to have their accounts audited, and to make them publicly available. 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. The use of the listed rules for producing separate accounts has to be examined by an auditor. 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 energyrelated activities. However, only an administrativeoffence body can impose a fine on an infringer.

As the gas transmission system operator has carried out its service within an independent legal entity since 2005, no special influence of the legal unbundling on the investments and supply reliability was noticed in 2007. The investments and supply reliability relating to the gas transmission network are discussed, in detail, in Section 5.2.1.1.4.

### 5.2.3 THE ALLOCATION OF CROSS-BORDER TRANSMISSION CAPACITIES

#### 5.2.3.1 THE CROSS-BORDER TRANSMISSION CAPACITIES OF THE NETWORK

The 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. In Slovenia 2007 was characteristic, especially in the first quarter of the year, of above-average winter temperatures resulting in a smaller gas transport intended for home users, and partly also in a smaller transit. A mild winter resulted in smaller network loads, and a lower utilisation rate of the transport capacities during the summer months, i.e., in the second and third quarters of the year, when the contractual partners apparently needed smaller amounts of natural gas, with which to fill up their storage facilities. During the last quarter the load of the gas system increased due to a cold winter, especially on the transmission paths Ceršak–Rogatec and Ceršak–Vodice (pipelines M1 and M2), where the transmission system was frequently fully loaded. Full availability and operational reliability of the compressor station in Kidričevo allowed the receipt and delivery of all the forecasted gas amounts, and the realisation of the entire contractual transit.

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°C only the contractually guaranteed supply can be provided; and when the temperature falls below -5 °C, the supply to interruptible customers may be restricted.

In 2007 the average annual utilisation of the capacity of the most important border-entry metering-regulation station, Ceršak, was 77.5 percent and the average monthly utilisation of the entry-exit station Rogatec was 57.1 percent. Figures 58 to 60 show the highest daily utilisation and the average monthly utilisation of individual border metering-regulation stations. Table 28 shows the utilisation of the transmission capacities at the border metering-regulation stations.

		Nominal capacity*	CAPACITY UTILISATION AT DIFFERENT TEMPERATURES (%)		
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%	up to 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 conditio					

### UTILISATION OF THE CAPACITY AT THE BORDER METERING-REGULATION STATIONS

SOURCE: GEOPLIN PLINOVODI

### MAXIMUM DAILY AND AVERAGE MONTHLY CAPACITY UTILISATION OF THE METERING-REGULATION STATION CERŠAK



SOURCE: GEOPLIN PLINOVODI

## MAXIMUM DAILY AND AVERAGE MONTHLY CAPACITY UTILISATION OF THE METERING-REGULATION STATION ŠEMPETER





### MAXIMUM DAILY AND AVERAGE MONTHLY CAPACITY UTILISATION OF THE METERING-REGULATION STATION ROGATEC



### 5.2.3.2 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 for 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 the 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 the 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.

#### 5.2.3.3 THE ALLOCATION OF THE TRANSMISSION CAPACITIES OF THE NETWORK

The gas transmission system operator allocates the transmission capacities in line with the regulations regulating the general conditions for the supply and consumption of natural gas from the transmission network. On the basis of the requests submitted by 31 October, the available capacities are allocated to interested users using the pro-rata principle. In 2007 all the network users obtained the right to use the requested transmission

capacities, as, in spite of a high utilisation rate, the gas transmission network was never congested.

In 2007 the transmission system operator had 12 uninterruptible access contracts with the network users. The users of the gas transmission network used the transmission capacities for the supply of natural gas to Slovenia, and for the transit between two transmission networks.

To improve the availability of information about the transmission capacities to the network users, the gas transmission system operator, in line with the instructions from Regulation No 1775/2005 of the European Parliament and of the Council on the conditions for access to the natural gas transmission networks, set up a system of providing information relating to 17 relevant, i.e., important points of the transmission network. In this way, it informs the users on historical, current and expected trends of the transmissioncapacity use. The year 2007 did not yet see the production, or issuing, of the detailed rules and procedures implementing the above regulation and allowing the trading in the primary and secondary markets for the transmission capacities. In 2007 the transmission system operator continued to harmonise its acts with the requirements of the Ordinance on Natural-Gas Market Operations and was involved in the procedure of obtaining the approval from the Energy Agency.

#### 5.2.4 The congestion-management mechanisms

In the process of transmitting natural gas, congestion can occur on the transmission network that can be contractual or physical. Contractual congestion occurs when the network users wish to make contracts for transmitting amounts of gas larger than allowed by the network. On the other hand, physical congestion occurs when the transmission pipelines are actually fully used.

In 2007 there was neither contractual nor physical congestion on the Slovenian transmission network. However, the average monthly congestion of up to 94 percent, and daily consumption of up to 99 percent were very close to the critical congestion level. For this reason, the congestion management mechanisms are being integrated into the rules regulating the gas transmission network.

### 5.3 THE MARKET-BASED ACTIVITIES AND COMPETITION

Slovenia was opening up the market for natural gas gradually and in line with the requirements of the EA. On 1 July 2007 the supply of gas to tariff customers also became a market-based service.

The suppliers to eligible customers supplied natural gas on the basis of their supply conditions, and, until 1 June 2007, the suppliers to tariff customers supplied natural gas on the basis of the tariff systems.

### 5.3.1 THE SOURCES OF NATURAL GAS AND THE WHOLESALE MARKET

Slovenia depends entirely on natural gas supplied from abroad, as its own production of natural gas is insignificant. In 2007 most of it, as much as 50 percent, was supplied from Russia, 32 percent from Algeria, and 18 percent from Austria.



Sources: Companies' data

In 2007 the demand of Slovenian customers for natural gas increased slightly, as the suppliers sold 1120 million Sm<sup>3</sup> of natural gas or 2 percent more than the year before. The reason for the larger demand was the cold weather in the final months of the year.

### TRENDS IN GAS SUPPLIES IN SLOVENIA FOR 2005–2007 IN Sm<sup>3</sup>

Supplier	2005	2006	2007
Geoplin, d. o. o.	1,131,651,760	1,097,584,249	1,117,226,504
EstEnergy Gruppo Acegas Aps	1,559,022	1,780,350	1,283,582
Humcon, d. o. o.	1,400,782	1,276,685	1,134,642
Total	1,134,611,564	1,100,641,284	1,119,644,728

Sources: Companies' data

In 2007, 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 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 long-term contracts.

In 2007 the long-term contract between Geoplin and its customers expired. Most of them renewed

these contracts with Geoplin regarding the gas supply starting on 1 January 2008 and lasting for 5 or 10 years. At the end of 2007 a new supplier entered the wholesale market, starting to supply gas to its customers on 1 January 2008.

There is no organised gas market in Slovenia, where the demand for and the supply of certain standard products would meet. In 2007 no gasrelease mechanisms were introduced in Slovenia. There were no new wholesale-market entrants.

### 5.3.2 The supply and the retail market

In the retail market the following market participants met in the first half of the year: the suppliers to eligible customers, the suppliers to tariff customers, the eligible customers, and the household customers of natural gas. After 1 July 2007 suppliers and customers of natural gas were active in the retail market. In comparison with 2006, the shares of the suppliers did not change in 2007. Geoplin has a 76.1-percent share of the Slovenian retail market, while the suppliers to the customers on the distribution networks have a total of 23.9 percent of the market. Table 30 shows the market shares and the HHIs (the Hirshmann-Herfindahl indexes) relating to the retail market.

### MARKET SHARES AND THE HHIS RELATING TO THE RETAIL GAS MARKET IN SLOVENIA

Company	Share	HHI
Geoplin, d. o. o.	76.1%	5,794
Energetika Ljubljana, d. o. o.	5.8%	34
Plinarna Maribor, d. d.	4.3%	19
Adriaplin, d. o. o.	4.2%	18
Energetika Celje, d. o. o.	2.4%	6
Others	7.2%	51
Total	100%	5,921
Sources: Companies' data and the Energy Agency		

The retail market consists of two parts, which 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.

### 5.3.2.1 THE CUSTOMERS CONNECTED TO THE TRANSMISSION NETWORK

In 2007 Geoplin supplied natural gas to large industrial customers connected to the gas transmission network. There were 162 such customers, consuming 851 million Sm<sup>3</sup> of natural gas. Geoplin had 100 percent of the market for the supply to the customers connected to the transmission network.

BREAKDOWN OF GEOPLIN'S SUPPLY TO THE INDUSTRIAL CUSTOMERS CONNECTED TO THE TRANSMISSION NETWORK, BY PURPOSE OF USE



SOURCE: ENERGY AGENCY

In 2007 the customers connected to the transmission network had the right to switch supplier. These switches started at the end of 2007 and were actually implemented on 1 January 2008.

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 mechanisms, were taken.

### 5.3.2.2 THE CUSTOMERS CONNECTED TO THE DISTRIBUTION NETWORKS

Household and non-household customers are connected to the distribution networks. Until 1 July 2007 the suppliers of natural gas supplied their customers under the conditions of the tariff systems, or under other specifically agreed conditions. In the second half of the year all the customers were eligible customers, supplied under the conditions set by individual suppliers. The supply of natural gas to household and non-household customers is one of the services provided by the gas distribution companies. Table 24 includes 17 distribution companies operating in the Slovenian gas market in 2007.

A total of 124,637 distribution customers were supplied with 266,960,128 Sm<sup>3</sup> of natural gas. In comparison with 2006, the number of these customers increased by 7123, and their consumption was decreased by six 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 38 percent of the total consumption of the customers connected to the distribution networks.



## RATIO BETWEEN THE NUMBER OF CUSTOMERS ON THE DISTRIBUTION NETWORKS AND THEIR CONSUMPTION



Energetika Ljubljana, d. o. o., supplied most of the customers, delivering a total of 65 million Sm<sup>3</sup> of gas to 54,972 customers. The smallest supplier is Komunalno podjetje Velenje, d. o. o., which sold only 0.5 million Sm<sup>3</sup> of natural gas to 260 customers. Figure 64 shows the movement of gas consumption on the distribution networks by month.

### MOVEMENT OF GAS CONSUMPTION ON THE DISTRIBUTION NETWORKS BY MONTH



In 2007 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 could choose or replace their suppliers. The activities related to the supplier switches were more intense towards the end of the year. The first supplier switches were actually implemented on 1 January 2008. The network charges for the distribution networks were set at the beginning of 2007, while the procedure for switching supplier, the operation of balance groups, and other conditions were set, in detail, only in the final months of the year.

### 5.3.2.3 The market shares of the retail market

The retail market had 18 suppliers delivering natural gas to 162 end customers connected to the transmission network, and 124,637 customers connected to the gas distribution networks. The market shares of the suppliers are important indicators of the competition in the energy market. Table 30 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 2007 Slovenia had a total of 124,799 end customers of natural gas, but only 117 of them consumed more than a million Sm<sup>3</sup> of gas per year. These customers consumed a total of 883 million Sm<sup>3</sup> of gas or 79 percent of the total consumption. Geoplin supplied 94 percent of these customers.

### HHIS FOR THE LARGEST SUPPLIERS TO THE CUSTOMERS WITH AN ANNUAL CONSUMPTION OF MORE THAN A MILLION Sm<sup>3</sup> OF GAS

Company	Share	HHI
Geoplin, d. o. o.	93.5%	8,747
Plinarna Maribor, d. d.	2.5%	6
Energetika Celje, d. o. o.	1.3%	2
Adriaplin, d. o. o.	1.0%	1
Domplan, d. o. o.	0.8%	1
Others	0.9%	1
Total	100%	8,757
Source: Energy Agency		

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

About 3690 customers in Slovenia had an annual consumption of between 4500 and 1,000,000 Sm<sup>3</sup>

of gas, and their total consumption was about 143 million Sm<sup>3</sup> of gas, which was 13 percent of the total consumption.

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

Company	Share	HHI
Energetika Ljubljana, d. o. o.	21.3%	455
Adriaplin, d. o. o.	17.8%	318
Geoplin, d. o. o.	17.3%	300
Plinarna Maribor, d. d.	10.7%	115
Mestni plinovodi, d. o. o.	6.6%	44
Others	26.2%	688
Total	100%	1,918

Source. Entered indenci

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 120,000, but their total consumption in 2007 was about 91 million  $Sm^3$  of gas.

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## HHIS FOR THE LARGEST SUPPLIERS TO THE CUSTOMERS WITH AN ANNUAL CONSUMPTION OF UP TO 4500 $\rm Sm^3$ OF GAS

Company	Share	HHI
Energetika Ljubljana, d. o. o.	36.8%	1,353
Plinarna Maribor, d. d.	14.1%	200
Adriaplin, d. o. o.	12.4%	153
Energetika Celje, d. o. o.	7.4%	55
Mestni plinovodi, d. o. o.	6.5%	43
Others	19.5%	378
Total	100%	2,183
Source: Energy Agency		

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

### 5.3.2.4 The prices for natural gas in Slovenia

The final price for natural gas consists of the gas price, the use-of-network price, the taxes, the excise duties, and the value-added tax. The gas price for eligible customers was formed in the market, while the prices for tariff customers were, until 1 July 2007, still set by the local communities.

### 5.3.2.4.1 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 2007 the price for the use of the network increased, on average, by 5.8 percent, while the market-based price followed the trends in the prices for oil derivatives and the trends in the dollar exchange rate.

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:

### STANDARD CUSTOMER GROUPS OF INDUSTRIAL CUSTOMERS

Group	Consumption in thousands of $\mbox{Sm}^3$	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

SOURCE: STATISTICAL OFFICE OF THE REPUBLIC OF SLOVENIA

At the end of 2007 the prices for natural gas on the transmission network did not differ significantly from the prices at the end of 2006.





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<sub>2</sub>, the price for the use of the transmission network covers 11 percent of the final price, while in the case of the largest industrial customers it covers only 5 percent of the final price. Figure 66 shows the structure of the gas prices for the typical

industrial customers on the transmission network for 2006 and 2007.

A comparison of the gas prices for the typical industrial customers with an annual consumption of 1.1 million Sm<sup>3</sup> of natural gas between Slovenia and the EU countries shows that in 2007 the Slovenian final gas prices, including all the taxes and the VAT, amounted to 92 percent of the average EU price.



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## GAS PRICES FOR LARGE INDUSTRIAL CUSTOMERS WITH AN ANNUAL CONSUMPTION OF 1.1 MILLION $Sm^3$ (I<sub>3-1</sub>) FOR 2007



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

Until 1 July 2007 the gas prices for customers connected to the distribution networks were still 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 suppliers. 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 the business policies of the companies for gas distribution.

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

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### STANDARD CUSTOMER GROUPS OF HOUSEHOLD CUSTOMERS

Group	Consumption in Sm <sup>3</sup>	Purpose of consumption
D1	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 67 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.



SOURCE: STATISTICAL OFFICE OF THE REPUBLIC OF SLOVENIA

### STRUCTURE OF THE GAS PRICES FOR TYPICAL HOUSEHOLD CUSTOMERS



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Figure 69 shows that the gas prices for typical household customers in Slovenia and some other EU countries for 2004, 2005 and 2006 were on the

increase, while 2007 saw no significant changes. In 2006 and 2007 the prices remained almost the same.

## GAS PRICES FOR TYPICAL HOUSEHOLD CUSTOMERS WITH AN ANNUAL CONSUMPTION OF 2241 Sm $^3$ (D\_3) IN DIFFERENT EU COUNTRIES



The comparison of the gas prices for typical household customers with an annual consumption of 2241 Sm<sup>3</sup> of natural gas including Slovenia and some other EU countries shows that the Slovenian final gas prices including all the taxes and the VAT for 2007 amounted to 96 percent of the average EU price.

### 5.3.3 THE MEASURES TAKEN TO PREVENT ANY ABUSE OF A DOMINANT POSITION AND TO ENSURE COMPETITION

In 2007 the market for natural gas saw no major changes to the gas prices, and the suppliers provided sufficient amounts of natural gas to meet the demands of all the customers. There were no supply interruptions, and, consequently, no additional measures needed to be taken in the market.

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

As before, in 2007 the Competition Protection Office initiated no proceedings with respect to an assessment of restrictive practices, abuse of a dominant position, or company concentration in the gas market. Neither did the office take additional measures, or decide on an offence on the basis of its responsibility, relating to the market for natural gas.

#### 5.3.3.2 THE FINDINGS AND MEASURES OF THE RESPONSIBLE MINISTRY

The largest contribution to the market opening was the issuing of the Ordinance on Natural-Gas Market Operations (the Official Gazette of the Republic of Slovenia, No. 95/07) that comprehensively regulates the relations among the gas-market participants, and determines, in detail, the rules for the switching of a gas supplier. In 2007 the ministry had to provide, on only one occasion, an additional explanation of these rules.

The gas-release mechanisms relating to long-term supply contracts were not used, as there was no need for their implementation. In addition, in 2007 another provider, acquiring gas from a large foreign supplier, entered the wholesale market and started to attract customers. It, thus, became a competitor to the wholesale trader that had, until then, completely dominated the market. Consequently, supplier switches were made, taking effect on 1 January 2008.

With respect to the structure of a gas-supply contract, no special restrictions or requirements are in place in the gas market. The switching procedure is free of charge for the customers. A system operator informs its customers about their annual gas consumption at least once per year.

The Ordinance on Natural-Gas Market Operations and the EA determine, in detail, what information should be given to the gas customers, and who has to pass on the information to them.

### 5.3.4 THE DECIDING ON DISPUTES AND APPEALS

In 2007 the Energy Agency received four requests to decide in an administrative procedure in the area of natural gas. One of these requests related to an administrative procedure in the first instance, the rest of them referred to the appeals, on which the Energy Agency decided as the authority of the second instance.

The dispute in the first instance between a network user and a gas distribution system operator was related to the right to access the network. Due to the absence of procedural conditions, the Energy Agency dismissed the request with a final decision.

In the discussed appeals the parties in proceedings challenged the decisions of the system operators relating to the issuing of a transmission-network, or distribution-network, connection approval. In two cases the Energy Agency made a final decision, while in one case the party in the proceedings brought the administrative dispute before a court after receiving the Energy Agency's decision.

In 2007 the Energy Agency was involved in the administrative decision making relating to the natural-gas area for the first time, as in 2006 it did not receive any request to make such a decision on a dispute or appeal.

# 6 Reliability of

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# 6.1 THE RELIABILITY OF THE ELECTRICITY SUPPLY

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 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 the distribution networks, while, for economic reasons, it is not used for the lower levels of the distribution networks.

In 2007 the transmission system operator prepared and published a Sufficiency Assessment of the Electricity Production Sources in the Republic of Slovenia for 2007–2011. The document identifies the outstanding production and transmission capacities, the needs for interconnections with the other networks, and the forecast of electricity demand for the following 5 years. The transmission system operator's development plan still includes two new 400-kV cross-border connections: Okroglo–Udine (Videm, Italy) and Cirkovce–Heviz (Hungary). The current regulatory system and the method of allocating network access as determined in Regulation 1228/2003 will apply to them.

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# 6.1.1 THE SUFFICIENCY OF THE PRODUCTION

Figures 71 and 72 show how electricity demand was covered in the period 1990-2007. 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 most important reason for the surplus was an unclear situation with Croatia with respect to the status of the Krško Nuclear Power Plant, resulting in Slovenia using the entire capacity of the Krško NPP 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 plants in the Slovenian system, their production strongly influences the total Slovenian electricity production. In 2007 the production of the Slovenian hydroelectric power plants was, due to the unfavourable hydrological conditions, lower than expected, which is also the main reason for this year's decrease in the total Slovenian electricity production with respect to 2006.

### PRODUCTION AND CONSUMPTION OF ELECTRICITY ON THE SLOVENIAN TRANSMISSION NETWORK FOR 1990–2007 (PERIOD 1998–2002 INCLUDES THE TOTAL PRODUCTION OF THE KRŠKO NPP)



**Consumption in Slovenia** 

Production in Slovenia

#### SURPLUSES AND DEFICITS OF ELECTRICITY ON THE SLOVENIAN TRANSMISSION NETWORK FOR 1990–2007 (PERIOD 1998–2002 INCLUDES THE TOTAL PRODUCTION OF THE KRŠKO NPP)



400) |500

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Sources: Milan Vidmar Electric Power Research Institute, Eles

### STRUCTURE OF ELECTRICITY PRODUCTION ON THE SLOVENIAN TRANSMISSION NETWORK FOR 1990–2007 (PERIOD 1998–2002 INCLUDES THE TOTAL PRODUCTION OF THE KRŠKO NPP)



The conditions relating to the peak power, or production reserves, are like the conditions relating to the production or to fulfilling the energy demand, which can be described as the ratio between the available power of the hydroelectric power plants and the peak power of consumption.

In 2007 the total power of the Slovenian power plants was 2989 MW. This figure includes the total power of the Krško NPP; however, as only half of its production is available to the Slovenian electricity market, the actual power of the Slovenian power plants was smaller, 2641 MW. The total power of the large production facilities connected to the transmission network, included in the total available power of Slovenian power plants, was 2459 MW. In 2007 the peak electricity consumption was 2060 MW. Thus, the ratio between the available power of all the production facilities and the peak power of consumption was 1.25, and the ratio between the available power of the production facilities connected to the transmission network and the peak power of consumption was 1.17.

# 6.1.2 THE PLANNED INVESTMENTS IN THE PRODUCTION FACILITIES

The basic principles of investing in the production facilities in Slovenia are determined in the fifth section of the EA. The main procedure used for this purpose is the authorisation, which is realised through the energy permits issued by the minister responsible for the energy sector. An energy permit has to be obtained by each party investing in an electricity-production facility with a nominal power exceeding 1 MW that is connected to the public electricity network. An energy permit has to be obtained for building a new production facility, as well as for a reconstruction. If the capacity of a production facility, for which a permit has been issued, does not allow a reliable electricity supply, a public tender may be organised with respect to the new production capacities. So far no such tender has been organised in Slovenia.

The issuing of the energy permits is regulated, in detail, by the Rules on Issuing Energy Permits (the Official Gazette of the Republic of Slovenia, No. 5/07). These rules that were published by the

Minister of the Economy determine, among other things, the following basic criteria, on the basis of which the ministry decides on issuing the energy permits:

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- the concerned energy facility will have to operate safely, allowing safe and reliable operations of the networks, or systems, to which it is connected;
- the proposed location for the energy facility that is, in accordance with the regulations relating to spatial planning, subject to the state's jurisdiction, has to be in line with the national spatial-management strategy;
- the proposed location for the energy facility that is, in accordance with the regulations relating to spatial planning, subject to the jurisdiction of a municipality, has to be in line with the spatialplanning documents of this municipality;
- the proposed energy facility, as well as the proposed fuel for the facility for the production of electricity or heat, has to be in line with the national energy policy;
- the energy efficiency of burnt fossil fuels, the effect on the environment, and the technical design of the proposed facility have to be in line with the state of the art.

# ENERGY PERMITS RELATING TO ELECTRICITY PRODUCTION AND THE INTERCONNECTION LINES CONSIDERED AND ISSUED IN 2007

Energy-permit holder	Electric power P <sub>e</sub> (MW)	Calorific power $P_t$ (MW)	Date of the energy permit
Trbovlje TPP, d. o. o.	291 MW		31. 5. 2007
Ljubljana CHP, d. o. o.	126 MW		29. 6. 2007
Metal Ravne, d. o. o.	6 MW		25.7.2007
Bioenerg, d. o. o. – Lokve biogas facility	1.54 MW	1.7 MW	To be issued
ECOS, d. o. o. – Lendava biogas facility	4.578 MW	4.284 MW	24. 10. 2007
Acciona Energija SLV, d. o. o. – Selivec wind turbine and Vremščica wind turbine	VE Selivec – 94.5 MW VE Vremščica – 39 MW		8. 6. 2007
Energetika – ŽJ, d. o. o., mHE Sava	2 x 1.8 MVA		18. 7. 2007
TGE Gas Engineering GmbH – Terminal LNG Koper			To be issued
E3, d. o. o. – 110-kV cable conduit of the Vrtojba–Italy DTS			7. 9. 2007
E3, d. o. o. – 110-kV cable conduit of the Dekani–Italy DTS			5. 7. 2007

Source: Ministry of the Economy

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 2010:

- the Avče Pumped-Storage Power Plant: 178 MW in the turbine and pumping regimes, already under construction, expected to start operating in 2008;
- the Šoštanj Thermoelectric Power Plant: two additional gas generators (2 x 42 MW) as part of Block 5, expected to start operating in 2008;
- the Blanca Hydroelectric Power Plant: 42.5 MW, already under construction, expected to start operating in 2010;
- the Volovja reber Wind Power Plant: 33 wind turbines with a total power of 28 MW to be

built. According to the development plan, this facility is expected to start operating in 2009; however, due to complications related to acquiring the location permit this date is in doubt.

In addition to constructing new facilities, the reconstruction of an existing production facility is planned – the Zlatoličje HPP will have its available power increased by 24 MW. It is expected to start operating in 2008.

No power plant is expected to shut down its operation before the end of 2010.

If these plans are realised, Slovenian production capacities will increase by 356.5 MW by 2010.

#### 6.1.3 THE SECURITY OF THE NETWORK OPERATION

In 2007 the transmission system operator managed to successfully balance the production and demand of electricity. The total amount of unsupplied electricity was 66 MWh, which was 53 percent more than the year before. As much as 42 percent of the unsupplied electricity in 2007 was caused by storms. The second most important reason for the failure to supply electricity was the breaking of the supporting insulation of the circuit breaker in the Laško DTS that occurred on 12 September 2007 and caused a 30-percent electricity loss. The other reasons for the supply failures were the operation of the distance protection, an error during the execution of an expected disconnection of an overhead power line, a failure of a power line, a local execution of the switching tasks, a disconnection of a transformer, heavy snow, and the operation of the differential protection. Though Slovenia does not have sufficient production resources to meet domestic demand, the supply was never interrupted as a result of an electricity shortage.

## 6.2 THE RELIABILITY OF THE NATURAL-GAS SUPPLY

The EA obliges the system operators of the transmission and distribution gas 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.

In 2007 the supply of natural gas to the customers on the transmission and distribution networks was reliable. Slovenia does not have its own sources of natural gas, and is entirely dependent on foreign sources. The suppliers to end customers provided for a reliable supply to specific customers, mainly through their wholesale supplier of natural gas. This supplier has a long-term contract for the supply of gas from Russia using storage capacities in Austria and Croatia; in addition, this supplier can also use interruptible supply contracts with large customers on the transmission network. The suppliers to end customers also ensured a reliable supply to specific customers by way of interruptible supply contracts with the customers on the distribution networks (for example, the companies for heat supply that have access to alternative fuel). Some suppliers to end customers also had contracts on the network access and on the supply with a large transmission

capacity and with a large daily consumption. Regulation 1775/2005 on the conditions for access to the natural-gas transmission networks determines the available transmission capacity as that part of the technical capacity that is not allocated and is, in a particular moment, still available in the network.

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In 2007 the available import transmission capacities at the Italy–Slovenia border (Šempeter) were, on average, 22 million Sm<sup>3</sup>/year, while at the Austria– Slovenia border (Ceršak) there were almost no available transmission capacities in the winter.

The utilisation rate of the transmission capacities at the Slovenia–Croatia border is high, mainly in the summer months, when the storage facility in Croatia (Okoli) is being filled up. The planned new investments in a parallel gas transmission system will, in future years, double the transmission capacities. In addition, negotiations about an increase in the capacities of the interconnected gas transmission networks, between the Slovenian and the neighbouring system operators, are in progress.

A projection of the gas consumption by 2015 is described in the Resolution on the National Energy Programme, which expects as much as 3.5 percent annual growth for 2000-2015. The construction of additional transmission capacities is to meet the requirements of the expected increased gas consumption. In comparison with 2007, no increase in the gas consumption is expected for 2008. The expected increase in the gas consumption for 2009-2015 includes an increased consumption of the distribution customers, and additional gas amounts for electricity producers. However, a large increase in gas prices has a negative influence on the potential investors with respect to investing in the production facilities running on natural gas.

In 2007 no direct incentives for possible constructions of the new transmission paths for importing and storing gas were allocated; however, the responsible ministry gave its approval to the gas transmission system operator's development plan for 2007–2016. The Energy Agency considered the costs for realised investments and the return on these investments in the methodology setting the network charge. In 2007 no energy permit relating to the gas networks was issued. No new investments in the gas-production sources are expected. However, the technical and economic possibilities for constructing a gasstorage facility in Slovenia are being examined.

# 7 Provision of public services and the status of <u>customers</u>

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## 7.1 THE PROVISION OF PUBLIC SERVICES

In Slovenia the commodities and the services that are in the public interest are provided by public services organised within one of the legally recognised forms stipulated by the Public Services Act. With respect to the energy sector, the EA determined the following as the mandatory public services:

- the transmission-system operation for electricity and natural gas;
- the electricity distribution-system operation;
- the electricity-market operation.

The gas distribution-system operation, the gas storage-facility operation or the liquefied-gas terminal operation, and the gas-market operation are determined as the optional local public services. This means that these services are organised only if a local community decides to provide them to its citizens. In 2007 the gas distribution was provided by 68 local communities. The optional services of the gas storage-facility operation or the liquefied-gas terminal operation, and the gas-market operation were not carried out.

Until 1 July 2007 the electricity distribution-system operation was provided by five legal entities that were also supplying electricity to tariff customers. As a result of the full opening of the energy markets, and the need to carry out the system operation within a separate legal entity, on this date SODO, d. o. o., a newly established company, got the exclusive right to provide the electricity distributionsystem operation in Slovenia.

### 7.2 The protection of customers

The household customers of electricity and natural gas buy energy as individuals and use it for their own domestic use. For this reason their rights are protected with the regulations regulating the energy market and also with the Consumer Protection Act.

The companies and other organisations providing public services and commodities to the customers in Slovenia are obliged to ensure a regular and high-quality provision of services, and strive to appropriately develop and improve the service quality. On the other hand, the customers have the following rights with respect to concluding and realising the contractual relations:

• if a customer fails to fulfil its obligations arising from the contracts on the provision of public services and commodities, the creditor shall ask the customer, in writing, to fulfil its obligations and shall set a new deadline for fulfilling these obligations that should not be shorter than 15 days;

- the contractual terms and conditions include all the contract components determined by the company, especially those that are determined in a standard-form contract or the general operating conditions that are a part of this contract;
- the contractual terms and conditions are binding on a customer only if the complete text of these terms and conditions had been presented to the customer prior to the conclusion of the contract;
- unclear contractual provisions shall be interpreted in favour of the customer;
- companies shall not set any terms and conditions that are unfair on customers;
- companies shall sell the goods to the customers, or provide the services to them, in a way that is not contrary to good business practice, and under conditions ensuring equal treatment of all the customers;
- the companies shall clearly indicate the prices for their goods or services;
- the customers are charged for their actual energy consumption recorded at the customers' metering points.

In line with the EA, the system operators determine, in the general conditions for the supply and consumption of natural gas, also the customerprotection measures. These refer to the content of the contract between a supplier and a customer, appropriate information about the intended changes to the contract or the price data, the customer's right to switch supplier free of charge, different payment modes, and deciding on the customer's complaints.

# 7.2.1 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 or gas below the limit that is, with respect to circumstances, necessary so that the life 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-ofnetwork price. Until 1 July 2007 the supplier of tariff customers supplied electricity to vulnerable customers if they had an appropriate decision regarding a customer's inability to pay for electricity, issued by a social service. On the above date, the last-resort supply, i.e., the supply to vulnerable customers, became the responsibility of SODO, which also carries out the last-resort supply to the customers whose supply contracts were terminated

because of the insolvency or illiquidity of the supplier. This supply has a limited duration, aimed at preventing a situation in which a customer could remain without an energy supply because of the above reasons on the supplier's part. SODO has to inform customers about the conditions required for the provision of the last-resort supply.

A household customer that is without the necessary financial means, so that the life and health of the customer, and the persons living with the customer, are threatened, may, with respect to the season (between 1 October to 30 April) exercise the right to maintain the energy supply, provided the customer submits to the system operator a proof of receiving a welfare allowance.

The supplier's costs arising from the situation in which the supply should not be stopped are covered by the revenues from the use-of-network price.

### 7.2.2 THE RIGHT TO APPEAL, OR THE RIGHT TO LEGAL REDRESS, AND THE SETTLING OF DISPUTES

In Slovenia the customer's right to legal redress is appropriately provided for, as the regulations determine several ways of exercising this right in the energy market.

In line with the EA, a user of an electricity or gas network has the right to appeal against the decision of a system operator relating to issuing or denying a connection approval. The Energy Agency decides on the appeal. A network user also has the right to ask the Energy Agency to decide on the user's request, previously addressed to the system operator that the operator rejected, or failed to decide on, and that relates to the network access, the charged use-of-network price, an alleged breach of the general supply conditions and the system operation instructions, or the status of a specific customer.

In line with the general rules of civil law, the court is responsible for settling the disputes arising from the contractual relationships 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.

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 disputesettling arising from the contractual relationship. In line with the Ordinance on Natural-Gas Market Operations, the customers also have an option to express a comment or disagreement relating to the conduct, i.e., the operation of a gas supplier. The supplier is obliged to examine the customer's comment and reply to it.

#### 7.2.3 THE RIGHT TO COMPENSATION

The Ordinance Regarding General Conditions for the Supply and Consumption of Electricity gives a network user the right to 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.

#### 7.2.4 THE PUBLICATION OF THE PRICE

One of the customer rights arising from the legislation regulating the status of a customer, and the regulations regulating the energy market, is the right to information about all the prices for the goods and services offered by the companies. In Slovenia each company has to clearly indicate the prices for its goods or services.

In 2007 the electricity suppliers were publishing the electricity prices for households on their websites. Since 1 July they have been publishing prices for different products or electricity-supply packets for households.

At the beginning of 2007 the electricity distribution system operators published the conditions and electricity prices for the last-resort supply in print media.

Before the full opening of the gas market, the final prices for household customers were regulated by the local communities, as the households were supplied with natural gas under the conditions of the tariff systems of individual local communities. The published prices for the gas supply were not yet divided into the use-of-network prices and the price for the actual gas supply.

Since 1 July 2007 the suppliers have been, in line with the Ordinance on Natural-Gas Market Operations, mostly publishing the gas prices for households on their websites. The suppliers informed their household customers, in writing, about the change in the prices with the first bill for the gas supply issued after the implementation of the price change. Since 1 July 2007 the prices for the gas supply have been divided, on the bills, into the use-of-network prices and the gas prices.

Since 1 July 2007 the household customers and some other small customers of electricity and natural

gas have had an opportunity to get acquainted with the prices and other conditions important for a conclusion of a supply contract by means of a software application called the Comparison of Suppliers. At the time of the full opening of the markets for electricity and natural gas, the Energy Agency made this application available on its website (www.agen-rs.si). The Comparison of Suppliers includes a list of suppliers active in the market and allows the users to compare informative data relating to different electricity suppliers, as well as the calculations of the final prices by supplier. The Comparison of Suppliers operates on the basis of the data entered into this application by the suppliers.

The Comparison of Suppliers provides comprehensive information about the supplies, including all the components of the bill (the price for electricity or natural gas, the network charge, the supplements to the network charge, the taxes and the discounts), as well as the structure of the production sources for the supplied electricity. By the end of 2007 the users went to the Comparison of Suppliers more than 39,000 times, checking the full supplies of all the suppliers 2100 times.

# 7.3 THE REGULATION OF THE FINAL PRICE

The prices for electricity and natural gas for household customers were regulated only until the end of June 2007; since 1 July 2007 they have been set by the market.

### 7.3.1 THE ELECTRICITY SUPPLY

Until 1 July 2007 households were supplied with electricity by five suppliers organised within distribution companies and supplying electricity on the basis of the tariff system determined by the Ordinance on the Tariff System for the Sales of Electricity (the Official Gazette of the Republic of Slovenia, No. 36/04). The government set the price for electricity, which accounted for about 38 percent of the final price, for the last time, in March 2007. The electricity price for household customers that did not change the supplier or the product, i.e., the package, remained the same after the opening of the market.

When implementing the market-based principles, SODO took up the task of protecting the vulnerable customers (the last-resort supply). The operating mode of providing this service is determined by the General Conditions for the Supply and Consumption of Electricity from the Distribution Network, the Official Gazette of the Republic of Slovenia, No. 126/07.

### 7.3.2 THE NATURAL-GAS SUPPLY

Until 1 July 2007 the providers of the public service of supplying natural gas to tariff customers charged for the gas supplies in accordance with the tariff systems applying to individual geographical areas, in which this service was provided. The final prices were set by the local communities for their respective areas and they differ from each other. However, since the full opening of the gas market for household customers, the final prices are set independently by the suppliers, while the use-of-network prices are charged by the distribution system operators.

# 7.4 THE SAFEGUARDING OF 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 for.

The price transparency is ensured by the publication of the price, as described in Section 7.2.4.

The transparency of the data relating to electricity production is also provided for, as the electricity suppliers to end customers publish, on the issued electricity bills and in their promotional materials, the shares of individual production sources within the whole structure of electricity production relating to the previous year.

The transparency of the conditions for the supply and consumption of electricity and natural gas is provided for by the general acts that are published, and thus made available to all the market participants. These acts include the following:

- the General Conditions for the Supply and Consumption of Electricity,
- the General Conditions for the Supply and Consumption of Natural Gas.

The general conditions for the supply and consumption of electricity and natural gas determine the mandatory contract components relating to an access contract and to a contract for the supply of electricity or natural gas. 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. Prior to concluding a contract for the supply of electricity or natural gas, a supplier has to inform a household customer about the contractual conditions that are the constituent parts of a supply contract. When a supplier intends to change the supply conditions, this supplier has to inform, in writing, its users about the intended change.

# 8 District heating

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In Slovenia 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, the supply with heat energy, required for the heating or cooling systems in the buildings of the customers of heat or cold, is provided for. The providers of these services have to obtain, from the Energy Agency, a licence to produce heat for the district heating with a total installed thermal power of above 1 MW, or to distribute heat for district heating.

The sections below describe the conditions in the area of district heating in Slovenia with respect to the licensed distributors of district heating and the producers of heat for the district heating of above 1 MW.

## 8.1 THE SUPPLY OF DISTRICT HEATING

In the Republic of Slovenia, 60 of the 71 licence holders were involved in heat supply in 2007. Of these companies, 41 were involved in both heat distribution for district heating and heat production for district heating of above 1 MW; 11 companies were only involved in the distribution, while the remaining 8 companies only produced heat.

In Slovenia the municipality of Velenje was the first to decide to construct a distribution network

for district cooling, with a cooling power of 967 kW. This network will, as a pilot project, start operating in mid-2008. The reasons that are increasingly justifying the investments in the systems cogenerating electricity, heat and cold, are mainly the continual increase in the prices for energy sources, relatively warm winters and hot summers. These factors increasingly diminish the economic efficiency of heat producers and heat distributors providing only one of these services.

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For the purpose of heat supply, in 2007 licensed producers of heat for district heating of above 1 MW produced 3401 GWh of heat and 881 GWh of electricity, or 720 GWh of electricity at the busbars of the cogeneration processes. The largest share of heat – 1108 GWh, or 32.6 percent – was used for the supply to non-household customers, while 1036 GWh or 30.5 percent of the heat was used for the supply to 113,267 household customers in 39 municipalities. The difference between the produced and distributed heat, 1257 GWh or 37 percent of the 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 459 GWh or 13.5 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.





In the structure of used primary energy sources for the heat production, coal had a 57-percent share, natural gas had a 34.9-percent share and heating oil had a 2.6-percent share. Wood biomass and other primary renewable sources of energy had a 5.5-percent share in the structure of the energy sources.

# STRUCTURE OF THE PRIMARY ENERGY SOURCES FOR THE PRODUCTION OF HEAT FOR DISTRICT HEATING

0.7% 4.8% 0.6% 2.0%



SOURCE: ENERGY AGENCY

In 2007 the largest five distribution companies supplied 85,267 households, or 81.9 percent of all the households, distributing 73.3 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 2007, and the customer numbers.

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The largest five distribution companies supplied heat to 49.7 percent of all non-household

customers, distributing to them as much as 71.3 percent of the required heat (Figure 77).



### **8.2 THE DISTRIBUTION NETWORKS**

In 2007 the service of heat distribution was, in the Republic of Slovenia, carried out by 52 licence

holders. The distribution networks are set up in 39 of the 210 Slovenian municipalities, their total length being 677.7 kilometres. Figure 78 shows their locations.

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With respect to the temperature regime of the operations of individual networks, the warm-water networks and hot-water networks cover 96.75 percent, and steam networks cover 3.25 percent of the total distribution networks. The municipalities with the longest networks are

Ljubljana (252.3 kilometres of hot-water and warm-water network) and Velenje, together with Šoštanj (163.9 kilometres of warm-water network). Figure 79 shows the length of the ten largest heat distribution networks in individual municipalities, and the numbers of connected users.

# LENGTH OF HEAT-DISTRIBUTION NETWORKS IN SOME MUNICIPALITIES, AND THE NUMBERS OF CONNECTED USERS



8.3 THE PRICES FOR HEAT

The average retail prices for heat from the distribution systems of district heating in individual municipalities can be compared with respect to the standard customer group of D3b households; this is a group with a connected load of 10 kW and an annual consumption of 34.9 MWh, using the heat for hot water and central heating.

The data relating to the average retail prices for heat from the distribution networks have been taken from the current pricelists of certain business entities for the production and supply of heat, chosen in line with the methodology of the Statistical Office of the Republic of Slovenia. The data relates to a selected number of Slovenian municipalities, whose amount of heat supplied to the households in 2007 accounted for 82.6 percent of the total supply.

Figure 80 shows the average retail prices for heat from the distribution systems relating to selected Slovenian municipalities, calculated as a weighted average of retail prices versus the number of heat customers. It also shows the average Slovenian retail heat price, calculated as a weighted average of the prices for a selected number of towns.





# 8.4 THE ENERGY AGENCY'S TASKS AND ACTIVITIES RELATED TO DISTRICT HEATING

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 the 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 the issuing and revoking of licences for producing heat for district heating of above 1 MW and for distributing heat for district heating.

In 2007 the Energy Agency issued six approvals to the system operation instructions relating to the heat distribution networks, and was involved in harmonising, or revising, the system operation instructions of 19 heat distributers. When establishing the suitability of the legal arrangement relating to the status of individual heat distributors, the Energy Agency identified certain legal shortcomings, and informed the responsible ministry about its findings.

On the basis of the seventh paragraph of Article 71 of the EA, the Energy Agency keeps the records of appeals against the decisions on issuing or refusing an approval to connect to the network for the supply of heat or an energy gas. On the basis of the notifications from different municipalities, the Energy Agency established that, in 2007, there were no appeals against the decisions on issuing or refusing a connection approval made by the mayors in line with the sixth paragraph of Article 71 of the EA. 

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## LIST OF ABBREVIATIONS

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Borzen	Borzen, d. o. o.	HV	high voltage
Brestanica	Brestanica Thermoelectric Power	Krško NPP	Krško Nuclear Power Plant, d. o. o.
TPP	Plant, d. o. o.	Ljubljana	Ljubljana Combined Heat-and-Power
CBTC	Cross-border transmission capacities	CHP	Plant, d. o. o.
CEER	Council of European Energy Regulators	LV	low voltage
C <sub>SLOeX</sub>	hourly index	MRS	metering-regulation station
Drava	Drava Hydroelectric Power Plants,	MV	medium voltage
HPPs	Maribor, d. o. o.	$P_+$ and $P$	main energy imbalance price
DTS	distribution-transformer station	RECS	Renewable Energy Certificate System
EA	Energy Act (the Official Gazette of	RS	Republic of Slovenia
	the Republic of Slovenia, No. 27/07 - consolidated version 2)	SAIDI	System Average Interruption Duration Index
EEX	European Energy Exchange AG, Leipzig	SAIFI	System Average Interruption Frequency
EFT	Električni finančni tim, d. o. o.	SAIFI	Index
Eles	Elektro Slovenija, d. o. o.	Sava HPPs	Sava Hydroelectric Power Plants,
Energy	Energy Agency of the Republic		Ljubljana, d. o. o.
Agency	of Slovenia	SLOeX	organised electricity market index
ERGEG	European Regulators Group for Electricity and Gas	Soča HPPs	Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.
ETSO	European Electricity Transmission System Operators	Šoštanj TPP	Šoštanj Thermoelectric Power Plant, d. o. o.
GDP	gross domestic product	ТРР	thermoelectric power plant
HHI	Hirshmann-Herfindahl index relating to market concentration	Trbovlje TPP	Trbovlje Thermoelectric Power Plant, d. o. o.
HPP	hydroelectric power plant	TSO	transmission system operator
HSE	Holding Slovenske elektrarne, d. o. o.	100	chanomosion system operator



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