Javna agencija RS za energijo

Report on the Energy Sector in Slovenia for 2008

Report
on the Energy Sector in Slovenia
for 2008

The Council of the Energy Agency of the Republic of Slovenia adopted this report at its 65th ordinary session, on 19 June 2008. The Government of the Republic of Slovenia gave its approval to this report at its 39th correspondence session, on 30 July 2009.

1
Introduction

The year discussed in this report was characterised by a comprehensive development of the energy sector. The markets for electricity and natural gas were, throughout the year 2008, functioning without any major disturbances and without any interruptions to supply. In this year the first customers of natural gas switched their suppliers, and the supplier switches were also more numerous among the household customers of electricity.

In comparison with the previous year, the electricity consumption decreased by 2.9 percent, mainly in the second half of the year, which was a result of the declining economic growth and the closure of a part of the Talum Aluminium Factory, one of our largest customers. The consumption of natural gas decreased as well in comparison with the previous year, the decrease being about four percent, which was also mainly a result of reduced economic activities.

On the other hand, the prices for electricity increased significantly this year. The electricity suppliers were also increasing the prices for household customers, which according to the findings of the Competition Protection Office was not fully justified, leading to certain measures being taken by this office. The prices for natural gas were increasing, among other things, also because of the fluctuations of the gas prices in the international market.

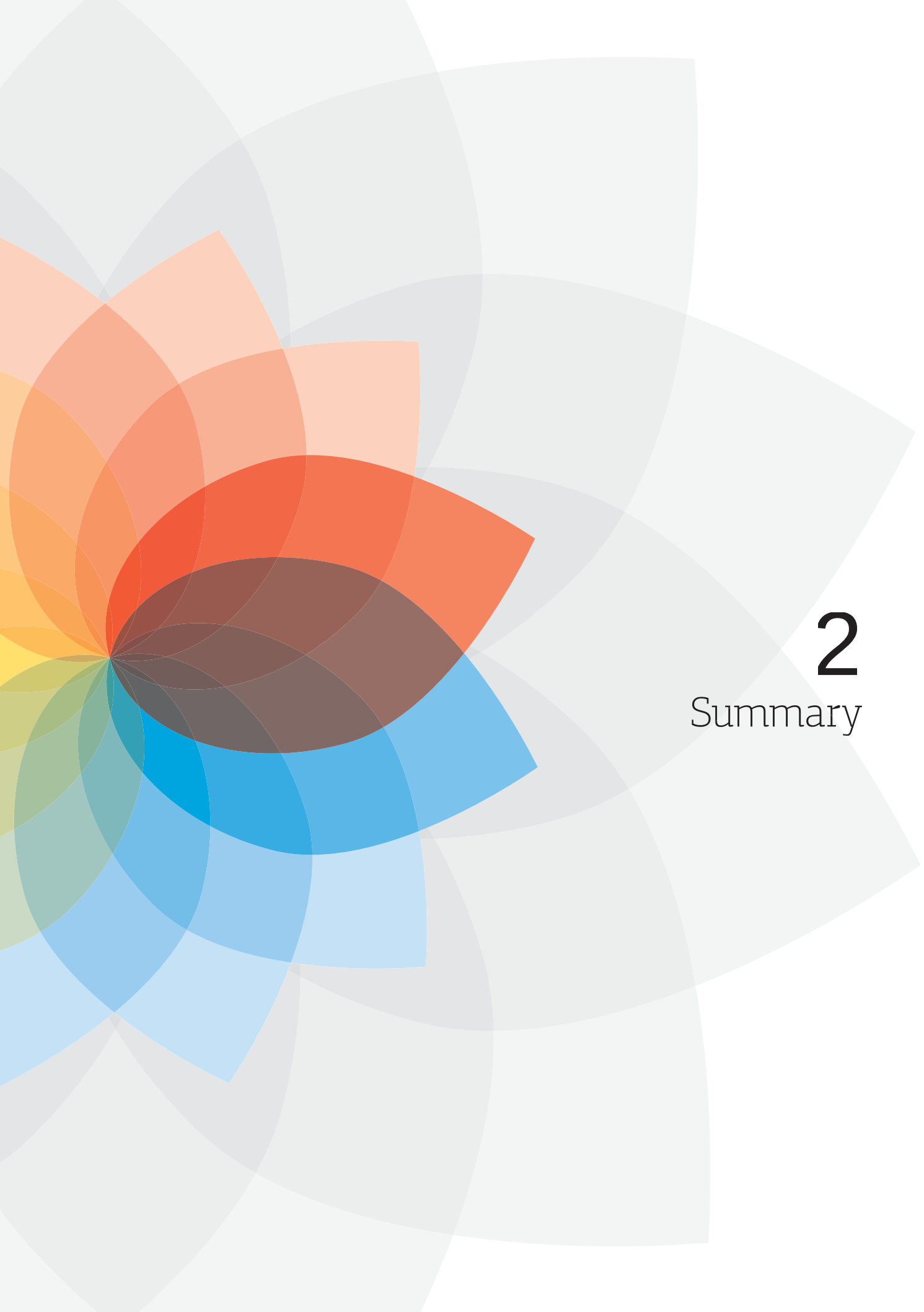
The Slovenian energy market is a part of the internal EU market, increasingly developing close cooperations with the markets of the neighbouring countries. Our electricity market is part of three regional markets, in which the transparency increased significantly. In 2008 the cross-border transmission capacities were, for the first time, being allocated at auctions; in addition, the preparations for the coordinated joint allocation of cross-border transmission capacities in the regions were in progress. In the natural-gas market that is also part of one regional market, the transparency and availability of data increased significantly, and numerous restrictions arising from uncoordinated or incompatible rules for network operations and cross-border transmission paths were removed.

In the first half of the year 2008, Slovenia presided over the Council of the European Union, and in this period significant progress was made with respect to adopting the Third Energy Package relating to the internal energy market, and with respect to adopting the Climate Action and Renewable Energy Package. Both packages will strongly influence the future development policies of the energy activities.

In June 2008 the Slovenian Energy Act was amended in such a way that the mode of promoting the use of renewable energy sources and the cogeneration of electricity and heat is significantly changed, and a new body for granting support to such types of production has been introduced. As a result of these amendments, the Energy Agency of the Republic of Slovenia (henceforth referred to as the Energy Agency) took on a number of new tasks, and it was also involved in the preparation of the executive regulations applying to this area. The Energy Agency became the issuer of declarations for production facilities, the decisions on granting support, and guarantees of the origin of electricity produced from renewable energy sources or in cogeneration.

So far the activities relating to the opening and developing of the energy markets were focusing mainly on the operations of the wholesale markets. For this reason, in October 2008 the Citizens' Energy Forum began its operations in London; it discusses the development of the retail market and the customers' position in this market. The protection of customers' rights is an important element of the new regulations included in the Third Energy Package that will also significantly affect the future development of the Slovenian retail market.

Irena Praček, univ. grad. econ.
Director



2

Summary

The Energy Agency prepared the Report on the Energy Sector in Slovenia for 2008 as an integrated text covering all the issues stipulated by the Energy Act, as well as 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 basic details about the development of the markets for electricity and natural gas, and the main activities that the regulator carried out in 2008.

Section 4 gives a detailed description of the electricity-market operation, including regulated and market-based services. In 2008 the electricity production in Slovenia increased, in comparison with the previous year, by 10.2 percent. A total of 12,620 GWh of electricity was consumed (excluding the losses in the network), which was 2.9 percent less than in 2007. The consumption of the customers connected to the distribution networks was 2.3 percent higher, while the consumption of the customers connected to the transmission network decreased by 24.4 percent. A review of the trends in the electricity prices for typical industrial customers shows their continual increase over the most recent five years, with respect to all types of customers, caused by the price increase in the wholesale markets in Slovenia and in the EU. In comparison with the previous year, the electricity prices for household customers were increased, on average, by 19 percent. In 2008 a total of 5211 customers switched supplier, which is the largest number of switches after the opening up of the Slovenian electricity market.

Section 5 gives a detailed description of the market for natural gas. In 2008, end customers consumed 1,073,847 thousand Sm^3 of natural gas, which is four percent less than in 2007. The consumption of industrial customers connected to the transmission network decreased by about nine percent, while the consumption of the customers connected to the distribution networks increased by 12 percent. The year 2008 was characteristic for its significant increase in the natural-gas prices following, with a delay, the prices for petroleum derivatives. Natural gas was the most expensive at the end of 2008 due to the high prices for petroleum derivatives in the first half of this year. At the end of 2008 the prices for natural gas were higher, by over 40 percent, than at the end of 2007. In 2008 the first supplier switches were carried out in the Slovenian natural-gas market.

Section 6 gives a brief review of the supply reliability relating to electricity and natural gas. In 2008 the deficiency in domestic production of electricity, with respect to the demand, decreased significantly from 2655 GWh to 1240 GWh. The consumption decreased mainly because the Electrolysis B facility at the Talum aluminium factory ceased operation, and because of the economic recession.

Section 7 describes the provision of public services, customer protection, especially the protection of vulnerable customers, the right to appeal and the ensuring of transparency in the markets for electricity and natural gas.

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

3.1 The basic details regarding the markets for electricity and natural gas in Slovenia

Slovenia

Population (as of September 2008)	2,053,740
Area	20,273 km^2
Number of electricity customers (on 31 Dec 2008)	905,354
Number of natural-gas customers (on 31 Dec 2008)	124,424
Gross domestic product (GDP)	37,126 million euros
Increase in GDP	3.5%
Inflation	2.1%
GDP per person	18,196 euros

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

Electricity

Installed capacity	**3,112 MW**	
Hydroelectric power		924 MW
Thermoelectric power		1,282 MW
Nuclear power		696 MW
Small producers using RES and CHP on the distribution networks		210 MW
Production of electricity	**15,032 GWh**	
Hydroelectric power		3,511 GWh
Thermoelectric power		4,868 GWh
Nuclear power		5,970 GWh
Small producers using RES and CHP on the distribution networks		683 GWh
Length of the transmission network	**2,572 km**	
– 400 kV		508 km
– 220 kV		328 km
– 110 kV		1,736 km
Length of the distribution networks	**63,208 km**	
– 110 kV		793 km
– 35, 20 and 10 kV		17,455 km
– 0,4 kV		44,960 km
Consumption of electricity	**12,620 GWh**	
Customers on the transmission network		2,032 GWh
Business customers		7,406 GWh
Household customers		3,182 GWh
Annual consumption per person	**6,145 kWh**	
Average household consumption per month	**330 kWh**	

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

Source: Companies' data

Natural gas

Length of the transmission network	**980 km**	
– more than 16 bar		771 km
– less than 16 bar		209 km
Length of the distribution networks (up to 16 bar)	**3,770 km**	
Consumption of natural gas	**1,073,847,459 Sm^3**	
Customers on the distribution networks		300,893,055 Sm^3
Customers on the transmission network		772,984,404 Sm^3
Annual consumption per person	**523 Sm^3**	

Sources: Companies' data

3.2 The regulator's most important activities and its organisational structure

The Energy Agency acts as the regulator of energy-related activities, in line with the provisions of the energy-related legislation. 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 energy-related activities, and gives approval to, or opinions on, the acts of the system operators.

With the adoption of the amendments to the Energy Act (EZ-C, the Official Gazette of the Republic of Slovenia, No. 70/08) the scope of the Energy Agency's tasks increased. The Energy Agency took on new tasks and responsibilities mainly in the areas of renewable energy sources (henceforth referred to as RESs) and the cogeneration of heat and electricity (henceforth referred to as CHP).

With respect to the production of electricity from RESs and in CHP, the Energy Agency issues declarations for production facilities and decisions on granting support. It issues guarantees of the origin and tradable RECS certificates for the electricity produced from RESs. It also determines and supervises the mandatory disclosure of the production-source structure.

With respect to district heating, the Energy Agency determines the methodology for the preparation of the general acts of the heat suppliers.

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 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

3.3.1 The energy sector and the Slovenian presidency of the EU

The energy sector was also marked by Slovenia's presidency of the EU in the first half of 2008. The main achievements of our presidency, related to the energy sector and coordinated by the Slovenian Ministry of the Economy, are described below.

The discussion about the Strategic Energy Technology Plan was successfully completed during the Slovenian presidency. The Council of Energy Ministers approved the compromise proposal for the ministerial conclusions relating to this plan on 28 February, and the European Council also expressed satisfaction about this proposal in its conclusions formed at the spring session. The plan is an important document mainly because of its contribution to the future accelerated development of the new technologies in the energy sector, mainly with respect to achieving the objectives concerning the combating of climate change.

During the presidency intense activities were carried out with respect to the preparation of the legislative proposals for a further release of the internal energy market. These proposals include a renewed electricity and gas directive, the electricity and gas regulation regarding cross-border transmission capacities, and a new draft ACER regulation. The most difficult issue of the energy package was the ownership unbundling of the transmission services from the production and market services. The commitment to reach a political agreement was emphasised by the Transport, Telecommunications and Energy Council (henceforth referred to as TTE) at its February session, and later also at the spring session of the European Council (EC). However, the European Parliament postponed the plenary voting about these proposals until the second half of June and July. In May 2008 the European Commission and the Slovenian presidency presented a joint compromise proposal that was the main issue of discussion at the June session of the Energy Council. After long negotiations the Slovenian presidency reached a broad agreement about the key elements of the Third Energy Package that was certainly the greatest success in the energy sector during our presidency.

The Climate Action and Renewable Energy Package discussed by the EC is also of utmost importance. The European Commission presented this package on 23 January 2009. It is based on the objectives set at the EC's spring session 2007 (20-20-20 by 2020) including the proposals for an increased use of RESs, the reduction of greenhouse emissions, a renewal of the European system for emissions trading, and the collecting and storing of carbon. The Slovenian presidency devoted a lot of attention to the energy package, making good progress. At its spring session the EC found the package to be ambitious and emphasised the need for a quickly reached agreement between the Member States and the EU institutions. The energy ministers mainly discuss the RES directive, the most disputable issues of which remain the trading with the guarantees of the origin, and the biofuel sustainablity criteria. At the TTE Council's session held on 6 June 2008, the Slovenian presidency presented the progress report and chaired an orientation discussion about the key issues included in this report.

3.3.2 The important international activities relating to the energy markets

The most significant progress relating to the market development was achieved at the regional level. In the regional electricity market of Central and Eastern Europe a new Coordinated Auction Office (CAO) was set up in Freising, Germany. It began to operate by preparing the foundations and the IT-supported model for a joint, coordinated allocation of cross-border transmission capacities (henceforth referred to as the CBTCs) applying to all the borders in the region – in the case of Slovenia this means the allocation of the CBTCs at its northern border. It was also agreed that these preparations should be completed in 2009, so that the calculating and allocating of the CBTCs for 2010 will be carried out in the Coordinated Auction Office following the new method – the flow-based mechanism. In 2008 in the regional market Central-South Europe a higher level of coordination was achieved with respect to allocating the CBTCs, and a discussion was started about where and how the joint, coordinated allocation of CBTCs would be carried out. In addition, transparency was improved in both regional markets. The Slovenian market participants and the Energy Agency were also present in the region of South-East Europe, where there was no significant progress that would influence either the Slovenian or the internal electricity market of the EU. With respect to natural gas, the most significant progress in South-South East Europe includes improved transparency and availability of the data required by the Regulation (EC) 1775/2005. Other important development achievements in this region were an increased level of coordination relating to network operations (interoperability) and compatible rules for the transmission-system operations.

3.3.3 The development in the market for electricity

A fully opened market triggered various activities carried out by all the entities operating in the market for electricity. The energy demand was, in the first half of 2008, on an increase in Slovenia, as well as in the other EU markets. Due to the increasing prices in the European markets, the trading in Slovenia and the trading between different EU regions increased as well. To a large extent this was a result of a well-regulated and transparent access to cross-border trading brought into line with the Regulation 1228/2003.

At the beginning of 2008, a regional exchange called SouthPool began to operate. It aims at bringing together the energy markets in the broad South-East Region and also took on the role of Borzen, the Slovenian exchange, on 11 November 2008. This exchange allows trading on the daily market with the energy products of electricity, gas and other similar products, increasing, in this way, the predictability and liquidity of energy markets.

In the retail market the suppliers were more active in approaching the customers. Especially with respect to household customers, the electricity supply began to include new products with progressive prices based on the amounts of consumed energy. In line with the expectations, the number of the supplier switches increased, reaching the highest level since the opening up of the market. However, in autumn the number of switches went down, as the demand for energy was also reduced, mainly as a result of the financial crisis. By the end of the year, the electricity prices were on a decrease, reaching the level of mid-2007.

In June 2008 the National Council of the Republic of Slovenia adopted the amendments of the Energy Act (EZ-C) regulating, in a new way, and bringing into line our legislation relating to granting support to power plants generating electricity from RESs and in the high-efficiency CHP with the Guidelines on State Aid for Environmental Protection (2008/C82/01), as well as setting up a stimulating environment for the investments in new projects. In this context, the EZ-C also regulates the

proving of the right to build energy facilities of national importance, the issues relating to acquiring the property for building energy infrastructure, and the determination of the buffer zone.

3.3.4 The development in the market for natural gas

In 2008 the entry of a new importer of natural gas, high gas prices and the first supplier switches were the most important changes in the gas market. On 1 January 2008 a new supplier began to supply natural gas to the Slovenian transmission network, supplying gas to the customers on the transmission and distribution gas networks. As a result of having a new supplier, a new balance group was formed as well.

Newly adopted executive regulations and the activities of the participants in the gas market stimulated large customers to carry out the first supplier switches. Individual suppliers in the gas market were very active. In the area of supplying gas to household customers, no new competitors entered the market.

The increasing gas prices and decreasing gas demand of the industrial customers caused a decrease in the gas consumption of the customers connected to the transmission network. The expected decrease in the demand also changed the contractual relations between the customers, the suppliers and the gas system operator.

The setting up of the market for secondary capacities allowed the customers accessing the transmission network to sell or purchase transmission capacities for long or short periods. The Rules on Implementing the Regulation for Access to the Gas Transmission Networks, adopted at the end of 2008, set up, in addition to the rules for the operations in the primary and secondary markets, also the rules for accessing short-term services.

3.4 The main areas that involved the regulator

The aim of the Energy Agency, the Slovenian energy regulator, is, mainly, to provide for the transparency of the market operations and to regulate the public services in such a way that these services are carried out with high quality and at appropriate prices. The Energy Agency determines the methodologies for setting the network charges, for charging for the network charges, and for producing other documents of the system operators for electricity and natural gas. In this way it regulates the price for the use of the network infrastructure, influencing its operations, utilization and return on the assets invested in the infrastructure. In addition, the Energy Agency's role includes the safeguarding of the reliability of the supply with electricity and natural gas. The Energy Agency comprehensively monitors the operations of the energy market and its competitiveness, taking into account the national energy policy and harmonising the interests of all the market participants. The role of the Energy Agency also includes, among other tasks, the activities relating to the introduction of the market-based mechanisms promoting the production of the RES energy and high-efficiency production.

The Energy Agency also cooperates with the EU institutions and with the other EU regulators, especially within the European Regulators Group for Electricity and Gas (ERGEG) that is an advisory body to the European Commission. Together with the other EU regulators, the Energy Agency is involved in the expansion of the energy market to the countries of South-East Europe. The energy market of the EU is being gradually developed in the internal market, and, to overcome the physical restrictions at the borders, the energy regulators from the EU countries encourage the market operations at the regional levels. In this process the Slovenian energy

market is part of three electricity regions and one gas region. As part of the cooperation with the regulators from the regions, the Energy Agency has an important role, mainly with respect to the harmonisation of the rules and, at a later stage, with respect to the supervision of allocating the CBTCs.

3.4.1 The regulatory framework for electricity networks

In 2008 the major part of the Energy Agency's activities were focused on the preparation of the new acts regarding the methodology for setting and charging for the network charge for the electricity networks, considering the then valid macroeconomic parameters, a modest projection of the economic growth and the efforts for a rational and efficient energy use and energy-source substitution.

Due to the preparation of the new regulatory period regulating, in detail, the supply quality, the Energy Agency prepared, in 2008, an additional general act determining the methodologies for monitoring, storing, processing and disclosing the data about the supply quality, its range and the necessary data definitions, and the responsibilities of the regulated companies with respect to ensuring the control of the supply quality. The act also determines the parameters and indicators of the electricity-supply quality, which provide the basis for the minimum quality standards that the Energy Agency uses for its regulation considering the supply quality.

3.4.2 The quality of electricity supply

In 2008 the Energy Agency set up, at the national level, a harmonised method of monthly reporting on the supply continuity on the distribution network. The project includes the introduction and availability of a web application for entering data and calculating the internationally comparable SAIDI and SAIFI indicators, and for analysing this data. All the distribution companies were involved in monitoring the level of supply continuity. In this way the Energy Agency fulfilled the requirements for the introduction of a more comprehensive regulation, considering also the electricity-supply quality. In a consultation process, the Energy Agency prepared appropriate technical grounds for benchmarking the commercial quality at the EU level.

The Energy Agency also prepared technical grounds for the regulation considering the supply quality by using the general and guaranteed quality standards relating to the supply continuity and the commercial quality.

3.4.3 The renewable energy sources and the cogeneration of heat and power

When preparing the amendments to the EA, the Energy Agency contributed detailed proposals relating, mainly, to the issuing of production declarations, guarantees of origin, the entire mechanism of supporting the RESs and the CHP, the transfer of public authorisation for the provision of a system operator's tasks, effective operation and unbundling of the system operators' services.

Due to the implementation of the amendments to the Slovenian energy legislation with respect to supporting the RES and the CHP production, and due to the new tasks relating to issuing production declarations and guarantees of origin, as well as deciding on granting support, the Energy Agency was, in the second half of the year, actively involved in the preparation of the executive regulations that were being prepared by the Ministry of the Economy.

The Energy Agency prepared a draft executive regulation concerning the issuing of declarations for production facilities and guarantees of the origin of electricity. The Ordinance on Issuing Declarations for Production Facilities and Guarantees of the Origin of Electricity was adopted at the beginning of 2009. The Energy Agency was also actively involved, with its comments, in harmonising the other executive acts, mainly the ordinances relating to metering, supporting RESs and CHP, and the operation of the Centre for Support.

In 2008 the Energy Agency was issuing guarantees of the origin of electricity in line with the valid Ordinance on Issuing Guarantees of Origin. A total of 1,190,154 MWh of guarantees of origin was issued.

3.4.4 The consideration of a request for an exemption under Regulation EC No. 1228/2003

The Energy Agency received a request for an exemption of the new interconnection electricity lines from the regulated network access, as allowed by Regulation EC 1228/2003. Several investors put forward a proposal for constructing two 110-kV commercial interconnections at the border with Italy. On the basis of a study and a detailed analysis of the expected procedures relating to granting an exemption, the Energy Agency organised several consultation meetings involving all the concerned parties, at which it presented, in detail, different views on granting an exemption. The final decision concerning this request has not been made yet, as the investors are preparing, in line with the provisions of the European legislation, a study of the influences of the new interconnection on the competition in the electricity market, which is the main issue of this procedure.

3.4.5 The adoption of general acts for exercising public powers in the area of natural gas

With respect to natural gas, the Energy Agency prepared a draft Act Determining the Methodology for Setting the Network Charge and the Criteria for Establishing Eligible Costs for the Gas Transmission Network, and a draft Act Determining the Methodology for Charging for the Network Charge for the Gas Transmission Network. The main changes made to the act regulating the methodology for setting the network charge refer to the implementation of a longer regulatory period, and the changes to the methodology regulating the charging for the network charge, refer to the price for short-term services, the price for interruptible services and the price for the transit.

In 2008 the Energy Agency was involved in adopting the Rules for Charging for the Gas Imbalances, the Rules for Recording Concluded Contracts on the Gas Supply, and the Rules for the Operation of the Balancing Market for Natural Gas. These sets of rules shall regulate, in detail, the operation of the gas market in the areas of charging for imbalances, the provision of short-term services, the operation of the primary and secondary capacity markets, recording concluded contracts, and setting the basic price for natural gas for the purpose of charging for the amount imbalances.

For the purpose of regulating the relations with the users of their services, the gas distribution system operators have to issue General Conditions for the Supply and Consumption of Natural Gas from a Distribution Network. In 2008 the Energy Agency was involved in implementing the acts concerning general conditions for the supply and consumption of natural gas from a distribution network.

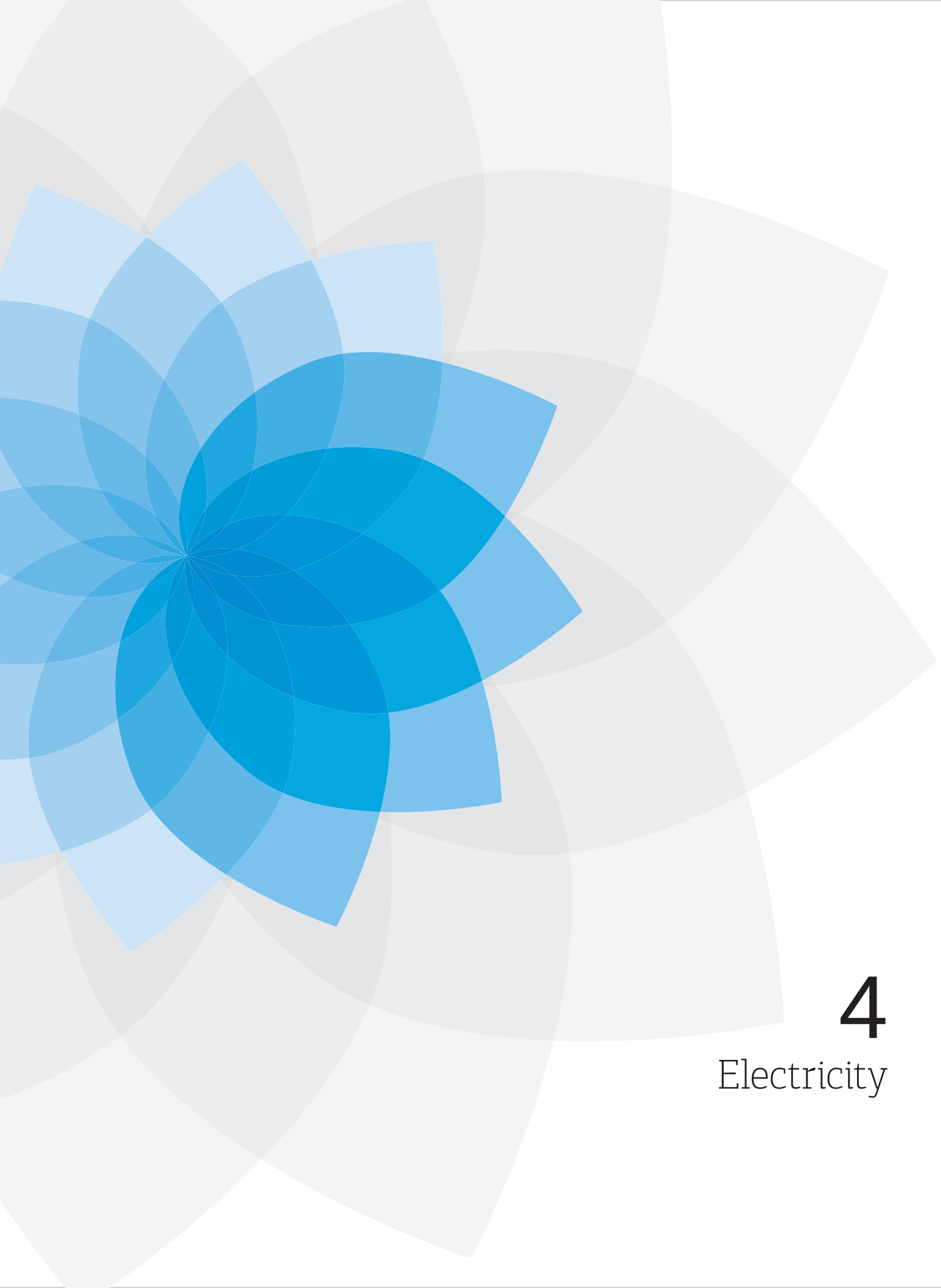
3.4.6 The control over the retail markets for electricity and natural gas

As a result of the announced intention of individual electricity suppliers to modify the electricity accounts relating to household customers, the Energy Agency was receiving inquiries relating to a clarification of the legislation and the customer protection. A lot of these inquiries referred to the accounts and to the assessed influences of modified prices. The Energy Agency updated the web application called the Comparison of Suppliers, whose number of hits is on the increase, and adjusted it to the new accounting methods. On the basis of the requests of the customers, media and other interested parties, the Energy Agency prepared several responses and opinions concerning the developments in the retail market.

During the first months of 2008, several activities associated with the full opening of the gas market were noted in the market for natural gas. Thus, the first supplier switches also started to bring about some other issues. The customers and other market participants were informing the Energy Agency about the market conditions requiring certain clarifications and measures. The market activities were also livelier because of the modified gas-accounts method of the largest gas distributors.

As a new method of accounting for the consumption of natural gas was introduced by some distributors, the Energy Agency had to answer various questions from the customers and the other public. On the basis of the available data, the Energy Agency carried out an analysis of the gas prices of individual suppliers in local communities.

The Energy Agency received several inquiries from customers connected to the gas transmission network relating to the possibility of reducing the leased transmission capacities for 2009, following the conclusion of long-term contracts for network access.



4
Electricity

4.1 General information

In 2008 the electricity customers in Slovenia used 12,620 GWh of electricity (excluding the losses in the network), which was 378 GWh, or 2.9 percent, less than in 2007. In comparison with 2007, the consumption of the customers connected to the distribution networks increased by 2.3 percent, while the consumption of the customers connected to the transmission network decreased by 656 GWh, or 24.4 percent. The electricity losses in the transmission and distribution networks amounted to 810 GWh. The total electricity demand amounted to 13,430 GWh of electricity.

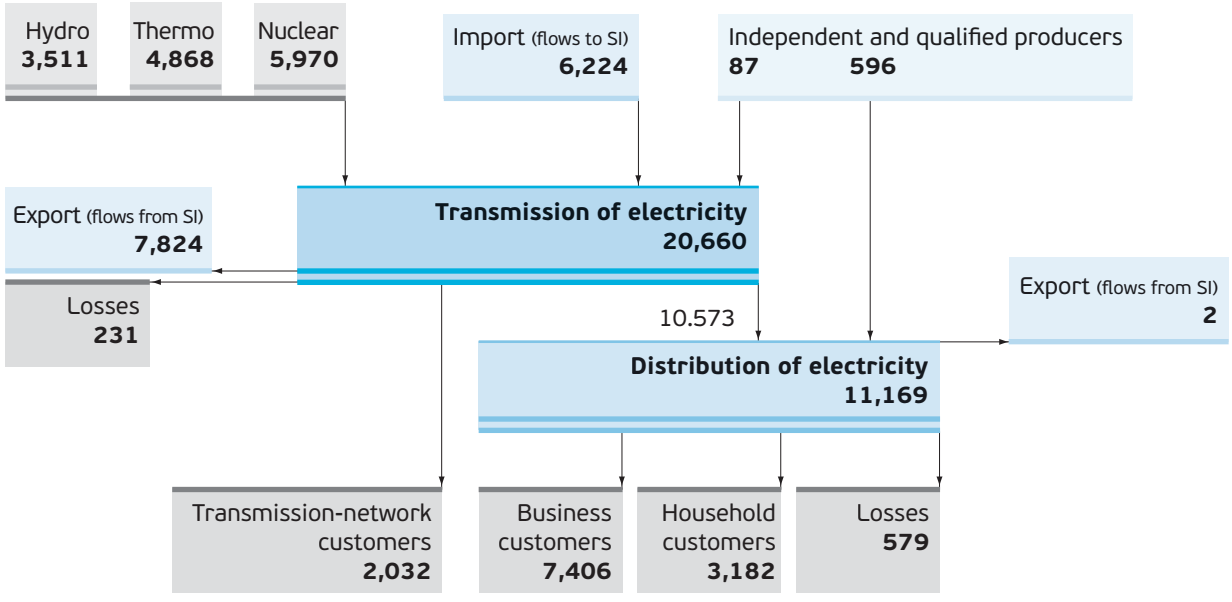
To meet the Slovenian demand, 12,047 GWh of electricity was generated by the producers joined in Holding Slovenske elektrarne, d. o. o., the GEN energija Group, and other power plants connected to the transmission and distribution networks. To completely cover the domestic demand and the losses in the network, it was necessary to import 1385 GWh of electricity, which was 11 percent of the total Slovenian demand.

In 2008 a total of 15,032 GWh of electricity was generated in Slovenia, which was 1396 GWh, or 10.2 percent, more than in 2007. Due to the high water levels in 2008, the hydroelectric power plants generated 3511 GWh of electricity, which was 697 GWh, or 24.8 percent, more than in the previous year. The thermoelectric power plants generated 4868 GWh of electricity, which was 60 GWh more than in 2007. The Krško Nuclear Power Plant generated 5970 GWh of electricity, which was 548 GWh, or 10.1 percent, more than in the previous year. The small (qualified) producers generated 683 GWh of electricity.

The structure of electricity production in Slovenia did not change significantly. The largest share of the total production, about 40 percent, was contributed by the Krško Nuclear Power Plant. The power plants using fossil fuels contributed about 34 percent of the total production, while hydroelectric power plants and the power plants using other renewable sources contributed 26 percent.

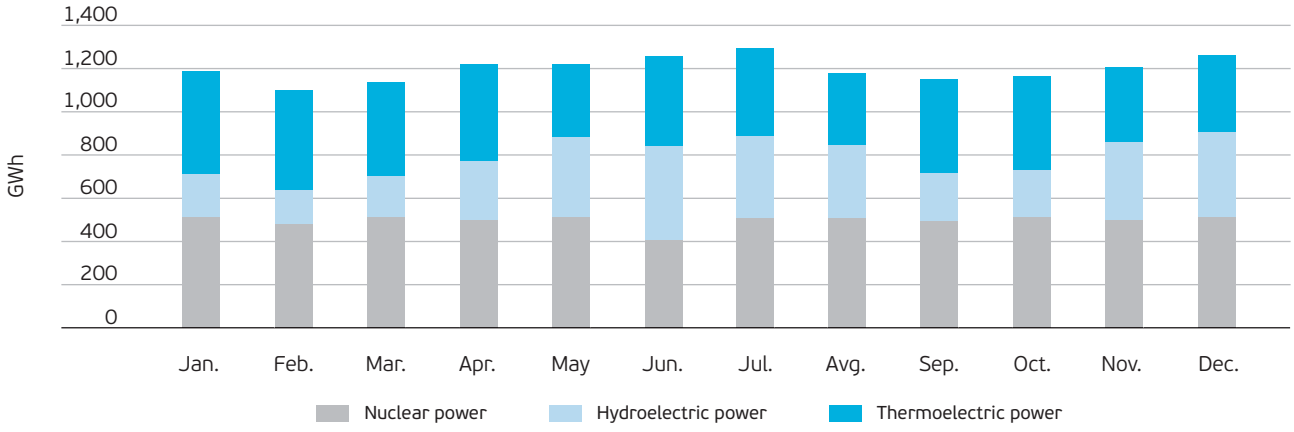
The highest hourly load was noted in January. It amounted to 1963 MW, which was 46 MW, or 2.2 percent, less than in 2007.

Figure 1:
Balance of electricity production and consumption in 2008 in GWh



Source: Energy agency

Figure 2:
Structure of monthly electricity production



Source: Energy Agencya

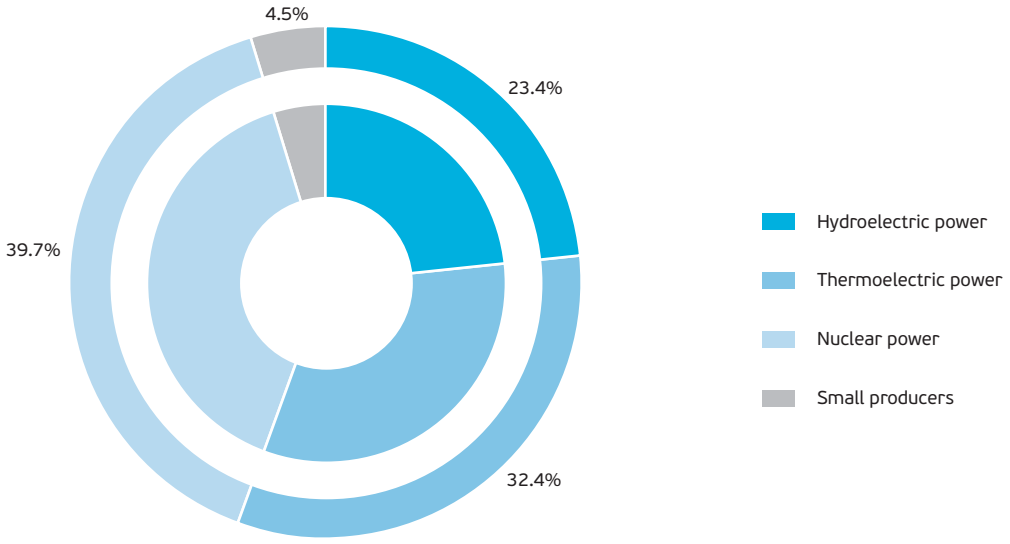
Table 1:
Comparison of electricity production for 2007 and 2008 – in GWh

	2007	2008	Index 2008/2007
Hydroelectric power plants	2,814	3,511	124.8
Thermoelectric power plants	4,817	4,868	101.1
Nuclear power plant	5,422	5,970	110.1
Small (qualified) producers	583	683	117.1
Total production in the RS	**13,636**	**15,032**	**110.2**
Imports – flows to Slovenia	6,106	6,224	101.9
Total	**19,742**	**21,256**	**107.7**

Source: Energy Agency

The data about the production (Table 1) covers the whole of the production of the nuclear power plant (Krško NPP).

Figure 3:
Structure of the production sources for electricity in Slovenia in 2008



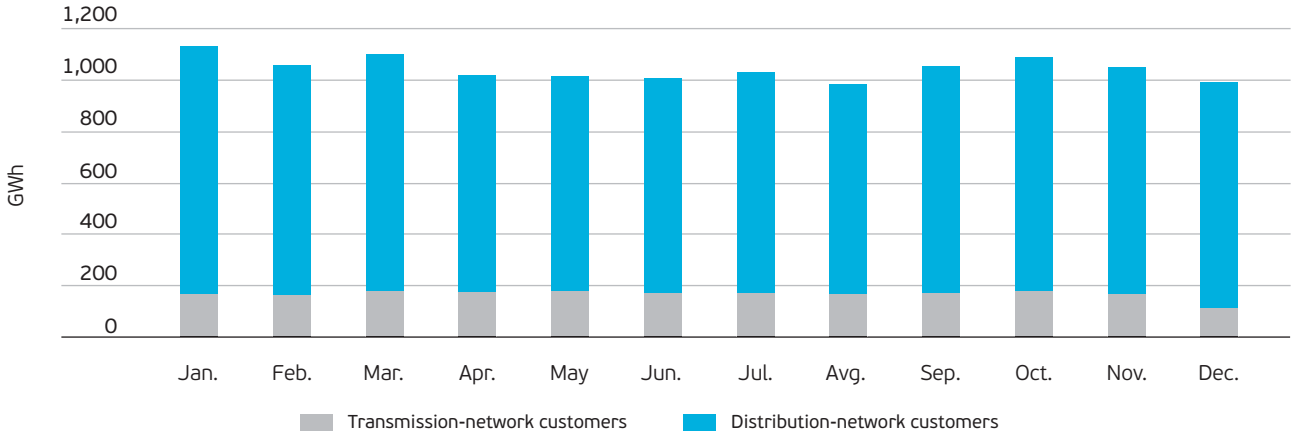
Source: Energy Agency

Table 2:
Comparison of the electricity consumption for 2007 and 2008 – in GWh

	2007	2008	Index 2008/2007
Transmission-network customers	2,688	2,032	95.6
Industrial and non-household customers on the distribution network	7,247	7,406	102.2
Household customers	3,063	3,182	103.9
Total consumption in the RS	**12,998**	**12,620**	**97.1**
Exports	5,878	7,826	133.1
Network losses	866	810	93.5
Total	**19,742**	**21,256**	**107.7**

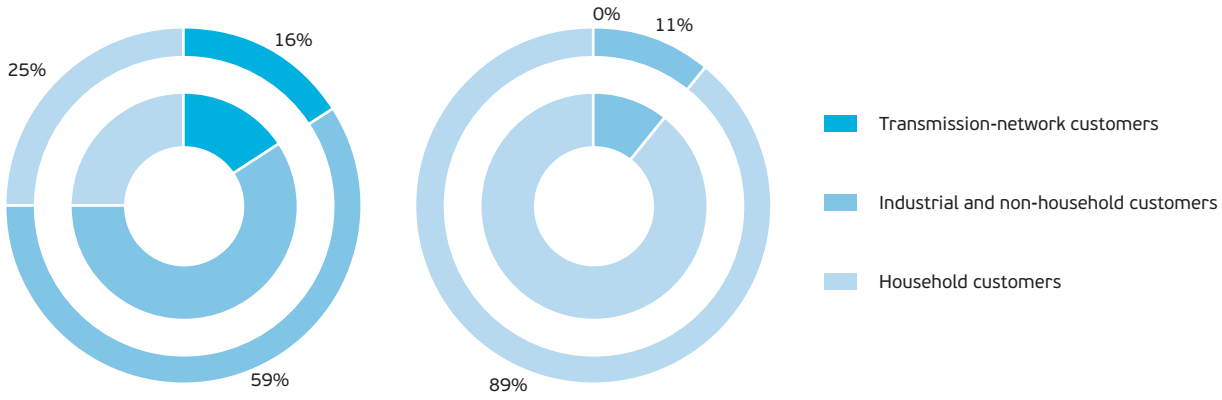
Source: Energy Agency

Figure 4:
Fluctuations in electricity consumption



Source: Energy Agency

Figure 5:
Shares of electricity consumption and customer numbers by consumption type



Sources: Energy Agency, system operators

At the end of 2008 a total of 905,354 electricity customers were connected to the electricity network in Slovenia. In comparison with 2007, the structure of non-household consumption changed, while the consumption share of household customers remained the same.

4.2 The regulation and regulated activities

4.2.1 The general activities

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 we:

- provide for the cost-effectiveness of the companies carrying out regulated services;
- improve, or maintain, the appropriate quality level of the electricity supply;
- provide for predictable and stable conditions for the system operators and the investors;
- facilitate the development and expansion of the network;
- provide for transparent setting of the use-of network price;
- stimulate the network users' optimum use of the networks;
- provide for smooth operations of the system operators with a limited return on assets.

The regulated services are the transmission and distribution of electricity that, after the introduction of market-based rules in the electricity system, still remain the natural-monopoly services.

4.2.2 The regulation of transmission and distribution activities

The activities of electricity transmission and distribution are mandatory national public services carried out by the electricity system operators. The mode of carrying out a public service is determined with an ordinance issued by the government.

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 for the use of electricity networks is set by the Energy Agency.

Elektro Slovenija, d. o. o., provides the public service of the transmission system operation as its single service, with its main office at Hajdrihova 2, Ljubljana (www.eles.si).

In 2007 the state awarded a concession for the provision of the public service of the distribution system operation to the company called SODO, d. o. o., with its main office at Zagrebška cesta 85, Maribor, (www.sodo.si), carrying out this service as its sole activity. In line with the legislation, SODO, d. o. o., has had, since the granting of the concession, a Contract for Leasing the Infrastructure for Electricity Distribution and the Provision of the Service of the Distribution System Operation (henceforth referred to as the contract) with the owners of the electricity-distribution infrastructure. The owners of this infrastructure that were the providers of the distribution system operation until 1 July 2007, are as follows:

- Elektro Celje, company for electricity distribution, d. d., Vrunčeva 2a, 3000 Celje, www.elektro-celje.si;
- Elektro Primorska, company for electricity distribution, d. d., Erjavčeva 22, 5000 Nova Gorica, www.elektro-primorska.si;
- Elektro Gorenjska, company for electricity distribution, d. d., Ulica Mirka Vadnova 3a, 4000 Kranj, www.elektro-gorenjska.si;
- Elektro Ljubljana, company for electricity distribution, d. d., Slovenska cesta 58, 1516 Ljubljana, www.elektro-ljubljana.si;
- Elektro Maribor, company for electricity distribution, d. d., Vetrinjska ulica 2, 2000 Maribor, www.elektro-maribor.si.

The above contract regulates all the issues relating to the extent and purpose of using the electricity-distribution infrastructure: the leasing fee, the terms and conditions, the maintenance of the electricity-distribution infrastructure and other issues associated with the concerned infrastructure and the provision of other services allowing the distribution system operator to efficiently carry out its tasks.

The transmission and distribution system operators are 100-percent owned by the state.

The electricity transmission network is the high-voltage network running from the producers, or from the neighbouring transmission networks, to the distribution network, or to the network users. The Slovenian electricity transmission network is connected with Austria, Italy and Croatia, while there is no interconnection between Slovenia and Hungary. In 2008 the total length of the overhead power lines was 2572 kilometres. The owner of the electricity transmission network is Elektro Slovenija, d. o. o.

The electricity distribution network runs from the transmission network to the end customers. SODO, d. o. o., the distribution system operator, leases the distribution network with a length of 62,062 kilometres from the five companies for electricity distribution. The customers own 1146 kilometres of the distribution network.

4.2.2.1 The business operation of the transmission system operator

According to the unaudited financial statements, Elektro Slovenija, d. o. o., (henceforth referred to as Eles) ended the financial year 2008 with a net profit of 1.19 million euros, which is 17.71 million euros less than in 2007.

In 2008 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 allocating cross-border transmission capacities, and from other services.

The revenues from the network charge for the transmission network amounted to 59.63 million euros, which was 1.2 percent more than expected by the Energy Agency in the regulatory framework for 2008. The expected revenues from the ancillary services were 19.19 million euros, and the actual revenues were 19.38 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 41.54 million euros, which was 44.3 percent, or 12.75 million euros, more than in 2007.

At the end of 2008 Eles had 556 employees, which is an 8.4-percent increase in the number of staff in comparison with 2007.

4.2.2.2 The business operation of the distribution system operator

According to the unaudited financial statements, SODO, d. o. o., ended the financial year 2008 with a net profit of 0.20 million euros.

Until 30 June 2007 the distribution system operation was carried out by the owners of the electricity distribution network. However, since 1 July 2007, SODO, d. o. o., carried out this service. The net profit generated with the distribution system operation was, in comparison with 2007, when this service was provided by several entities, lower by 50 percent.

In 2008 the distribution system operator generated revenues from the network charge for the distribution network, the network charge for the specialised ancillary service, from charging for the average cost for making a connection, and from other services. In 2008 the revenues from the network charge for the distribution network amounted to 226.70 million euros; thereby exceeding the expectations from the regulatory framework by 6.0 percent, or 12.87 million euros. The revenues were higher than expected mainly because the electricity consumption exceeded the expectations from the regulatory framework by 2.3 percent.

At the end of 2008 the company had 15 employees, which is 6 more than in 2007.

4.2.2.3 The business operations of the owners of the electricity distribution infrastructure

In 2008 the owners of the electricity distribution infrastructure generated revenues from selling electricity and services in the market, leasing out the distribution network, providing the services for the distribution system operator and from other services.

Table 3:
Net profit or loss by activity

In millions 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
January–June 2007	Distribution system operator	-0.99	-0.37	0.97	0.26	0.47	0.34
	Supply to tariff customers	-1.70	-1.32	-1.01	-3.10	-0.13	-7.26
	Market-based activities	2.01	2.12	1.05	4.43	1.65	11.26
	Company	-0.68	0.43	1.01	1.59	1.99	4.34
July–December 2007	Leasing and services	-0.58	0.11	0.62	1.60	-1.67	0.08
	Market-based activities	1.65	0.68	-0.24	-2.08	1.83	1.84
	Company	1.07	0.79	0.38	-0.48	0.16	1.92
Total for 2007	Company	0.39	1.22	1.39	1.11	2.15	6.26
January–December 2008	Leasing and services	2.63	0.50	1.69	3.71	0.40	8.93
	Market-based activities	-1.13	0.94	-1.10	-3.55	1.06	-3.78
	Company	1.50	1.44	0.59	0.16	1.46	5.15
Index 2008/2007	Company	384.6	118.0	42.4	14.4	67.9	82.3

Sources: Companies' data (unaudited financial results for 2008)

The owners of the distribution infrastructure generated 5.15 million euros of net profit, which was 17.7 percent less than in 2007. The net profit generated with leasing and the services that include legal transactions carried out for the distribution system operator, amounted to 8.93 million euros.

At the end of 2008 the owners of the distribution infrastructure employed a total of 3419 employees, which was a 0.8-percent increase with respect to the number of staff in 2007. Leasing and the services had 2469 employees.

4.2.2.4 The investments in the electricity networks

Eles allocated 43.1 million euros for the investments in the transmission network, which was 41 percent more than in 2007. The investments made in 2008 did not reach the expectations from the Evaluation Development Plan for 2007–2016, where the expected amount was 96.5 million euros. However, the investment realisation was close to the expectations for 2008, included in the regulatory framework for 2006–2008.

On the basis of the contract with SODO, d. o. o., the owners of the distribution infrastructure (distribution companies) allocated for the construction of new and the upgrading of the existing distribution infrastructure, and for other necessary business investments in 2008, a total of 142.8 million euros, which was 14 percent more than in 2007, and 14.1 million euros more than expected in the Evaluation Development Plan for the Distribution Network for 2007–2016. The investment realisation

exceeded the Energy Agency's expectations for 2008 included in the regulatory period 2006–2008 by 37 percent. The reason for this was the intense cycle of investing in the development and upgrading of the distribution network made possible by the high economic growth and the development plans for the distribution network expected to be realised by 2010.

The total value of the investments carried out by the companies involved in the electricity distribution and transmission was 185.9 million euros, which was 19 percent more than in 2007.

Table 4:
Amounts of realised investments in 2007 and 2008

In millions of euros

	2007	2008			Index		
	Realisation	Regulatory framework	Development plan (2007–2016)	Realisation	Realisation 08/07	Realisation/ regulatory framework	Realisation/ development plan
Elektro Celje, d. d.	26.1	20.2	26.7	33.4	128	165	125
Elektro Gorenjska, d. d.	16.3	13.5	14.8	16.2	99	120	109
Elektro Ljubljana, d. d.	40.9	30.4	41.7	44.0	108	145	105
Elektro Maribor, d. d.	26.0	22.5	28.7	31.4	121	140	110
Elektro Primorska, d. d.	16.1	17.8	16.8	17.8	111	100	106
Total distribution	**125.5**	**104.5**	**128.7**	**142.8**	**114**	**137**	**111**
Elektro Slovenija, d. o. o.	30.4	44.6	96.5	43.1	141	97	78
Total	**155.9**	**149.0**	**225.2**	**185.9**	**119**	**125**	**101**

Sources: Companies' data, the Energy Agency

The owners of the distribution infrastructure allocated 129.3 million euros for the investments in their infrastructure, of which 83.8 million euros, or 59 percent, were intended for the new electricity facilities, and 45.5 million euros, or 32 percent, were intended for modernisation and upgrading the existing facilities. For the other necessary business investments, they allocated 13.5 million euros, or 9 percent, of all the allocated funds. The largest part of the investments was spent for the medium-voltage network, mainly for the MV lines and the MV/0.4 kV transformer stations, as well as for the low-voltage network, where LV lines were built.

The transmission system operator invested 33.5 million euros in the electricity transmission infrastructure, of which 15.5 million euros, or 36 percent, of all the invested funds were spent for the new electricity facilities, and 17.9 million euros, or 42 percent, of the funds were spent for modernisation and upgrading the existing facilities. For the other necessary business investments it allocated 9.6 million euros, or 22 percent, of all the invested funds.

The system operator's difficulties in integrating the electricity facilities for electricity transmission in the physical space persisted in 2008. This was also the main reason for the system operator failing to carry out the investments to the extent expected for 2008 in the Development Plan for the Transmission Network for 2007–2016. In the framework of the investments in the new electricity facilities, the system operator mainly allocated the funds for obtaining the documentation and easement relating to building a new electricity transmission infrastructure.

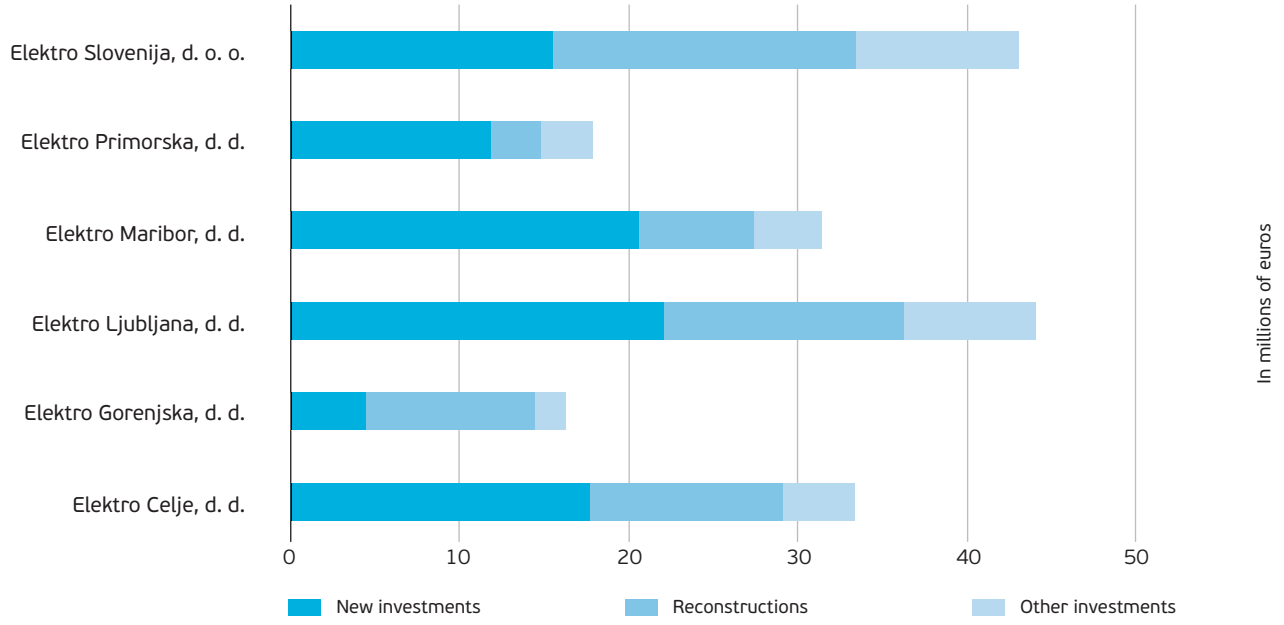
Table 5:
New investments in, and reconstructions of, the electricity infrastructure

In millions of euros

	New investments	Reconstructions	Other investments	Total
Elektro Celje, d. d.	18.9	11.4	3.1	33.4
Elektro Gorenjska, d. d.	4.7	9.9	1.6	16.2
Elektro Ljubljana, d. d.	26.3	14.2	3.5	44.0
Elektro Maribor, d. d.	21.4	6.8	3.2	31.4
Elektro Primorska, d. d.	12.5	3.2	2.1	17.8
Total distribution	**83.8**	**45.5**	**13.5**	**142.8**
Elektro Slovenija, d. o. o.	15.6	17.9	9.6	43.1
Total	**99.4**	**63.4**	**23.1**	**185.9**

Sources: Companies' data

Figure 6:
Amounts of the investments in, and reconstructions of, the electricity infrastructure

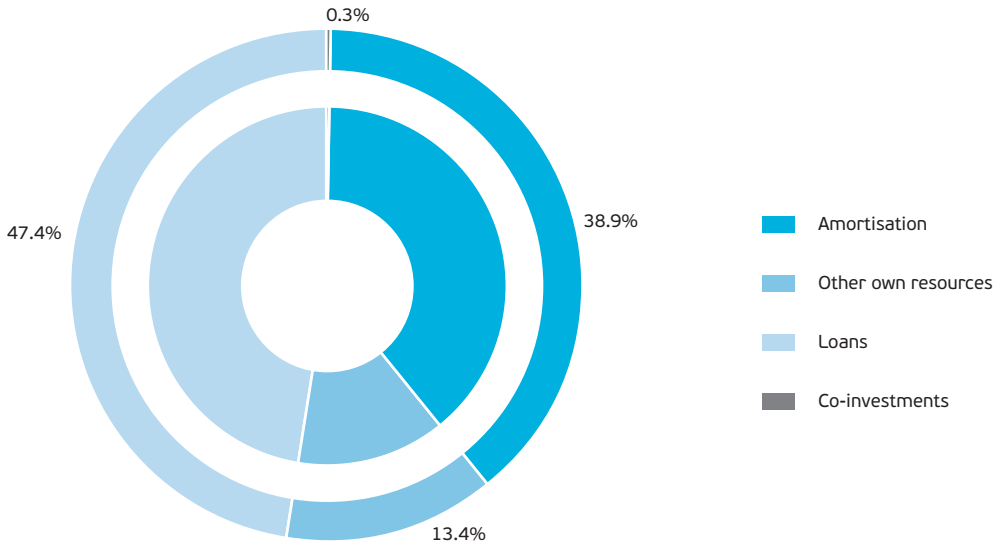


Sources: Companies' data, the Energy Agency

The owners of the electricity infrastructure financed the investments by using the amortisation costs of 55.5 million euros, which was 38.9 percent of all the investments. They obtained the rest of the funds by using other resources of their own amounting to a total of 19.2 million euros, taking out bank loans amounting to 67.8 million euros, and with the co-investments of the network users, which amounted to 0.4 million euros.

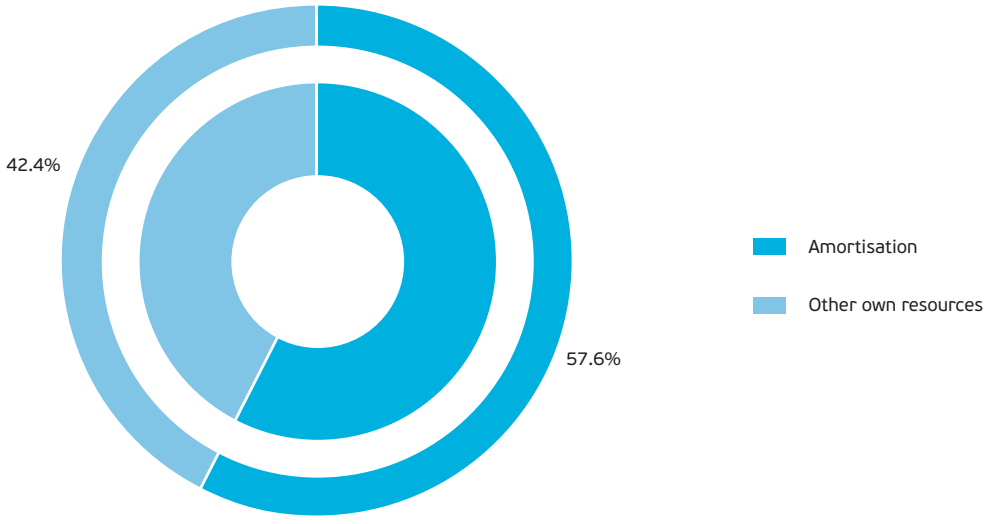
The transmission system operator financed 58 percent of the investments by using the amortisation costs of 24.8 million euros, and 42.4 percent, or 18.3 million euros, by using other resources of its own.

Figure 7:
Investment sources of the owners of the electricity distribution infrastructure



Sources: Companies' data

Figure 8:
Investment sources of the transmission system operator



Source: Eles

4.2.2.5 The long-term development of the electricity network

In line with the requirements of the EA, the transmission and distribution system operators have to biennially prepare ten-year development plans for the electricity networks that are evaluated and approved of by the ministry responsible for energy.

The latest upgrading of the development plans for the transmission and distribution networks was made for 2007–2016. These plans consider the strategic national energy policies, and are harmonised with each other. When making these plans the

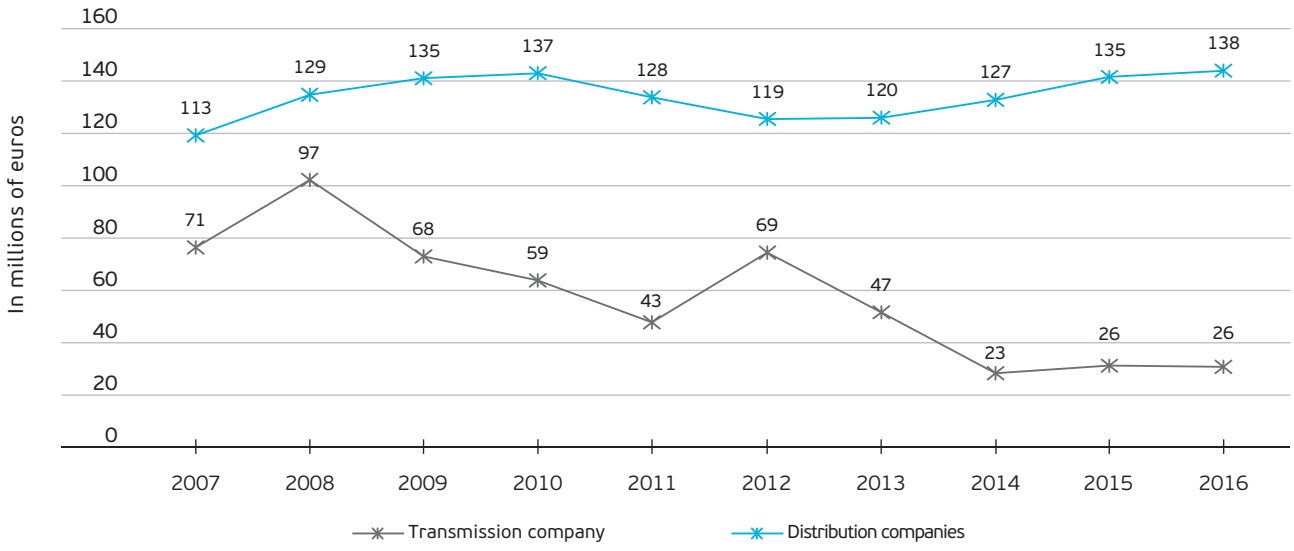
system operators used a uniform methodology considering long-term consumption expectations, the analyses of the expected operational conditions, the level of supply reliability, and economic analyses. They also consider possible sites for new large production sources. In this way the plans determine the expected physical and financial extent of the investments in new facilities and in upgrading the existing electricity facilities on the transmission and distribution networks.

In the development plans for 2007–2016, the expected investments in the electricity infrastructure for the transmission and distribution amount to 1,799 million euros, of which 527.5 million euros are allocated for the transmission network, and 1,271.5 million euros are allocated for the distribution network.

With respect to the transmission network, the investments are mainly expected to enhance the internal network, i.e., the following 400-kV connections: Beričevo–Krško, Podlog–Šoštanj, Beričevo–Trbovlje, Divača–Beričevo–Podlog, the international connections with Italy (Okroglo–Videm), and with Hungary (Cirkovce–Heviz). To ensure the operational stability, the installation of transverse transformers in Divača and Okroglo is also planned. It is characteristic of all these investment plans, especially with respect to the 400-kV connections, that with each amendment to the development plans 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. Most of the funds are allocated for the reconstructions of the existing distribution-transformer stations and overhead power lines.

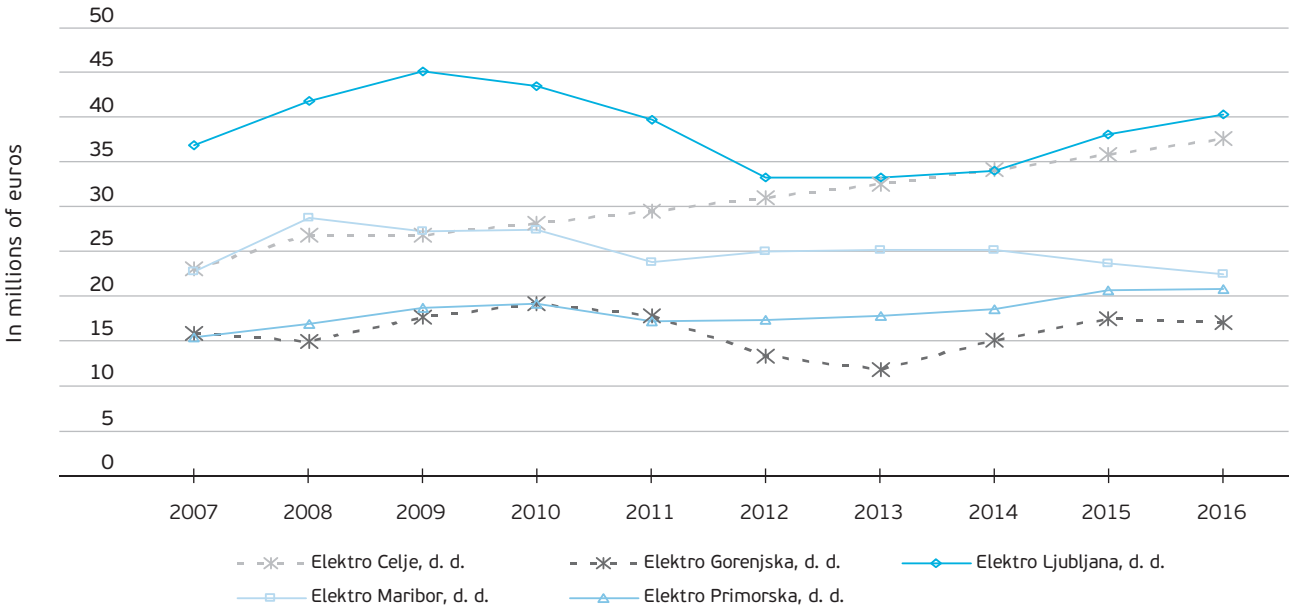
Because of the needs for increased transmission capacities resulting from connecting new customers, and the requests of the customers to improve the voltage quality and supply reliability, investments in the development and modernisation of the medium-voltage and low-voltage networks are necessary.

Figure 9:
Expected investments of the transmission and distribution companies for 2007–2016



Sources: Companies' data

Figure 10:
Expected investments of individual distribution companies for 2007–2016



Sources: Companies' data

4.2.2.6 The business operations of the market operator

Borzen, d. o. o., the electricity-market operator, is a company that is 100-percent owned by the Republic of Slovenia. Its main activities continue to be operating the electricity market in Slovenia, managing the balance scheme, recording the contracts on balance-scheme membership, closed contracts and operational forecasting, producing the framework operation schedules for the transmission and distribution networks and the balance accounts. For the fifth year Borzen has been carrying out the activities associated with accounting for the imbalances between the actual delivery and the consumption of electricity and their market-based plans.

With the implementation of the amendments to the EA, the market operator's scope of activities carried out as part of the public service was changed. The activities of the energy exchange and the settlement of the exchange transactions were excluded from this scope, as they were to be transferred to a new company. At the same time the market operator was given new tasks within the framework of the operation of the Centre for Support managing the support scheme regarding the production of electricity from RESs and high-efficiency CHP. In addition, it also carries out the tasks relating to safeguarding a reliable supply based on domestic energy sources, sufficient production capacities and an efficient use of electricity.

In 2008 the company generated 2.55 million euros of revenues, which were, in comparison with 2007, higher by 7.5 percent. The expenditure amounted to 2.46 million euros and was, in comparison with the previous year, higher by 8.4 percent. The net profit was 0.06 million euros. At the end of the year the company had 22 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,
- in addition to an activity in the area of supply with electricity, also another activity (either another energy-related activity or a market-based activity),

have to provide for the separate management of accounts for each energy-related activity in line with Slovenian Accounting Standards. These entities have to make their 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 energy-related activities. The rules can only be changed in exceptional circumstances and on the basis of well-justified reasons. The Energy Agency has to give approval to these rules, while their realisation has to be audited and disclosed in the annual report of each company.

Eles only carries out the public service of the transmission system operation covering the entire Republic of Slovenia; for this reason it does not keep separate accounts.

For the same reason SODO does not keep separate accounts, carrying out, on the basis a concession, the public service of the distribution system operator as its sole activity covering the entire territory of the Republic of Slovenia.

The requirements of the energy legislation for the management of separate accounts also apply to the legal transactions delegated, by the distribution system operator, to the third parties carrying out the energy-related activities associated with the supply of electricity.

In 2008 the distribution system operator ensured, in line with the relevant contract, that the owners of the electricity-distribution infrastructure prepared separate accounts for the legal transactions that are subject to the above contract.

Prior to the preparation of this report, the Energy Agency received audited annual reports for 2008 from all the owners of the distribution infrastructure – Elektro Celje, d. d., Elektro Primorska, d. d., Elektro Gorenjska, d. d., Elektro Ljubljana, d. d., and Elektro Maribor, d. d., – and also an unaudited report from 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.

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 2008 was the last 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. An integral part of the above act is also the annex determining the starting points and the parameters for setting the network charge for electricity networks for the regulatory period 2006–2008.

In line with the provisions of the above act the Energy Agency increased, in comparison with 2007, the following:

- the transmission-network charge by 3.5 percent,
- the distribution-network charge by 6.7 percent,
- the ancillary-services charge by 7.1 percent.

When increasing the above, we considered the annual 3.5-percent increase in the prices for consumer goods, and the starting points for setting a network charge.

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 first year of the regulatory period 2006-2008 as the source for covering the costs of the ancillary services in 2008. For this reason the Energy Agency did not increase the network charge for the ancillary services for 2008 to the level from 2006 followed by an additional increase in line with the regulatory framework; instead it increased the networks for the ancillary services being decreased, in 2007, by 37.61 percent in line with the current regulatory framework.

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 2008 for:

- the transmission network,
- the distribution network,
- the ancillary services,
- the specialised ancillary service,
- the use of the cross-border transmission capacities of interconnection lines,
- the average cost for making a connection,
- the correction factors for balancing the revenues from the network charges,

was published, on 5 December 2007, in the Official Gazette of the Republic of Slovenia, No. 111.

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 postage-stamp 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 MV, and the end customers connected to LV cover proportional shares of the costs for the use of the HV 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 the eligible costs for a smooth provision of the tasks of a system operator. The limit for a justified increase in the prices is expressed by 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 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.

To establish the eligible costs for the regulatory period 2006–2008, the Energy Agency analysed, in detail, the financial statements of the regulated companies by individual activity, and, on the basis of additionally required detailed data about their operations, carried out the benchmarking. It separately established 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 were 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

Due to reducing the costs of monopoly services such as the transmission and distribution of electricity, the quality of the electricity supply can also become reduced, especially if the companies are not regulated on the basis of the achieved level of quality supply. The quality of electricity supply is supervised by the companies and the Energy Agency on the basis of minimum quality standards. The term supply quality covers the following:

- the commercial quality or the quality of the services that a company provides for its network users,
- the supply continuity,
- the voltage quality.

Monitoring the quality of electricity supply and the corresponding reporting are determined in the EA, the General Conditions for the Supply and Consumption of Electricity from the Distribution Network, and in the Contract on Leasing Electricity Distribution Infrastructure and the Provision of the Services for the Distribution System Operator.

In 2008 the Energy Agency continued to introduce regulation based on the quality of the electricity supply. It introduced a uniform control of supply quality at the national level and set minimum standards for the quality of electricity supply. The Energy Agency carried out its regulation in the simplest way – by making the relevant data publicly available, by publishing quality indicators for individual services (commercial quality), publishing indexes of the system's average interruption duration and interruption frequency, and publishing the number of complaints relating to the voltage quality. When the required conditions are in place, the Energy Agency will introduce, in the following regulatory period, the regulation based on the functional connection between the controlled operating expenses and maintenance expenses, and the level of the supply continuity.

4.2.4.2.1 The commercial quality

According to the CEER's formulation, the commercial quality covers a range of non-technical services included in the provision of electricity supply, and is divided into the system standards and the guaranteed standards for the commercial quality. If the guaranteed standards for the commercial quality are not met, an individual service provider may have to face financial consequences, i.e., the compensations paid out to the customer concerned. A customer can expect a certain quality on the basis of the system standards, as they indicate the average level of the service quality in the system, or the share of the customers provided with a particular service.

On the basis of the data provided by the owners of the distribution networks the Energy Agency can conclude that the level of commercial quality is mostly only assessed, and rarely measured.

4.2.4.2.2 The supply continuity

In 2008 the following standard indicators were used for the control of the supply continuity:

- SAIDI (the System Average Interruption Duration Index),
- SAIFI (the System Average Interruption Frequency Index).

It is clear from the International Electrotechnical Commission's definition that the above indicators refer to interruptions longer than three minutes. These long-term interruptions are controlled on the MV-network and are divided into the forecasted and unforecasted interruptions. The latter are further divided, with respect to their causes, into internal, external and force-majeure interruptions. The companies calculated the SAIDI and SAIFI indicators for different observation levels, such as the MV-output of a DTS/DS, different MV-output types (urban, rural, and mixed) and the company level. On the basis of the collected data the Energy Agency calculated both indicators at the national level.

4.2.4.2.3 The voltage quality

The technical standard SIST EN 50160:2001 (Voltage Characteristics of Public Distribution Networks) sets minimum standards for the voltage quality. In line with the legislation, companies have to continually monitor the voltage quality 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 on the basis of a schedule set in advance. When dealing with a complaint, the voltage quality is monitored for at least a week.

4.2.4.2.4 The supply quality at the distribution level

Each year the owners of the distribution networks prepare reports, for SODO, d. o. o., on the voltage quality, supply continuity, and commercial quality, as required in Article 29 of the Ordinance Regarding the Operating Mode of the Public Service of the System Operator of the Distribution Network for Electricity, and the Public Service of Supplying Electricity to Tariff Customers (the Official Gazette of the Republic of Slovenia, No. 117/04).

The supply continuity

The preparations for a uniform methodology for reporting on the supply continuity that will be used for the regulation based on the supply-quality control, started in 2007 with a consultation and decision-making procedure involving all the owners of the distribution networks, the DSO, the TSO, representatives of specialist institutions and faculties, and the customers. After producing the technical documentation determining the uniform methodology for the quality control in distribution companies, and after testing the relevant web application, the reporting on the supply continuity using the Energy Agency's web services started in 2008. Table 6 shows the values of the SAIDI indicators relating to the unforecasted interruptions caused internally for the period 2005-2008.

Table 6:
SAIDI by year – unforecasted interruptions caused internally

Company	2005	2006	2007	2008
Elektro Maribor, d. d.	95	119	46	38
Elektro Primorska, d. d.	111	95	129	89*
Elektro Gorenjska, d. d.	–	83	24	17
Elektro Ljubljana, d. d.	–	–	–	61
Elektro Celje, d. d.	–	–	–	39

* The data for 2008 is not entirely comparable with 2007 due to the Energy Agency's introduction of the uniform methodology for the supply-continuity control.
Sources: Companies' data

On the basis of the SAIDI and SAIFI indicators relating to individual network owners, the Energy Agency calculated, for the first time as all the necessary data was available, the indicators at the national level. Table 7 also shows the SAIDI and SAIFI indicators taking into account all the interruptions – this is the level of supply continuity that relates to an average customer, as, in addition to internal interruptions, these indicators also cover the external interruptions, force-majeure interruptions and all the forecasted interruptions.

Table 7:
SAIDI and SAIFI at the national level for 2008

	Unforecasted interruptions		Unforecasted and forecasted interruptions
	Internal causes	All causes	Total
SAIFI – national level (No. of interruptions per customer)	1.47	2.71	3.80
SAIDI – national level (No. of minutes per customer)	51.19	115.59	253.85

Source: Energy Agency

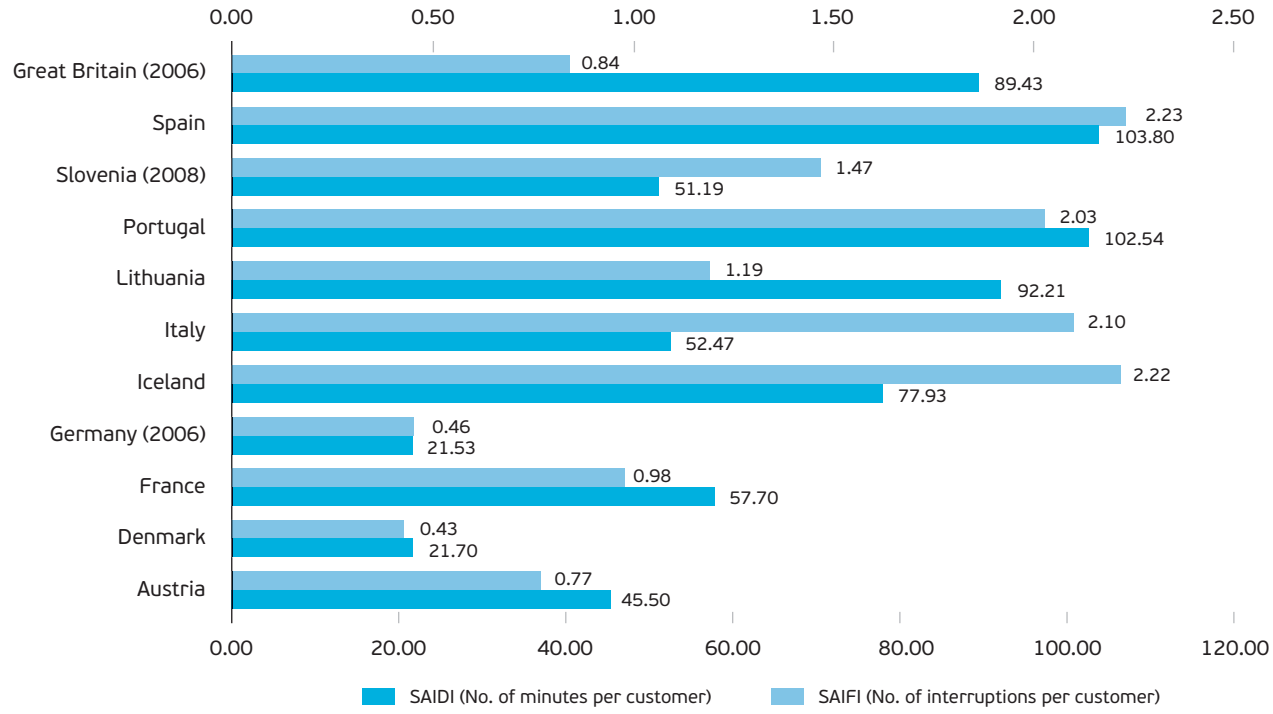
Figure 11 shows the available data relating to the supply continuity in some EU countries for 2007, excluding Great Britain (2006) Germany (2006) and Slovenia, whose indicators refer to 2008. A comparison between the levels of supply continuity in Slovenia for 2008 and the other SAIDI/SAIFI indicators from Figure 11 puts Slovenia, together with Italy, France and Austria, in the middle European continuity group.

The SAIDI indicator, including all the interruptions noted by a customer, determines the supply availability in Slovenia at 99.95 percent.

The commercial quality

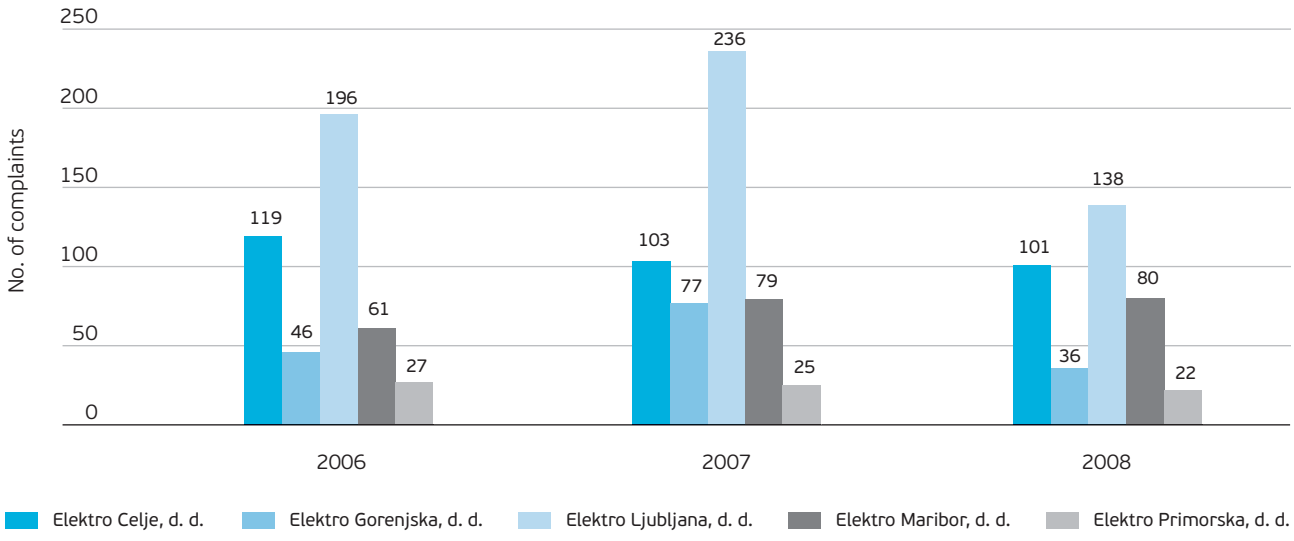
It is clear from the reports on the level of commercial quality prepared by the owners of the distribution networks that they do not monitor the commercial-quality parameters, as these are mostly indicated by the values of the required minimum standards.

Figure 11:
Average duration of unforecasted interruptions of electricity supply per customer for 2007 (excluding force majeure and external causes)



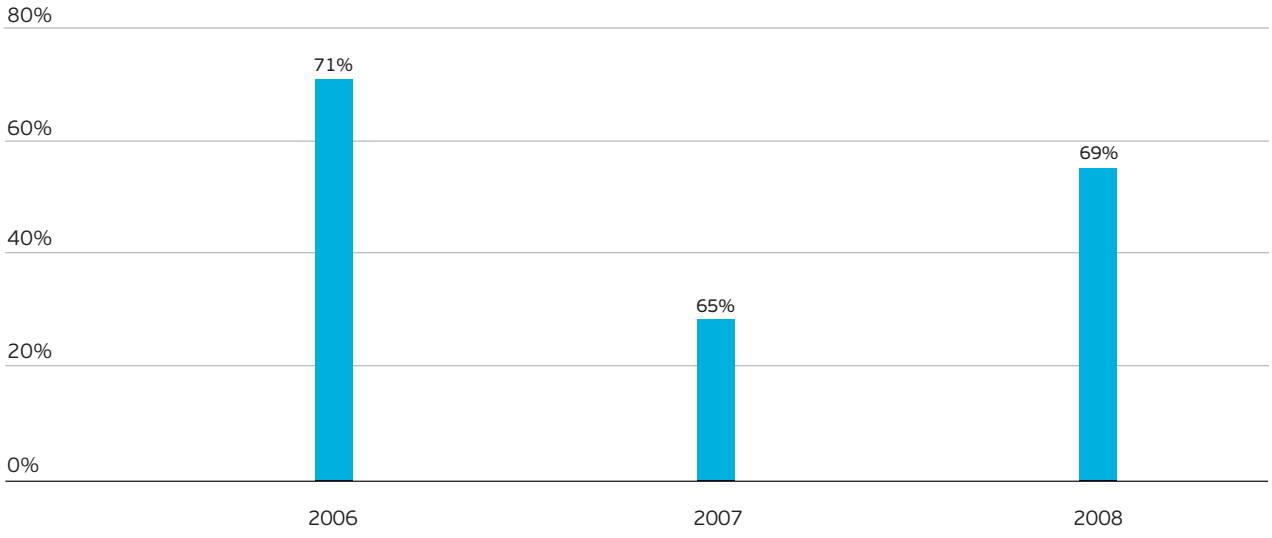
Source: Fourth benchmarking of electricity-supply quality for 2008, CEER, December 2008

Figure 12:
Numbers of all the complaints relating to quality for 2006–2008 by company



Sources: Companies' data

Figure 13:
Shares of justifiable complaints relating to quality for 2006–2008



Sources: Companies' data

The voltage quality

The owners of the distribution networks collect the data relating to the voltage quality at the metering points for continual or periodic monitoring. They record the voltage and frequency fluctuations, the wave shapes and the symmetry of the three-phase system at all the customers that had complained. In 2008 the trend of an increase in the total number of complaints and a decrease in the share of justifiable complaints was halted. This year the total number of complaints decreased, while the number of justifiable complaints remained at about the same level. The total number of complaints, the number and share of justifiable complaints by individual owner of the distribution network are shown in Figures 12 and 13, and in Table 8.

Table 8:
Numbers and shares of justified complaints relating to voltage quality for 2006–2008

	2006			2007			2008		
Company	Total	Number of justifiable complaints	Share of justifiable complaints	Total	Number of justifiable complaints	Share of justifiable complaints	Total	Number of justifiable complaints	Share of justifiable complaints
Elektro Celje, d. d.	119	91	76%	103	66	64%	101	61	60%
Elektro Gorenjska, d. d.	46	41	89%	77	59	77%	36	22	61%
Elektro Ljubljana, d. d.	196	107	55%	236	120	51%	138	86	62%
Elektro Maribor, d. d.	61	57	93%	79	67	85%	80	72	90%
Elektro Primorska, d. d.	27	25	93%	25	24	96%	22	19	86%
Total	**449**	**321**	**71%**	**520**	**336**	**65%**	**377**	**260**	**69%**

Sources: Companies' data

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 carry out all the tasks necessary for safeguarding the service quality of the transmission system operator. In addition to the indicators used for the control of the supply continuity on the distribution network (SAIDI, SAIFI, MAIFI), other indicators based on the amount of unsupplied energy are also monitored on the transmission network. The control of the voltage quality on the transmission network is carried out with a continual monitoring of the voltage quality at the connection points between the transmission and distribution networks, the producers and large customers.

On the basis of the data obtained with the continual monitoring of voltage quality it was established that the parameters recorded at the above connection points are in line with the requirements of the SIST EN 50160 standard, except for the flicker. Excessive flicker values in the areas around large customers using electric arc furnaces are caused by an irregular inductive current resulting in a large voltage fluctuation on the transmission network. The fluctuation is transferred to the distribution network and is detected, by the human eye, as the flickering of the light from bulbs with a filament and of the picture on the television or on computer monitors. The most extensive flicker is caused by the Jesenice Steelworks and is perceived throughout the Gorenjska Region and in some Ljubljana nodes. The Štore Ironworks is in the area, where the Šoštanj TPP dampens the flicker, and for this reason this flicker exceeds the limit value at fewer node points. There is no continual monitoring around the Ravne Ironworks; however, the data collected with the periodic monitoring indicates excessive values. Due to the excessive limit values of the flicker, some distribution companies occasionally receive customers' complaints. In the complaints they report on the flicker taking place in the evenings and at night, which coincides with the operating of the arc furnaces.

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

In 2008 Eles received no complaints relating to poor voltage quality.

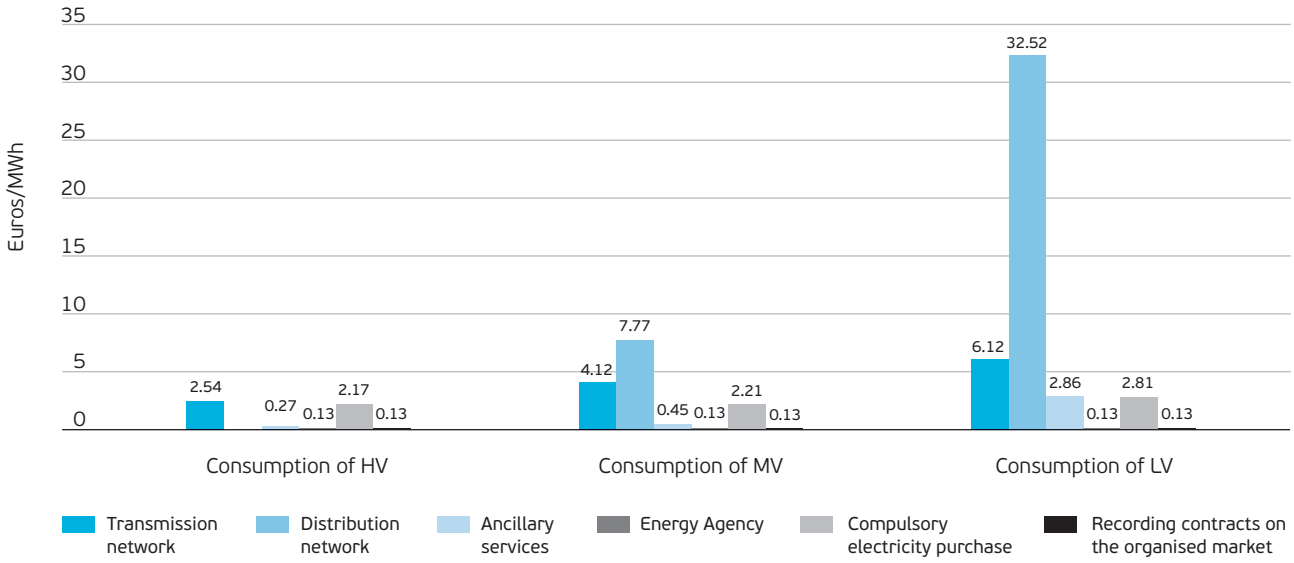
4.2.4.3 The prices for the use of electricity networks

The total, or final, price for electricity supply includes the energy price, the price for the network use, the excise duty, and the value-added tax. Electricity customers pay the price for the use of the networks to the system operator 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 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 for the operations of the electricity networks, and the investments in the transmission and distribution infrastructure, as well as the price for the ancillary services. The government sets the supplements included in the use-of-network price.

Customers were paying different prices for the use of networks. 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 medium-voltage network were paying 14.35 euros/MWh, and the customers connected to the high-voltage network were paying 5.30 euros/MWh.

Figure 14:
Average values of the elements included in the use-of-network price by voltage level

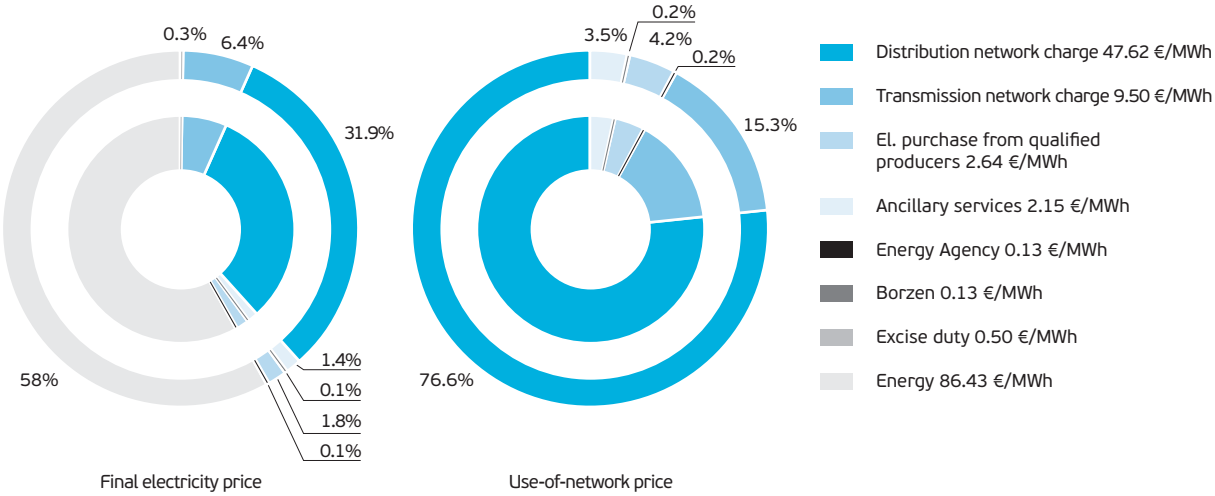


Source: Energy Agency

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

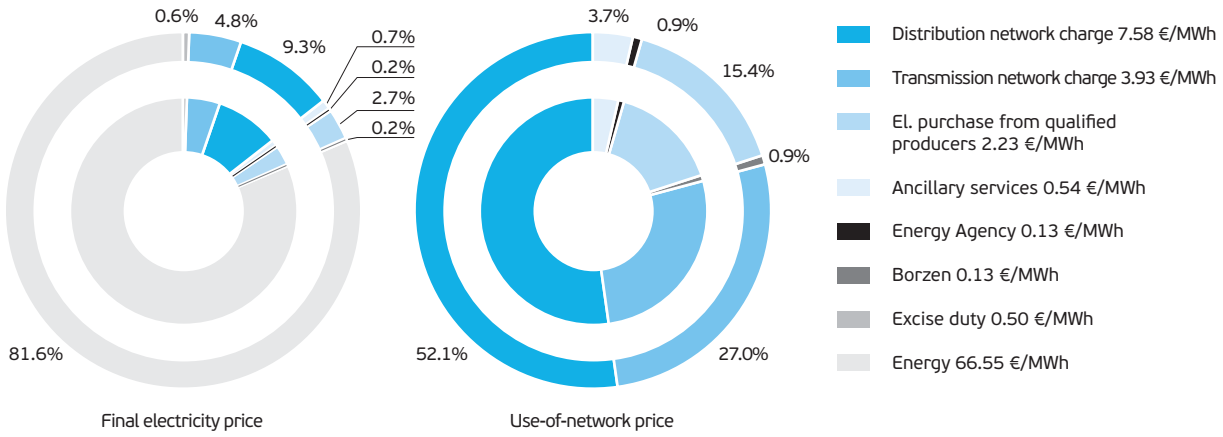
Figures 15, 16 and 17 show the ratios of the price elements and the shares of the elements included in the use-of-network prices for typical industrial customers.

Figure 15:
Shares of the elements included in the final electricity price, and shares of the elements included in the use-of-network price for a typical industrial customer (I_b – 50 kW, 50 MWh) without the VAT



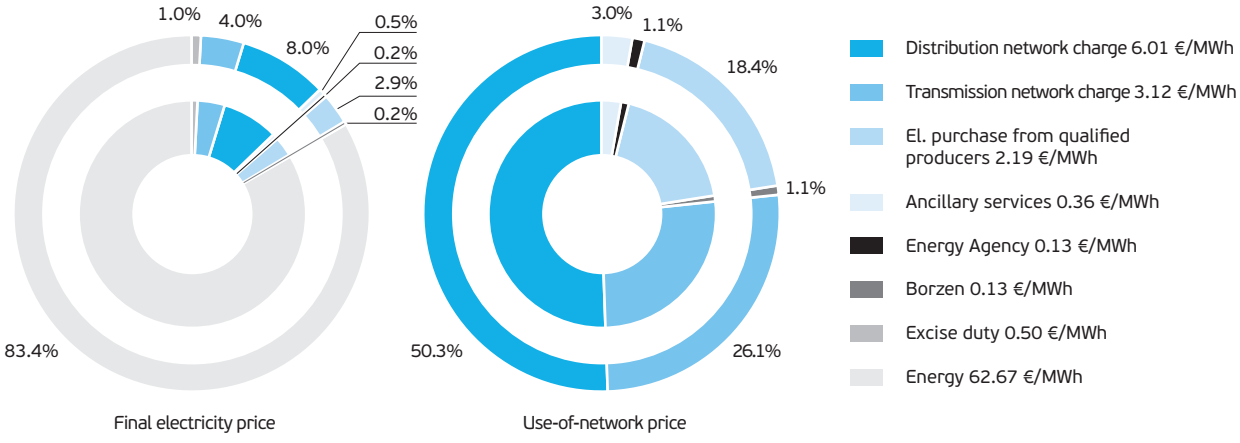
Source: Energy Agency

Figure 16:
Shares of the elements included in the final electricity price, and shares of the elements included in the use-of-network price for a typical industrial customer (I_e – 500 kW, 2 GWh) without the VAT



Source: Energy Agency

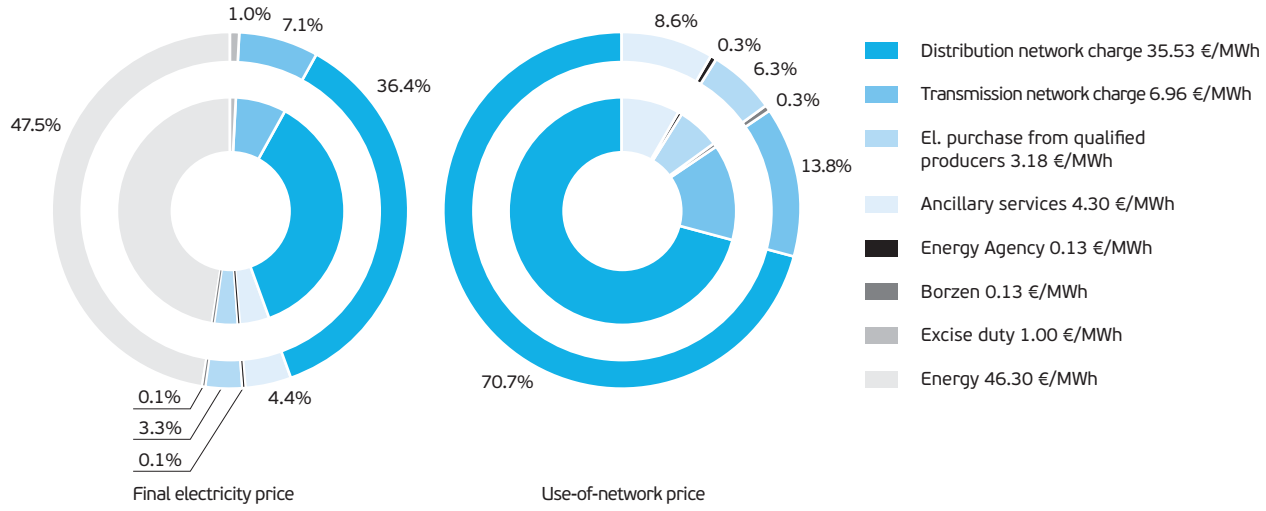
Figure 17:
Shares of the elements included in the final electricity price, and shares of the elements included in the use-of-network price for a typical industrial customer (I_g – 4 MW, 24 GWh) without the VAT



Source: Energy Agency

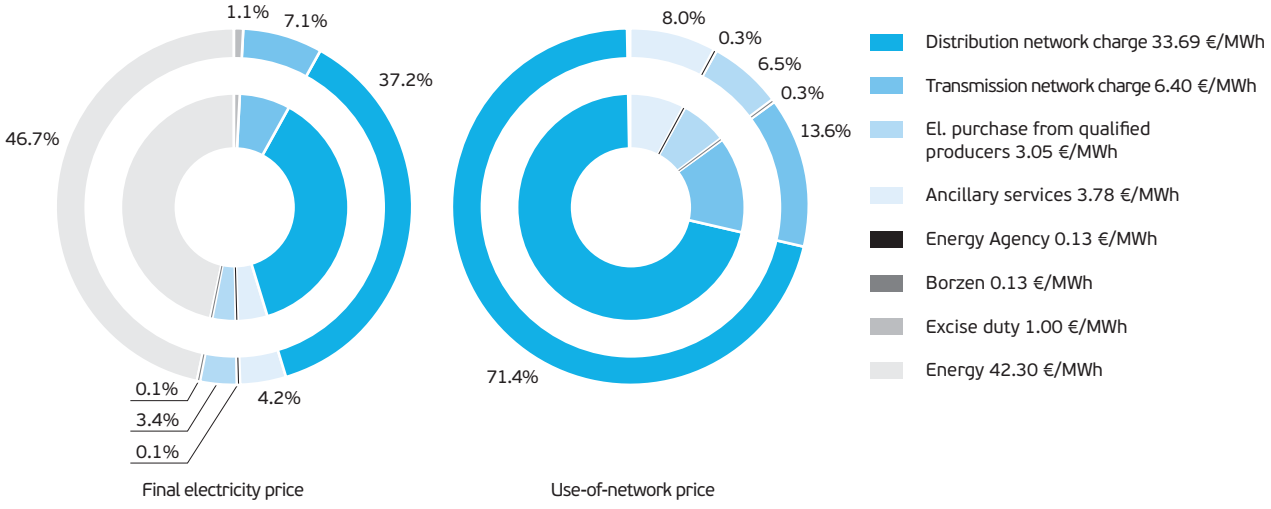
In 2008 the use-of-network price for a typical industrial customer I_b was 62.17 euros/MWh, for a typical customer I_e this price was 14.55 euros/MWh, and for a typical customer I_g it was 11.93 euros/MWh. In the structure of the electricity price for industrial customers, the charge for energy was the prevailing fraction.

Figure 18:
Shares of the elements included in the final electricity price, and shares of the elements included in the use-of-network price for a typical household customer (D_c – 3500 kWh per year) without the VAT



Source: Energy Agency

Figure 19:
Shares of the elements included in the final electricity price, and shares of the elements included in the use-of-network price for a typical household customer with an average consumption of 3973 kWh in 2008 without the VAT



Source: Energy Agency

In 2008 the use-of-network price for a typical household customer D_c was 49.75 euros/MWh, and the price for a typical household customer with an average annual consumption of 3973 kWh was 47.14 euros/MWh, which was 55 percent of the final price without the VAT.

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 (henceforth referred to as the TSOs) 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. Among other things, Regulation 1228/2003 requires the mandatory use of the market-based method for allocating the rights to use the CBTCs. 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.

Throughout 2008 the TSO held auctions for the capacities at the Slovenia–Italy border, in the direction to Italy, at the Slovenia–Austria border, in the direction to Austria, and at the Slovenia–Croatia border, in both directions. The Italian TSO called Terna held auctions at the Slovenia–Italy border, in the direction to Slovenia, and the Austrian TSO called APG held auctions at the Slovenia–Austria border, also in the direction to Slovenia. In this way, Slovenia introduced the basic coordinated auctions at the borders with the two Member States, fully substituting the previous method, according to which each of the bordering countries at an individual border held auctions for both transmission directions to the extent of 50 percent of the total available CBTCs. At the above borders the two TSOs active at an individual border divide the revenues from the auctioning in the ratio 50:50.

At the Slovenia–Italy border the TSO held annual, monthly and daily auctions. The Italian TSO held the same auctions for the opposite direction. The two TSOs held the annual auctions for 2008 already in December 2007. The Slovenian and Austrian TSOs held the same auctions at the Slovenia–Austria border and they carried out the auctions for 2008 already in November 2007. At the Slovenia–Croatia border the TSO only held daily auctions for both transmission directions, to the extent of 50 percent of the total available CBTCs for individual directions.

At the Slovenian borders the auctions for 2008 were held on the basis of three sets of rules, each of which applied to the border with one of the neighbouring countries. At the Slovenia–Italy border the auctions were organised in line with the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities for the Slovenia–Italy Border (the Official Gazette of the Republic of Slovenia, No. 103/07), at the Slovenia–Austria border they were organised in line with the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities for the Slovenia–Austria Border (the Official Gazette of the Republic of Slovenia, No. 105/07), and at the Slovenia–Croatia border they were held in line with the Rules on the Mode of and Conditions for Allocating Cross-Border Transmission Capacities (the Official Gazette of the Republic of Slovenia, Nos. 50/07, 72/07, 103/07). Different rules applying to individual borders were required for the provision of coordinated auctions; for this reason each set of rules was produced in cooperation with the neighbouring TSO and applies to both transmission directions.

In 2008 explicit auctions were held at all the Slovenian borders; at these auctions the TSOs offered the available transmission capacities to the participants. The allocation was carried out in line with the method that was, some time ago, developed by the European Transmission System Operators (ETSO). The method is based on setting the Net Transfer Capacity (NTC) and on allocating the Available Transfer Capacity (ATC). In spite of the requirement from Regulation 1228/2003, according to which the mode of setting the NTC and ATC, together with the used safety standards, should be publicly

available, the setting of these values was, in 2008 as well, done on the basis of the agreements between individual TSOs.

In 2008 the auctions, at which the TSOs were allocating the CBTCs at the Slovenian borders, involved a total of 40 trading companies from Slovenia and abroad. The auctions organised by Eles involved 27 companies, the auctions organised by Terna involved 17 companies, and the auctions organised by APG involved 18 participants. The largest number of the participants was involved in the auctions for allocating the CBTCs for the direction Slovenia–Italy (20), and the fewest were involved in the auctions relating to the direction Slovenia–Croatia (9). Only four participants were involved in the auctions held at all the Slovenian borders and relating to all the transmission directions. Table 9 shows a review of the allocated CBTCs by individual border and by individual direction, the total revenues from the auctions, and the average capacity price. The allocated CBTCs are expressed as the largest energy amounts that could be transmitted across individual borders.

Table 9:
Review of the allocated CBTCs and the revenues from the auctions by border

Border	Allocated (MWh)	Revenue (euros)	Price for allocated CBTCs (euros/MWh)
SI-IT	3,259,675	20,409,938	6.26
IT-SI	3,213,931	807,687	0.25
SI-AT	8,022,918	869,269	0.11
AT-SI	4,167,159	41,083,716	9.86
SI-HR	3,206,476	2,184	0.00
HR-SI	3,568,798	956,966	0.27

Source: Eles

It is clear from the table that, in 2008, the TSOs from Slovenia, Italy and Austria allocated the amounts of the CBTCs that allowed larger flows that were actually realised. This was a result of the rule "use a CBTC or lose it". In accordance with this rule all the CBTCs allocated at an auction for a long period, whose use is not announced (nominated) by the relevant TSO by the deadline, will be allocated again at an auction, this time for a short period. In this way, a part of the CBTCs is auctioned several times. It is also clear from the table that in 2008 the transmission direction Austria–Slovenia generated the largest revenue. Among the remaining directions, only the direction Slovenia–Italy also generated large revenues, amounting to about two-thirds of the revenue generated by the direction Austria–Slovenia. These two directions generated, for the involved TSOs, the large majority of all the revenues from allocating the CBTCs at the Slovenian borders. With respect to the revenues listed in the table, it has to be pointed out that all the revenues generated at the borders with Austria and Italy are divided into halves, so that the Slovenian TSO is entitled to a half of the revenues, while the other half belongs to the Austrian or Italian TSO. On the other hand, the revenues from allocating the CBTCs at the Croatian border belong, for both directions and in their entirety, to the Slovenian TSO.

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-Eastern Europe, and Central-South 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 regions. In June 2008

the eighth region was officially established: South-East Europe, which includes also Slovenia, together with its border with Croatia. The establishing of this region caused changes to the above guidelines, now requiring the coordinated allocation of the CBTCs in this region as well. The details about the developments in individual regions are described in Section 4.3.1.8 – The degree of electricity-market integration with the neighbouring countries.

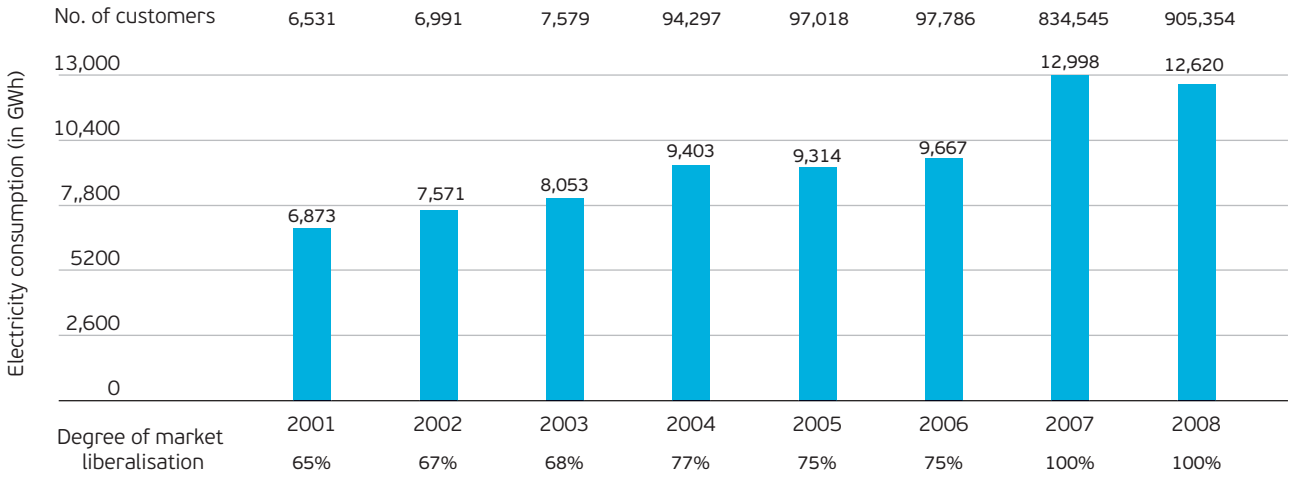
As part of the preparations for allocating the CBTCs in 2009, the Slovenian TSO prepared new sets of rules for allocating capacities for all three borders in 2009. The rules for allocating the CBTCs for the Slovenia-Italy border are actually a Slovenian translation of a part of the auction rules for Central-South Europe. The rules relating to this border came into force on 13 December 2008. The rules for allocating the CBTCs for the Slovenia-Austria border were produced on the basis of an agreement between the Slovenian and Austrian TSOs. These rules came into force on 26 November 2008. As the coordinated allocation of the CBTCs has not yet been introduced to the eighth region (South-East Europe), the general rules for allocating the CBTCs applies to the border with Croatia; these rules, in principle, apply to the borders, for which no specific rules have been adopted. These rules, applying to 2008, came into force on 15 November 2008. All the above sets of rules were also approved by the Council of the Energy Agency.

In 2008 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

In the EA, Slovenia took on the commitment for a gradual liberalisation of the electricity market in line with the EU legislation. Between 15 April 2001 and 1 July 2007 the procedure of the market opening was in progress: first for the large customers and later also for all the small customers. Now, all 905,354 customers in the electricity market can choose their suppliers. The suppliers in the Slovenian market were able to make contracts for 12,620 GWh of electricity, selling electricity generated in Slovenia or purchased in the other EU markets.

Figure 20:
Dynamics of liberalisation for the electricity market in Slovenia



Sources: Energy Agency, companies' data

4.3.1 The production and the wholesale market

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. As a rule, the production companies operate in the wholesale market, where, in addition to them, traders and electricity suppliers are active as well. Foreign electricity traders also operate in the Slovenian wholesale market, while domestic traders and electricity producers are accessing foreign markets through the Slovenian market.

4.3.1.1 The production of electricity

In 2008 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),
- Lower Sava Hydroelectric Power Plants, d. o. o. (Lower 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).

Four companies, the Drava HPPs, the Sava HPPs, the Lower Sava HPPs and the Soča HPPs, generate electricity in hydroelectric power plants, the Krško NPP in a nuclear

Table 10:
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	**1,617**	**58.5%**	**62.6%**
Hydroelectric power plants	762	27.6%	29.5%
Thermoelectric power plants	855	30.9%	33.1%
GEN energija	**823**	**29.8%**	**31.9%**
Hydroelectric power plants	163		
Thermoelectric power plants	312		
Nuclear power plant *	348		
Ljubljana CHP	**115**	**4.2%**	**4.4%**
Other small producers (on the transmission network)	**28**	**1.0%**	**1.1%**
Other small producers (on the distribution network)	**181**	**6.6%**	**–**
Small hydroelectric power plants	94	3.4%	–
Cogeneration units	27	1.0%	–
Other	60	2.2%	–
Total in Slovenia	**2,764**	**100%**	**–**
– on the transmission network	**2,582**	**–**	**100%**

* The 50-% share of the installed capacity of the Krško NPP is taken into account.
Source: Energy Agency

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 Ljubljana CHP cogenerates heat and electricity in a cogeneration process using coal.

In 2008 the links among the production companies became reorganised again. Four companies, the Drava HPPs, the Soča HPPs, the Šoštanj TPP and the Trbovlje TPP, were operating within the group known as Holding Slovenske elektrarne, d. o. o., (the HSE). Until 1 July 2008 the Boštanj HPP (the Lower Sava HPPs) was also included in the HSE balance group, but it later joined the balance group of GEN energija, d. o. o. The HSE including the above production capacities represented the first energy pillar in the wholesale market. Within the balance group of GEN energija, d. o. o., forming the second energy pillar in the wholesale market, the Krško NPP, the Brestanica TPP, the Sava HPPs, and the Lower Sava HPPs were operating; the Boštanj HPP (the Lower Sava HPPs) became included in this balance group on 1 July 2008.

In addition to the production in large power plants connected to the transmission network, the Slovenian electricity system also includes dispersed production facilities connected to the distribution network. With respect to dispersed sources 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. In recent years the number of small solar-power plants has increased significantly, mainly because of the drop in the prices for photovoltaic modules, the relatively favourable purchasing prices, and the operational support for the electricity generated by small solar-power plants. However, in spite of the several new solar-power plants, at the end of 2008 their share still did not exceed one percent of the total installed capacity in Slovenia. In 2008 there was still no wind turbine operating in the Slovenian electricity 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 2008 Slovenian power plants produced a total of 15,032 GWh of electricity, but the actual Slovenian production was smaller, amounting to 12,047 GWh.

In 2008 the largest share of electricity production in Slovenia that actually belongs to the Slovenian customers (including a half of the Krško NPP's production) was contributed by the thermoelectric power plants producing about 40 percent 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. In comparison with 2007, we can see a slight increase in the production share of the hydroelectric power plants, in proportion to the decrease in the production share of the thermoelectric power plants. The rest of the electricity was contributed by smaller units connected to the transmission and distribution networks and, in comparison with 2007, their share was slightly increased.

Table 11:
Shares of different types of electricity production in Slovenia

Type of production	Production (GWh)	Share	Production – 50% Krško NPP (GWh)	Share
Nuclear power plant	5,970	39.7%	2,985	24.8%
Thermoelectric power plants	4,868	32.4%	4,868	40.4%
Hydroelectric power plants	3,511	23.4%	3,511	29.1%
Other power plants on the transmission network	87	0.6%	87	0.7%
Power plants on the distribution network	596	4.0%	596	4.9%
Total	**15,032**	**100.0%**	**12,047**	**100.0%**

Sources: Companies' data

In 2008 a good 96 MW of the new production capacities were connected to the Slovenian electricity network. At the same time a good 25 MW of the existing production capacities were shut down. The largest changes, with respect to the new facilities and to the existing ones, took place in the Šoštanj TPP. Two 42-MW gas blocks started to operate, and at the same time one of the old 25-MW steam blocks was shut down. This means that the Šoštanj TPP increased its available capacity at the busbar by 59 MW. The year 2008 also saw an increase in the available capacities of the production facilities using gas from the purification plants and landfill gas, as well as of the CHP facilities. The largest increase in the number of new production facilities was noted in the area of solar power plants, the total available capacity of which increased by 1.25 MW, which is a more than three-fold increase in the total capacity of the Slovenian photovoltaic power plants connected to the public network. At the end of 2007 the total capacity of these power plants was only a little more than 0.5 MW.

Table 12:
Connections of the new facilities and disconnections of the old production facilities in 2008

	Type of power plant – production source						
	Coal, natural gas	Hydro	Solar	Cogeneration	Gas from purification plants	Biogas	Total
Installed capacity of the new power plants (MW)	84.00	1.21	1.25	2.81	2.08	5.08	96.43
Installed capacity of the disconnected power plants (MW)	25.77	0.03	0.00	0.00	0.00	0.00	25.80

Sources: Companies' data

4.3.1.2 The business operations of production companies

According to the unaudited financial statements, the companies for electricity production finished 2008 with a net profit of 54.72 million euros, which was 20.6 percent less than in 2007. No company had a loss. In 2008 the best financial results were achieved by the Šoštanj TPP, contributing 33.0 percent of the total generated amount.

Table 13:
Net profits of the companies for electricity production

	Net profit (in millions of euros)		Index
	2007	2008	2008/2007
Drava Hydroelectric Power Plants, Maribor, d. o. o.	49.45	15.44	31.2
Sava Hydroelectric Power Plants, Ljubljana, d. o. o.	-1.16	1.73	
Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.	3.88	10.08	259.8
Lower Sava Hydroelectric Power Plants, d.o.o.		0.94	
Brestanica Thermoelectric Power Plant, d. o. o.	1.45	2.54	175.2
Šoštanj Thermoelectric Power Plant, d. o. o.	10.39	18.04	173.6
Trbovlje Thermoelectric Power Plant, d. o. o.	0.29	2.17	748.3
Ljubljana Combined Heat-and-Power Plant, d. o. o.	4.58	3.78	82.5
Krško Nuclear Power Plant, d. o. o.	0.07	0.00	0.0
Total	**68.95**	**54.72**	**79.4**

Sources: Companies' data (unaudited accounts for 2008)

At the end of 2008 the companies for electricity production had 2263 employees, of which the hydroelectric power plants employed 526, the thermoelectric power plants employed 1149, and the Krško Nuclear Power Plant employed 588 staff members. In comparison with 2007, the number of employees in the thermoelectric power plants decreased by 17 employees, or 1.5 percent. The number of employees in the Krško Nuclear Power Plant increased by 15 employees, or 2.6 percent, while the number of employees in the hydroelectric power plants remained at the level of 2007.

Table 14:
Number of employees in the companies for electricity production

	2007	2008	Index 08/07
Drava Hydroelectric Power Plants, Maribor, d. o. o.	277	279	100.7
Sava Hydroelectric Power Plants, Ljubljana, d. o. o.	123	121	98.4
Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.	125	126	100.8
Lower Sava Hydroelectric Power Plants, d. o. o.	–	0	
Brestanica Thermoelectric Power Plant, d. o. o.	131	135	103.1
Šoštanj Thermoelectric Power Plant, d. o. o.	508	490	96.5
Trbovlje Thermoelectric Power Plant, d. o. o.	225	220	97.8
Ljubljana Combined Heat-and-Power Plant, d. o. o.	302	304	100.7
Krško Nuclear Power Plant, d. o. o.	573	588	102.6
Total	**2,264**	**2,263**	**100.0**

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. HSE and GEN energija are 100-percent owned by the state.

Table 15:
Ownership structure of the companies for electricity production

	Republic of Slovenia	HSE, d. o. o.	GEN energija, d. o. o.	City Municipality of Ljubljana	Other shareholders	Dravske elektrarne, d. o. o.	Croatian electricity industry
Drava Hydroelectric Power Plants, Maribor, d. o. o.		100.0%					
Sava Hydroelectric Power Plants, Ljubljana, d. o. o.			86.2%		13.8%		
Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.		100.0%					
Lower Sava Hydroelectric Power Plants, d.o.o.		51.0%	12.6%		5.6%	30.8%	
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

4.3.1.3 The electricity from renewable sources and cogeneration, and the support system

To provide support to the electricity production that would not be competitive in the market condition, the state has to set up an appropriate support system. Such support is mainly required by the facilities producing electricity from renewable sources and the cogeneration facilities with a small capacity. European countries have various support systems. The Slovenian system is one of the feed-in systems, where the responsible body buys, at a set price, all the electricity from the producers eligible to receive support, or, alternatively, pays to them a set operational support, while the producers independently sell electricity in the market at the market prices.

In 2008 the amendments to the EA were adopted that changed our support system. In the past we used the system of preferential dispatch. The system operators, to which individual producers were connected, were responsible for purchasing electricity, or for paying out the operational support (premiums). The system operators were receiving adequate funds for the provision of the support from the supplement to the use-of-network price relating to the preferential dispatch. This supplement was set by the Government of the Republic of Slovenia. With a decision, the Government of the Republic of Slovenia also set the buying-in prices and premiums. The basic condition for receiving support was the status of qualified producer granted by the ministry responsible for the energy.

After the introduction of the changes, Slovenia still maintains the feed-in system. However, the mode of financing the system and the conditions for obtaining support had changed. The guaranteed purchasing and the paying out of the support are now the responsibilities of the newly established Centre for Support operating within Borzen, the market operator. Its operations and the funds needed for paying out the support will be financed with a special contribution intended for the support provision. This contribution is set, with a decision, by the government and it is paid by all the customers. The contribution amount paid by an individual customer depends on the power and voltage at its entry-exit point, its customer classification and the purpose of electricity use. The amendments to the EA entirely cancelled the status of qualified producer. It was replaced by a declaration for a production facility issued by the Energy Agency. This declaration is the main condition that a producer wishing to receive support has to fulfil. After obtaining a declaration a producer may enter the system of guarantees of the origin of electricity, which is also a necessary step made in order to receive support, as every producer wishing to receive support has to obtain, for its entire production, guarantees of the origin relating to an adequate amount of electricity, and transfer them to the Centre for Support. The third condition is obtaining a decision on granting support issued, at the request of a producer, by the Energy Agency.

With respect to the eligibility to receive support, the Energy Agency considers the type of the production, the age of the facility and any other, already received, support, such as investment aid. Any such support that was already received reduces the amounts of the purchase prices and of the operational support. The granting of support is limited to 10 years in the case of the high-efficiency cogeneration facilities, and to 15 years in the case of the facilities using renewable sources of energy. The producers that are not eligible, due to the age of the facility, to receive support in line with the new scheme, will be eligible to receive support in line with the previous scheme until 2011. However, these producers also have to obtain a declaration for a production facility, enter the system of guarantees of the origin and transfer all guarantees of the origin to the Centre for Support.

In 2008 the new support system was not yet started, as not all of the required executive legislations were issued by the end of the year. Consequently, the Slovenian producers were, throughout the year, still receiving support in line with the previous system. In 2008 Slovenia had 599 production facilities that were receiving support of some type.

In 2008 the government issued, three times, the Decision Regarding the Prices and Premiums for the Purchase of Electricity from Qualified Producers (the Official Gazette of the Republic of Slovenia, Nos. 65/08, 98/08 and 105/08). With the first decision it set new prices for all types of producers eligible to receive support in line with the previous scheme. With the second decision it amended the uniform annual premiums for two types of the previous qualified producers. With the third decision it stopped the support payments for 2008 to certain types of the previous qualified producers.

4.3.1.4 The emission coupons

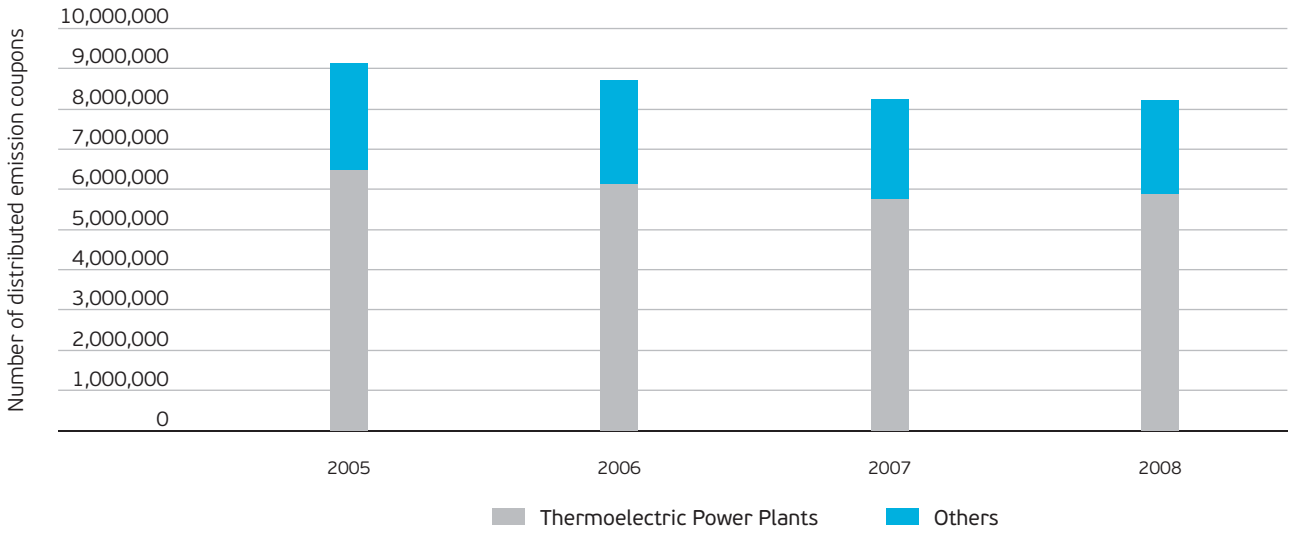
The EU, as a joint signatory of the Kyoto Protocol, and the Member States committed themselves to significantly reducing greenhouse-gas emissions. Slovenia committed itself, by ratifying the Kyoto Protocol, to reduce greenhouse-gas emissions by eight percent by 2012 in comparison with the base year of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

The system of trading with emission coupons includes the facilities with an input heat power of 20 MW, and, with respect to the energy sector, also the facilities with an input heat power of 15–20 MW.

In line with the Environmental Protection Act, the National Distribution Plan for Emission Coupons for the Period 2008–2012 was prepared in Slovenia. This document sets the number of emission coupons distributed by the state free of charge. One emission coupon represents a tonne of CO_2. For each current year, the companies, i.e., the operators of the facilities, have to register the number of emission coupons that matches their CO_2 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.

The National Distribution Plan for Emission Coupons for the Period 2008–2012 (second trading period) is valid between 1 January 2008 and 31 December 2012. During this period the ministry responsible for the environmental protection will have distributed a total of 41,494,687 emission coupons to the facility operators. The National Distribution Plan for Emission Coupons for the Period 2008–2012 covers 41.6 percent of

Figure 21:
Numbers of distributed emission coupons for 2005–2008



Sources: National Plan for the Distribution of Emission Coupons, Environmental Agency of the Republic of Slovenia

greenhouse-gas emissions in Slovenia (according to the data for 2004). When setting the numbers of emission coupons for individual sectors, the target emissions relating to these sectors from the Operational Programme for Reducing Greenhouse-Gas Emissions were considered. In the second trading period 5,817,000 coupons are expected to be distributed to the existing production facilities in the thermal-energy sector, which is more than 70 percent of all the emission coupons from the National Distribution Plan. When setting the numbers of emission coupons that will be given to individual operators for their facilities and for the entire period, a combination of the inherited-emission method and the comparative method was used, considering the initial emissions.

In 2008 the thermal-energy sector received 5,899,858 coupons, which was more than 70 percent of the emission coupons distributed in Slovenia. In comparison with 2007, the amount of received emission coupons in the thermal-energy sector was higher by 1.7 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.

Figure 22:
Movement of the price for emission coupons from the second trading period in 2008

Source: EEX

In 2008 the price for emission coupons ranged between 20 and 30 euros per tonne of CO_2, and at the end of the year it dropped to 15 euros per tonne of CO_2.

4.3.1.5 The guarantees of the origin of electricity and the RECS certificates

In Slovenia the Energy Agency issues guarantees of the origin of electricity for the producers of electricity generated from renewable sources and in high-efficiency cogeneration. It also issues the tradable green RECS certificates. The Energy Agency was actively involved in the Association of Issuing Bodies (AIB). The members of this association come from 15 EU countries, Norway and Switzerland. The AIB strives to harmonise European certification systems. One of its important tasks is the introduction of Trans-European electronic trading with the certificates, including the guarantees of origin.

In 2008 the Energy Agency issued guarantees for a total of 1,221,723,725 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 the electricity suppliers and of the origin of the electricity trademarks.

In 2008 the Energy Agency also issued 31,570 RECS certificates (Renewable Energy Certification System) that were redeemed during the year for the purpose of proving the origin of an electricity trademark supplied to the customers in Slovenia. A RECS certificate is proof that 1 MWh of electricity was produced from renewable sources.

4.3.1.6 The degree of competitiveness of the production companies

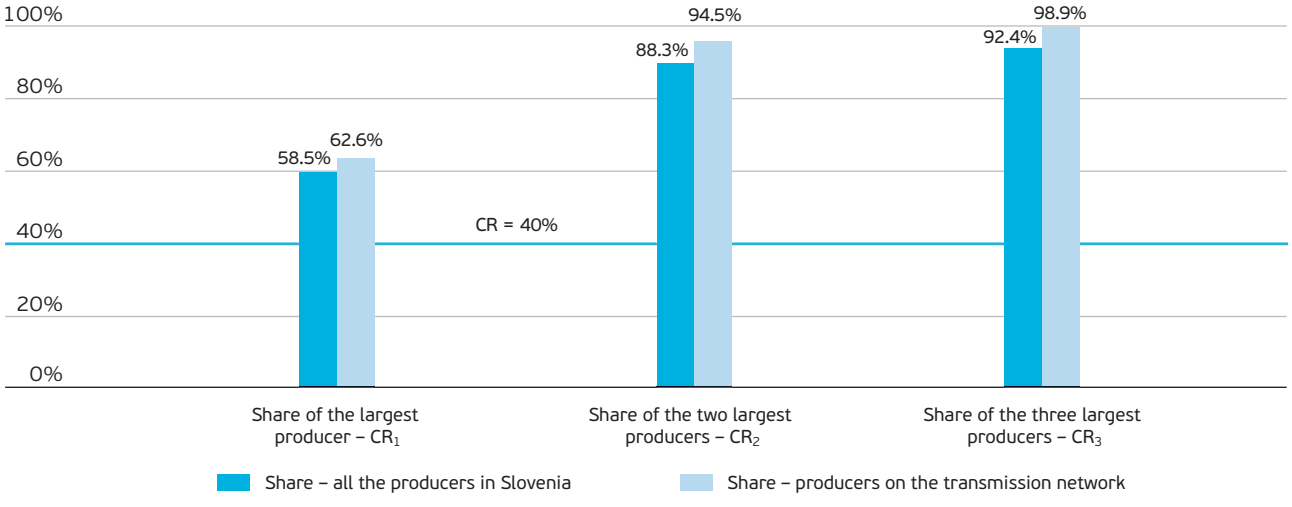
The concentration rate in this area is an important indicator of the market structure. With a concentration rate, we express the total market share of the largest companies in the area, and measure the level of market dominance, or oligopoly. The concentration rate is mainly affected by two factors: the number of companies in the market and their relative sizes. As the 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. In the electricity market the concentration of the production is of utmost importance.

Figures 23 and 24 show three different indicators of concentration rate, i.e., the market share of the largest producer (CR_1), the market share of the two largest producers (CR_2), and the market share of the three largest market producers (CR_3) in Slovenia.

Figure 23 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).

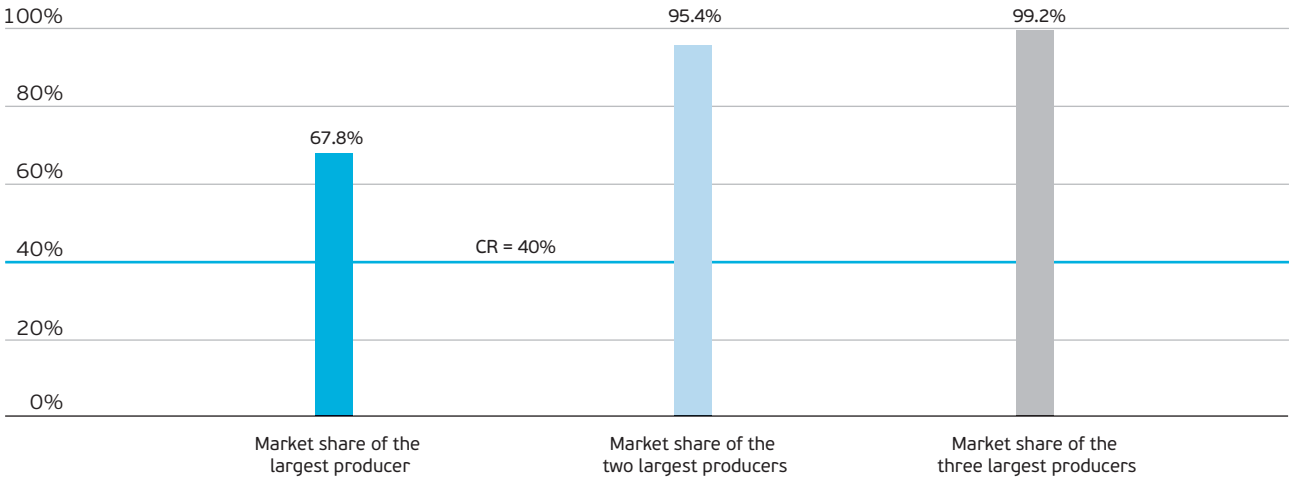
Figure 23:
Cumulative shares of the one (CR_1), two (CR_2) and three (CR_3) largest producers in the market with respect to the installed capacity (50 percent of the production from the Krško NPP is included)



Sources: Companies' data

Figure 24 shows the CR indicators with respect to electricity production (50 percent of the electricity generated at the Krško NPP is taken into account).

Figure 24:
Cumulative shares of the one (CR_1), two (CR_2) and three (CR_3) largest producers in the market with respect to electricity production (50 percent of the production from the Krško NPP is included)



Sources: Companies' data

In 2008 we noted changes in the market structure caused by the ownership and operational restructuring of the production companies necessary for the formation of two energy pillars in the wholesale market. HSE, whose market share still significantly exceeds 40 percent (CR_1) in spite of its restructuring, remained the dominant company in 2008 as well. However, as GEN energija managed the whole of the Krško NPP's production, the HSE's market share decreased by about 20 percent in comparison with 2007. The share of the three largest electricity producers on the transmission network (CR_3) exceeded 99 percent, showing an extremely tight oligopoly, caused by the fact that there are only two energy pillars in the wholesale 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;

Table 16:
HHI with respect to the installed capacity of the producers active in the Slovenian market

Producer	HHI based on the installed capacity – total for Slovenia	HHI based on the installed capacity – the transmission network
HSE, d. o. o.	3,421	3,918
GEN energija, d. o. o.	886	1,015
Ljubljana CHP, d. o. o.	17	20
Other small producers (on the transmission network)	1	1
Other small producers (on the distributin network)	43	
Total for Slovenia	**4,369**	
Total on the transmission network		**4,955**

Sources: Companies' data

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 16 and 17 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.

Table 17:
HHI with respect to the production of the producers on the transmission network

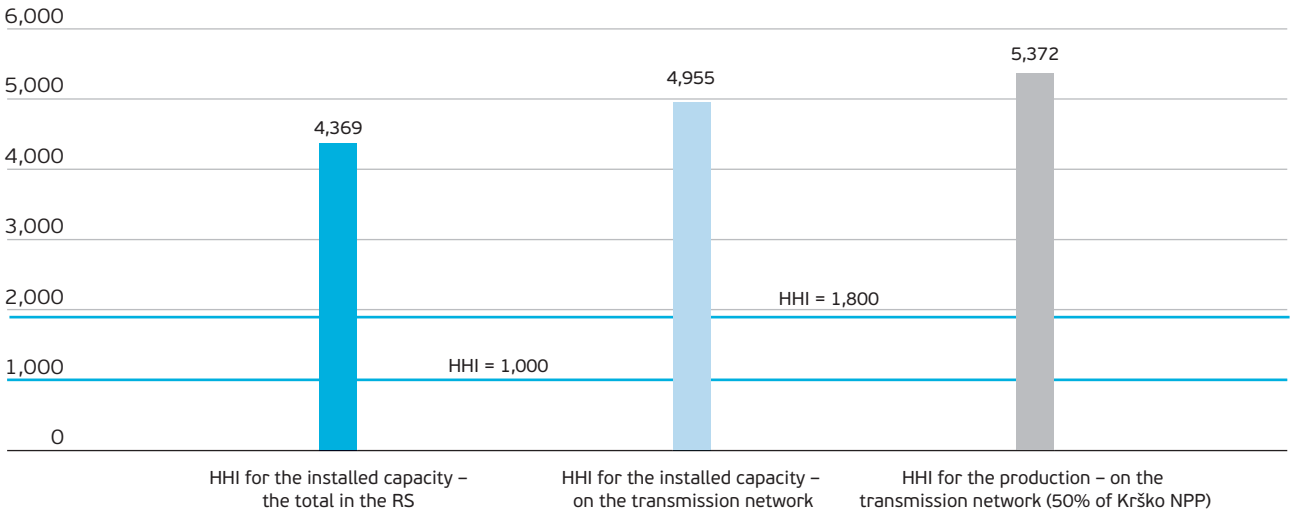
Producer	HHI based on the production – on the transmission network (including 50 percent of the Krško NPP's production)
HSE, d. o. o.	4,592
GEN energija, d. o. o.	764
Ljubljana CHP, d. o. o.	14
Other small producers	1
Total	**5,372**

Sources: Companies' data

In 2008 the HHIs decreased significantly in comparison with the previous year due to the strengthened position of the producers joined in the balance group of GEN energija. However, the HHIs still 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.

The values of both types of indicators show that, in comparison with 2007, modest competition is slowly being introduced into the Slovenian production market, as GEN energija began to manage the entire Slovenian share of the Krško NPP, the Sava HPPs and the Brestanica TPP. Since 1 July 2007, GEN energija has also been managing the capacities of the Lower Sava HPPs, which will increase by 2015, and are expected to cover 6 percent of the total national electricity consumption.

Figure 25:
HHI relating to the companies for electricity production



Sources: Companies' data

4.3.1.7 The provision of ancillary services

Ancillary services are the services provided by a system operator to safeguard the normal operation of the network. The ancillary services relating to the entire Slovenian electricity system are provided by the TSO, while the DSO 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 2008 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 2008 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 2008, 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 28 December 2007. Table 18 shows the final results of purchasing the reserve power required for the provision of ancillary services in 2008.

Table 18:
Review of the amounts of leased reserve power

Selected bidder	Tertiary reserve (MW)	Secondary reserve (MW)
HSE, d. o. o.	29	77
GEN energija, d. o. o.	156	–
Ljubljana CHP, d. o. o.	10	3
EFT	145	–
Total	**340**	**80**

Source: Eles

4.3.1.8 The trading on the organised market

In 2008 three balance groups and five balance subgroups were newly included in the balance scheme. A total of 33 balance groups (19 foreign and 14 Slovenian companies) and 16 balance subgroups (6 foreign and 10 Slovenian companies) were registered.

In comparison with 2007, the growth in the number of the balance groups was much smaller, as in 2007 the legislation changed allowing the foreign traders without a subsidiary registered in Slovenia to set up their own balance groups and to enter the Slovenian wholesale market.

In 2008 a total of 60,633 closed contracts and a total of 53.523,683 MWh of operational forecasts included in the open contracts were registered. In comparison with the previous year, in 2008 the number of recorded closed contracts and operational forecasts increased by 19.6 percent. Their total amount was, in comparison with the previous year, larger by 5.6 percent.

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

Borzen, d. o. o., operated the electricity exchange between 1 January 2008 and 11 November 2008. After this date the service was transferred to a new company called BSP, Regionalna energetska borza, d. o. o., with which a broad regional exchange is being set up.

During the operation of the Slovenian exchange, the market participants traded with the electricity to be supplied on the following day. On the basis of the then current rules, the trading in the daily market was carried out every working day between 6.00 am to 10.30 am. The participants could take part in the continuous trading and in the auction trading. In the continuous market, 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.

The total turnover made by mid November was 80 MWh. In the last quarter of 2008, in addition to the exchange activities, the process of transferring the trade and the membership to the new trading platform within BSP Regionalna energetska borza was also in progress.

The average SLOeX for the period between 1 January 2008 and 11 November 2008 was 53.62 index points and was, in comparison with 2007, higher by 12.34 percent. The values of the SLOeX show the trends in 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 index trends are, thus, significantly affected by the shares of individual products within the entire trading extent. If, on a particular working day, no deals are made, the index value of the previous working day is adopted. If no deals are made on a Saturday, the index value of the previous Saturday is adopted, and in the case of a Sunday or a holiday, the index value of the previous Sunday is adopted.

4.3.1.9 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 2008 the market of South-East Europe continued to have shortages of electricity that led to high electricity prices in the region. On the other hand, in the Italian market, which, in the past, lacked thousands of MWs of production capacity, the price growth was slowed down a little, mainly because of the intense building of new production facilities in this country. The market of Central and Eastern Europe continued to have certain surpluses of production capacities

(Poland and Czech Republic); for this reason 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.

The traders in the Slovenian electricity market are those that supply electricity to Slovenian end customers and those that resell it to other traders or suppliers. Most of these traders also participated in the neighbouring markets. 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. Thus, 20 out of 33 traders, with their balance groups registered in Slovenia, participated at the auctions for allocating available CBTCs, which means that they were also active in the neighbouring markets.

In 2008 the total exports from Slovenia amounted to 7824 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 2008 were 4840 GWh. In the same period Slovenia imported a total of 6225 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 2008, i.e., 1385 GWh or 11.0 percent of the total Slovenian electricity consumption. In 2008 the demand for imported electricity was, in comparison with the previous year, much smaller, as we had to import 2939 GWh of electricity in 2007. Most of the imported electricity came from Austria (3067 GWh), while most of the exported electricity went to Italy (3068 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 2008 the Energy Agency was involved in the activities in three regions: Central-Eastern Europe, Central-South Europe and South-East Europe (see Section 4.2.5).

In 2008 Central-Eastern Europe saw intense preparations for setting up an auction office in Freising, Germany, that will in future coordinate the allocation of the CBTCs for all the borders in the region, as well as setting the available CBTCs. To do this, it will replace the previous method based on the NTC and the ATC with an entirely new approach based on the actual power flows. With respect to cross-border transmission, the current approach considers the so-called contractual transmission flow, while the new approach will be based on the actual flows in the networks, considering also the so-called mesh flows outside the course of a contractual flow. In 2008 the Coordinated Auction House in Freising was officially established; the preparations were in progress, including the purchasing of the IT equipment, and finalising the rules and procedures necessary for the coordinated setting and allocating of the CBTCs. The coordinated auctions in the auction office are expected to start in the second half of 2009. In 2008 this region also saw the adoption of the transparency report regulating the publishing of the data relating to the network conditions, which is very important for all the market participants, not only for those involved in the cross-border trading.

Most of the activities carried out in Central-South Europe in 2008 were focused on the preparations for allocating the CBTCs in 2008. Since 2007 the allocations in this region have been carried out on the basis of the coordinated auction rules applying to the entire region. These coordinated rules also include the previously mentioned rules, on the basis of which, in 2008, the CBTCs were being allocated for the Slovenia-Italy border. The auction rules for this region are put together in such a way that their general part applying to all the borders is included in the basic document, while the

specific features of individual borders are determined in the annexes. In 2008 the main activities in this region aimed at expanding the content of the basic document and reducing the scope of the annexes. This means that the allocating rules are being slowly harmonised for the entire region, becoming applicable to all the borders. At the same time, the preparations for a coordinated auction office started in this region as well. The basic legal and organisational studies of establishing such an auction office were carried out; however, by the end of 2008 no consent on its legal organisation or the location was reached. In addition, the preparations for a possible merging of the regional markets and an introduction of implicit auctions were also carried out.

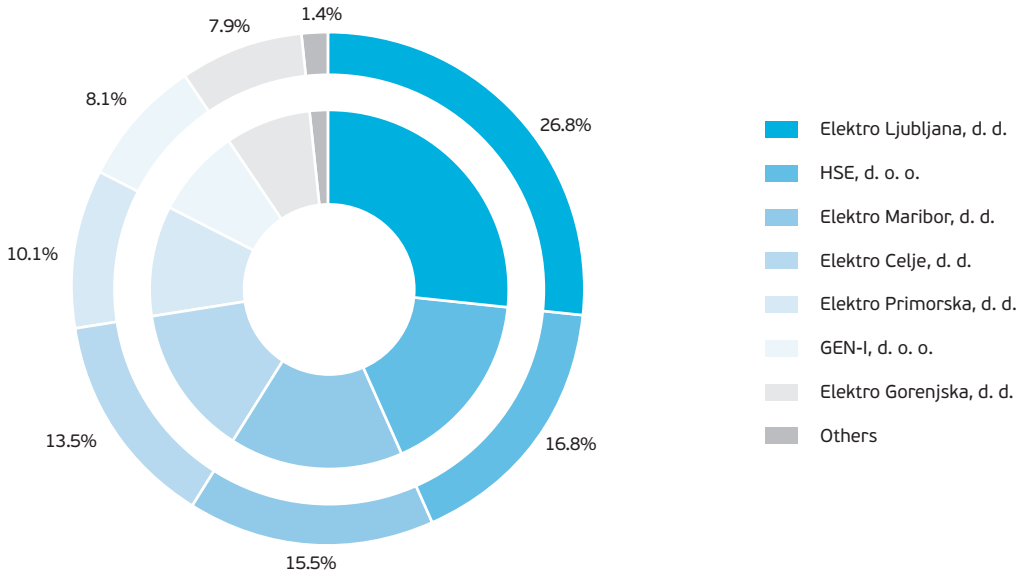
In the new, eighth region called South-East Europe the activities similar to the ones in the other two regions were carried out, also involving the Energy Agency. In this region too, intensive preparations for establishing a coordinated auction office were in progress. As most of this region is composed of the signatories to the Energy Community Treaty, in which the liberalisation of the electricity market was introduced later than in the Member States, and is still in progress, this region differs significantly from the other regions. Unresolved political and legal issues involving individual countries or areas present large obstacles to the progress of this region.

4.3.2 The supply and the retail market

4.3.2.1 The suppliers in the retail market

In comparison with 2007, the number of suppliers in the retail market did not change. Fourteen suppliers of electricity were active in the retail market supplying electricity, on the basis of the contracts, to seven customers connected to the transmission network, and to 905,347 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.

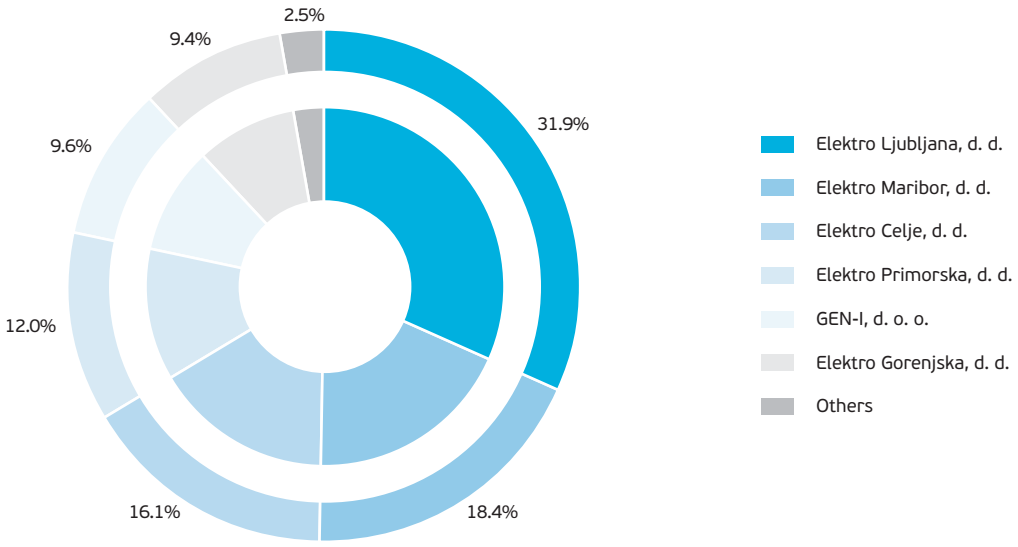
Figure 26:
Market shares of the electricity suppliers at the end of 2008



Sources: Companies' data

In 2008 the customers in Slovenia were supplied with 12.6 TWh of electricity. Elektro Ljubljana, d. d., had the largest market share and was followed by HSE, d. o. o., whose market share decreased by 5 percent in comparison with 2007. On the other hand, the market share of GEN-I, d. o. o., increased by about 5 percent.

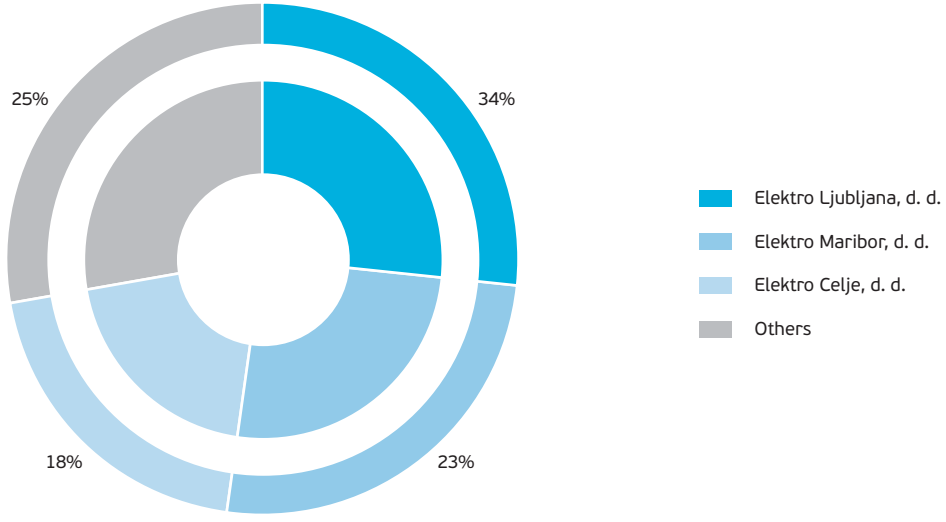
Figure 27:
Market shares of the suppliers to the customers on the distribution network at the end of 2008



Sources: Companies' data

With respect to the market shares of the suppliers to the customers on the distribution network, Elektro Ljubljana had the largest share covering a third of the total supply. GEN-I, d. o. o, also had a relatively large market share of the supply to these customers.

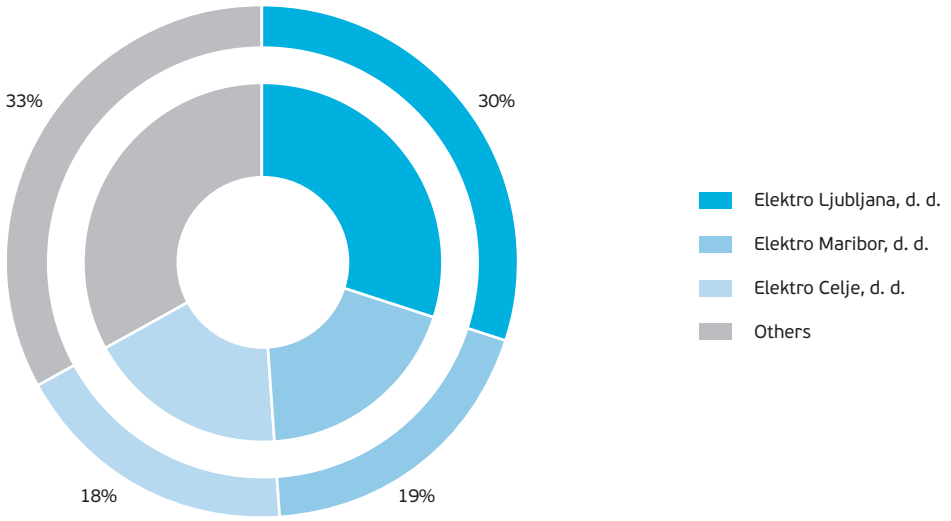
Figure 28:
Market shares of the suppliers to the customers with an annual consumption of up to 50 MWh (including household customers)



Sources: Companies' data

With respect to supplying the customers with an annual consumption of up to 50 MWh, the three largest suppliers kept the same market shares as in the previous year.

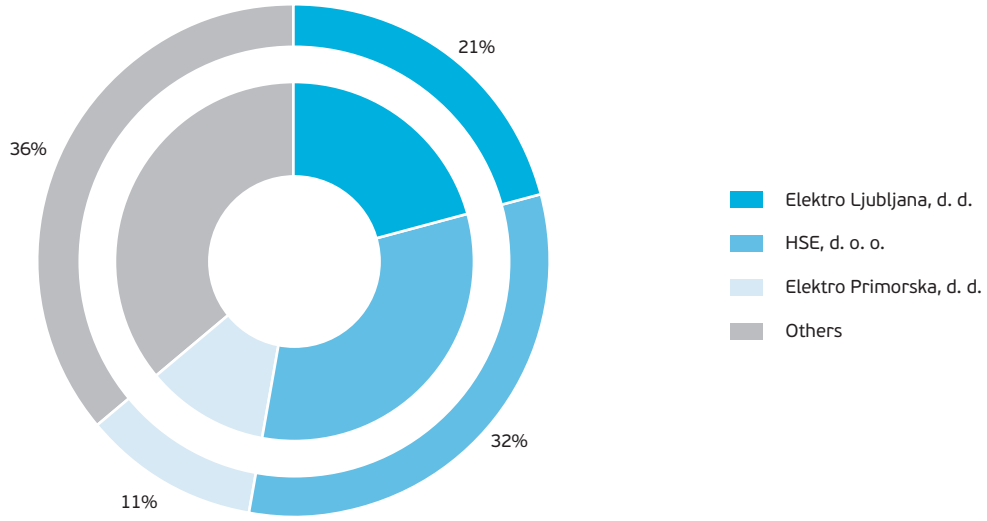
Figure 29:
Market shares of the customers with an annual consumption between 50 MWh and 2 GWh



Sources: Companies' data

With respect to supplying the customers with an annual consumption between 50 MWh and 2 GWh, a decrease in the market share of Elektro Ljubljana, d. d., is particularly obvious, when compared with the previous year. An increase in the market shares of the rest of the suppliers is also noted.

Figure 30:
Market shares of the suppliers to the customers with an annual consumption of over 2 GWh

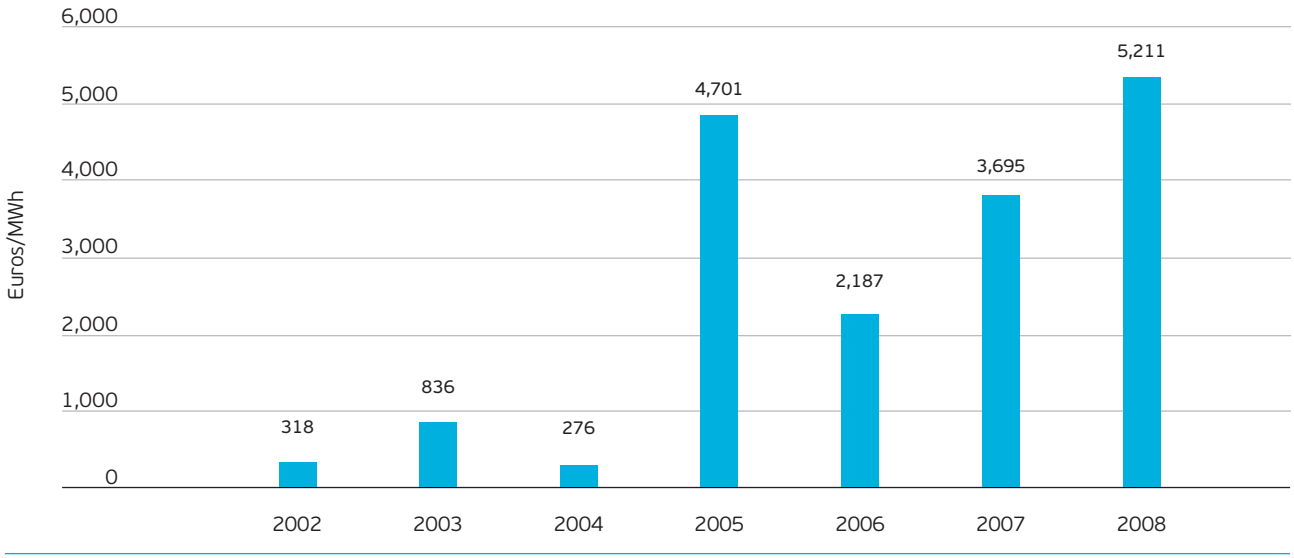


Sources: Companies' data

With respect to supplying electricity to the customers with the largest consumption, HSE, d. o. o., kept the largest market share. The relations between the rest of the suppliers also remained the same.

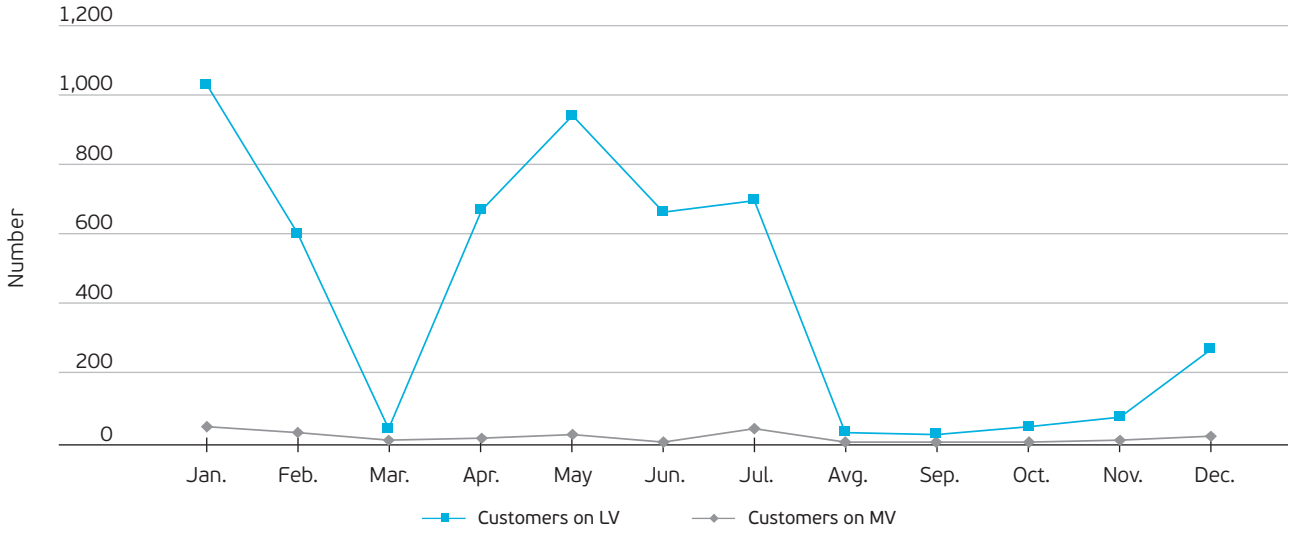
In 2008 a total of 5211 customers switched supplier, which was the largest number of switches since the beginning of the opening of the Slovenian electricity market.

Figure 31:
Numbers of supplier switches for 2002–2008



Sources: System operators

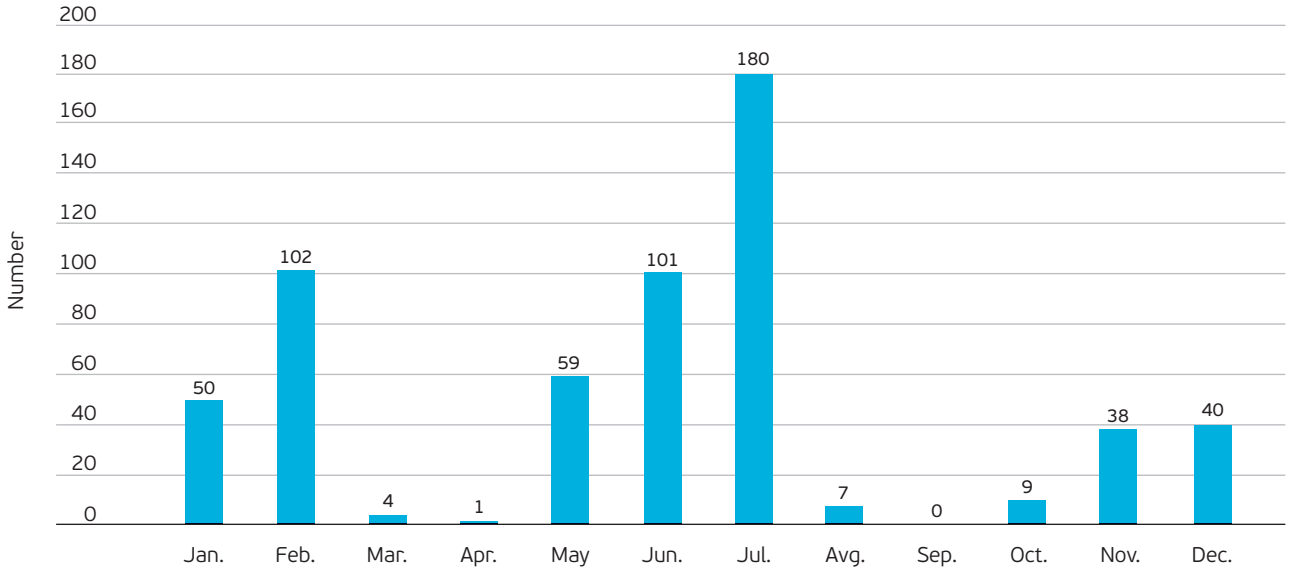
Figure 32:
Dynamics of the supplier switches in 2008 with respect to the number of customers



Sources: System operators

Most of the MV customers decided to switch supplier at the beginning of the year, as the supply contracts usually expire at the end of the year.

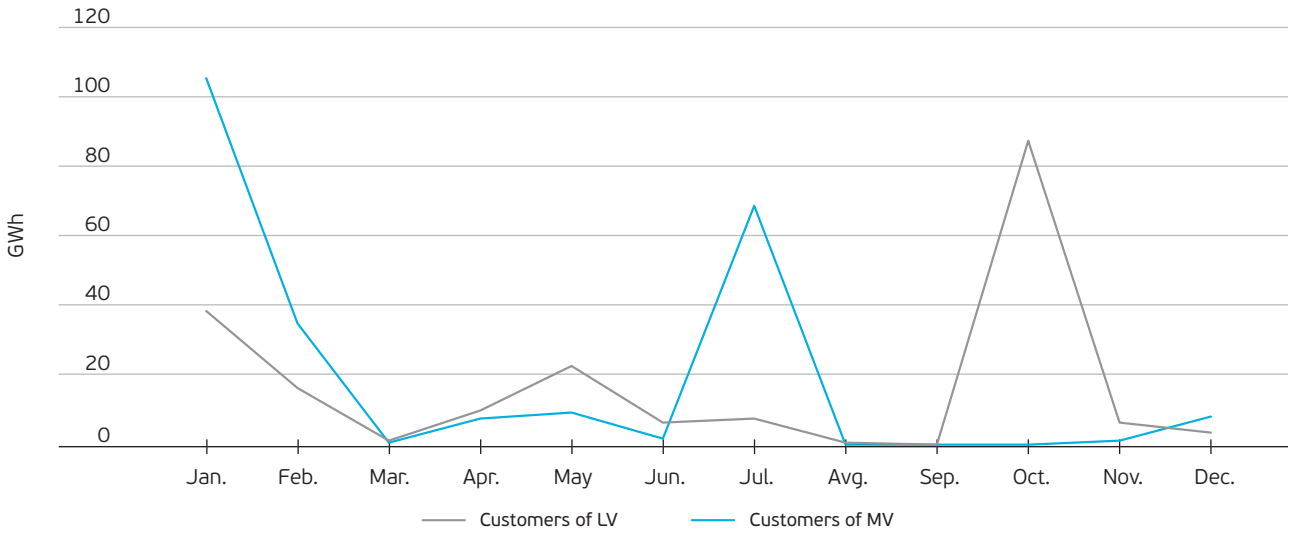
Figure 33:
Dynamics of the supplier switches among the household customers



Source: SODO

In 2008 a total of 591 household customers decided to switch supplier. The number of switches varied a lot on a monthly basis, which can be explained by the developments in the market, i.e., the changes to the prices. In comparison with the previous year, the growth in the number of switches was encouraging.

Figure 34:
Dynamics of the supplier switches in 2008 with respect to the amounts of energy



Sources: System operators

4.3.2.2 The degree of competitiveness in the retail market

Table 19 shows the market shares of the suppliers to the customers in the retail market connected to the distribution network.

Table 19:
Market shares of the suppliers to the customers on the distribution network

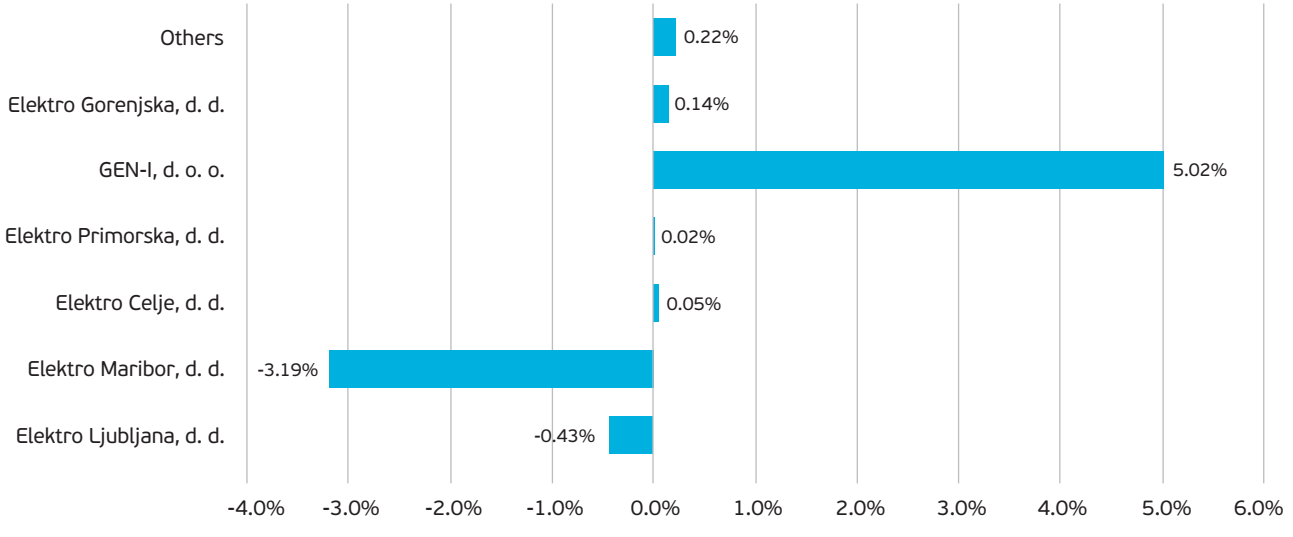
Supplier	Supplied energy (GWh)	Market share	HHI
Elektro Ljubljana, d. d.	3,379.9	31.9%	1,019
Elektro Maribor, d. d.	1,950.2	18.4%	339
Elektro Celje, d. d.	1,705.0	16.1%	259
Elektro Primorska, d. d.	1,275.1	12.0%	145
GEN-I. d. o. o.	1,016.8	9.6%	92
Elektro Gorenjska, d. d.	996.8	9.4%	89
Others	264.4	2.5%	6
Total	**10,588.1**	**100%**	**1,950**

Sources: Companies' data, Energy Agency

None of the companies in this market 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.

Considering comparable amounts of the total energy supplied in 2007 and 2008, we can conclude that GEN-I, d. o. o., increased its share the most, while Elektro Maribor, d. d., lost the largest amount of market share.

Figure 35:
Changes to the market shares of the suppliers to the customers on the distribution network in 2008 with respect to 2007



Source: Energy Agency

The total retail market also includes the market of large eligible customers connected to the transmission network.

Table 20:
Market shares of the suppliers to all the customers

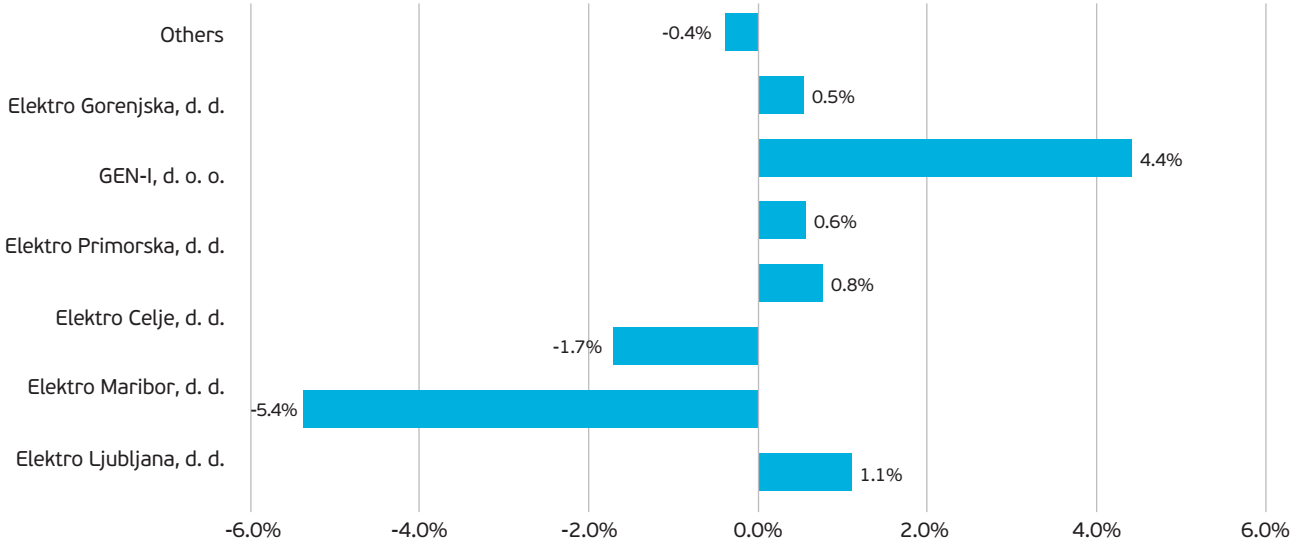
Supplier	Supplied energy (GWh)	Market share	HHI
Elektro Ljubljana, d. d.	3,379.9	26.8%	717
HSE, d. o. o.	2,115.1	16.8%	281
Elektro Maribor, d. d.	1,950.2	15.5%	239
Elektro Celje, d. d.	1,705.0	13.5%	183
Elektro Primorska, d. d.	1,275.1	10.1%	102
GEN-I, d. o. o.	1,016.8	8.1%	65
Elektro Gorenjska, d. d.	996.8	7.9%	62
Others	181.6	1.4%	2
Total	**12,620.4**	**100%**	**1,651**

Sources: Companies' data

A review of the entire market, also including the customers on the transmission network, shows an additional decrease in the market concentration with respect to 2007. It indicates a medium concentration, with the total HHI being below the upper limit of 1800.

Considering the comparable total amounts of the energy supplied to this market in 2007 and 2008, we can conclude that, in this segment as well, GEN-I, d. o. o., increased its share the most, while HSE, d. o. o., lost the largest amount of market share.

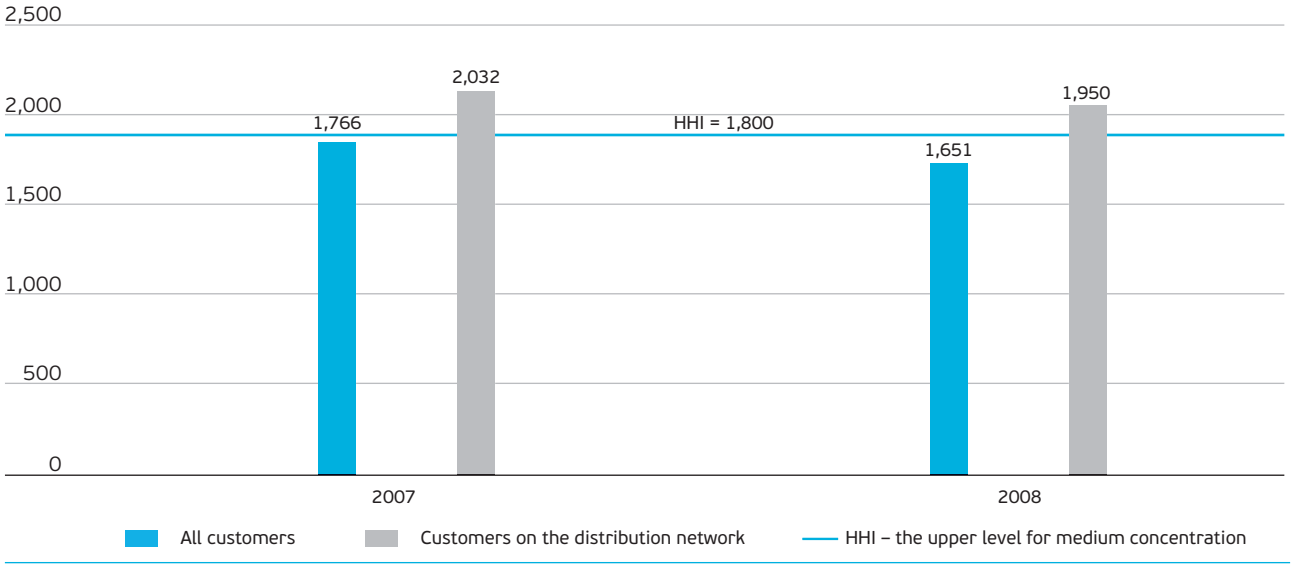
Figure 36:
Changes to the market shares of the suppliers to all the customers in 2008 with respect to 2007



Source: Energy Agency

In both markets the HHIs decreased in comparison with 2007, mainly because of the increasing market share of GEN-I, d. o. o., as shown in Figure 37.

Figure 37:
Trends of the HHIs in the retail markets for 2007 and 2008



Sources: Companies' data

4.3.2.3 The prices for electricity

4.3.2.3.1 The prices of electricity for industrial customers

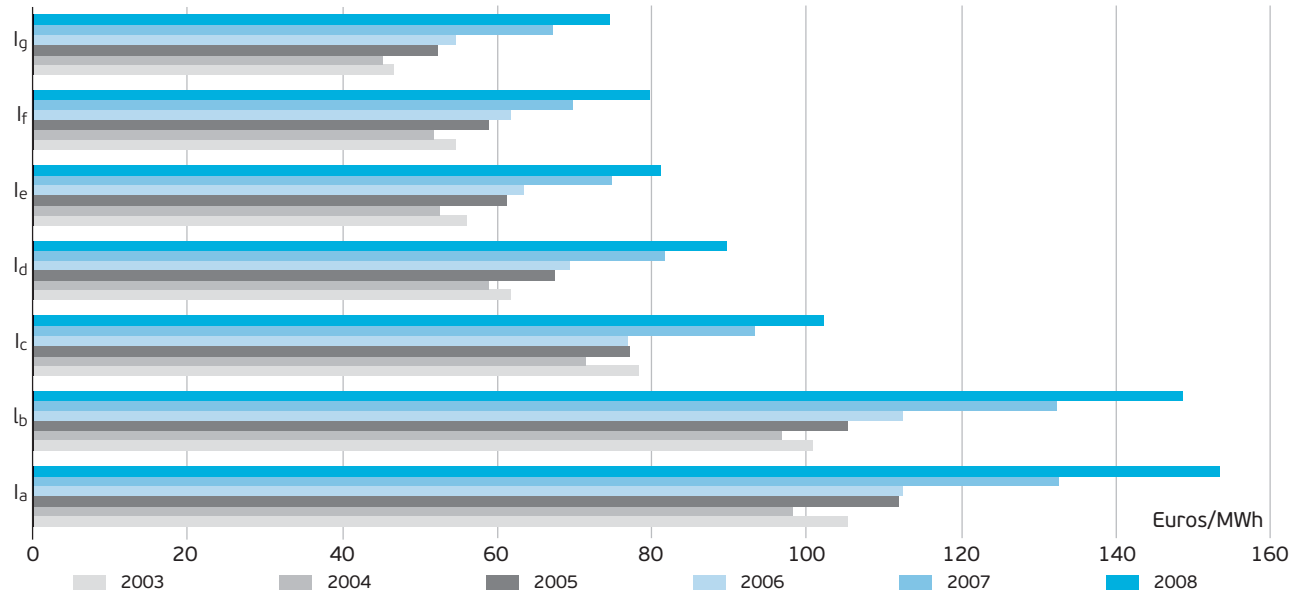
All the customers were supplied with electricity on the basis of the conditions in the open electricity market. The prices depend on the forecasted amounts of consumption, the time dynamics of the customers' consumption, and the relations in the wholesale market.

The trends of electricity prices for typical industrial customers in Slovenia for 2003–2008 show a continual growth with respect to all the customers, which was a result of the price growth in the wholesale markets in Slovenia and in the EU.

The standard customer groups shown in Figure 38 are as follows:

I_a – an annual consumption of 30 MWh, a power of 30 kW,
I_b – an annual consumption of 50 MWh, a power of 50 kW,
I_c – an annual consumption of 160 MWh, a power of 100 kW,
I_d – an annual consumption of 1250 MWh, a power of 500 kW,
I_e – an annual consumption of 2000 MWh, a power of 500 kW,
I_f – an annual consumption of 10000 MWh, a power of 2500 kW,
I_g – an annual consumption of 24000 MWh, a power of 4000 kW,
I_h – an annual consumption of 50000 MWh, a power of 10000 kW,
I_i – an annual consumption of 70000 MWh, a power of 10000 kW.

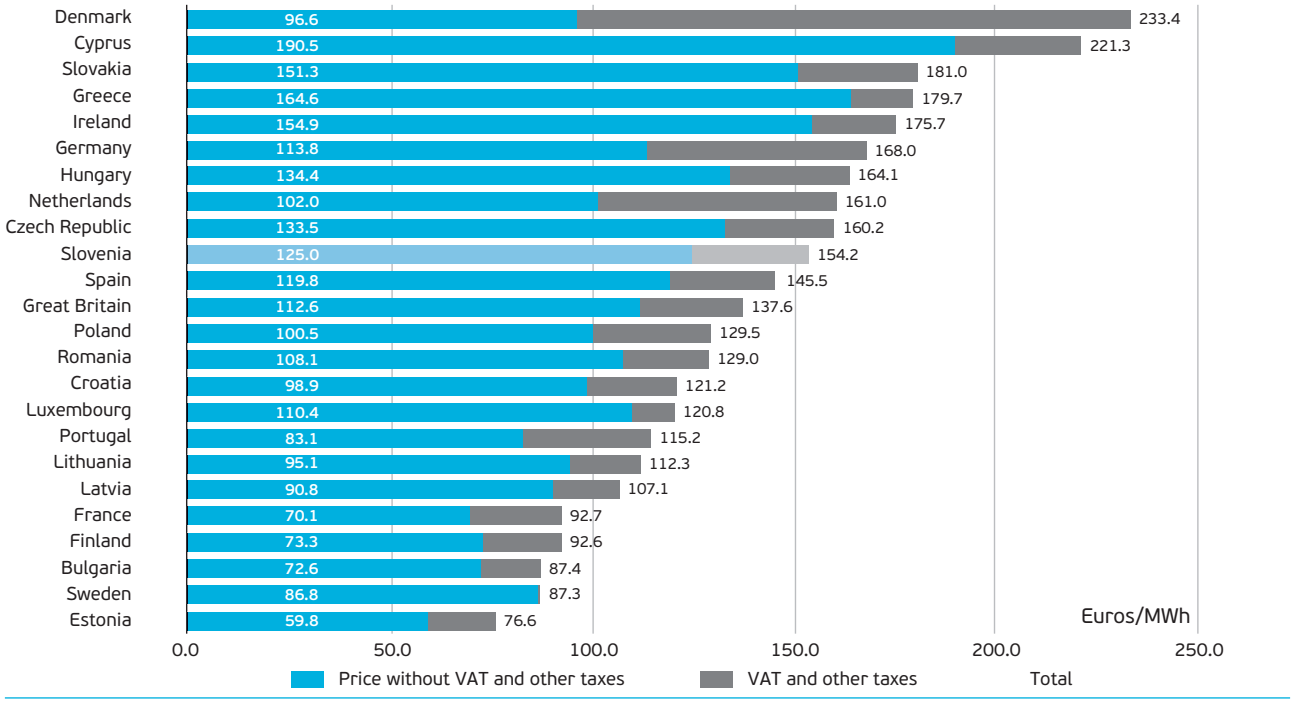
Figure 38:
Trends of the electricity prices for typical industrial customers in Slovenia for 2003–2008



Source: Statistical Office of the Republic of Slovenia

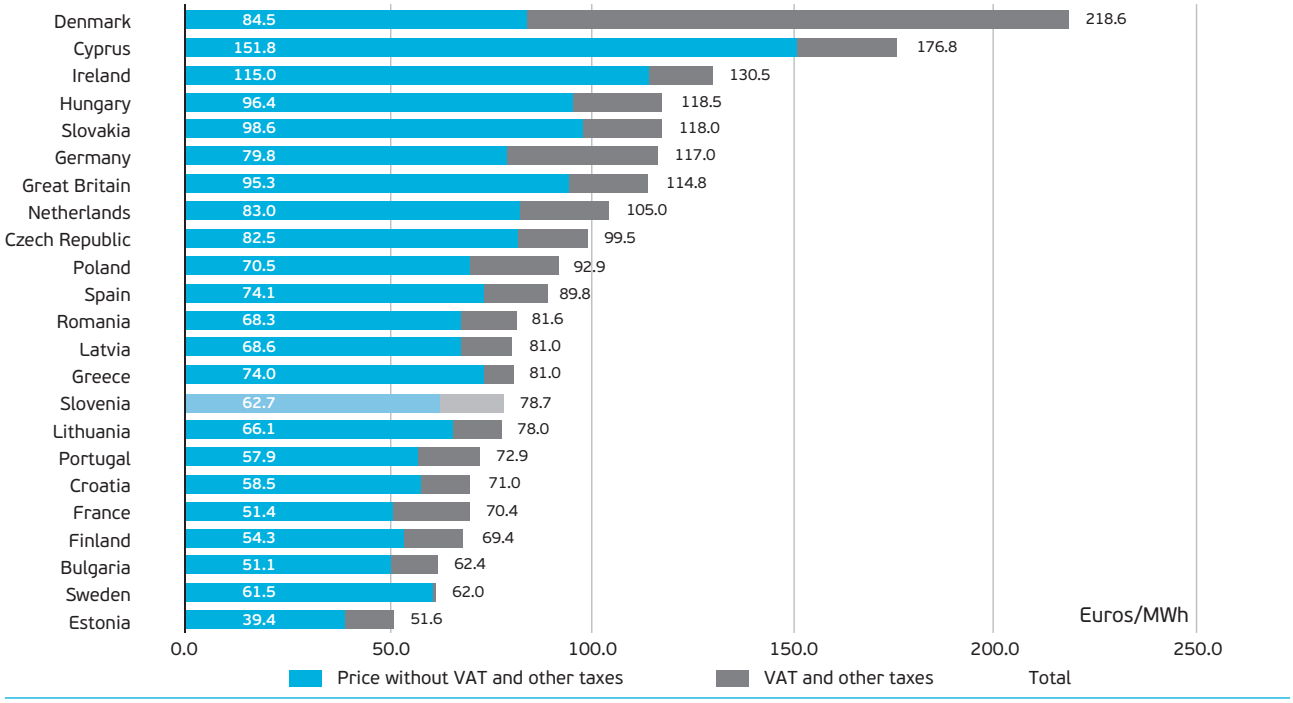
Below is a comparison of the electricity prices in the EU countries for the second half of 2008. It refers to two typical industrial customers selected in line with the Eurostat methodology. The comparison shows the final electricity prices, including the prices for the use of electricity networks, the excise duties and the value-added tax.

Figure 39:
Comparison of electricity prices for a typical industrial customer with an annual consumption of 20 to 500 MWh in the EU countries and in Slovenia for the second half of 2008



Source: Eurostat

Figure 40:
Comparison of electricity prices for a typical industrial customer with an annual consumption of 20 to 70 GWh in the EU countries and in Slovenia for the second half of 2008



Source: Eurostat

4.3.2.3.2 The prices of electricity for household customers

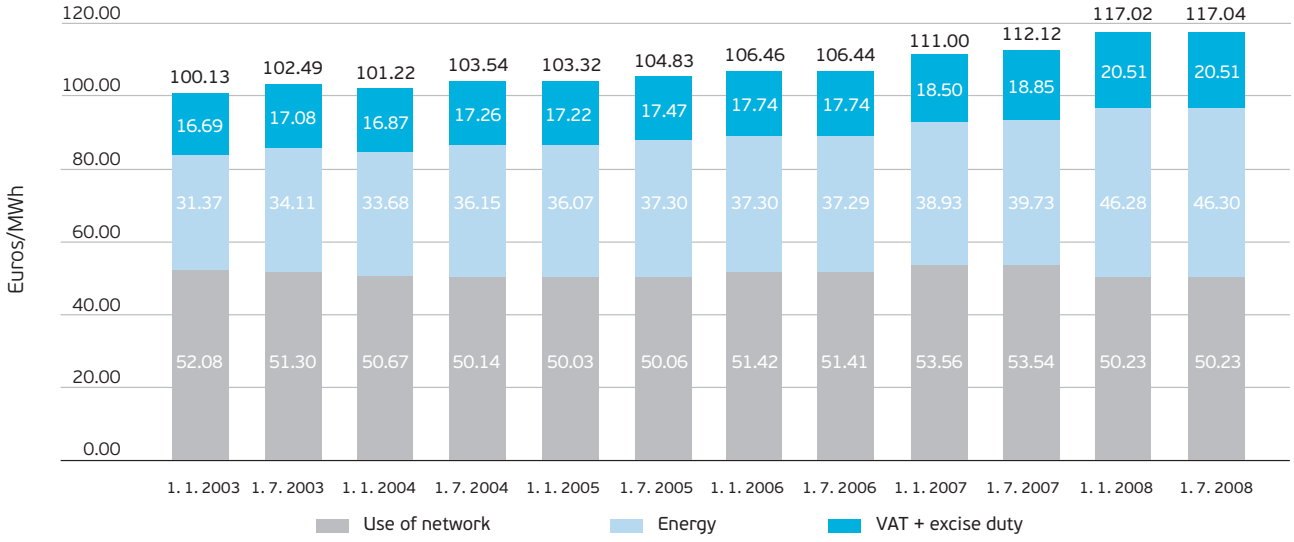
Since 1 July 2007 the Slovenian household customers have also been able to freely choose their electricity supplier. The suppliers, previously called the suppliers to tariff customers, started to offer different electricity prices even before the start of 2008. However, the differences between those prices were minimal and did not stimulate numerous supply switches. The suppliers prepared their offers in the form of various packages, whose prices included, in addition to the price for electricity, also the following:

- the use-of-network price,
- the price covering the supplier's costs regarding electricity supply,
- the excise duty on electricity,
- the value-added tax.

The package offers also differed with respect to the type and share of the supplied primary energy.

The total electricity price for a typical household customer D_c was, between 2003 and the end of 2008, increasing with an average annual growth of 3.1 percent. During this time the use-of-network price was relatively stable, but the price fraction for energy was increasing. Until 1 July 2007, when the electricity price was being set by the government, the price was increasing by an average annual rate of six percent. On the other hand, in 2008 the price for energy increased, in comparison with 2007, by 19 percent. Before the market opening the electricity price for household customers was lower than the price at which the suppliers used to buy energy in the wholesale market.

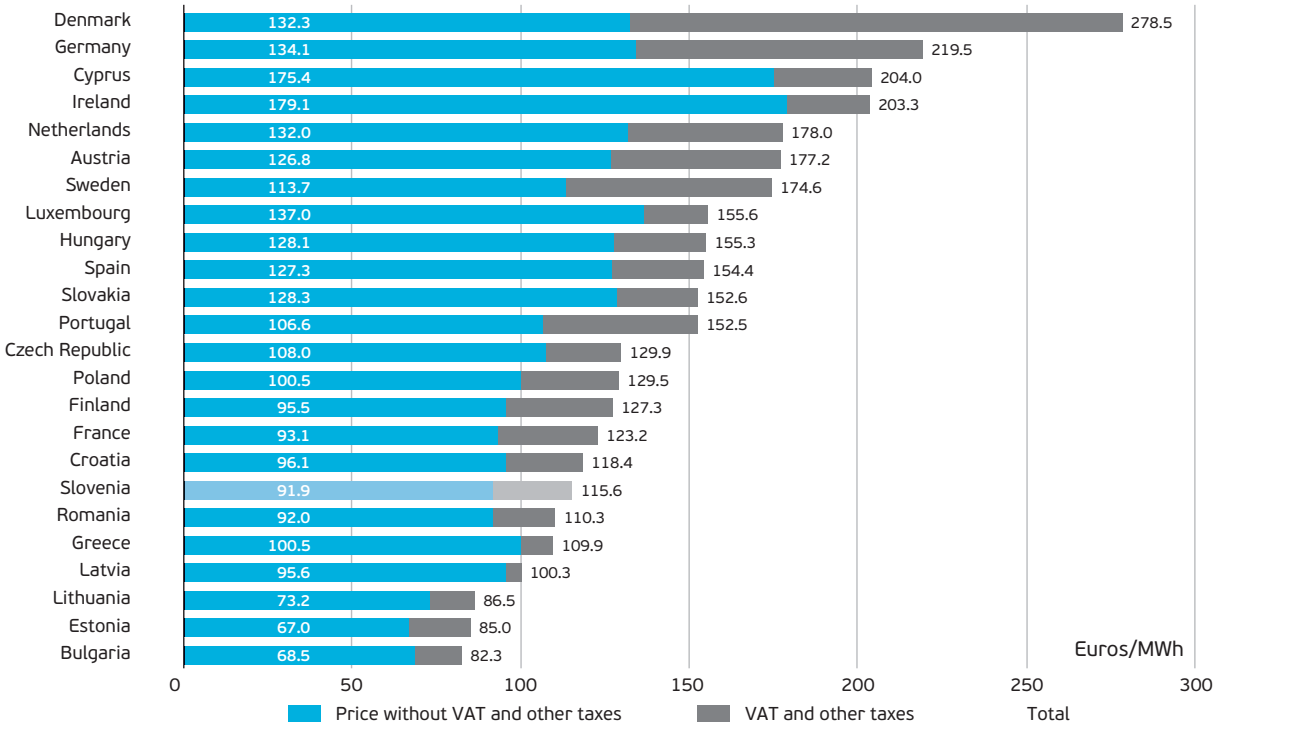
Figure 41:
Trend of the final electricity price for a typical household customer (D_c – 3500 kWh per year)



Source: Energy Agency

A comparison of the electricity prices in the EU countries for the second half of 2008, referring to a typical household customer selected in line with the Eurostat methodology shows that the final electricity price in Slovenia is lower than the average price in the EU countries.

Figure 42:
Comparison of the total electricity prices for a household customer with an annual consumption of 2500 to 5000 KWh in the EU countries and in Slovenia for the second half of 2008



Source: Eurostat

4.3.2.4 The balancing

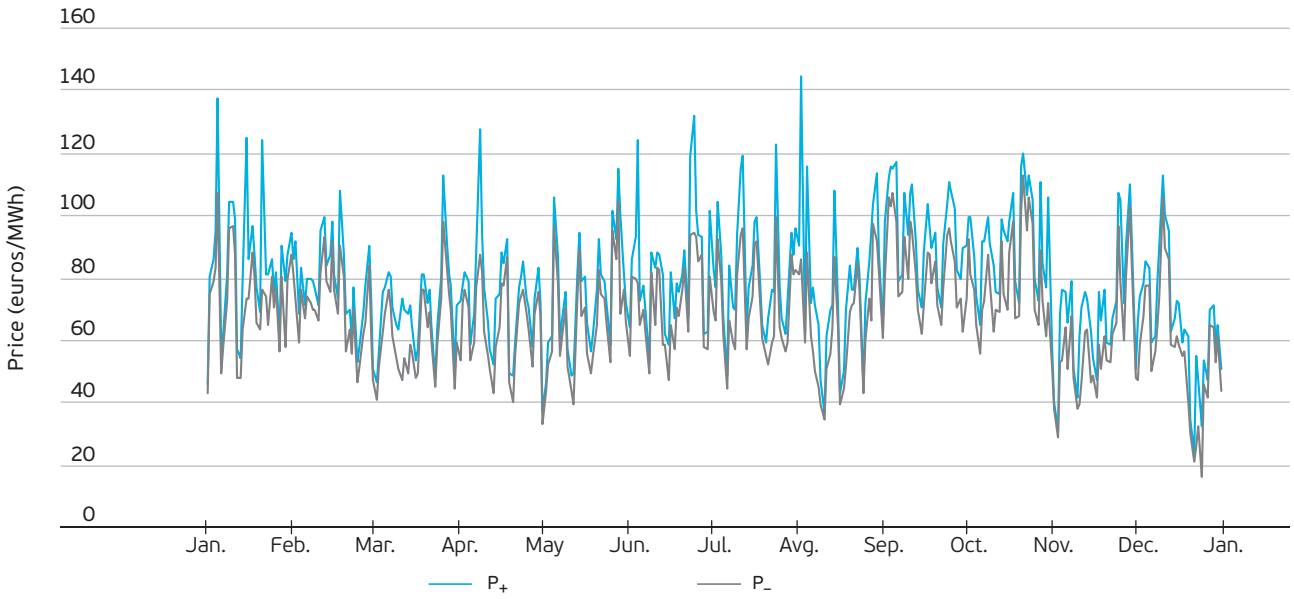
In line with Article 22a of the EA, the TSO is responsible for balancing the imbalances in the network. Within a balance scheme, stipulated by the Rules Regarding the Operation of the Electricity Market (the Official Gazette of the Republic of Slovenia, Nos. 30/01, 118/03), the balance-responsible parties are obliged to maintain the operation schedules of their balance groups within the frameworks of the forecasted values. The imbalances of individual balance groups are often mutually eliminated, as one balance group's imbalance in the positive category, together with another group's imbalance in the negative category of the same value, does not create an imbalance of the entire electricity system. However, when an imbalance of the entire system takes place, the TSO is responsible for its balancing. 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 can, in order to balance the imbalances, use the secondary or tertiary control reserve. In addition, it can also buy the required balancing energy, or sell it, in the balancing market or in the electricity market in Slovenia or abroad. In 2008 the balancing market in Slovenia was not yet set up; for this reason the TSO did not have an option to buy and sell energy in the balancing market.

In Slovenia the market operator called Borzen is responsible for charging for the imbalances and will also be in charge of the balancing market once it is in place. Borzen carries out the imbalance accounts on the basis of the provisions from the Rules Regarding the Operation of the Electricity Market. The charging for the imbalances is done in two stages. First, the market operator 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, which is one hour. Financial accounts are done for an individual accounting period, which is one month.

The price for imbalances is set for each accounting interval on the basis of the electricity price at the exchange (C_{SLOeX}), 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 for the balance groups that have consumption or production entry-exit points. For the balance groups without the corresponding consumption or production entry-exit points, i.e., for the balance groups of traders, the financial imbalance accounts are made only if they previously register their expected imbalances.

Figure 43:
Average daily values of the main imbalance prices P_+ and P_- for 2008

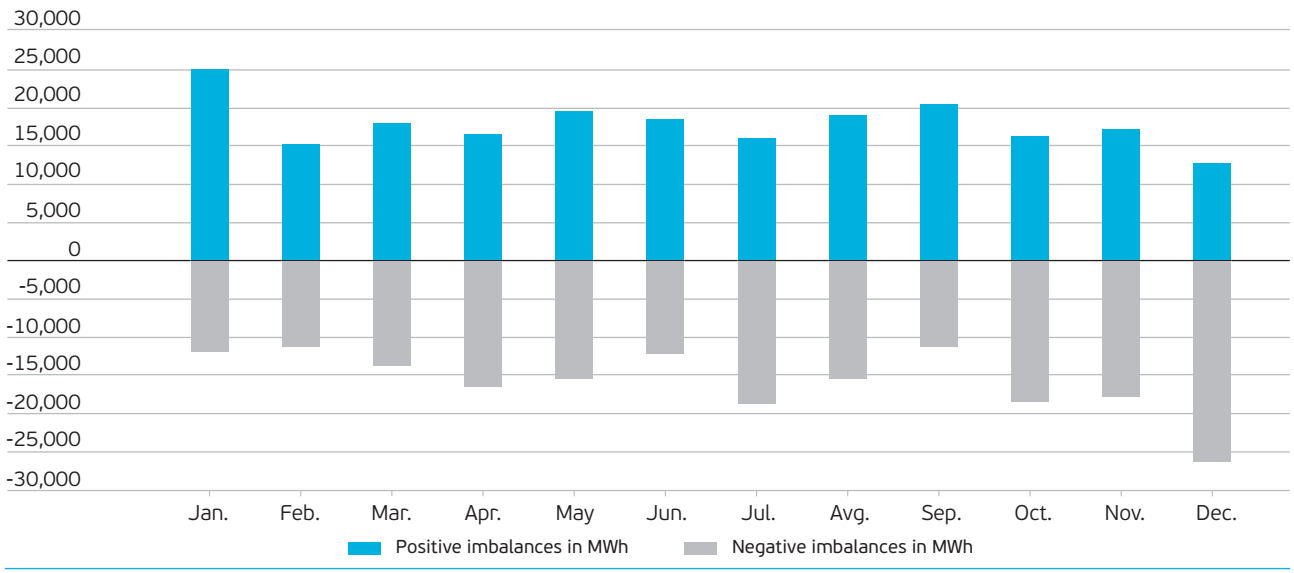


Source: Borzen

The average daily values of the hourly index C_{SLOeX} were, throughout the year, at the same level changing less than the average daily values of the main imbalance prices. The reason for this was the illiquidity of the transactions at the energy exchange, on the basis of which the hourly index C_{SLOeX} is calculated.

Figure 44 shows the total monthly positive and negative imbalances of all the balance groups in Slovenia for 2008. The largest positive imbalances occurred in January and the largest negative imbalances occurred in December.

Figure 44:
Monthly imbalances of the Slovenian network in 2008



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.

The suppliers have to observe, in addition to the legislation regulating general customer protection, 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, which have been harmonised with the requirements of the European directives, 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.

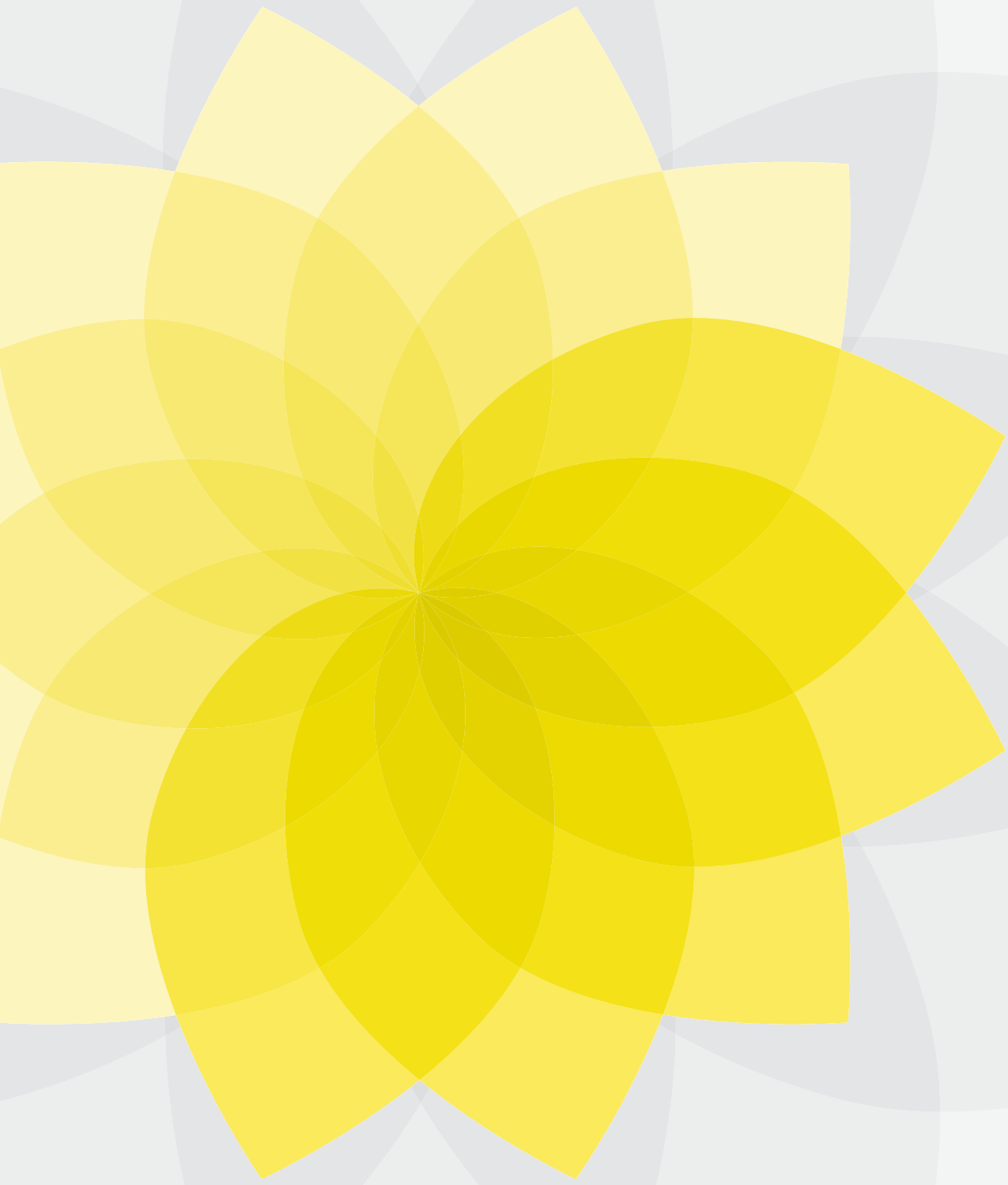
4.3.3.1 The findings and measures of the Competition Protection Office of the Republic of Slovenia

On 6 August 2008 the Competition Protection Office of the Republic of Slovenia issued a decision establishing that five companies – Elektro Primorska, d. d., Elektro Maribor, d. d., Elektro Ljubljana, d. d., Elektro Gorenjska, d. d., and Elektro Celje, d. d., – acted together when increasing the electricity prices for household customers. These companies announced an increase in the electricity price for households 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. With this conduct, they prevented, obstructed or distorted competition in the Republic of Slovenia, which is, in line with the provisions of the Prevention of Restriction of Competition Act, prohibited and void. In its declaratory decision, the Competition Protection Office told the concerned companies to immediately stop the infringement. In the framework of its competences, the office instituted violations procedures against the concerned companies and their persons in charge, and imposed appropriate sanctions on them. Although these measures are not final, since the companies appealed against them, this case demonstrates the active role of the competition-protection authorities.

4.3.4 The decisions on disputes and appeals

The Energy Agency is legally authorised to decide, in an administrative procedure in the first instance, on disputes between the network users and the system operators or the market operator and, in the second instance, on appeals against the decisions of the system operator relating to a connection approval. In 2008 the Energy Agency received 28 requests to decide on disputes, of which 19 requests related to electricity.

The content of the decisions has changed in the last three years. In 2006 most of the decisions were made with respect to the appeals against the issued connection approvals. In 2007 and 2008 the content of the disputes and appeals was much more varied. The requests for decision-making mainly referred to the switching procedures, infringements of the general supply conditions and appeals against the issued connection approvals. A few disputes arose from the charged use-of-network prices and from established imbalances or infringements of the general acts regulating imbalances and their balancing.



5
Natural gas

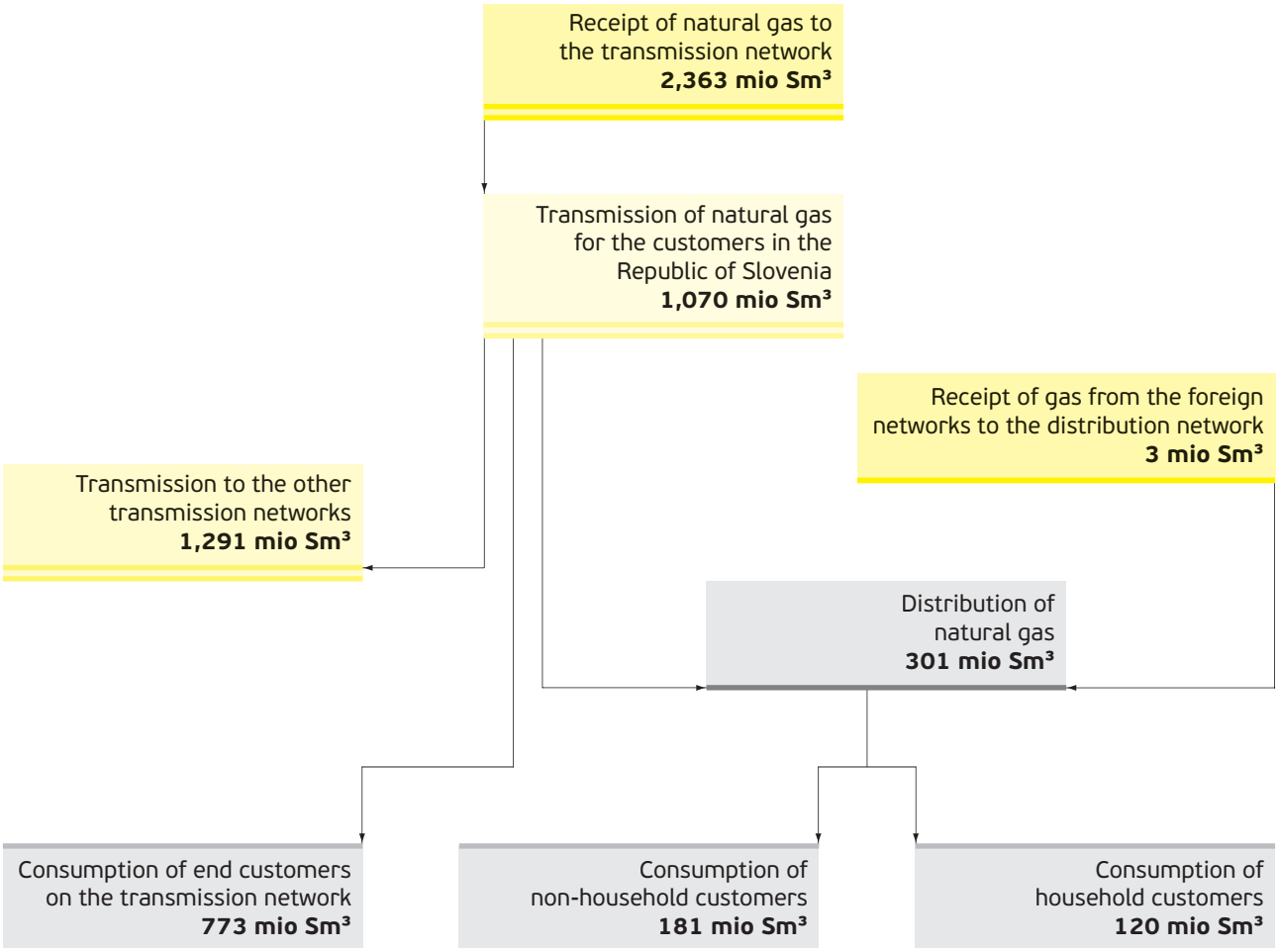
5.1 General information

In 2008 a total of 1,073,847,000 Sm3 of natural gas was consumed in Slovenia, which was 4 percent less than in 2007.

The customers' demand for natural gas is covered by importing natural gas across the gas transmission network. Natural gas is transmitted to the customers in Slovenia across the transmission and distribution networks for natural gas. However, while transmitting natural gas across the network, gas losses do occur.

In 2008 the natural-gas market in Slovenia was characterised by an intense increase in gas prices and the first supplier switches.

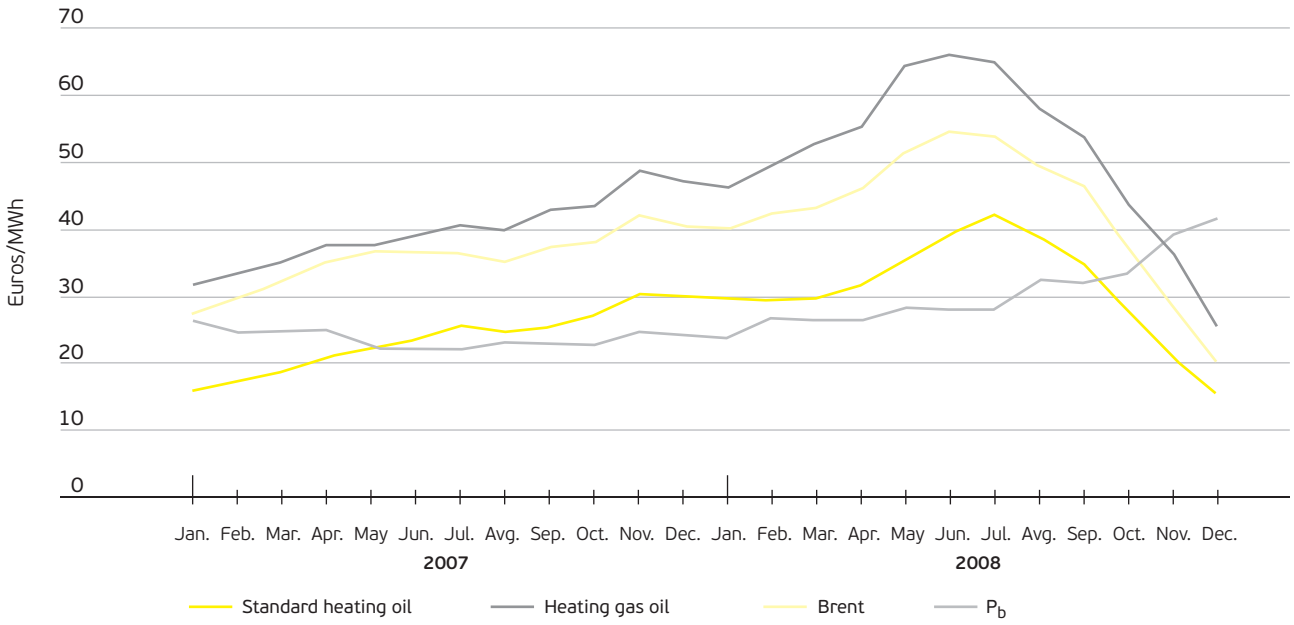
Figure 45:
Basic details about the transmitted and consumed amounts of natural gas



Source: Energy Agency

Figure 46 shows the trends of the prices for standard heating oil, heating gas oil, Brent oil and the basic price for natural gas on the transmission network (P_b) for 2007 and 2008. The prices for oil and oil products increased significantly in the last months of 2007 and the first months of 2008; this development was followed, with a delay, by an increase in the prices for natural gas. At the end of 2008 the prices for natural gas levelled out and then began to decrease.

Figure 46:
Trends of the prices for oil, oil products and of the basic price of natural gas



Source: Energy Agency

The consumption of natural gas varied on a monthly basis, the highest being in January, when 162 end customers on the transmission network consumed, for own use, 80 million Sm^3, while 124,262 end customers on the distribution network consumed 48 million of Sm^3 natural gas.

5.2 The regulation and the regulated services

Regulation is a process in which a regulatory institution formulates the rules for the operations of the regulated companies in such a way that they achieve, in a specified period, business, technical and other objectives set in advance. In 2008 the following two activities were regulated in Slovenia:

- the operation of the natural-gas transmission system,
- the operation of the natural-gas distribution system.

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 2008 there was no need for these services.

5.2.1 The regulation of the transmission and distribution activities

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

The regulated activity of operating the natural-gas distribution system was carried out as an optional local public service. In Slovenia, the following companies for natural-gas distribution provided this service:

- 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. o. o.,
- Plinstal, d. d.

In addition to the operation of the natural-gas distribution system, the companies for natural-gas distribution also provided other energy-related or market-based services.

The Energy Agency regulated the network charges for the gas transmission and gas distribution networks. In 2008 the network regulation was based on a one-year regulatory period.

5.2.1.1 The transmission of natural gas

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, to a distribution network for further distribution, or to the border MRSs of the other neighbouring transmission networks.

Across the transmission network, 1070 million Sm^3 of natural gas were transported to the customers in Slovenia, while 1291 million Sm^3 of natural gas were transported to the transmission networks of the neighbouring countries.

The transmission system operator provided for the transmission of natural gas across the high-pressure and medium-pressure gas networks. It operated, planned and maintained the transmission network for 162 end customers and 17 distribution companies distributing natural gas to the end customers on the distribution networks.

The year 2008 saw many investments in the transmission network. The fifth block of the Šoštanj TPP was also connected to this network. The secondary market for transmission capacities was developed.

5.2.1.1.1 The gas transmission network

The gas transmission network consists of 771 kilometres of pipelines with a nominal pressure of more than 16 bars, 209 kilometres of pipelines with a nominal pressure of less than 16 bars, 194 metering-regulation stations, 44 metering stations and a compressor station in Kidričevo.

The Slovenian gas transmission network is connected with the gas transmission networks of Austria (the Ceršak MRS), Italy (the Šempeter MRS) and Croatia (the Rogatec MRS). The transmission network is owned and operated by the transmission system operator.

To cover the demand of the customers in Slovenia, in 2008 a total of 5,702,048 Sm^3 of capacities were leased on a daily basis. The transmission was carried out within the leased capacities. The expected transmission of 1052 million Sm^3 of gas intended for the customers in Slovenia was exceeded by 1.7 percent. The transmission of natural gas intended for the transport to the transmission networks of the neighbouring countries increased, in comparison with 2007, by 5.9 percent.

The transmission capacities are heavily used, especially the transmission path in the direction Ceršak–Rogatec–Šempeter. The highest monthly utilization of this path was, at Ceršak, 89 percent, and the highest daily utilization was just below 96 percent.

The expected maintenance works on the transmission network caused supply interruptions totalling 60 hours. The longest time of an interruption was 24 hours and the shortest time was 0.3 hours. There were no unexpected interruptions. 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. The system operator sets the network charge for the transmission network in the Act Setting the Network Charge for the Gas Transmission Network, 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 gas transmission system operator finished the financial year 2008 with a net profit of 9.7 million euros, which was 7.5 percent less than the year before. At the end of 2008 the company had 144 employees, or one more than in 2007.

5.2.1.1.3 The ownership of the transmission system operator

The ownership of the transmission system operator has been the same since 1 January 2005, when Geoplin, d. o. o., set up Geoplin plinovodi, d. o. o. The latter is 100-percent owned by Geoplin, d. o. o., which is a supplier of natural gas. The system operator carried 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 2008 the transmission system operator allocated 32.6 million euros for the building and renovation of the transmission network. The operator financed 33 percent of the investments by using the amortisation costs, and the rest was financed from other own sources.

Investment activities were mainly focused on increasing the current transmission capacities of the gas transmission network, for which 88 percent of the investment funds were spent. The remaining funds were allocated for the renovation or improvement of the transmission network's reliability and for other activities. The construction of a 17-kilometres-long pipeline Šentrupert–Šoštanj was completed, and the building of the compressor station in Ajdovščina was continued. This year also saw the start of constructing a 19.4-kilometres-long section Kidričevo–Rogatec and the preparations for building a 14.5-kilometres-long pipeline Šmarje pri Jelšah–Slovenske Konjice.

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.

Table 21:
Review of activities related to the investments in the gas transmission network

Facility	Activities in 2008	Deadline for completed constructions
Pipeline R25D Šentrupert–Šoštanj	Completion of the construction	
Compressor station Ajdovščina	Construction in progress	2010
Pipeline M1/1 Kidričevo–Rogatec	Start of the construction	2010
Pipeline M1/1 Ceršak–Kidričevo	Call for construction tenders	2011
Pipeline M2/1 Rogaška Slatina–Trojane	Preparation of the detailed documentation	2012
Pipeline M2/1 Trojane–Vodice	Preparation of the detailed documentation	2012
Pipeline M5 Vodice–Jarše	Preparation of documentation	2012
Pipeline R51 Jarše–Ljubljana CHP	Preparation of documentation	2012
Compressor station Kidričevo – extension	Preparation of documentation	2012/2014
Pipeline R25A Trojane–Hrastnik	Preparation of documentation	2013 or in line with the user's decision
Pipeline R21A Šmarje pri Jelšah–Slovenske Konjice	Obtained a building permit, selected a building contractor	2009
Pipeline mesh R21AZ Slovenske Konjice–Zreče	Preparation of documentation	2015
Pipeline M6 Ajdovščina–Lucija	Preparation of documentation	2012/2013

Sources: Geoplin plinovodi, Energy Agency

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, carried out as a service of a gas distribution system operator, is an optional local public service. It 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. 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 2008 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. In 2008 there were 17 gas distribution system operators active in 68 local communities. In another 10 local communities the concessions for the provision of the service of the gas distribution system operator were awarded; however, the gas distribution was not carried out, as the distribution networks had not yet been constructed. In one of these local communities a new gas distribution system operator was selected in 2008 – RP Investicije, d. o. o.

Table 22:
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. o. o.	Concession	Hoče - Slivnica, Maribor, Ruše, Šentilj
Plinstal, d. d.	Concession	Žirovnica

Source: Energy Agency

Table 23:
Local communities in which the service of operating a distribution network was not yet carried out in 2008, while the concessions were awarded

Company	Form of organisation	Municipalities in which the service is not yet carried out
Istrabenz plini, d. o. o.	Concession	Litija, Koper
Petrol Plin, d. o. o.	Concession	Cerklje na Gorenjskem, Gornja Radgona, Slovenske Konjice
Plinarna Maribor, d. o. o.	Concession	Miklavž na Dravskem polju, Rače - Fram, Selnica ob Dravi, Starše
RP Investicije, d. o. o.	Concession	Šenčur

Source: Energy Agency

In Slovenia the distribution of natural gas is carried out by the companies that have fewer than 100,000 customers connected to a distribution network. For this reason the legal unbundling of services is not required, and only the unbundling of accounts for individual energy-related activities is sufficient. This means that the distribution companies have to manage separate accounts for each energy-related activity.

In 2008 Slovenia had a total of 3770 kilometres of gas-distribution pipelines with different pressure levels, which was 244 kilometres more than in 2007. The majority, as much as 52 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 24). The distribution lines, together with the corresponding facilities, are mainly owned by the system operators.

Table 24:
Distribution lines

Length of the network with a pressure level between 4 and 16 bar	34 km
Length of the network with a pressure level between 100 mbar and 4 bar	1,968 km
Length of the network with a pressure level of up to 100 mbar	1,768 km
Number of metering stations	12
Number of metering-regulation stations	159

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 was, on average, completed in five hours, only in some cases did it take a few days. Unexpected interruptions were mainly caused by damage to the networks. There was a total of 58 unexpected supply interruptions, the total duration of which was 199 hours.

5.2.1.2.1 The customers connected to the distribution networks

In 2008 a total of 124,262 gas customers, in 68 local communities, were connected to all the distribution networks. The distribution system operators distributed 301 million Sm^3 of natural gas to these customers.

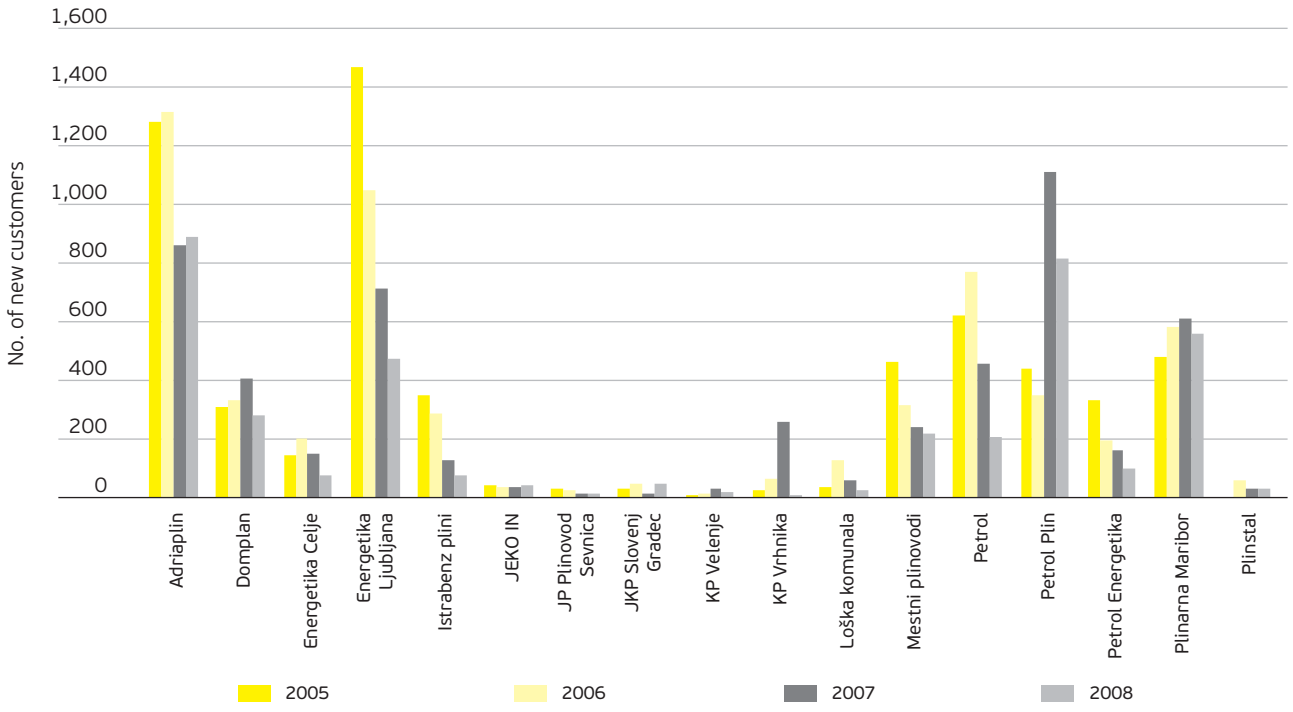
As a result of the development of the distribution networks, the number of new customers of natural gas has increased. The customers wishing to connect to a gas distribution network have to obtain the connection approval necessary for making a physical connection to a network. In 2008 the distribution system operators connected 3838 new customers.

On average, the distribution system operators issue a connection approval in 24 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 8 days on average.

In 2008 the use-of-network prices charged to the customers connected to a gas distribution network were regulated.

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^3 of natural gas per year; however, these customers consume only 35 percent of the total consumption of the customers connected to a distribution network.

Figure 47:
Numbers of new customers on the distribution networks for 2005–2008



Source: Energy Agency

5.2.1.2.2 The business operations of the distribution system operators

In 2008 ten distribution companies had a total net profit of 3,947,079 euros, made with the service of distribution-system operation. The remaining seven companies had a total net loss amounting to 1,510,821 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.

Table 25:
Ownership structure of the companies for gas distribution

Ownership of distribution 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
Total	17

Source: Energy Agency

Distribution networks are mostly owned by the system operators. All those system operators that operate distribution networks in line with the Slovenian Accounting Standard 35 and, by 31 December 2008, did not determine their mutual relations with the owner of a distribution network, have to determine them by the end of 2009 (lease agreements, network acquisition, etc.).

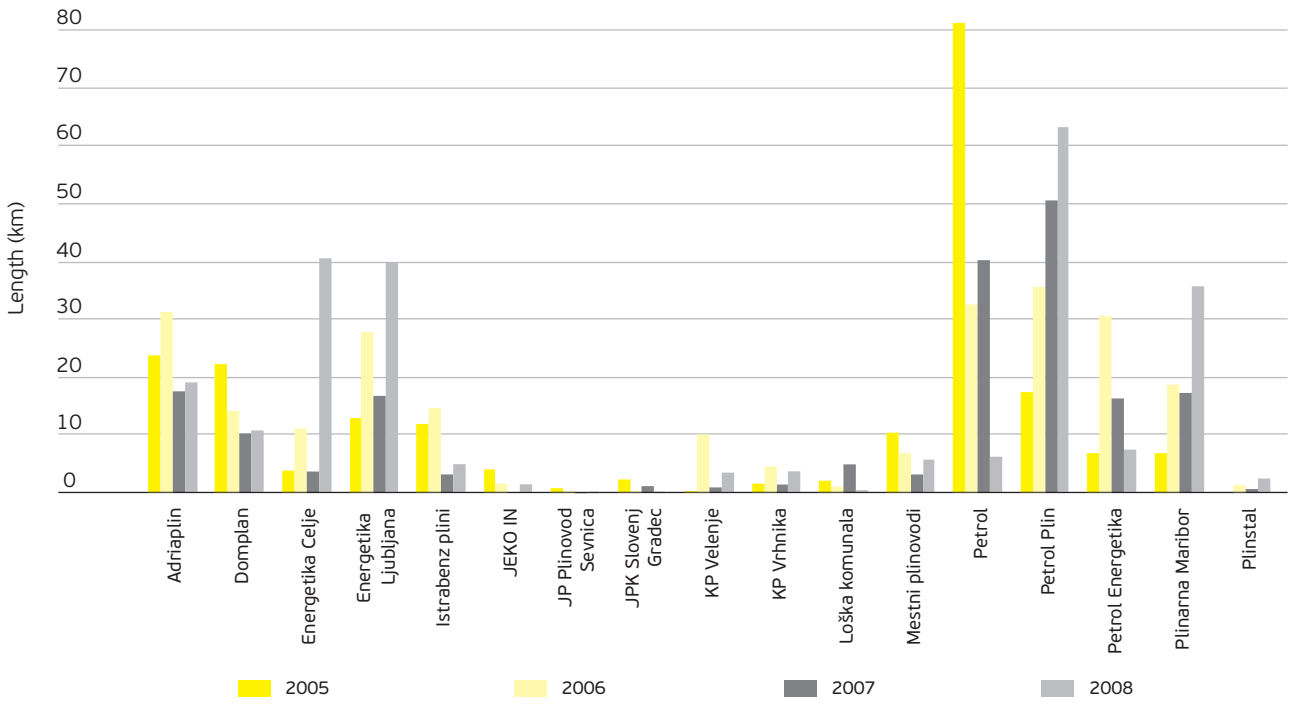
5.2.1.2.4 The investments in the distribution networks

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 2008, in line with the new concessions, the system operators in eight local communities started to build, or were getting ready to build, new distribution networks, as well as extending the existing networks and connecting new customers.

In 2008 a total of 244 kilometres of the new gas pipelines of the distribution networks were constructed, which was 30 percent more than in 2007.

Figure 48:
Length of new distribution networks in 2005–2008



Source: Energy Agency

5.2.1.3 The network charges for the gas transmission and distribution networks

The price for the use of networks consists of the network charge and the supplement, and it is used for financing the system operators and covering other costs. The network charges for the transmission and distribution networks are set by the system operators, with 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 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.

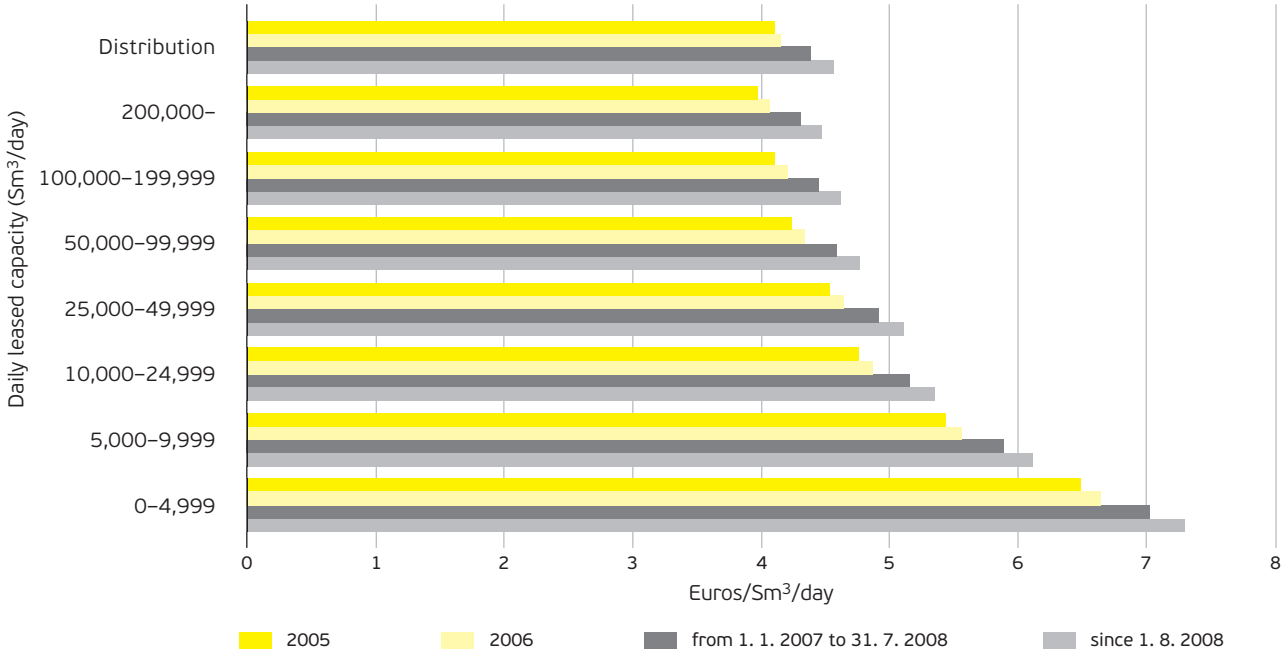
The two methodologies for setting the network charge determine the mode, conditions and method of setting the network charge, and the criteria for establishing the eligible costs of the system operator. The method of price capping is used when setting the network charge. The regulatory period is determined 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 2008, operating expenses, the costs for the gas losses in a network, the amortisation costs, and the system operator's return on assets were considered.

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 transmission network is, for individual customer groups, unified for the whole territory of Slovenia, as the postage-stamp method is used for charging for the network charge. The charge depends on the leased contractual transmission capacity, the transported amount of natural gas and the type of metering device used.

Figure 49:
Movements of the prices for the gas transmission by customer group for 2005–2008



Source: Energy Agency

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^3/day/year). Until 31 July 2008 the same prices for gas transmission as in 2007 were used. However, on 1 August 2008 these prices increased by an average of 3.8 percent. The prices reflect the eligible costs of the system operator, though they were not set on the basis of benchmarking foreign system operators' prices.

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 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.

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

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

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

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

In 2008 a total of 34 acts setting the network charges for the gas distribution networks were implemented in 68 local communities. Of these, the Energy Agency issued, on the basis of Article 87a of the EA, eight price-lists for five gas distribution system operators active in nine local communities. The remaining 12 system operators issued 26 price-lists for 59 local communities. In addition, at the end of 2008, the Energy Agency issued approval to an amended system operator's price-list, taking effect on 1 January 2009 and applying to 17 local communities.

The publishing of an act setting the network charge provides the basis for disclosing the use-of-network price separately from the price for natural gas on the customers' bills. The Energy Agency has established that, by the end of 2008, only one gas distribution system operator did not provide for a separate disclosure of the use-of-network price on the bills issued to its customers.

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.

5.2.1.4 The balancing

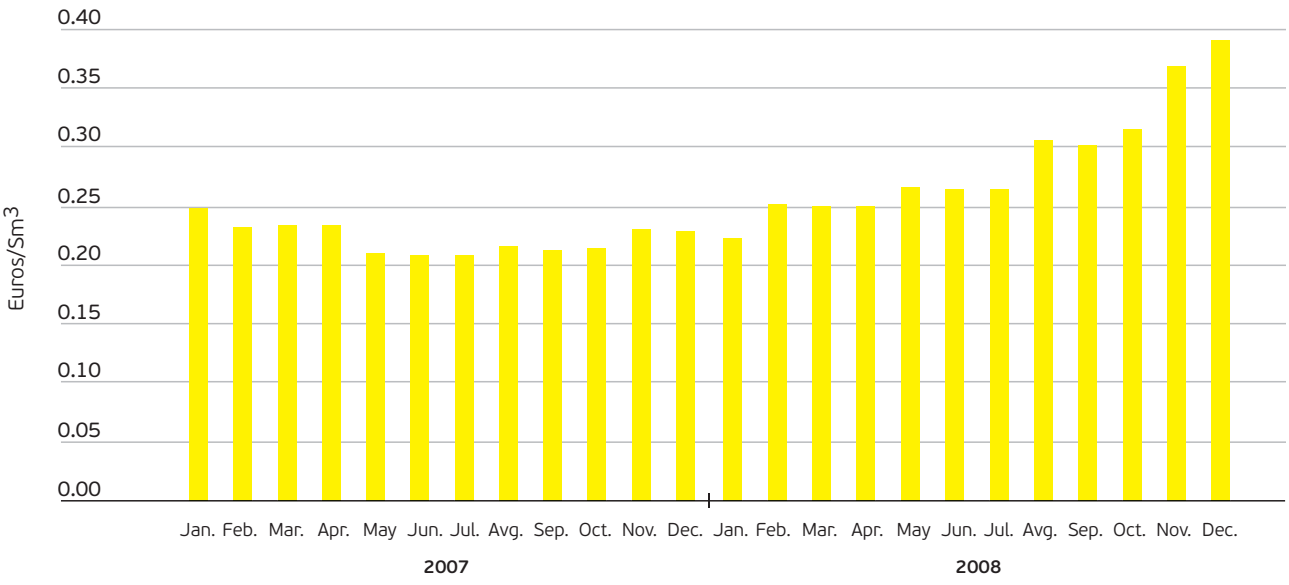
To ensure a reliable operation of the transmission network, the transmission system operator manages the imbalance amounts of individual users that occur because of the discrepancy between expected receipts and deliveries of natural gas.

The balancing involves the transmission system operator and the balance-responsible parties. In 2008 two balance groups operated in Slovenia on the basis of the Ordinance on Natural-Gas Market Operations. The relations between a balance-responsible party and the transmission system operator are determined with the Ordinance on Natural-Gas Market Operations, while the rules for the cooperation between the balance-responsible parties and the balance-group members are determined with a mutual agreement.

Establishing, charging for and balancing of the above imbalance amounts, as well as ensuring the required amounts of natural gas for the transmission system operator's own use were, in 2008, carried out in line with the Act Determining the Methodology for Charging for the Network Charge for the Gas Transmission Network.

The transmission system operator charged for the gas required for balancing imbalance amounts, amounting to 2.7 percent of the Slovenian annual gas consumption in 2008, at the regulated price P_B (Figure 50). In 2008 the average regulated price for balancing amount imbalances was 0.2884 euros/Sm^3.

Figure 50:
Movements of the price for natural gas required for the company's own use, for balancing imbalance amounts and for specialised ancillary services (P_B) in 2007 and 2008



Source: Energy Agency

In 2008 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 (fuel for 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 has carried out its service within an independent legal entity since 2005, and it is 100-percent owned by a domestic legal entity supplying natural gas to Slovenia. The gas transmission system operator owns the assets required for the provision of this service. In 2008 we did not notice any special effects of legal unbundling on the investments and supply reliability in comparison with the previous years. The investments in the gas transmission network are described, in detail, in section 5.2.1.1.4.

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 25 in Section 5.2.1.2.3 shows the ownership structure of the gas distribution system operators. In 2008 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.

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

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 2008 the utilisation of the metering-regulation station in Ceršak was similar to its utilisation the year before. A significant change was noticed only in the last two months of the year, when its utilisation was much lower. The border regulation station in Šempeter was, in 2008, used more than in 2007. In February its utilisation was three times larger than in 2007. In spite of this, the utilisation of the regulation station in Šempeter was much lower than the utilisation of the other border regulation stations. With respect to the metering-regulation station in Rogatec, increased utilisation, in comparison with 2007, was noticed in the second half of 2008.

The 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.

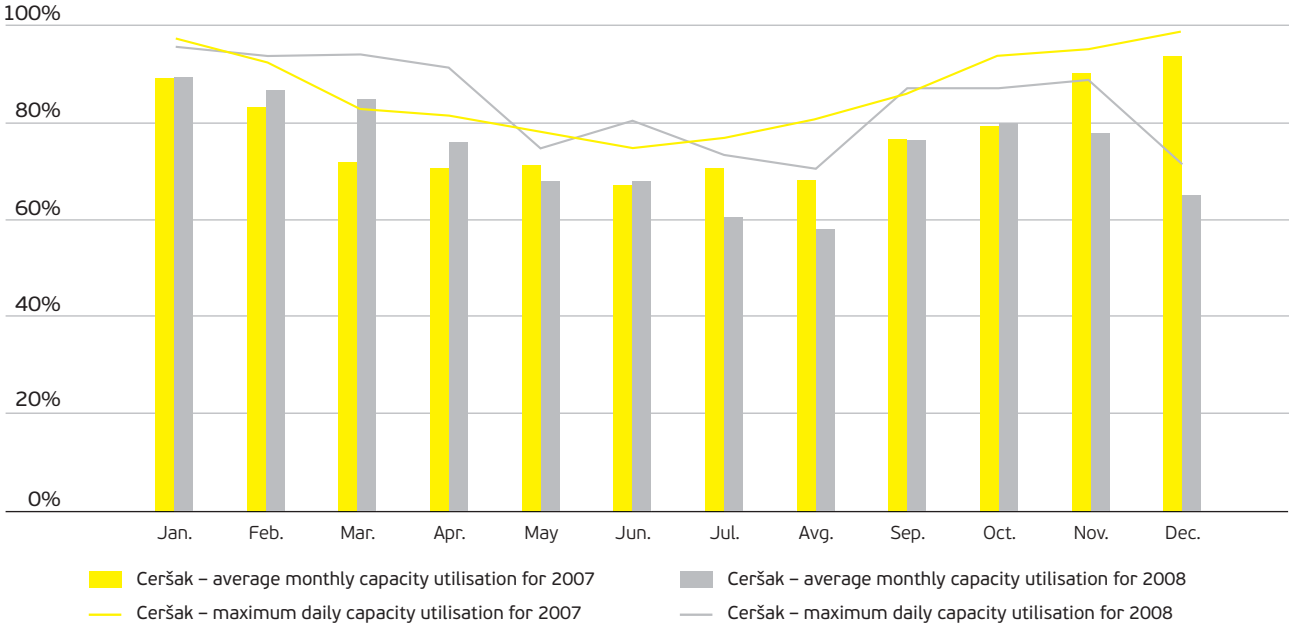
In 2008 the average annual utilisation of the capacity of the most important border-entry metering-regulation station, Ceršak, was 74 percent and the average monthly utilisation of the entry-exit station Rogatec was 67 percent. Figures 51 to 53 show the highest daily utilisation and the average monthly utilisation of individual border metering-regulation stations. Table 26 shows the utilisation of the transmission capacities at the border metering-regulation stations.

Table 26:
Utilisation of the capacity at the border metering-regulation stations

Location		Nominal capacity*	Capacity utilisation at different temperatures (%)		
		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 84%	up to 84%	up to 84%

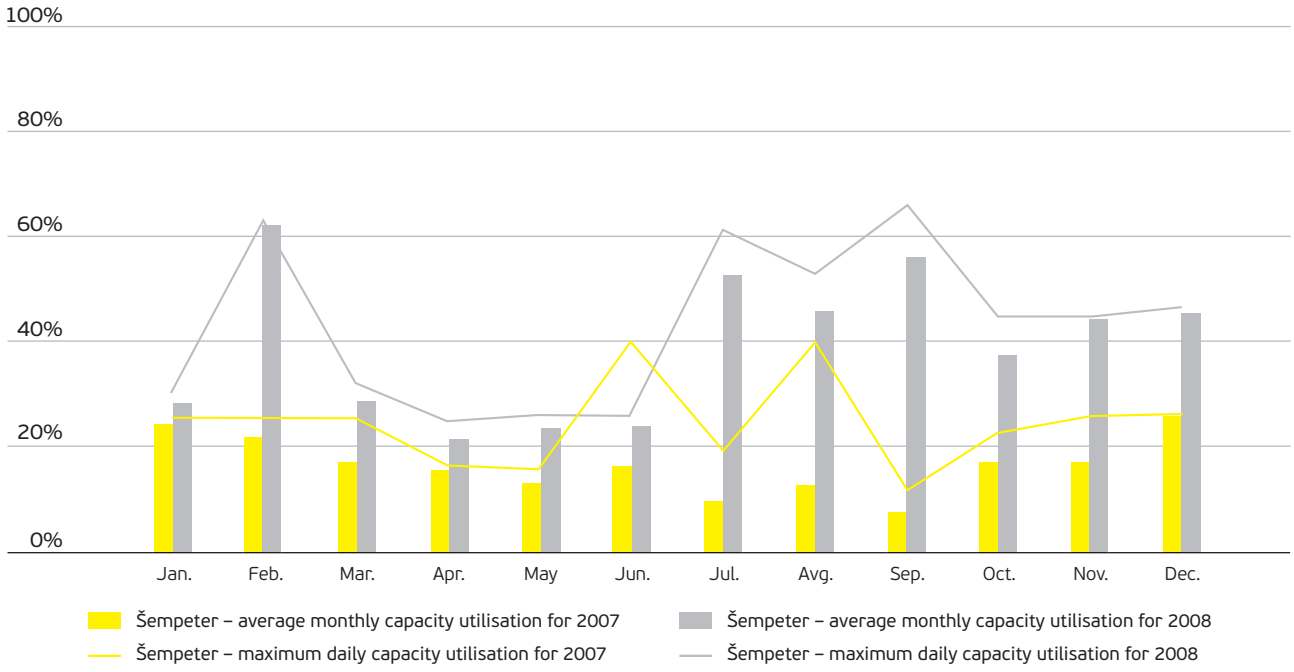
* Nominal capacities are the maximum flows at the border metering-regulation stations under optimum operational conditions.
Source: Geoplin plinovodi

Figure 51:
Maximum daily and average monthly capacity utilisation of the metering-regulation station Ceršak



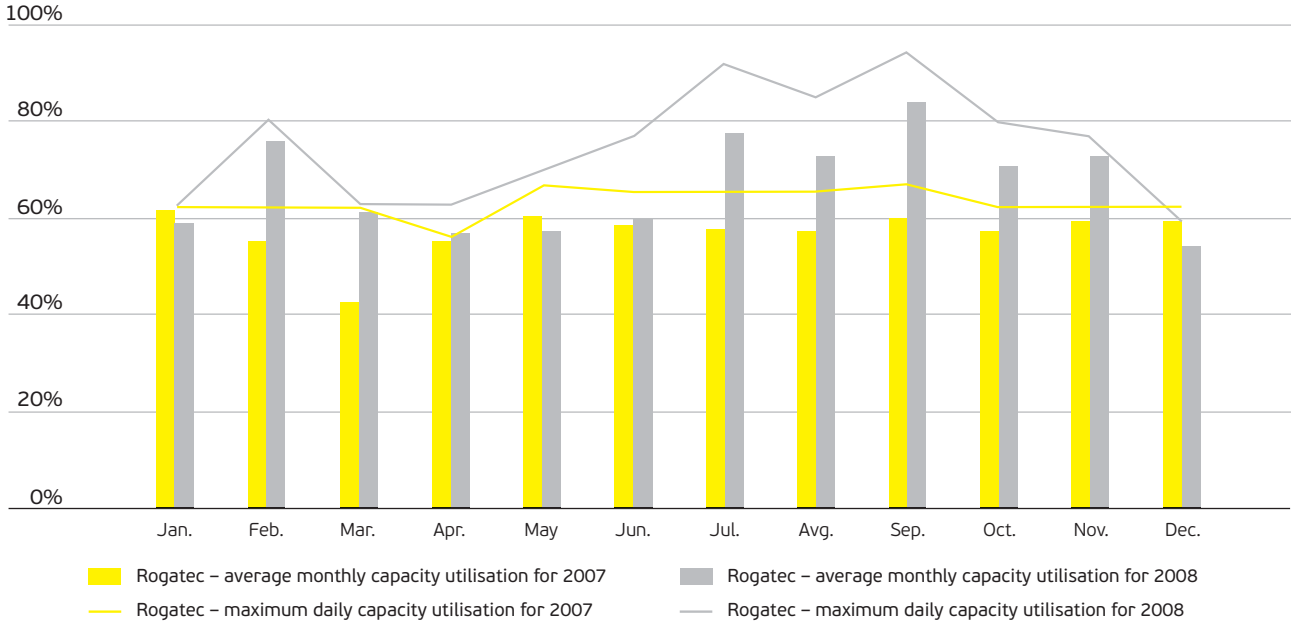
Source: Geoplin plinovodi

Figure 52:
Maximum daily and average monthly capacity utilisation of the metering-regulation station Šempeter



Source: Geoplin plinovodi

Figure 53:
Maximum daily and average monthly capacity utilisation of the metering-regulation station Rogatec



Source: Geoplin plinovodi

5.2.3.2 The methods of setting the maximum technical capacity

The maximum technical transmission capacity is the one that is physically available for the transmission of natural gas from a selected entry point to an exit point. When setting the maximum technical capacity the transmission system operator considers the technical capacities of all the transmission components of the pipeline system, the configuration and the operational characteristics of the entire system, and its operational boundary conditions.

When setting the technical capacities of the transmission system, the technical capacities of a metering-regulation station and of a compressor station are dealt with separately.

The technical capacities of the metering-regulation stations are set on the basis of the characteristics of the used flow-and-pressure regulators, the metering equipment, the fittings, the pipelines, the heat exchangers, the filters, the separators, and the installed heat capacity of the heaters.

The technical capacities of the compressor stations depend mainly on the flow-and-pressure characteristics of the gas compressors and on the operational characteristics and the power of the propulsion gas turbines. When considering the compression stations, we also have to take into account their available operational areas, and ensure that the compressor units operate within the limits of operational stability.

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 auto-learning, 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.

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. With respect to managing transmission capacities, the system operator also started to use the Rules for the Procedure of Implementing Regulation (EC) No 1775/2005 on the conditions for access to the natural-gas transmission networks, which was adopted in 2008.

Transmission capacities were allocated to all the interested users of the transmission network. If the transmission system operator had received requests for the capacities in an amount larger than allowed by the technical network restrictions, it would have used the allocating mechanism based on the pro-rata principle.

In 2008 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.

Transmission capacities were allocated in line with 12 contracts for long-term network access.

An important innovation relating to the allocation and management of the transmission capacities was the secondary market for natural gas. However, in spite of the activities noted in the secondary market, we will only be able to assess its effects at the end of 2009.

Other innovations relating to managing capacities, brought about by the Rules for the Procedure of Implementing Regulation (EC) No 1775/2005 on the conditions for access to the natural-gas transmission networks, were the primary market for short-term uninterruptible capacities and the primary market for short-term interruptible capacities.

5.2.3.4 The congestion-management mechanisms

Congestion on the transmission network 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 actual supply requires all of the technical network's capacities.

The most congested part of the Slovenian transmission network is in the direction of Ceršak – pipelines M1 and M2 – where the supply of natural gas from the east (Russian and Austrian supply sources) is carried out.

To manage contractual congestion, two new mechanisms, in addition to the existing ones, were introduced to Slovenia. The first mechanism is the primary market for short-term interruptible capacities. In the case of a contractual congestion, this mechanism allows the selling of the leased and unused transmission capacities for short periods. The other mechanism is the secondary market allowing the users of the gas transmission network to trade, among themselves, with small amounts of leased and unused transmission capacities. This trading, which was started at the end of 2008, indirectly prevents contractual congestion.

In 2008 the physical congestion of the Slovenian gas transmission network was more serious than the contractual congestion. The highest daily utilisation rate indicating physical congestion was noted at three important network points. Here it has to be pointed out that, in two cases, a 100-percent utilisation was caused by the consumption of industrial customers. In one case, the congested point was located between the entry point in Ceršak and the compressor station in Kidričevo. If this trend continues, the mechanisms for reducing physical congestion will have to be applied.

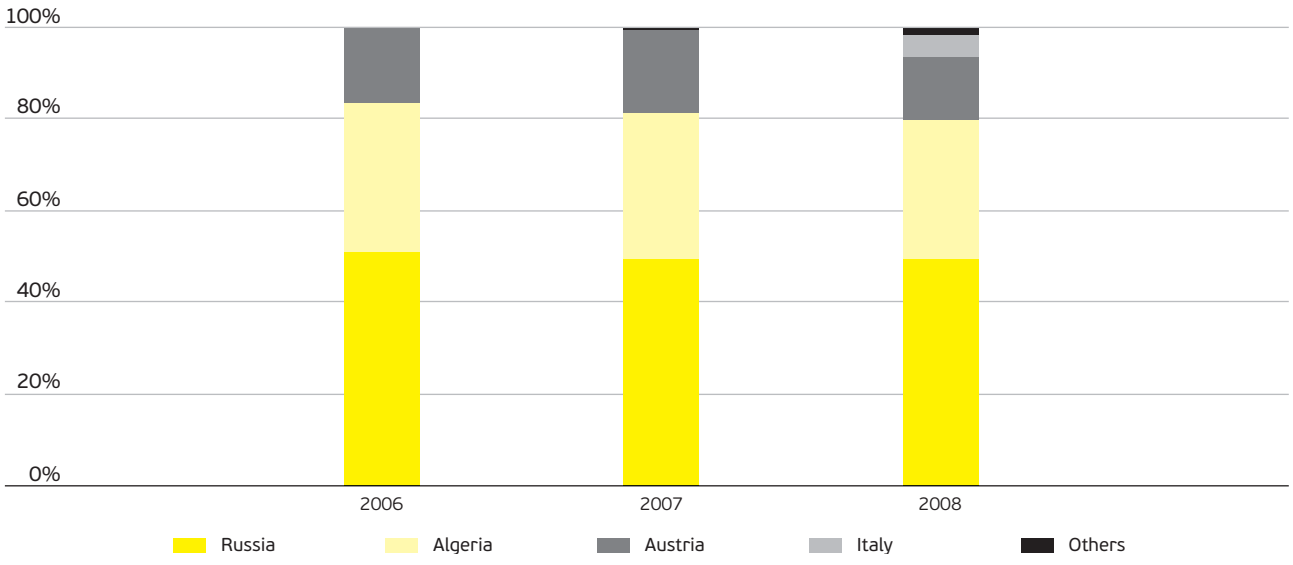
5.3 The market-based activities and competition

The supply of natural gas to customers is a market-based service. On 1 July 2007 the market for natural gas fully opened allowing the household customers to also choose their suppliers. The suppliers were offering natural gas on the basis of their supply conditions.

5.3.1 The sources of natural gas and the wholesale market

Slovenia depends on natural gas supplied from abroad, as it does not have its own sources of natural gas. In 2008 most of it, as much as 50 percent, was supplied from Russia, 30 percent from Algeria, 14 percent from Austria and 6 percent from Italy.

Figure 54:
Sources of natural gas



Sources: Companies' data

In 2008 the demand of customers slightly decreased with respect to 2007, as the suppliers supplying natural gas to Slovenia sold 1077 million Sm^3 of natural gas, which was 4 percent less than the year before.

Table 27:
Trends in imported gas supplies to Slovenia, intended for domestic consumption, for 2006–2008 in Sm^3

Supplier	2006	2007	2008
Geoplin, d. o. o.	1,097,584,249	1,117,226,504	1,018,856,140
Adriaplin, d. o. o.			54,337,731
Petrol Plin, d. o. o.	3,057,035	2,801,091	3,430,474
Total	**1,100,641,284**	**1,120,027,595**	**1,076,624,345**

Sources: Companies' data

The largest importer of natural gas was Geoplin, d. o. o. In 2008 its share of the total imports was 94.6 percent. On 1 January 2008 Adriaplin, d. o. o, a new importer of natural gas, began to operate in the Slovenian market. Petrol Plin, d. o. o., supplied natural gas to its customers through the gas suppliers in Italy and Croatia. The importers were buying natural gas on the basis of long-term contracts.

In 2008 four suppliers of natural gas operated in the Slovenian wholesale market. The share of Geoplin, d. o. o., in the wholesale market was 80.5 percent. Table 28 shows the market shares and the HHIs (the Hirshmann–Herfindahl index) for the wholesale market.

Table 28:
Market shares and the HHIs relating to the wholesale gas market

Company	Share	HHI
Enos, d. o. o.	0.6%	0
Geocom, d. o. o.	0.2%	0
Geoplin, d. o. o.	80.5%	6,480
Petrol Energetika, d. o. o.	18.6%	346
Total	**100.0%**	**6,827**

Sources: Companies' data, Energy Agency

The sales of natural gas to other gas suppliers were carried out on the basis of long-term and short-term contracts. About 87 percent of the gas amounts were supplied on the basis of long-term contracts.

There is no organised gas market in Slovenia, where the demand for and the supply of certain standard products would meet. In 2008 no gas-release mechanisms were introduced.

5.3.2 The supply and the retail market

The participants in the Slovenian retail market are the suppliers and customers of natural gas. In comparison with 2007, the shares of the suppliers did not change in 2008. Geoplin, d. o. o., had a 70-percent share of the Slovenian retail market, while the suppliers to the customers on the distribution networks had a total of 30 percent of the market. Table 29 shows the market shares and the HHIs relating to the retail market.

The retail market in Slovenia consists of the customers connected to the gas transmission network, and the customers connected to the gas distribution networks.

Table 29:
Market shares and the HHIs relating to the retail gas market

Company	Share	HHI
Geoplin, d. o. o.	70.2%	4,932
Energetika Ljubljana, d. o. o.	7.2%	52
Adriaplin, d. o. o.	5.5%	30
Plinarna Maribor, d. o. o.	5.4%	29
Energetika Celje, d. o. o.	2.7%	7
Others	8.9%	80
Total	**100.0%**	**5,131**

Sources: Companies' data, Energy Agency

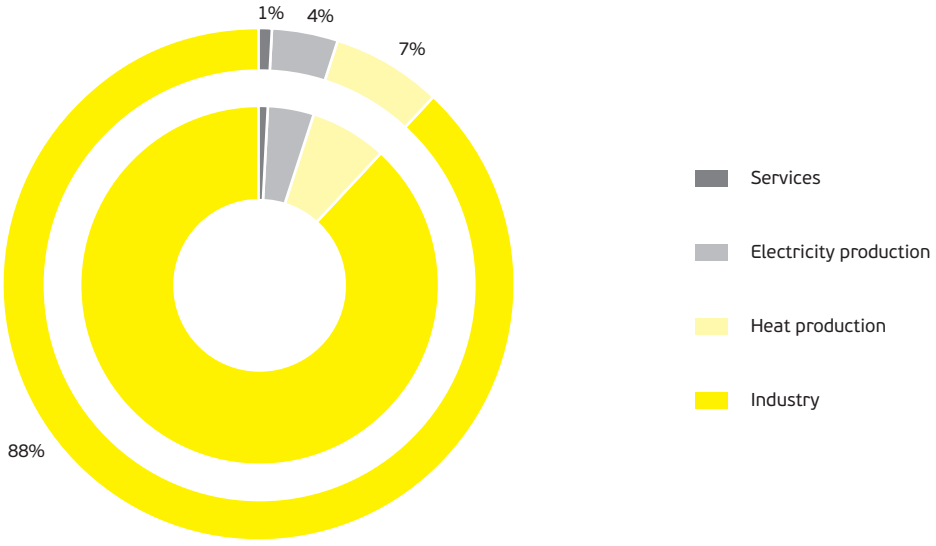
5.3.2.1 The customers connected to the transmission network

In 2008 a total of 158 large industrial customers consuming 773 million Sm^3 of gas were connected to the transmission network. Geoplin, d. o. o., had a 99.7-percent share of the supply to the customers connected to the transmission network.

As a result of the entry of a new supplier in 2008, a supplier switch carried out by an industrial customer connected to the transmission network took place.

As the supply continued to be reliable and there was no abuse of the dominant position of Geoplin, d. o. o., no measures for the promotion of competition, such as a programme for releasing long-term supply contracts, were taken.

Figure 55:
Structure of gas supply to the end customers connected to the transmission network by purpose of use



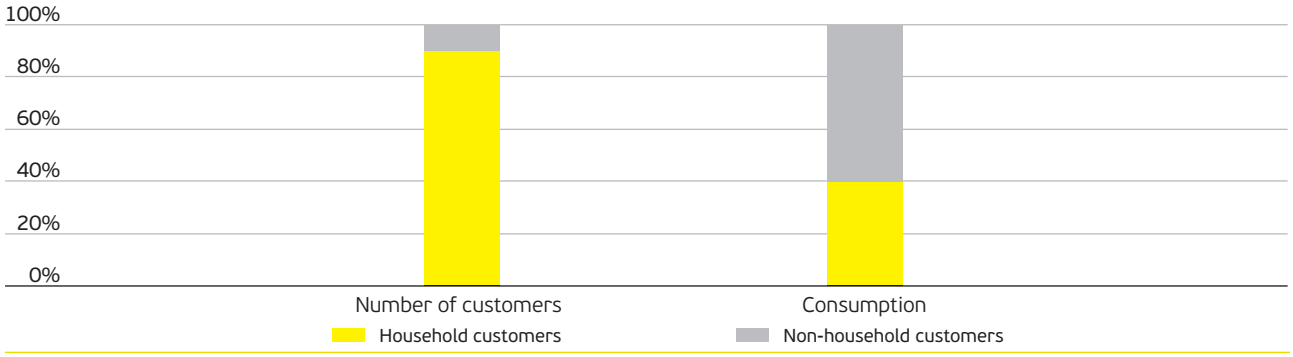
Sources: Companies' data, Energy Agency

5.3.2.2 The customers connected to the distribution networks

Household and non-household customers are connected to the gas distribution networks. The suppliers supplied natural gas in line with their supply conditions. The supply of natural gas to the customers connected to the distribution networks was carried out by the companies for gas distribution. In 2008, as with the year before, 17 distribution companies operated in the Slovenian gas market; these companies are listed in Table 22 (section 5.2.1.2).

In 2008 there were 124,262 customers that were supplied with 300 million Sm^3 of natural gas. In comparison with 2007, the number of these customers decreased by 375; however, their consumption was increased by 11 percent. The number of customers decreased because, in 2008, the method of classifying the customers, or the consumption points, was changed in the case of one distribution system operator. With respect to the total number of customers, households amount to 90 percent of all customers, while their consumption accounts for only 40 percent of the total consumption of the customers connected to the distribution networks.

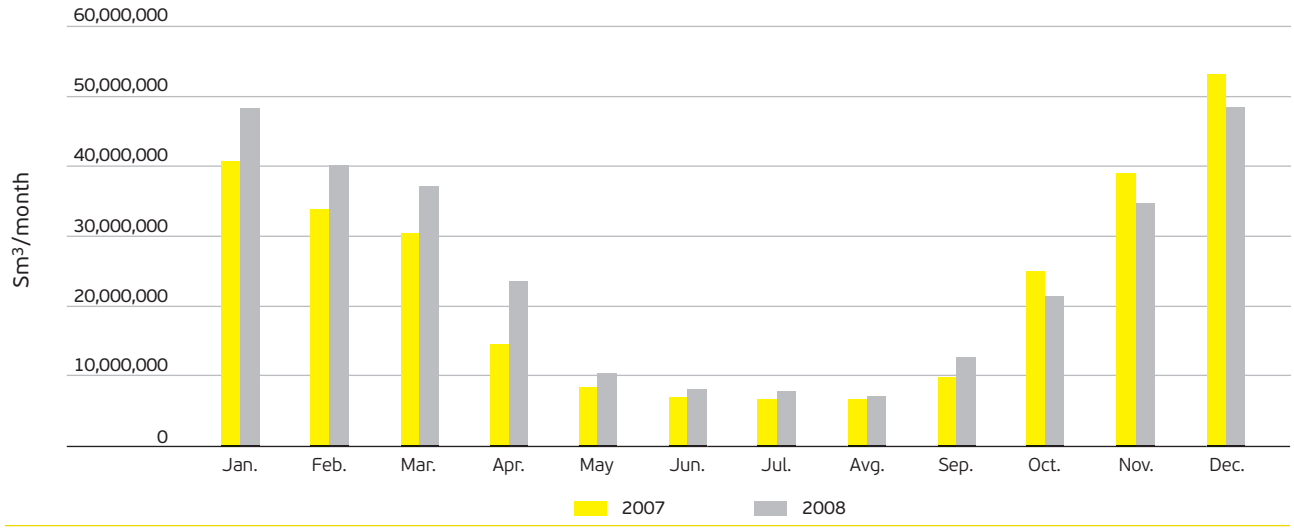
Figure 56:
Ratio between the number of customers on the distribution networks and their consumption



Sources: Companies' data, Energy Agency

Figure 57 shows the movement of gas consumption on the distribution networks by month.

Figure 57:
Movement of gas consumption on the distribution networks by month

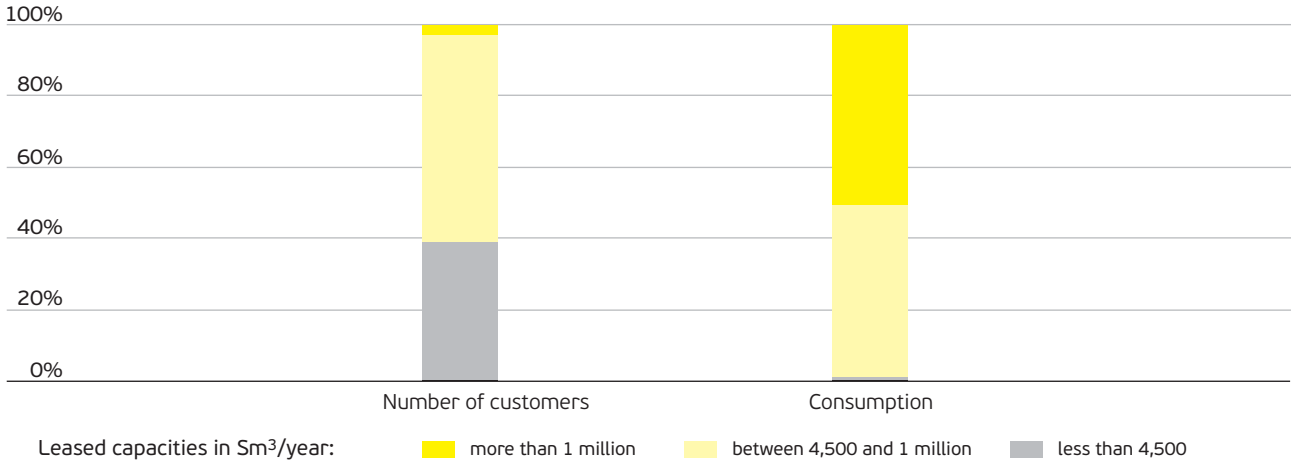


Sources: Companies' data, Energy Agency

In 2008 natural gas was supplied by public companies for gas distribution and by private-law entities. Adriaplin, d. o. o., has ownership links with the supplier Geoplin, d. o. o., which has an 11-percent share of the former.

In 2008 only 69 out of 124,262 customers connected to the gas distribution networks switched supplier. The expected annual consumption of the customers that changed supplier was 5.6 million Sm^3 of natural gas, which was 1.8 percent of the total gas consumption of the customers connected to the distribution networks. Figure 58 shows the ratio between the number of customers connected to the distribution networks that switched supplier and their consumption with respect to the leased capacities.

Figure 58:
Ratio between the number of customers that switched supplier and their consumption with respect to the leased capacities



Sources: Companies' data, Energy Agency

5.3.2.3 The market shares of the retail market

In 2008 the retail market had 2 suppliers delivering natural gas to 162 end customers connected to the transmission network and 17 suppliers delivering gas to 124,262 end customers connected to the distribution networks.

The market shares of individual suppliers in the retail market differ with respect to the amount of annual consumption of their suppliers. When presenting the market shares of individual suppliers, the customers are classified in the following groups with respect to the amount of their annual consumption:

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

In 2008 Slovenia had a total of 124,424 end customers of natural gas, but only 118 of them consumed more than a million Sm^3 of gas per year. These customers consumed a total of 748 million Sm^3 of gas or 73 percent of the total consumption. Geoplin supplied 92 percent of these customers.

Table 30:
HHIs for the largest suppliers to the customers with an annual consumption of more than a million Sm³ of gas

Company	Share	HHI
Geoplin, d. o. o.	92.1%	8,482
Plinarna Maribor, d. o. o.	3.1%	10
Adriaplin, d. o. o.	1.5%	2
Energetika Celje, d. o. o.	1.4%	2
Domplan, d. o. o.	0.9%	1
Others	1.0%	1
Total	**100.0%**	**8,498**

Sources: Companies' data, Energy Agency

The HHIs show that Geoplin, d. o. o., had a dominant position in this customer group.

In 2008 the group of customers with an annual consumption of between 4500 and a million Sm³ of gas, included 4143 customers, whose consumption was 166 million Sm³ of gas or 16 percent of the total consumption. Energetika Ljubljana, d. o. o., had the largest market share in this customer group.

Table 31:
HHIs for the largest suppliers to the customers with an annual consumption of between 4500 and a million Sm³ of gas

Company	Share	HHI
Energetika Ljubljana, d. o. o.	19.9%	395
Adriaplin, d. o. o.	18.4%	339
Geoplin, d. o. o.	16.1%	259
Plinarna Maribor, d. o. o.	11.5%	131
Mestni plinovodi, d. o. o.	6.0%	36
Others	28.1%	791
Total	**100.0%**	**1,952**

Sources: Companies' data, Energy Agency

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

The customers with an annual consumption of less than 4500 Sm³ of gas mainly include the households, small industrial customers and commercial customers. The number of these customers is over 120,000, but their total consumption in 2008 was 104 million Sm³ of gas or 10 percent of the total gas consumption.

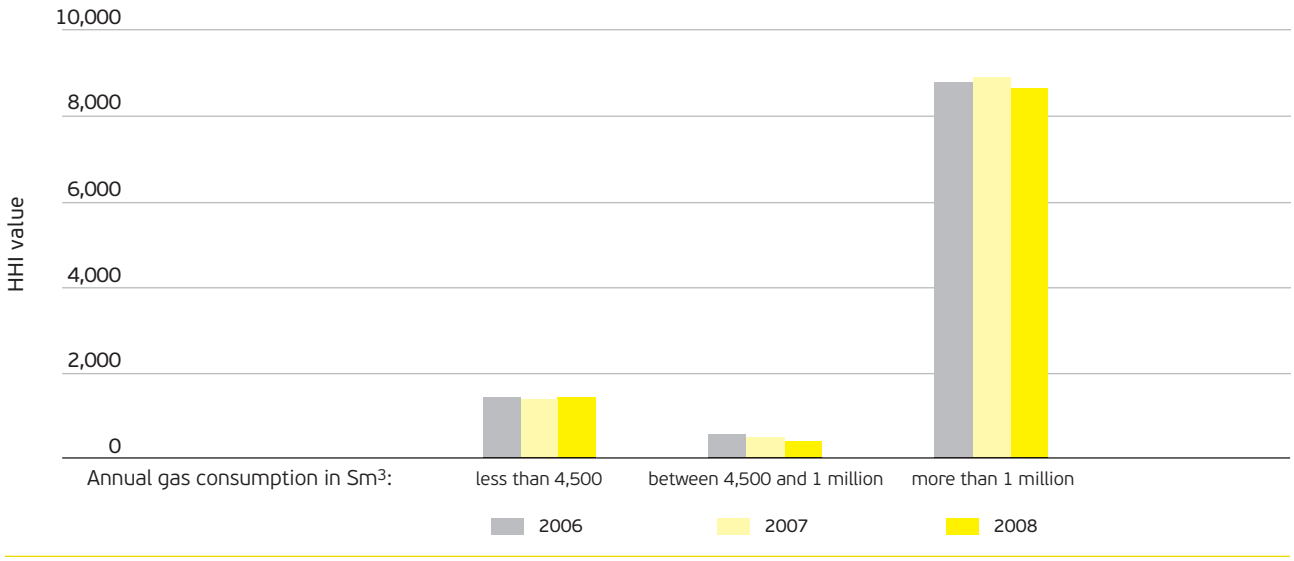
Table 32:
HHIs for the largest suppliers to the customers with an annual consumption of up to 4500 Sm³ of gas

Company	Share	HHI
Energetika Ljubljana, d. o. o.	37.5%	1,403
Adriaplin, d. o. o.	13.8%	189
Plinarna Maribor, d. o. o.	12.3%	152
Energetika Celje, d. o. o.	6.9%	47
Mestni plinovodi, d. o. o.	6.1%	37
Others	23.5%	551
Total	**100.0%**	**2,379**

Sources: Companies' data, Energy Agency

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

Figure 59:
Movement of the HHIs with respect to the annual gas consumption for 2006–2008



Source: Energy Agency

5.3.2.4 The prices for natural gas in Slovenia

The final price for natural gas consists of the regulated fraction, the use-of-network price, the market-based fraction, the price for natural gas, and the taxes.

By selecting their suppliers, the customers can influence only one fraction of the final price, i.e., the price for natural gas that the suppliers set on the market-based principle. The remaining fractions of the final price for natural gas are regulated, being set by the Energy Agency (the network charge) and the government (the supplements to the network charge).

Until July 2007 the final prices for the household customers were formed by the municipalities and they were different for individual areas. After the full opening of the market for natural gas in the middle of 2007, the suppliers have been independently setting the gas prices, while the system operators have been setting the use-of-network prices, with approval from the Energy Agency.

The year 2008 was characterised by an intense increase in the gas prices following, with a delay, the prices for petroleum derivatives. Natural gas was the most expensive at the end of 2008 due to the high prices for petroleum derivatives in the first half of this year. At the end of 2008 the prices for natural gas were higher, by over 40 percent, than at the end of 2007.

The year 2007 saw an amendment to Directive 90/377/EC regulating the new methodology for collecting the data about the prices for electricity and natural gas charged to industrial end-users. The prices below have been calculated and presented in line with the new methodology used by Eurostat and the Statistical Office of the Republic of Slovenia. The new standard customer groups of typical customers were also formed in line with the above methodology.

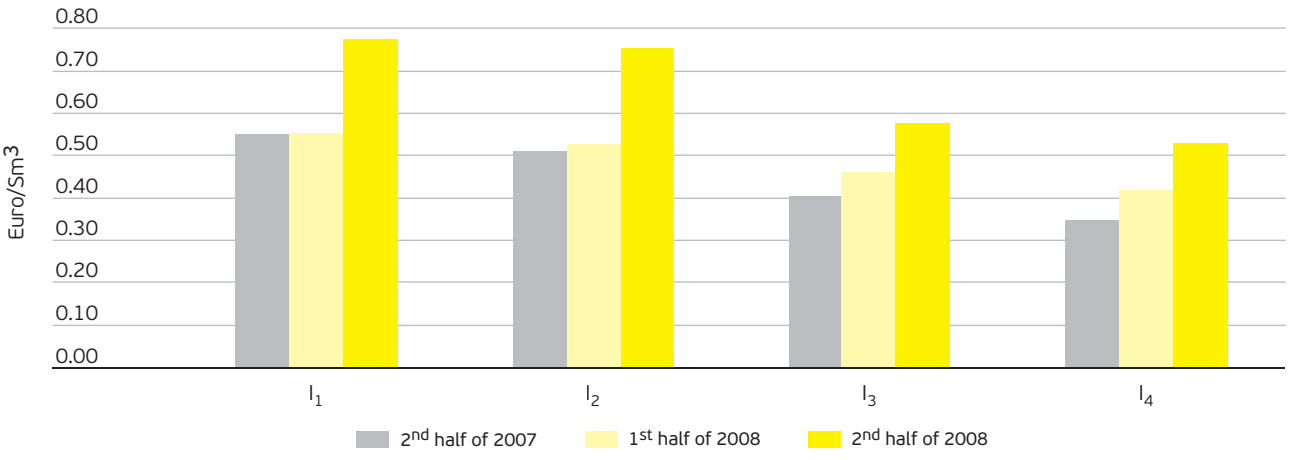
Industrial customers of natural gas have been classified in standard customer groups, having been defined with respect to the interval of an annual consumption. They are shown in Table 33.

Table 33:
Standard customer groups of industrial customers

Group	Consumption in Sm^3 from	to
I_1	–	26,435
I_2	26,435	264,349
I_3	264,349	2,643,489
I_4	2,643,489	26,434,886
I_5	26,434,886	105,739,542

Source: Statistical Office of the Republic of Slovenia

Figure 60:
Final gas prices for typical industrial customers including VAT and other taxes



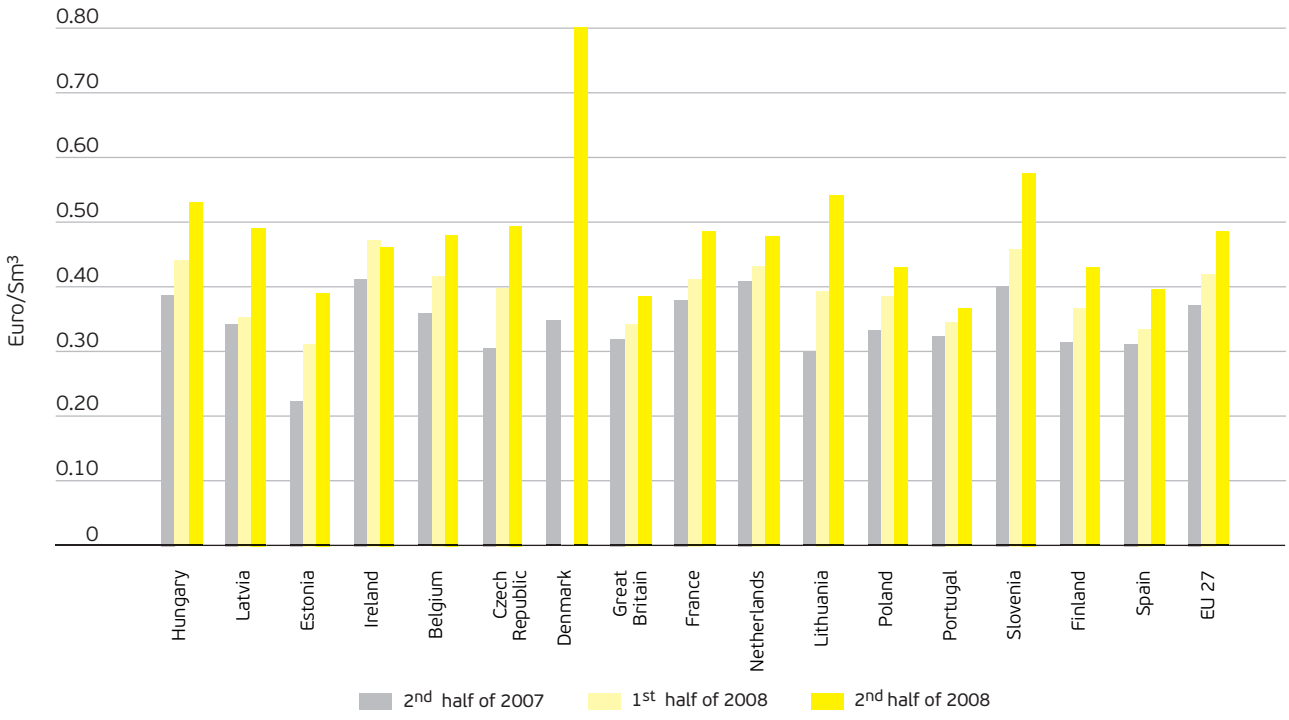
Source: Statistical Office of the Republic of Slovenia

Figure 60 shows the trends of the gas prices by group of the typical industrial customers of natural gas for the period starting in the middle of 2007 and finishing at the end of 2008. A large increase in the prices for all the customer groups can be noted. In 2008 the prices for large industrial customers were increased the most, by more than 50 percent, while the prices for smaller industrial customers increased by at least 40 percent.

The trends and comparisons of the final gas prices for typical industrial customers I_3 in Slovenia and in some other EU countries show the same trend of the gas-price change throughout the EU, including Slovenia. During the entire observed period the Slovenian final price for the selected industrial customers I_3 with an annual consumption between 264,349 and 2,643,489 Sm^3 of gas, is higher than the EU average. The final gas price for the Slovenian industrial customers I_3 was higher than the EU average (of the listed countries) by about 18 percent.

Figure 61 shows that, among the selected countries, only Denmark had a higher final price than Slovenia. A comparison of these prices, excluding the VAT and other taxes, would show that, in this case as well, the Slovenian gas price for the typical customers I_3 was among the highest in the EU.

Figure 61:
Final gas prices including VAT and other taxes for typical industrial customers I_3 in Slovenia and in some other EU countries



Source: Eurostat

The new standard customer groups of typical household customers using natural gas were also formed in line with the new methodology used by Eurostat and the Statistical Office of the Republic of Slovenia. The year 2007 saw an amendment to Directive 90/377/EC, on the basis of which the new methodology for collecting the data about the prices for electricity and natural gas was produced. The prices relating to the above group were calculated and presented in line with this methodology.

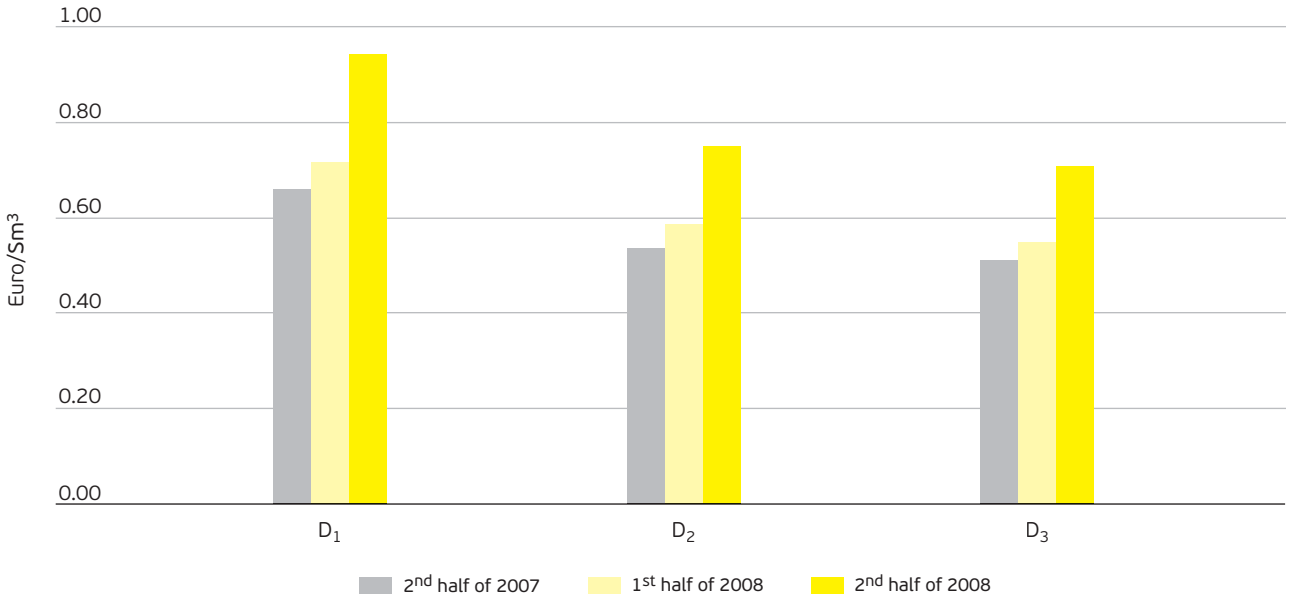
Table 34:
Standard customer groups of household customers

Group	Consumption in Sm³ from	to
D_1	–	529
D_2	529	5,287
D_3	5,287	–

Source: Statistical Office of the Republic of Slovenia

In 2008 the final prices for the industrial and household customers were on an increase, mainly because of the increase in the prices for natural gas that depend on the trends of the prices for oil products in the international markets and on the dollar exchange rate.

Figure 62:
Final gas prices for typical household customers including VAT and other taxes

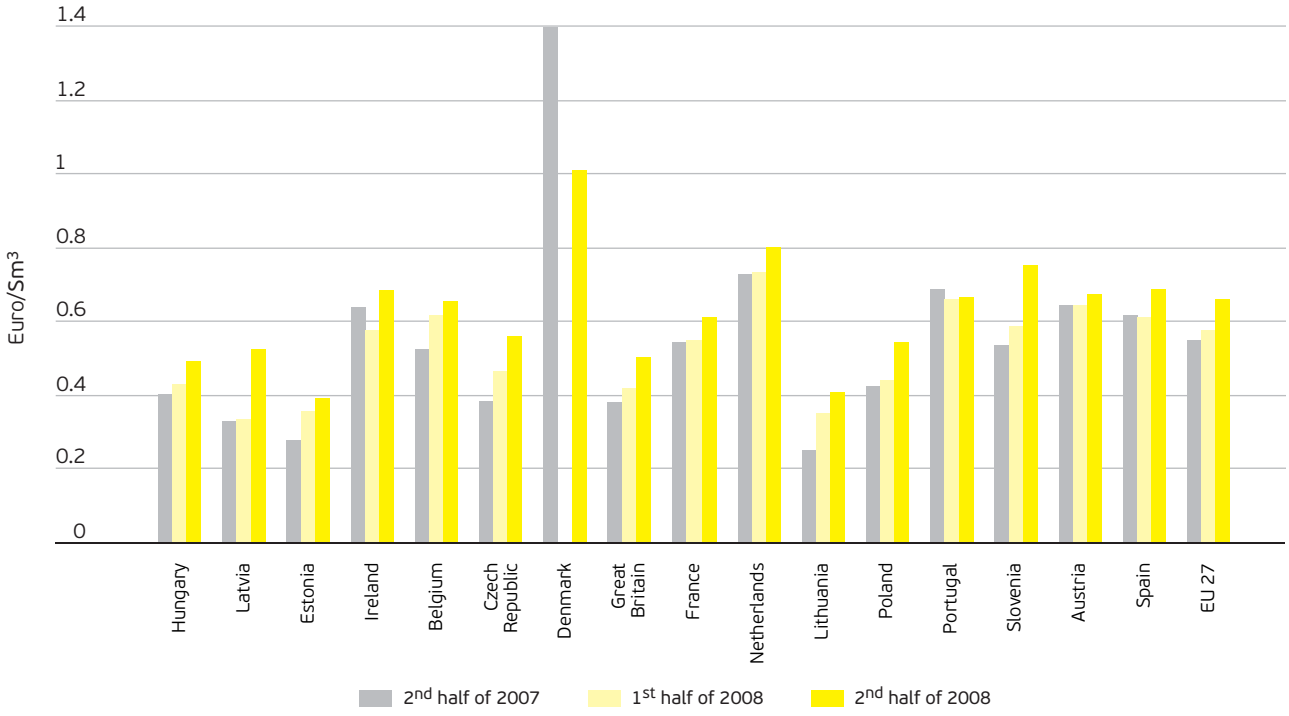


Source: Statistical Office of the Republic of Slovenia

In 2008 the final gas prices for household customers increased, in comparison with the year before, on average by 40 percent. These prices were increased for all the customer groups.

A comparison of the final gas prices for typical household customers D_2 with an annual consumption between 529 and 5287 Sm³ in Slovenia and in some other EU countries shows intense price changing that took place in the first and the second halves of 2008. With respect to 2007, in 2008 a general trend of increasing final gas prices can be noted.

Figure 63:
Final gas prices including VAT and other taxes for typical household customers D_2 in Slovenia and in some other EU countries



Source: Eurostat

The final gas prices for household customers vary significantly in different EU countries also because of the different tax charges included in the gas prices. In Slovenia the gas price includes a tax on the carbon-dioxide emission load in the amount of 0.0238 euro/m^3, the excise duty on mineral oil and gas in the amount of 0.0060 euro/m^3 and the 20-percent VAT added to the total price for natural gas.

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

In 2008 competitive operations of the suppliers in the retail gas market were started, as the first supplier switches took place. The suppliers prepared competitive offers to attract large customers of natural gas. They also provided sufficient amounts of natural gas to meet the demands of all the customers. In 2008 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

In 2008 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 Ministry of the Economy did not identify any irregularities or incorrect behaviour in the market for natural gas. However, it noticed a few small irregularities in the case of interpreting the rules for calculating consumption allocations for those customers whose gas consumption is not metered on a daily basis. For this reason the ministry started to prepare an appropriate clarification of the provisions regarding market operations, and the projects of setting up customer profiles are already in progress.

After the implementation of the Ordinance on Natural-Gas Market Operations, and the Rules for the Procedure of Implementing Regulation (EC) No 1775/2005, prepared by the gas transmission system operator and issued in 2008, the operations of the market for natural gas and for capacities became more transparent and clear. This was also proved by the entry of a new supplier in the wholesale market that is also a system operator of a gas distribution network.

In 2008 the Ministry of the Economy did not apply the mechanisms for releasing long-term supply contracts in order to promote the operations of the gas market.

The suppliers provided for a reliable supply mainly by purchasing appropriate gas amounts, managing contracts for interruptible supply and using substitute fuel for district heating.

In 2008 the Ministry of the Economy did not identify any irregularities in the activities of the public authorities, i.e., the companies providing public services of operating the transmission and distribution networks for natural gas. As a result no measures were taken in this area.

5.3.4 The deciding on disputes and appeals

In 2008 the Energy Agency received nine requests to decide in the area of natural gas on the basis of Article 88 of the EA. The requests related to an administrative procedure in the first instance. The Energy Agency did not receive any appeal, on which it would have decided as the authority of the second instance.

The disputes in the first instance between network users and a gas distribution system operator were related to the right to access the network, the charged prices and the infringements of the general conditions for the supply and consumption. In eight cases the requests were dismissed with a final decision, and in one case a decision stopping the proceeding was issued.

In the case of one request that the Energy Agency received in 2008, a decision was issued in 2009, against which the concerned party appealed to the Ministry of the Economy.

6
Reliability of supply

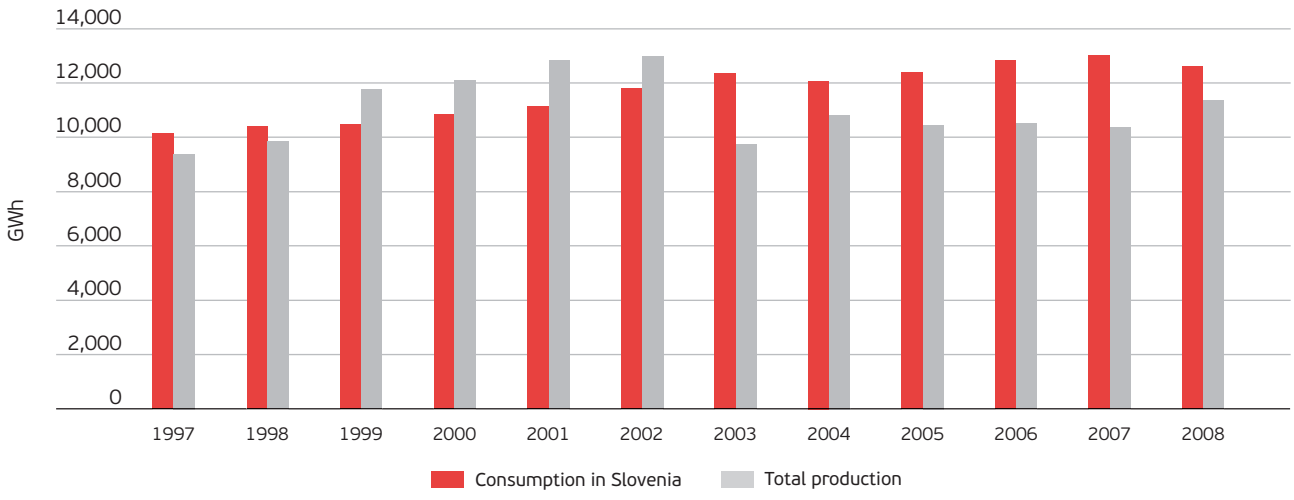
6.1 The reliability of the electricity supply

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 meet 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 operations 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 (power line, 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.

6.1.1 The sufficiency of the production

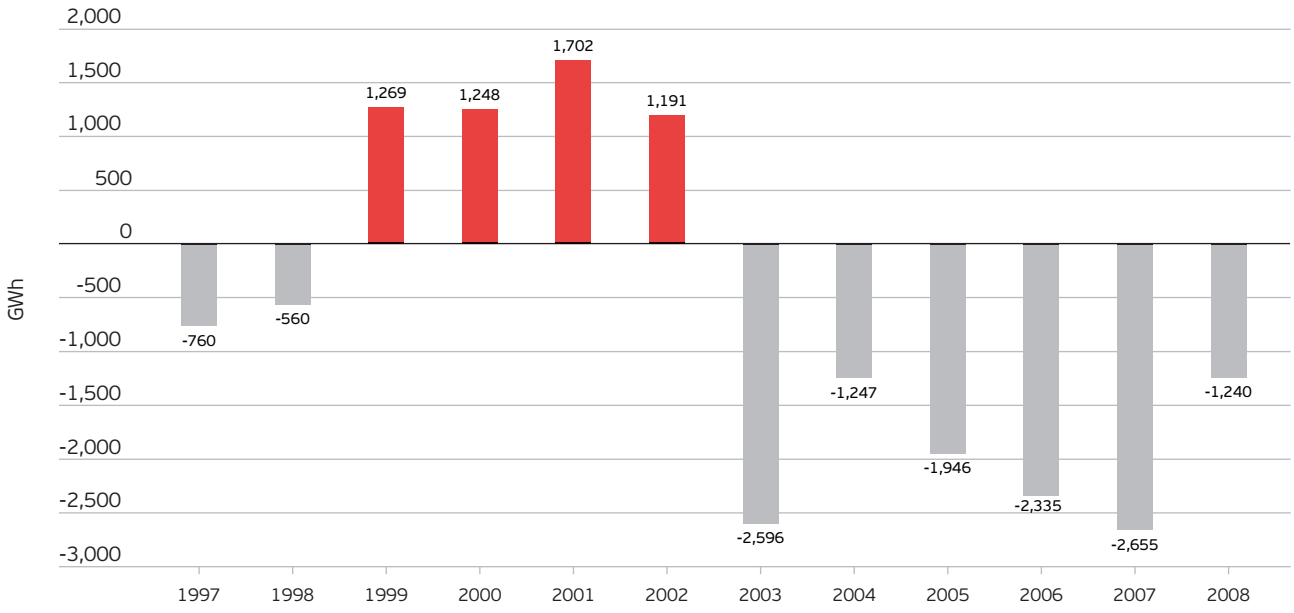
Figures 64 and 65 show how electricity demand was covered in the period 1997–2008. In the period 1998–2002 Slovenia had large surpluses of electricity, but since 2003 it has had a deficit of electricity that has increased every year. The most important reason for the surplus was an unclear situation with Croatia with respect to the status of the Krško NPP, 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. In 2008 the deficit of the domestic production significantly decreased, with respect to the demand, from 2655 GWh to 1240 GWh. Thus in 2008, the production of the Slovenian power plants on the transmission network increased by more than 1000 GWh with respect to 2007. In addition, the consumption from the transmission network decreased by almost 400 GWh. The increase in the production in 2008 was mainly caused by favourable hydrological conditions, due to which the Slovenian power plants produced almost 700 GWh of electricity more than the year before, and the fact that the Krško NPP did not have any repair work this year. On the other hand, the decrease in the consumption was mainly caused by the closure of the Electrolysis B facility at the Talum aluminium factory and the economic recession.

Figure 64:
Production and consumption of electricity on the Slovenian transmission network for 1997–2008 (period 1998–2002 includes the total production of the Krško NPP)



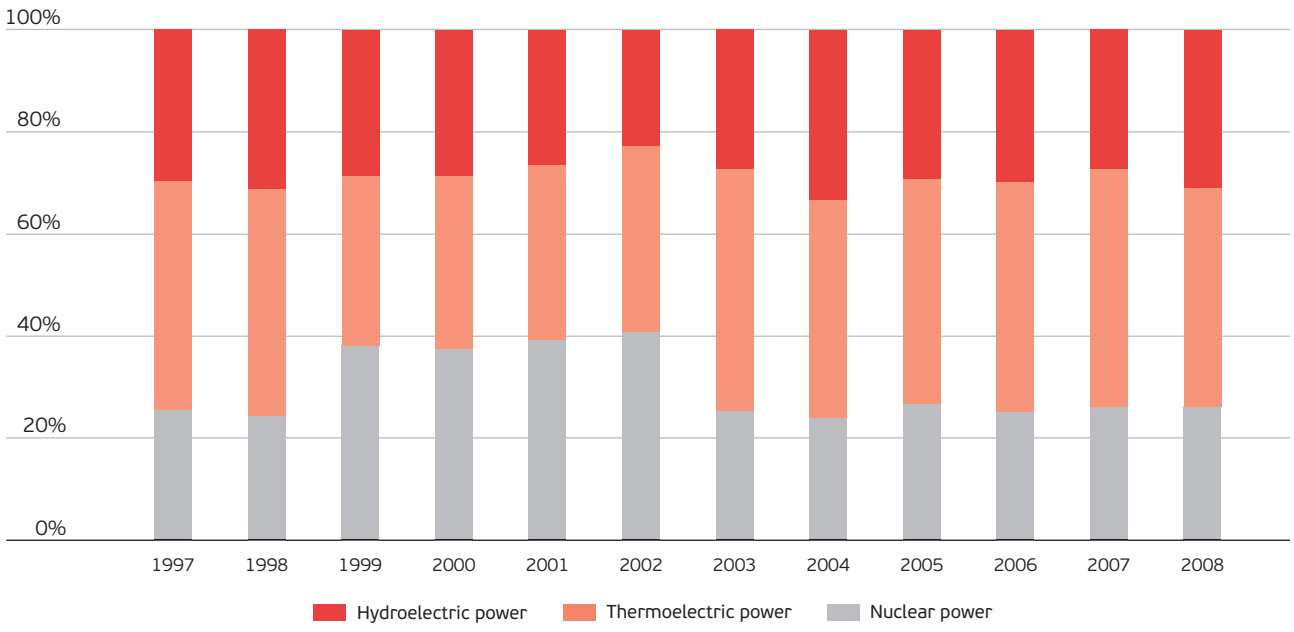
Source: Eles

Figure 65:
Surpluses and deficits of electricity on the Slovenian transmission network for 1997–2008 (period 1998–2002 includes the total production of the Krško NPP)



Source: Eles

Figure 66:
Structure of electricity production on the Slovenian transmission network for 1997–2008 (period 1998–2002 includes the total production of the Krško NPP)

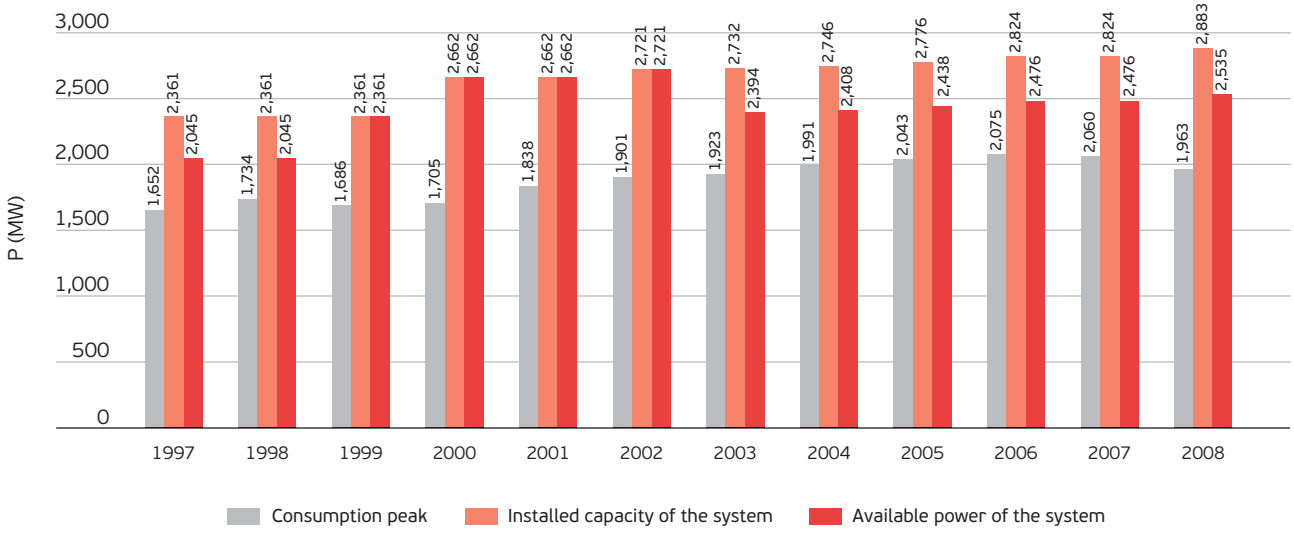


Source: Eles

The conditions relating to the provision of the required power, or production reserves, are similar to the conditions relating to fulfilling the energy demand, and can be described as the ratio between the available power of the hydroelectric power plants and the peak power of consumption. Figure 67 shows the installed capacity of the production facilities, the power available to the Slovenian market and the peak consumption on the transmission network for 1997–2008. The difference between the installed capacity of the production facilities and the power available to the Slovenian market is the same as one half of the power from the Krško NPP, which belongs to Croatia, in line with Article 6 of the Agreement between the Government of the Republic of Slovenia and the Government of the Republic of Croatia Regarding the Status and Other Legal Issues Relating to the Investments in the Krško Nuclear Power Plant, its Exploitation and its Disassembly.

In 2008 the total power of the Slovenian power plants on the transmission network amounted to 2883 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, 2535 MW. In 2008 the peak electricity consumption was 1963 MW, which was 97 MW fewer than in 2007. Thus, the ratio between the available power of all the production facilities and the peak-power consumption was 1.47, and the ratio between the available power of the production facilities connected to the transmission network and the peak-power consumption was 1.29.

Figure 67:
Installed capacity of the production facilities, the power available to the Slovenian market and the peak consumption on the transmission network for 1997–2008



Source: Eles

In 2008 the new production capacities of 84 MW were connected to the transmission network, while the capacities of 25 MW were disconnected. All these changes took place in the Šoštanj TPP, where two new 42-MW gas blocks began to operate, and a 25-MW steam block was closed down.

6.1.2 The planned investments in the production facilities

In 2008 the TSO for the electricity network produced a development plan for the transmission network in Slovenia for 2009–2018. This plan includes expected trends of electricity consumption from the transmission network and possible scenarios

for covering the demand with the production facilities. The plan also lists expected changes by production unit connected to the transmission network.

Table 35 shows the changes to be made by the Slovenian electricity producers as expected in the development plan for the transmission network. The positive power values indicate new production facilities or a renovation of the existing facility, where an increase in the capacity is planned. The negative values indicate closures of the concerned units.

Table 35:
Changes to the production units for 2009–2018

	Installed power (MW)	Expected year of completion
Hydroelectric power		
Medvode (renovation)	20	2009
Avče PSPP	180	2009
Blanca	43	2010
Krško	40	2013
Kozjak PSPP	440	2014
Suhadol	41	2014
Učja	26	2015
Moste 2, 3	52	2016
Trbovlje	33	2016
Brežice	42	2016
Mokrice	31	2017
Renke	34	2018
Wind power		
Volovja reber	50	2011
Dolenja vas	100	2012
Senožeška Brda	100	2014
Selivec – Vremščica	150	2015
Thermoelectric power		
Šoštanj TPP GPP 1	42	2009
Šoštanj TPP GPP 2	42	2010
Trbovlje TPP GBs I + II	-58	2010
Ljubljana CHP block II	-29	2011
Šoštanj TPP blocks I + II + III	-119	2013
Šoštanj TPP block IV	-248	2013
Trbovlje TPP CGS block III	291	2013
Vevče CHP (Brestanica TPP)	25	2013
Ljubljana CHP block IV CGS	144	2013
Koper CGS	234	2013
Šoštanj TPP block VI	540	2015
Brestanica TPP GPP 4×50	200	2015
Trbovlje TPP block II	-110	2016
Ljubljana CHP block V CGS2	72	2017

Source: Eles

6.1.3 The security of the network operation

In 2008 the TSO managed to successfully balance the production and demand with regard to electricity. The total amount of unsupplied electricity was 9.48 MWh, which was only a good 14 percent of the unsupplied electricity in 2007. In 2008 as well, most of the unsupplied electricity was caused by storms. This means that the transmission network was much less affected by the storms in 2008, though they did cause a lot of damage in Slovenia this year. Storms caused as much as 84 percent of all the unsupplied electricity from the transmission network. As another 6 percent of the unsupplied electricity in 2008 was caused by snow, it is clear that as much as 90 percent of all the unsupplied electricity was caused by weather factors. The remaining 10 percent of the unsupplied electricity was caused by an earth connection in the Laško DTS and an error that occurred during some planned activities on the network. 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 gas networks and the gas suppliers to ensure the conditions needed for a reliable supply of natural gas to the gas customers. The suppliers to specific customers and the gas distributors distributing gas to specific customers are obliged, by the EA, to supply gas, this being their special task, also in certain specific circumstances, stipulated by the legislation.

In 2008 the supply with natural gas to the customers on the transmission and distribution networks was not at risk in any way.

In line with the EA, the gas system operators have to carry out their activities in a way that allows a safe and reliable network operation. Such a way of network operation also allows a reliable supply of natural gas provided by the gas suppliers. In the case of exceptional circumstances affecting the provision of the transmission or distribution services, the system operators start to take emergency measures.

The suppliers to end customers, including the specific customers, supplied natural gas through the wholesale gas suppliers. Slovenia has neither its own gas sources nor its own storage facilities, with which it could increase the reliability of the gas supply. All the suppliers importing gas to Slovenia strive to increase the supply reliability by making long-term contracts and by leasing the storage facilities in Austria, Italy and in Croatia.

The suppliers also increase the reliability of the supply to end customers by making interruptible-supply contracts. These are mainly made with the boiler-room facilities or larger industrial customers that have an option to use other energy sources. Some suppliers also own gas appliances, the gas supply to which can be interrupted, so that they do not have to make special interruptible-supply contracts. However, they do try to identify the large customers willing to accept an interruptible supply.

The gas transmission system operator will, as part of its tasks relating to the provision of the security and reliability of its operation and in line with the findings relating to the physical congestion, try to release the overloaded parts of the network by making new investments. The constructions will be carried out in line with the priorities determined in the development plans that were approved of by the government. The studies of technical feasibility and economic justification of increasing the supply reliability by constructing our own storage facilities for natural gas are still in progress.

In line with its responsibilities, the Energy Agency reviewed the suppliers' report on the provision of the supply reliability received from the ministry responsible for energy. It found that the measures taken by the suppliers in 2008 had no negative effect on the operation of the natural-gas market.

7

Provision of public services and the status of customers

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 2008 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.

With respect to electricity, the distribution-system operation is carried out by SODO, d. o. o.

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;
- 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;
- contractual terms and conditions are binding on a customer only if the complete text of these terms and conditions is 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 to 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 the equal treatment of all the customers;
- companies shall clearly indicate the prices for their goods or services;
- customers are charged for their actual energy consumption recorded at the customers' metering points.

On the basis of the General Conditions for the Supply and Consumption of Electricity from the Distribution Network, a supplier has to inform a household customer, prior to signing a supply contract, about the contractual terms and conditions. In addition, a household customer has to be informed, in due time, about any intended change to the contractual terms and conditions (above all, about a price increase) and about the right to terminate the contract.

In line with the EA, the system operators determine, in the general conditions for the supply and consumption of natural gas, also the customer-protection 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-of-network price. The supply to vulnerable customers is the responsibility of the system operator, 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. The system operator has to inform customers about the conditions required for the provision of the above 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 accordance with the provisions from the General Conditions for the Supply and Consumption of Electricity from the Distribution Network, one of the key elements of a supply contract made with a customer is an agreement on the mode of dispute-settling 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 General Conditions for the Supply and Consumption of Electricity from the Distribution Network give 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 prices

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 2008 the electricity suppliers were publishing the electricity prices for households on their websites. These publications included prices for different products or the so-called electricity-supply packets for households.

Throughout the year 2008 the electricity distribution system operator was publishing the conditions and electricity prices for the last-resort supply.

As a result of the full opening of the gas market in 2007, the prices for natural gas changed in 2008. The suppliers independently set the gas prices for household customers, while the use-of-network prices are charged for by the gas distribution system operators. Customers can get complete and up-to-date supply information from the gas suppliers.

7.3 The safeguarding of transparency

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

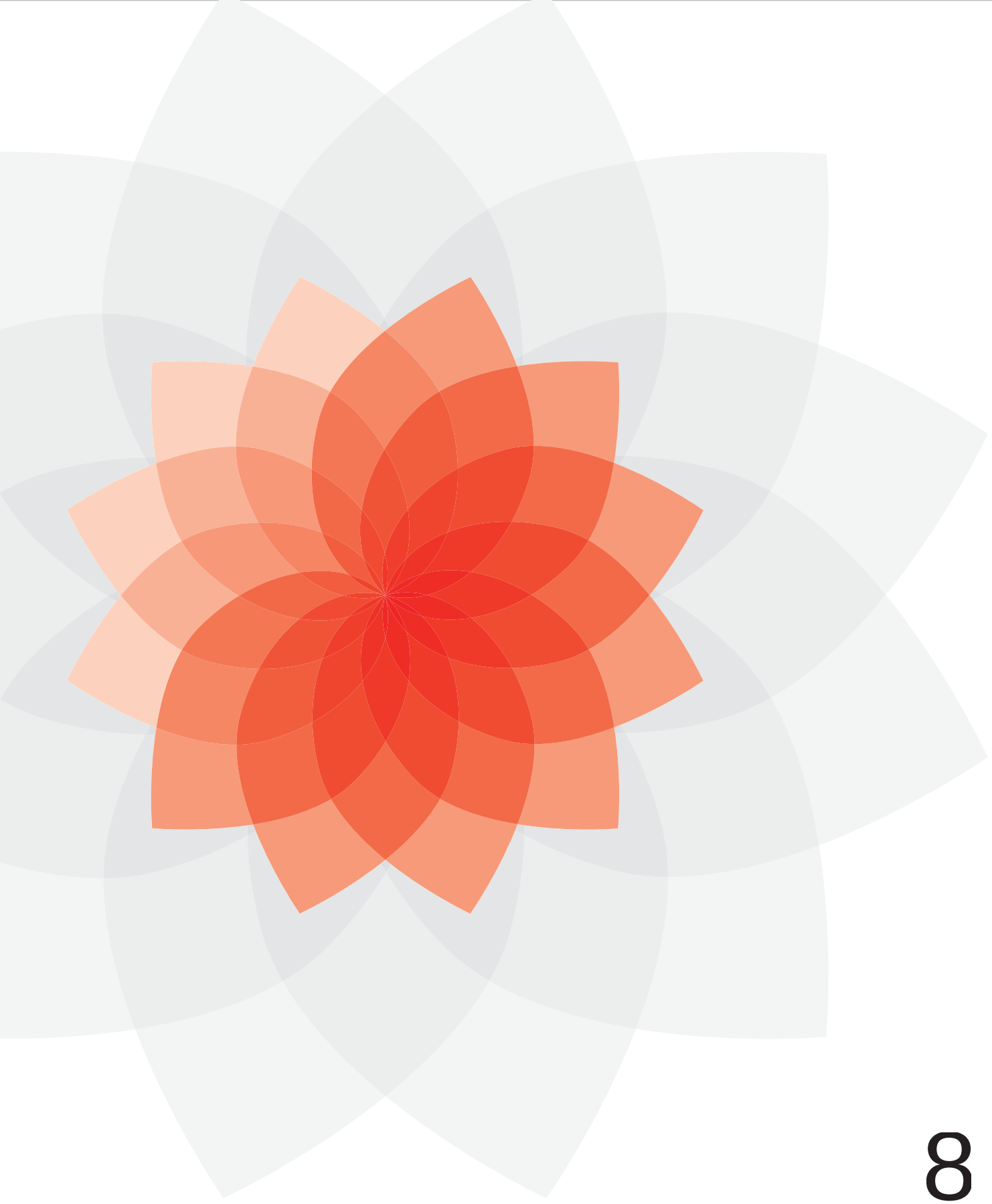
The price transparency is ensured by the publication of the price, as described in Section 7.2.4.

The transparency of the conditions for the supply and consumption of electricity and natural gas is provided for by the general acts of the system operators that were published in the Official Gazette of the Republic of Slovenia, and thus made available to all the market participants. In the area of electricity, the relevant document, with respect to the transmission and distribution networks, is the General Conditions for the Supply and Consumption of Electricity adopted by a system operator after obtaining a positive opinion from the Energy Agency and approval from the government. In the area of natural gas, the relevant document, with respect to the transmission network, is the General Conditions for the Supply and Consumption of Natural Gas from the Transmission Network adopted by the transmission system operator after adopting a positive opinion from the Energy Agency and approval from the government. With respect to the gas distribution network, the relevant document is the General Conditions for the Supply and Consumption of Natural Gas from the Distribution Network adopted by the distribution system operator after obtaining approval from the local authority and from the Energy Agency. On the basis of Article 88 of the EA, the Energy Agency is also responsible for settling disputes arising from the alleged breaches of the general supply conditions relating to electricity and natural gas.

The General Conditions for the Supply and Consumption of Natural Gas from the Distribution Network regulate, among other issues, certain mandatory elements of the access contracts relating to all the customers and of the supply contracts relating to household customers. Prior to concluding a supply contract, a supplier is obliged to inform a household customer about the contractual conditions. It is also obliged to inform a customer, in writing, about any later change to these conditions. The rest of the provisions of a contract are determined freely, and are reviewed in line with the provisions of the Code of Obligations. The settling of disputes arising from the provisions of these contracts is the responsibility of the court. The Energy Agency cannot influence the formulating of the contractual provisions, i.e., the content of the contracts.

The General Conditions for the Supply and Consumption of Electricity from the Distribution Network determine that the customers have to be informed, in due time, about any intended change to the contractual conditions and about the right to terminate the contract. A supplier's responsibility relating to communicating with a customer is also a direct and timely informing of any increase in the electricity price that has to be made 30 days before the implementation of the change, at the latest. In the case of making a supply contract for a specified period, it is the supplier's responsibility to inform a customer, 30 days prior to the contract's expiry, at the latest, about the consequences of the contract's expiry.

On the basis of the Ordinance on Natural-Gas Market Operations a supplier of natural gas has to publish information about the current prices, or costs, in a transparent way, easily available to the customers. A supplier also has to inform its customers, in writing, about any change in the prices with the first bill for the gas supply issued after the implementation of the price change. With respect to information about the contractual conditions, a supplier has to publish them on its web site and make them available to a customer prior to concluding a supply contract. In the case of any intended change to the contractual conditions, a supplier has to inform its customers about it in writing.



8

District heating

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 district-heating or cooling systems in the buildings of the end customers of heat energy is provided for. Prior to the start of these services, the providers have to obtain, from the Energy Agency, a licence to produce heat for the district heating or cooling if the total installed thermal power of their production units is above 1 MW, or to distribute heat.

The data presented in the sections below describes only the conditions in the area of district heating in Slovenia with respect to the licensed distributors of heat or cold and the licensed producers of heat for the district heating or cooling, whose total installed thermal power is above 1 MW.

8.1 The supply of district heating

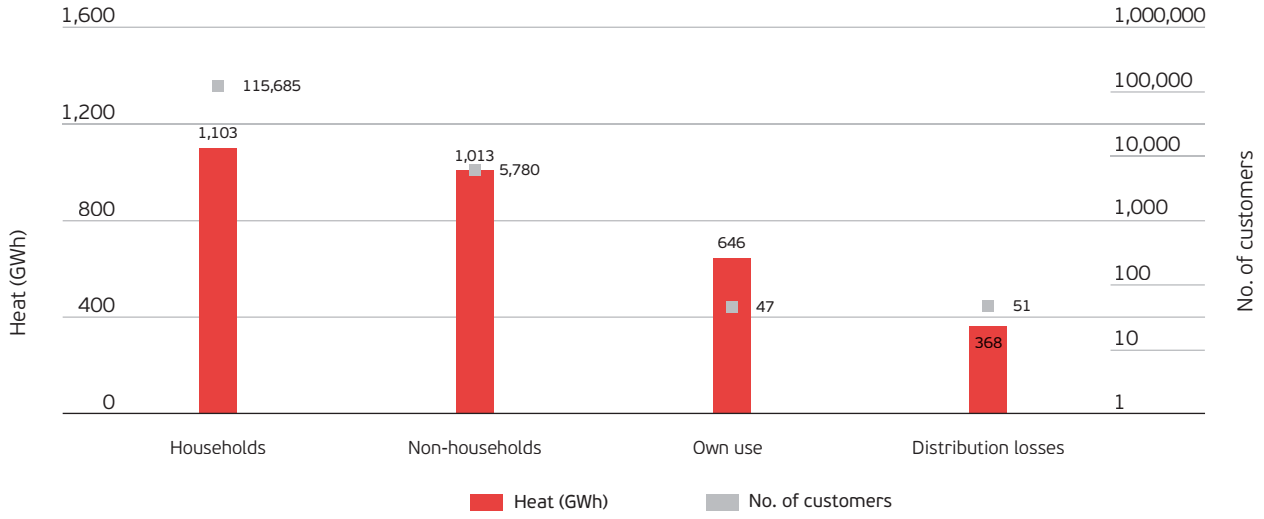
In Slovenia, 56 of the 74 licence holders, active in 35 municipalities, were involved in heat supply in 2008. Of these companies, 40 were involved in both heat distribution for district heating and heat production for district heating of above 1 MW; 9 companies were only involved in the distribution, while the remaining 7 companies only produced heat.

With respect to district cooling in Slovenia, in the middle of 2008 the first such system with a cooling power of the 965 kW started to operate in the Velenje City Municipality. To generate cold, the cooling facility uses heat from the district-heating distribution system.

For the purpose of heat supply, in 2008 licensed producers of heat for district heating and for the supply to industry, with the facilities' installed power of above 1 MW, produced 3082.8 GWh of heat and 816.5 GWh of electricity, or 609.72 GWh of electricity at the busbars of the cogeneration processes. The largest share of heat – 1103.3 GWh, or 33.8 percent – was used for the supply to 115,685 household customers, while 1012 GWh or 32.8 percent of heat was used for the supply to industrial and other non-household customers. The difference between the produced and distributed heat, 0.646 GWh or 20.9 percent of the heat, was used for the producers' or distributors' industrial processes. Heat losses incurred during the distribution amounted to 14.8 percent of all the heat delivered to the distribution networks.

Non-households, i.e., industrial customers, used 222.9 GWh or 9.5 percent of all the heat in the form of industrial steam. Figure 68 shows the heat consumption by type of customers and the customer numbers.

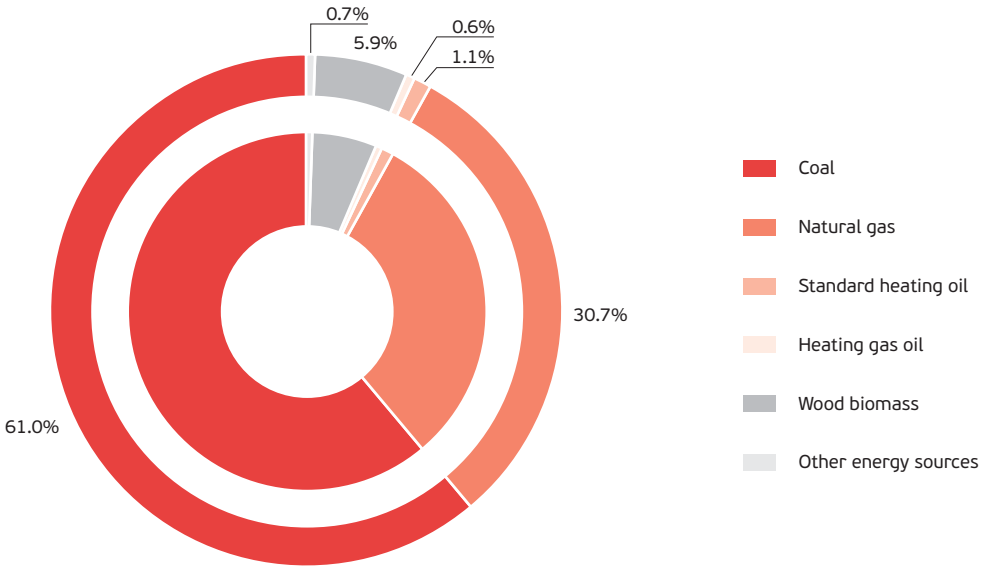
Figure 68:
Heat consumption by type of customers and the customer numbers



Source: Energy Agency

In the structure of used primary energy sources for the heat production, coal had a 61-percent share, natural gas had a 30.7-percent share and heating oil had a 1.7-percent share. Wood biomass and other primary renewable sources of energy had a 6.6-percent share in the structure of the energy sources.

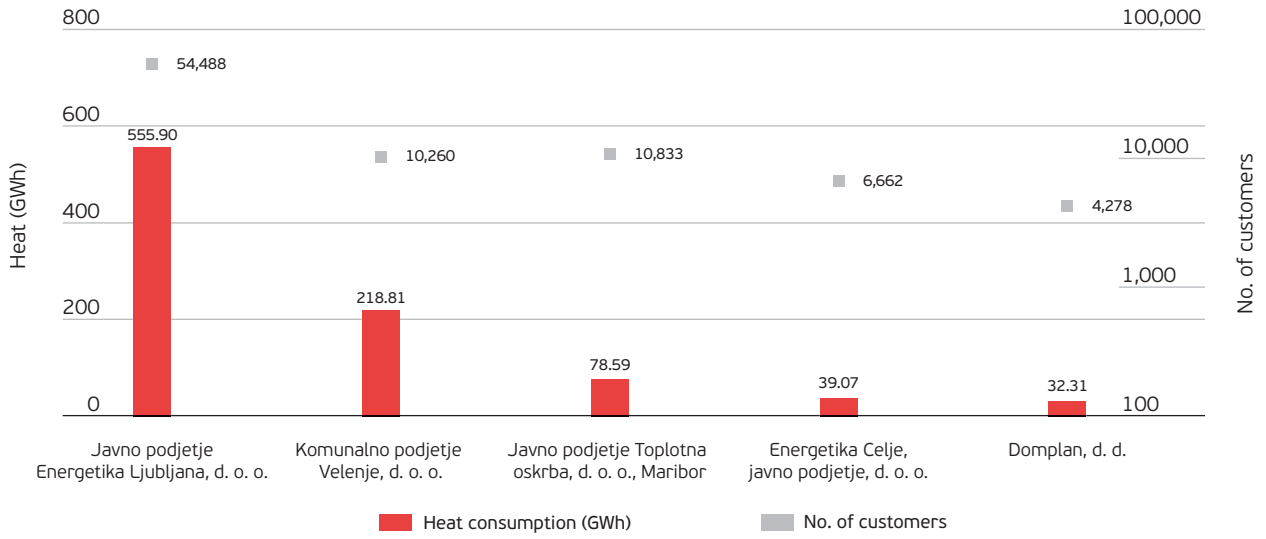
Figure 69:
Structure of the primary energy sources for the production of heat for district heating



Source: Energy Agency

In 2008 the five largest heat-distribution companies supplied 86,521 households, or 74.8 percent of all the households, distributing 83.8 percent of the heat produced for district heating. Figure 70 shows the five largest distributors of heat with respect to the amount of heat distributed to households in 2008, and the customer numbers.

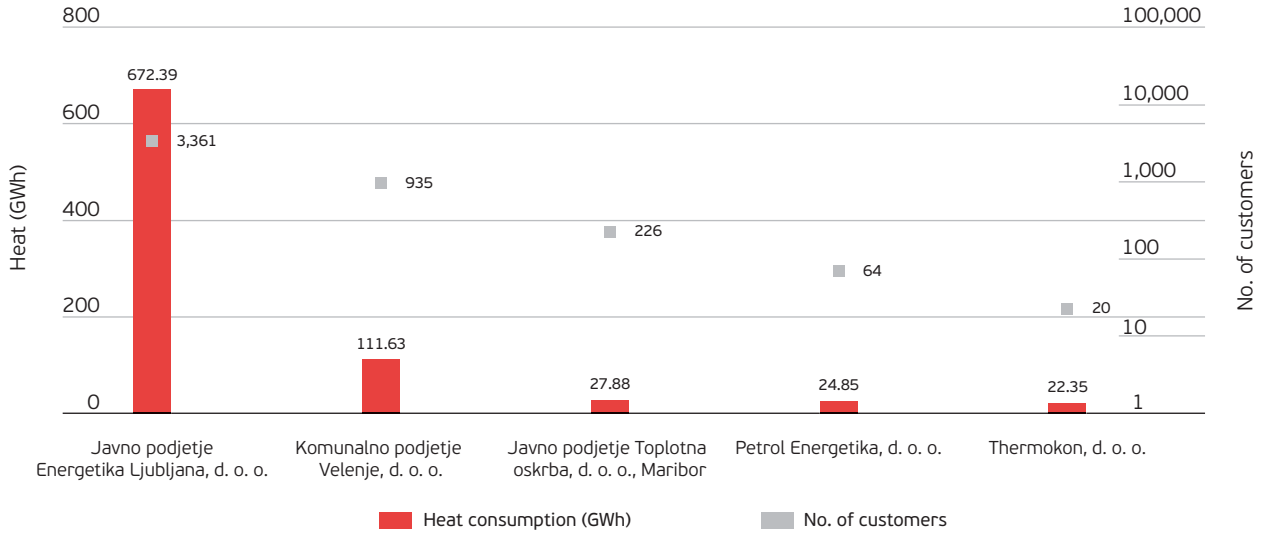
Figure 70:
Largest distributors of heat to households in 2008



Source: Energy Agency

The five largest distribution companies supplied heat to 85.2 percent of all non-household customers, distributing to them as much as 84.8 percent of the required heat (Figure 71).

Figure 71:
Largest distributors of heat to non-households in 2008

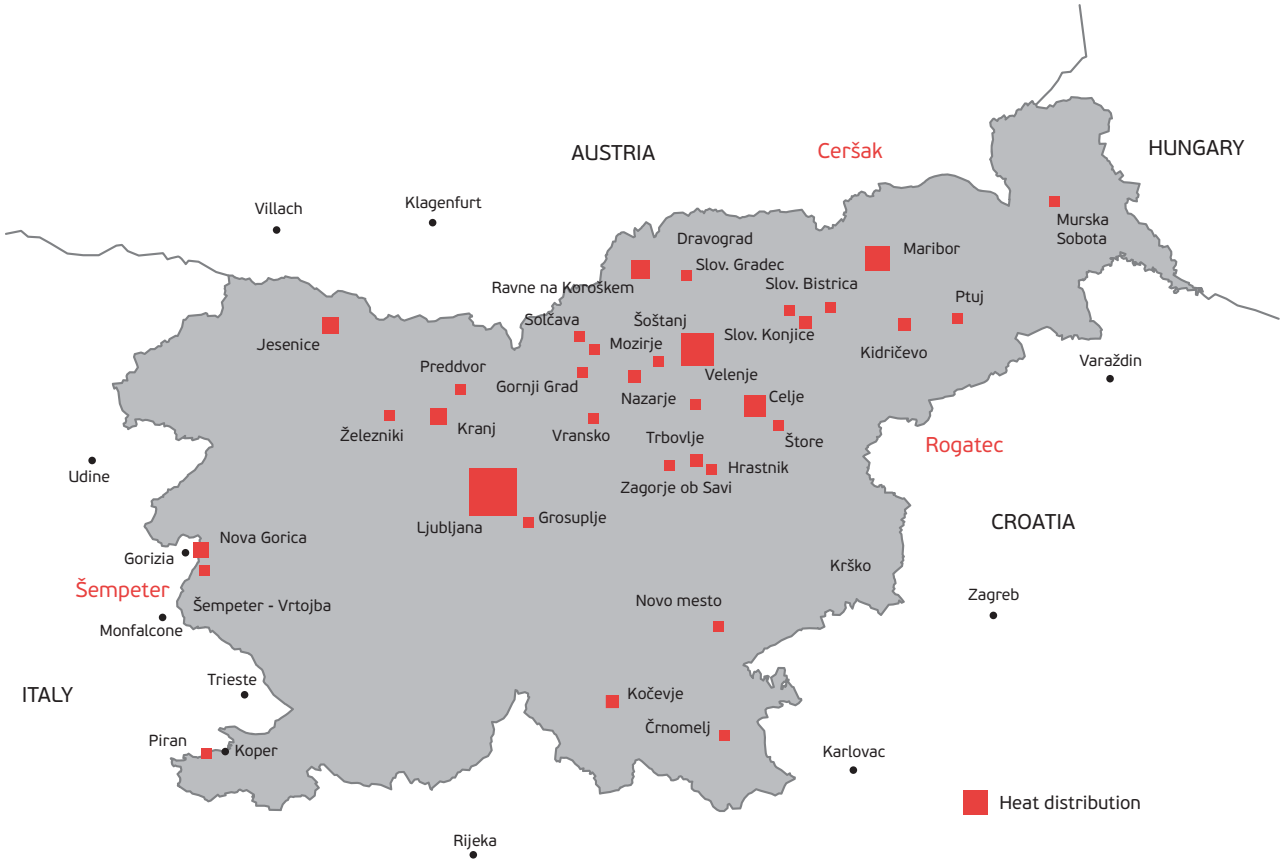


Source: Energy Agency

8.2 The distribution networks

In 2008 the service of heat distribution was, in the Republic of Slovenia, carried out by 51 licence holders. The heat distribution networks were set up in 35 of the 210 Slovenian municipalities, their total length being 687.9 kilometres. Figure 72 shows their locations and the sizes of the distributed amounts.

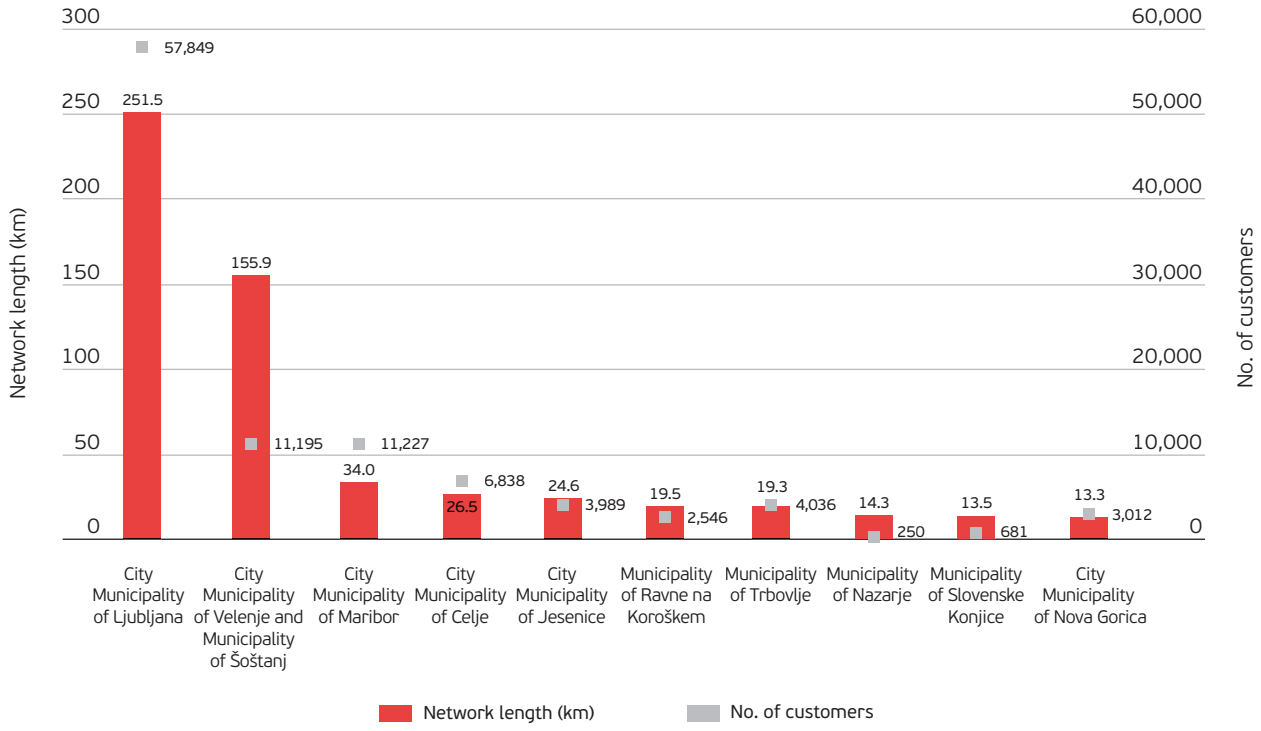
Figure 72:
Heat distribution networks in Slovenia in 2008



Source: Energy Agency

With respect to the temperature regime of the operations of individual networks, the warm-water networks and hot-water networks cover 97.35 percent, and steam networks cover 2.65 percent of the total distribution networks. The municipalities with the longest networks are Ljubljana (251.54 kilometres of hot-water and warm-water network) and Velenje, together with Šoštanj, (155.85 kilometres of warm-water network). Figure 73 shows the lengths of the ten largest heat distribution networks in individual municipalities, and the numbers of connected users.

Figure 73:
Length of heat distribution networks by municipality, and the numbers of connected users in 2008



Source: Energy Agency

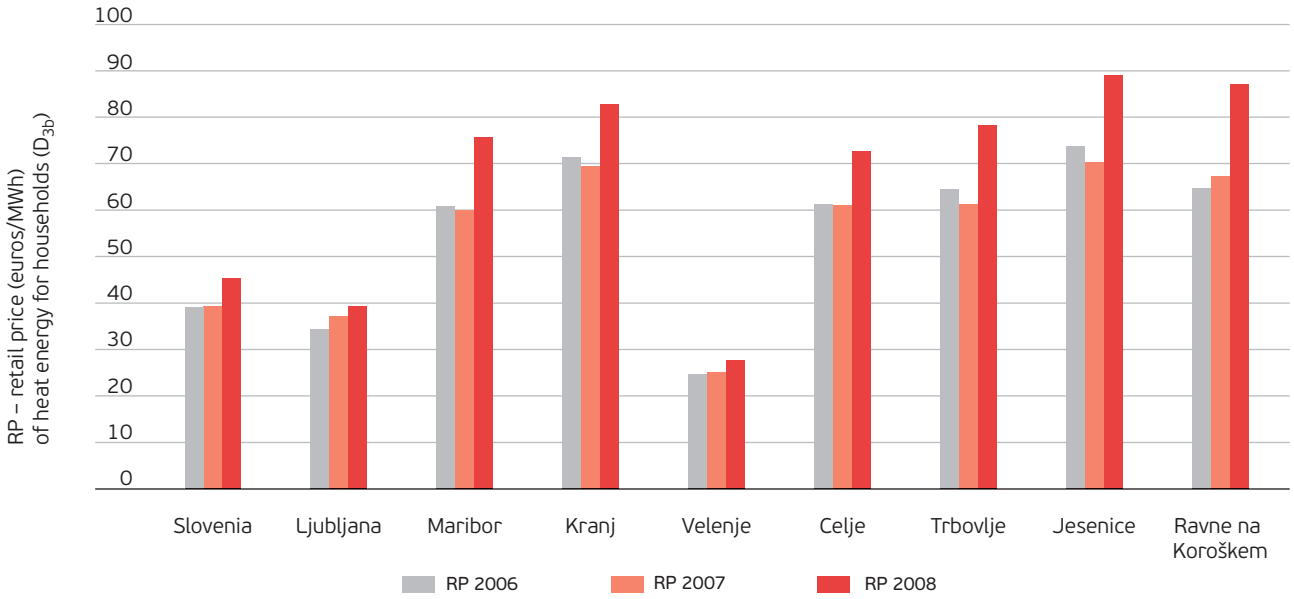
8.3 The prices for heat

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 D_{3b} 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 price-lists of selected business entities for the production and supply of heat. The data relates to a selected number of Slovenian municipalities, whose amount of heat supplied to the households in 2008 accounted for 85.8 percent of the total supply.

Figure 74 shows the average retail prices for heat from the distribution systems relating to selected Slovenian municipalities, calculated as a weighted average of the 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.

Figure 74:
Trends in the average retail prices of district heating for households in selected Slovenian towns for 2006–2008



Source: Statistical Office of the Republic Of Slovenia

8.4 The Energy Agency's activities related to district heating

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

- issuing general acts for exercising the public powers 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 the licences for producing heat for district heating of above 1 MW and for distributing heat for district heating.

In 2008 the Energy Agency issued 12 approvals to the system operation instructions relating to the heat distribution networks. It was involved in harmonising the system operation instructions of 2 heat distributers. In five cases the harmonising procedures were stopped until the legal status of the concerned distribution companies was appropriately arranged, and the responsible ministry was notified about these actions.

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 2008, 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.

List of figures

List of tables

List of abbreviations

Borzen	Borzen, d. o. o.
Brestanica TPP	Brestanica Thermoelectric Power Plant, d. o. o.
CBTC	cross-border transmission capacities
CEER	Council of European Energy Regulators
CGS	combined gas and steam
CHP	combined heat and power
CSLOeX	hourly index
Drava HPPs	Drava Hydroelectric Power Plants, Maribor, d. o. o.
DSO	distribution system operator
DTS	distribution-transformer station
EA	Energy Act, the Official Gazette of the RS, 27/07 (EZ-UPB2), 70/08 (EZ-C)
EEX	European Energy Exchange AG, Leipzig
EFT	Električni finančni tim, d. o. o.
Eles	Eles – Elektro Slovenija, d. o. o.
Energy Agency	Energy Agency of the Republic of Slovenia
ERGEG	European Regulators Group for Electricity and Gas
ETSO	European Transmission System Operators
GB	gas block
GDP	gross domestic product
GPP	gas power plant
HHI	Hirshmann–Herfindahl index relating to market concentration
HPP	hydroelectric power plant
HSE	Holding Slovenske elektrarne, d. o. o.
HV	high voltage
Krško NPP	Krško Nuclear Power Plant, d. o. o.
Ljubljana CHP	Ljubljana Combined Heat-and-Power Plant, d. o. o.
Lower Sava HPPs	Lower Sava Hydroelectric Power Plants, d. o. o.
LV	low voltage
MRS	metering-regulation station
MV	medium voltage
P+ and P-	main energy imbalance prices
PSPP	pumped-storage power plant
RECS	Renewable Energy Certificate System
RES	renewable energy sources
RS	Republic of Slovenia
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
Sava HPPs	Sava Hydroelectric Power Plants, Ljubljana, d. o. o.
SLOeX	organised electricity market index
Soča HPPs	Soča Hydroelectric Power Plants, Nova Gorica, d. o. o.
SODO	SODO Electricity Distribution System Operator, d. o. o.
Šoštanj TPP	Šoštanj Thermoelectric Power Plant, d. o. o.
TPP	thermoelectric power plant
Trbovlje TPP	Trbovlje Thermoelectric Power Plant, d. o. o.
TSO	transmission system operator

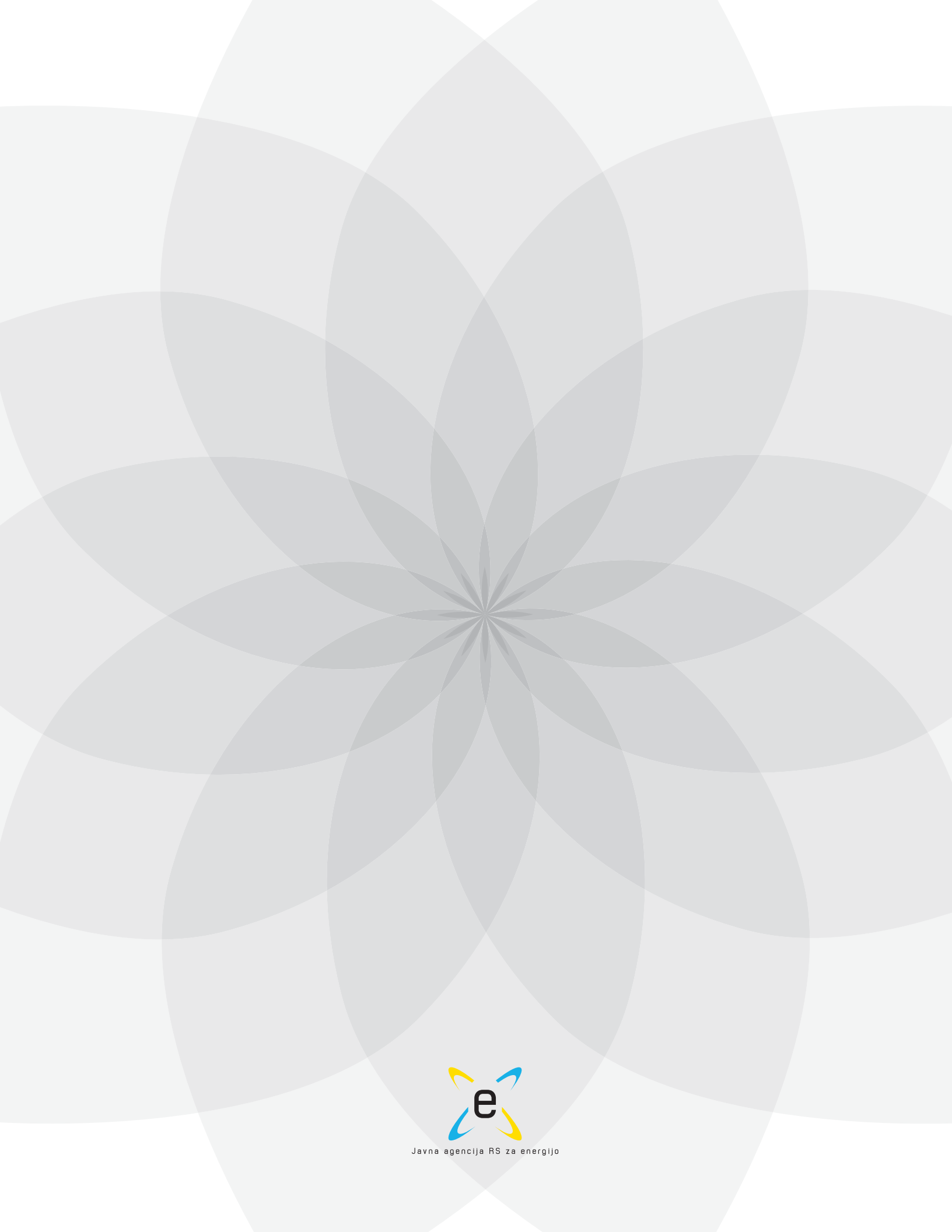
Javna agencija RS za energijo

ENERGY AGENCY OF THE REPUBLIC OF SLOVENIA

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

Report on the Energy Sector in Slovenia for 2008
September 2009

Translation: Mirjam Novak
Proofreading: Paul McGuiness
Design and typesetting: Studio 8
Printing: Lithos



Javna agencija RS za energijo