



Javna agencija RS za energijo



Report on the  
Energy Sector in  
Slovenia for 2012



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## Introduction

The Report on the Energy Sector in Slovenia offers a comprehensive overview of the electricity and gas markets in Slovenia, and also district heating in the scope with the regulator's tasks relating to this area. The Energy Agency of the Republic of Slovenia prepares such report every year, taking into account the prescribed structure, and issues relevant for reporting to the European Commission.

In 2012, the competition in electricity market was accelerating again, and from the perspective of the natural gas market – at least for household customers – the year 2012 was a turning point. Smart approach of a new supplier, who has already won the shares of large customers, and attractive prices in the autumn 2012 created a competitive environment also for natural gas household customers.

Electricity prices remained stable for all typical customers, and did not change significantly compared to the year before. Lower prices for business customers were the result of increased competition. No new supplier of electricity entered to the market. Number of switchings increased by 41.3% comparing to 2011, the total number of switchings was 55,281. Consumption slightly decreased primarily in medium-sized customers, all together was lower for 0.4%. A total of 14,545 GWh of electricity was produced, which was 333 GWh less than in year before. Domestic production covered 88% of the Slovenian consumption. The most turbulent events took place in the production of electricity from renewables and in cogeneration. The number of solar power plants increased significantly, their capacity doubled. Therefore, it was necessary to provide increased financial contribution to support the production from these sources; the contribution which is in the final price paid by all electricity customers. Electricity trades were very active, mainly due to an increase in transmission capacity on the Austrian-Slovenian border; flows had been high throughout the year, especially in the direction to Italy. In the last quarter of the year the balancing market came into life as well.



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The increase in markets activities and a new natural gas supplier were not in direct relation to increased demand for gas. Domestic consumption was reduced by around 4%, the consumption of industrial consumption for almost 5%. In parallel, the number of household and non-household costumers increased slightly. The entry of a new supplier started an avalanche of lowering prices by all suppliers, so for the first time after 2009 the natural gas market detected a fall in prices. It is also important that the Energy Agency introduced the first three-year regulatory period for the network charge for natural gas. It is worth to mention that in 2012, a significant increase in the transmission of gas to networks of neighbouring countries was noticed, by almost 34.2%. The most occupied transmission direction was the one from Ceršak on the border with Austria toward Rogatec on the border with Croatia.

The supply of electricity and gas was reliable the whole year.

In 2012, in 55 municipalities 79 licensed producers of production units of above 1 MW for heat supply were operating in Slovenia. The largest share – 43.9% out of 2484 GWh produced heat - was used for the supply to non-household customers; 123.838 household customers used 40.5%, and heat losses amounted up to 15.7% of the energy distributed. In the structure of used primary energy sources, coal had a 57.8 per cent share, natural gas 28.6 per cent share and wood biomass a 12.6 per cent share. In comparison with 2011, the price for heat increased, on average, by 10%.

Some significant changes in markets for electricity and gas, which will require a lot of adaptability, were indicated in 2012. Falling electricity prices at power exchanges, the growth of its production from renewables and all the problems associated with support schemes, decrease use of natural gas and much more had and will significantly change the market situation. From both perspectives – customers' and other stakeholders - the fact that in the final prices the share of energy sources is getting smaller and smaller is becoming very important, and it is going to represent a special challenge for energy regulators also in the future. And since national legislation on energy issues was not yet harmonised with the requirements of EU, or developments of the energy sector, we had faced with difficulties also in 2012.

# Development of the energy markets and the main activities of the regulator





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

### Slovenia

Population (31. 12. 2012)	2,058,821
Area	20,273 km <sup>2</sup>
Number of electricity customers (31. 12. 2012)	930,244
Number of natural-gas customers (31. 12. 2012)	131,652
Gross domestic product (GDP)	35,466 million euros
Decrease in GDP	-2.3%
Inflation	2.7%
GDP per person	17,224 euros

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

### Electricity

<b>Installed capacity</b>	<b>3,608 MW</b>
Hydroelectric power plants	1,142 MW
Thermoelectric power plants	1,258 MW
Nuclear power plant	696 MW
Small producers on transmission network	26 MW
Small producers on distribution network	486 MW
<b>Production of electricity</b>	<b>14,545 GWh</b>
Hydroelectric power plants	3,730 GWh
Thermoelectric power plants	4,636 GWh
Nuclear power plant	5,232 GWh
Small producers on transmission network	94 GWh
Small producers on distribution network	853 GWh
<b>Length of the transmission network</b>	<b>2,682 km</b>
– 400 kV	508 km
– 220 kV	328 km
– 110 kV	1,832 km
- cables	13 km
<b>Length of the distribution networks</b>	<b>65,857 km</b>
– 110 kV	846 km
– 35, 20 in 10 kV	17,738 km
– 0,4 kV	47,274 km
– Street lighting	1,514 km
<b>Consumption of electricity</b>	<b>12,631 GWh</b>
PSPP Avče	251 kWh
Business customers	9,201 GWh
Household customers	3,179 GWh
<b>Annual consumption per person</b>	<b>6,135 kWh</b>
<b>Average household consumption per month</b>	<b>321 kWh</b>

\*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.

Sources: Companies' data

## Natural gas

<b>Length of the transmission network</b>	<b>1,094 km</b>
– more than 16 bar	885 km
– less than bar	209 km
<b>Length of the distribution networks (up to 16 bar)</b>	<b>4,342 km</b>
<b>Consumption of natural gas</b>	<b>862 million of Sm<sup>3</sup></b>
Customers on the distribution networks	289 million of Sm <sup>3</sup>
Industrial customers	573 million of Sm <sup>3</sup>
<b>Annual consumption per person</b>	<b>419 of Sm<sup>3</sup></b>

Sources: Companies' data

## 2.2 The development in the electricity market

In 2012, electricity customers seized the opportunities offered by the liberalised electricity market. The worsening economic situation and good integration of the Slovenian market into the wider region allowed retailers and suppliers good competition. Switching rates once again exceeded the result of previous years, movements of electricity prices at power exchanges and consequently supply prices, and reduced consumption of electricity primarily in medium-sized enterprises – all mentioned facts implies that customers were very active. Electricity price index remained stable for all customers' groups and did not change significantly in comparison with the previous year. There was noticed even a negative trend in electricity prices for business customers; while competition between suppliers affects the stability of prices. Despite the well-functioning retail market in 2012 no new supplier with a statistically significant share entered the market.

Well-functioning market coupling between Slovenia and Italy, which started in 2011, and increasing cross-border transmission capacity on the Austrian-Slovenian border in 2012 led to even more active trading. Number of balancing groups, which are registered at the organizer of the Slovenian market, was at the end of the year close to 50. Surpluses of electricity, which were the results of better hydrological conditions, and relatively high gas prices in global markets lead to constant high power flows in the direction to Italy, but this does not disturb safe operation of the transmission network. The stable operation of the Divača phase-shifting transformer enabled to the wider region increased and continual export of electricity to Italy. In addition, in the last quarter of 2012, the electricity balancing market came to life, which enabled producers to actively adjust to the needs of balancing the system.

The support scheme for the production of electricity from the renewable sources and combined heat and power (hereinafter referred to as RES and CHP) due to increased expansion of the investments experienced unstable conditions. Announcements of the reduction of the prices paid to the producers encouraged even more active investments primarily into small power plants. In 2012, the Energy Agency, which is responsible for issuing declarations on support, recorded the largest increase in the number of solar power plants. Capacity installed in 2012 doubled and at the end of the year reached 243 MW. Because of that, fund raising for financing the support scheme needed an adjustment. Customers, who pay contributions into a special fund, received at the end of the year a notice that fees for RES and CHP will increase for more than three times. Higher fees for support the production from RES and CHP feel customers in other EU countries as well. Due to increasing share of subsidized price of electricity produced from these sources, the European market already detected the influence which requires active adjustment of the support mechanisms. The European Commission therefore announced a detailed investigation and intervention in the field of state aid.

At EU level, the Agency for the cooperation of Energy Regulators (ACER), national regulators, transmission system operators and professional public continued to prepare the network codes, which will determine a harmonised access to the transmission network. By adopting the third European package of Directives and Regulations on market liberalisation in the energy sector (hereinafter referred to as Third Energy Package), the European Commission set the priorities to create a single European energy market until 2014; by that the EU countries are encouraged to actively seek solutions. In the CEE region (Central Eastern Europe), in which Slovenia is involved, an agreement on progressive introduction of markets coupling was reached, or in other words on gradual transition to the implicit auction of cross-border transmission capacity, which means that at the borders with Italy and Austria the same rules will apply for Slovenian market.

Under Regulation No 1227/2011 on wholesale energy market integrity and transparency (REMIT) new, stricter rules regarding wholesale trading of electricity and gas came into force. The main goal of the new rules is to prevent the use of insider information and other forms of market abuse, which distort wholesale prices and may have negative impact on final electricity prices. Electricity trading will be centralized and monitored on the EU level, enabling to detect manipulations, which, to date, were hard to discover. National authorities in Member States will introduce penalties that will help to eliminate and prevent market manipulations. In 2012, ACER and the Energy Agency were carrying out the activities to effectively implement REMIT.

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## 2.3 The development in the natural gas market

In 2012 the natural gas market was characterized by further lower consumption of gas compared to 2011. Consumption of household and industrial customers decreased at the same time. Consumption was lower by 4%, which was considerably less than in 2011. Higher amounts were noticed only for the transmission of gas to other transmission networks. These transferred amounts were higher by 34% compared to 2011.

The natural gas market was characterized by increased competition, which caused significant reduction of prices, especially in the last quarter of the year. Price reduction and other suppliers' activities led customers to become more active. Activities on both sides reflected in number of switching, which in small Slovenia in 2012 reached a very high level, almost 9%.

In accordance with Directive 2009/73/EC, and by taking into account the opinion of the European Commission of 13 June 2012 confirming the position of the Energy Agency that the operator of the transmission system operator fulfils the requirements for independent transmission system operator (ITO), the Energy Agency on 11 July 2012 issued the decision on certification of the gas company Plinovodi d.o.o. (hereinafter referred to as Plinovodi) as the independent system operator. It was established that the company meets all the requirements for carrying out the tasks of ITO and shall be certified.

In 2012, a lot of effort was put into fulfilment of the changed conditions by the European legislation in the field of security of supply. Nevertheless, for the final implementation of the new rules we should wait for the corresponding changes of the national legislation. Until then the existing rules on security of supply are in force.

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## 2.4 The main areas that involved the regulator

Operation of the Energy Agency was in 2012 to some extent marked by the Third Energy Package. The implementation has not yet been carried out, which causes a lot of difficulties, since the new legislation imposes much greater workload and responsibilities on regulators. Certain directly transferable provisions impacted already on the Energy Agency's work, and at the same time, the preparation of certain tasks that will be introduced after implementation was carried out. The Energy Agency was actively engaged with relevant Ministry and expert public in preparation of new energy legislation, in the process of public consultation the Energy Agency participated with its comments.

In the international area regulatory cooperation with ACER is established, having representatives in the Board of Regulators. The scope of work and our obligations in the regulatory cooperation at international level increased, mainly because of the tasks foreseen in the Third Energy Package, ACER's powers and duties of national regulators.

In electricity area in 2012 an analysis of the regulatory framework for 2011 was carried out, and Energy Agency monitored the implementation of the current regulatory framework for 2012. At the same time the preparatory activities for the regulatory framework 2013–2015 started, after which the distribution network charges will remain the same, and for the transmission network will decrease.

The scope of tasks related to renewable sources and cogeneration of useful heat and electricity was well above expectations. Decision-making process on the support includes issuing of declarations for production facilities, issuing decisions on granting support and certificates of origin as well as performance of analysis and reports on the implementation of support schemes.

Smart grids will in the future influence regulation of public utility services. Therefore, the Energy Agency in 2012 continued to work in accordance with adopted policy to actively regulate the energy activities and networks of the future (the so called AREDOP), which purpose is prompt and timely deployment of appropriate solutions in the regulatory practice.

Majority of work in the area of natural gas was related to adoption and execution of the new legislation on the network charge for distribution network, which introduced a three-year regulatory period 2013–2015. The Energy Agency successfully accomplished the certification process, and obtained new legal powers in the area of security of supply.





Electricity

### 3.1 General information

In 2012 the electricity consumption in Slovenia amounted to 12,631 GWh of electricity (excluding the losses in the distribution and transmission network). In comparison with 2011, the consumption decreased by 51 GWh, or 0.4%. The customers connected to the transmission networks used 1990 GWh of electricity or 4% more than the previous year. The consumption of the customers connected to the distribution network decreased by around 2%, and amounted to 10,390 GWh. The hydroelectric pumped-storage power plant Avče (hereinafter referred to as PSPP Avče) used 251 GWh for accumulation of water. The electricity losses in the transmission and distribution networks amounted to 875 GWh, or 6.7% of transmitted electricity, including transit, export and import of electricity.

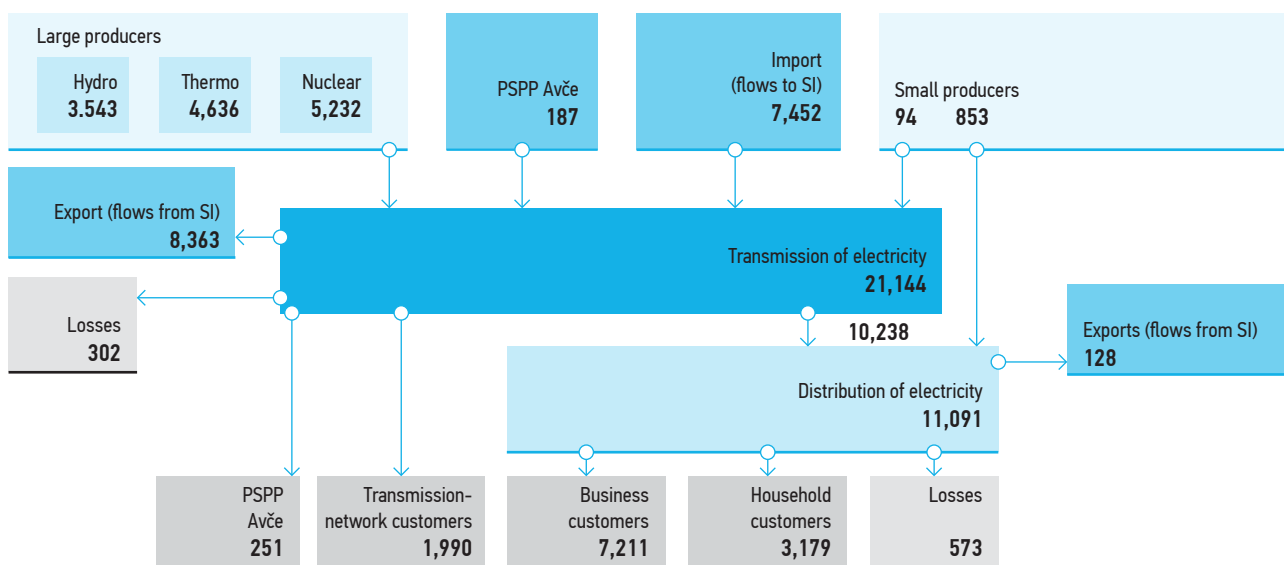
In 2012 a total of 14,545 GWh of electricity was generated in Slovenia, which was 333 GWh less than in 2011. The hydroelectric power plants connected to the transmission network generated 3768 GWh of electricity, which was 454 GWh more than the year before. The thermoelectric power plants generated 4636 GWh of electricity, or 151 GWh less than in 2011. The Krško Nuclear Power Plant generated 5232 GWh of electricity, which was 667 GWh less than in the previous year. Production of electricity of the small producers (with production units less than 10 MW) connected to the distribution network, was, compared with the production in 2011, a little higher and amounted to 853 GWh. In 2012 the domestic demand was not completely covered by the production sources in the Republic of Slovenia, including losses in the network, and taking into account the 50 per cent share of installed capacity of the Krško Nuclear Power Plant, which belongs to Slovenia. Thus, the Slovenian consumption was covered by the domestic source in total of 88%. Through the transmission and the distribution networks 8491 GWh of electricity was exported, and imported 7452 GWh of electricity.\*

The share of hydroelectric power plants and other production facilities on renewable energy sources (hereinafter referred to as RES) varies from year to year according to hydrological conditions the extent of investments in new facilities using renewable energy sources. In 2012 this share amounted to 32% of the whole production. The power plants using fossil fuels contributed about 32% of total production and Krško Nuclear Power Plant 36%.

In 2012 we recorded a large increase if the number of solar power plants, mainly because of favourable state support scheme. Installed capacity of solar power plants doubled, and amounted from 121 MW in 2011 to 243 Mw in 2012.

The highest hourly load was noted on 9 February at 19.00; it amounted to 2068 MW, which was 118 MW more than in 2011.

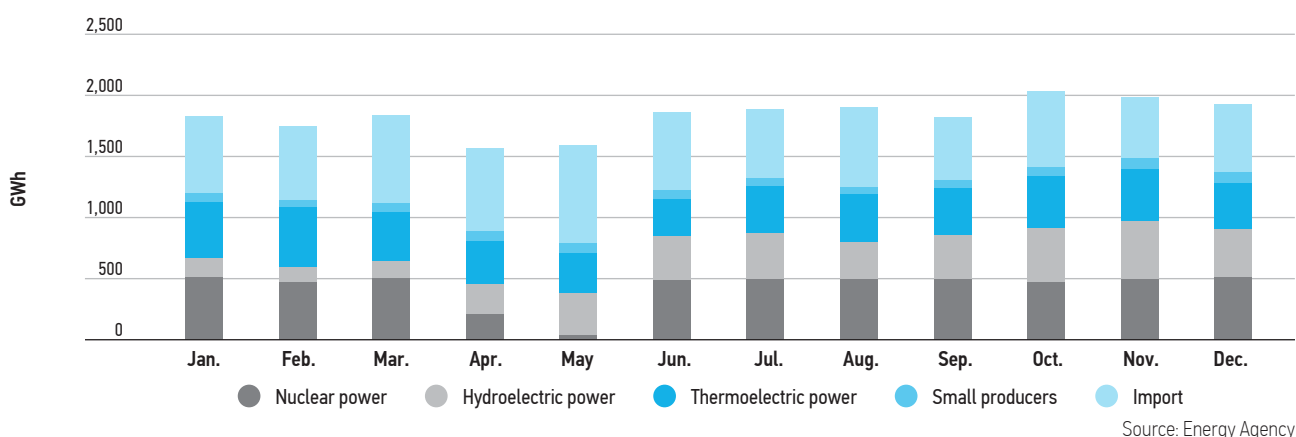
**Figure 1: Balance of electricity production and consumption in 2012 in GWh**



\* amounts are taken from balance sheets of the transmission and distribution networks operators

Source: Energy Agency

**Figure 2: Structure of monthly electricity production and import**



**Table 1: Electricity production and import**

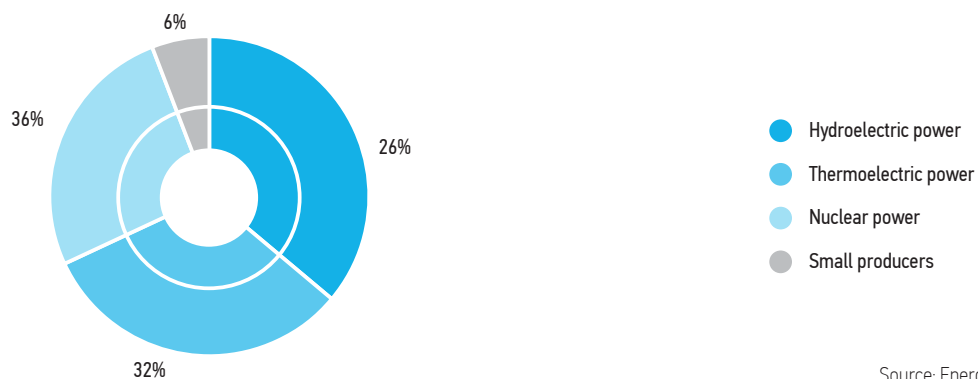
	2011	2012	Index 12/11
Hydropower plants	3,406	3,768	110.6
Thermoelectric power plants	4,839	4,691	96.9
Nuclear power plant	5,899	5,232	88.7
Small producers*	734	853	116.2
<b>Total production in Slovenia</b>	<b>14,878</b>	<b>14,544</b>	<b>97.8</b>
Import	7,029	7,452	106.0
<b>Total</b>	<b>21,907</b>	<b>21,996</b>	<b>100.4</b>

\* Installed capacity of production unit is up to 10 MW, including the facilities installed at customers.

Source: Energy Agency

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

**Figure 3: Structure of the production sources for electricity in Slovenia in 2012**

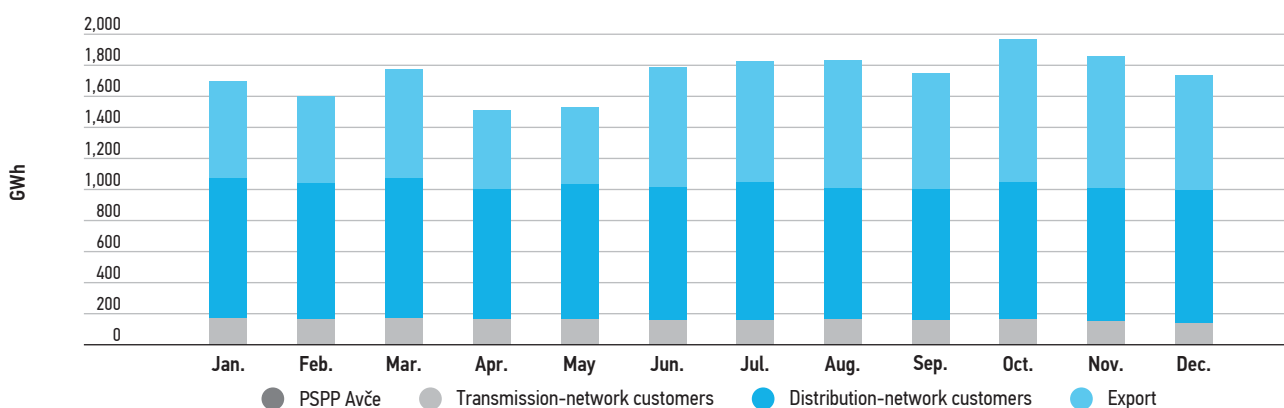




**Table 2: Electricity consumption and export for 2011 and 2012**

	2011 GWh	2012 GWh	Index 12/11
Business customers on the transmission network	1,915	1,990	103.9
Business customers on the distribution network	7,363	7,211	97.9
Household customers	3,211	3,179	99.0
Consumption of the PSPP Avče	193	251	130.1
Network losses	816	875	107.2
<b>Total consumption</b>	<b>13,498</b>	<b>13,506</b>	<b>100.1</b>
Export	8,409	8,491	101.0
<b>Total</b>	<b>21,907</b>	<b>21,997</b>	<b>100.4</b>

Source: Energy Agency

**Figure 4: Fluctuations in electricity consumption in 2012**

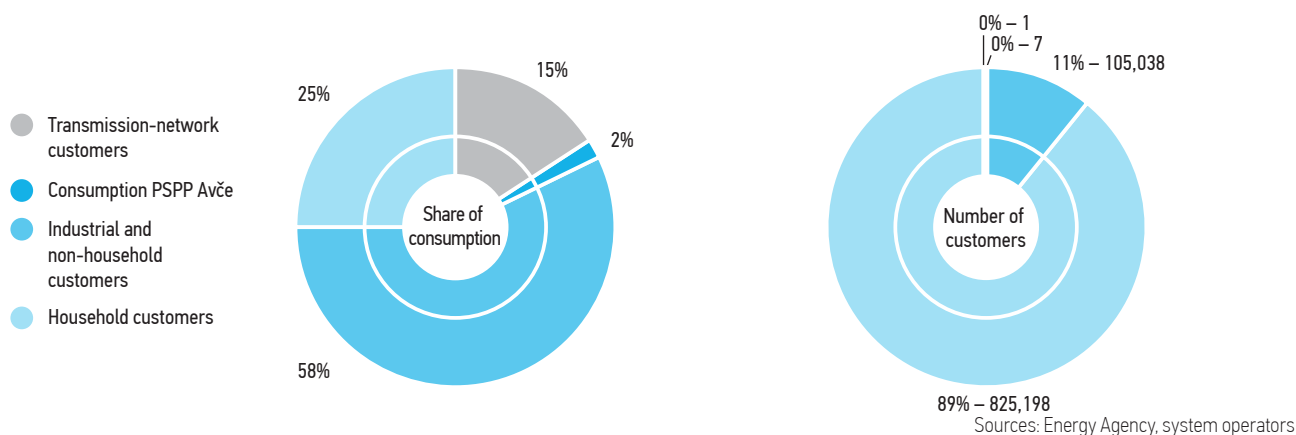
Source: Energy Agency

**Table 3: The share of consumption and the number of customers by the type of consumption**

	Number	Consumption GWh
Transmission-network users	7	1,990
Consumption PSPP Avče	1	251
Business customers on the distribution network	105,038	7,211
Household customers	825,198	3,179
<b>All customers</b>	<b>930,247</b>	<b>12,631</b>

Sources: Energy Agency, system operators

**Figure 5: Shares of electricity consumption by consumption type**



At the end of 2012 a total of 930,244 electricity customers were connected to the electricity network in Slovenia. In comparison with 2011, in the structure the share of consumption of transmission-network customers increased for one per cent.

## 3.2 The regulation

### 3.2.1 General information

Regulation is a process in which regulatory institutions by establishing the rules for determining the price cap or revenues and determination of eligibility of costs and revenues influence on regulated companies in order to meet business, technical and other objectives within the given period.

The regulated activities are the transmission and distribution of electricity which, at the introduction of market rules in the power sector, remain a natural monopoly.

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.

Elektro Slovenija, d.o.o., provides the public service of the transmission system operator as its single service, with its main office at Hajdrihova 2, Ljubljana ([www.eles.si](http://www.eles.si)) – hereinafter referred to as Eles.

SODO, d.o.o., provides the public service of the distribution system operator on the basis of a concession, with its main office at Minařikovi ulica 5, Maribor, ([www.sodo.si](http://www.sodo.si)) - hereinafter referred to as SODO.

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

### 3.2.2 The unbundling of services

Legal entities that carry out more than one energy-related activity in the area of supply with electricity, and in addition to an activity in the area of supply with electricity, also another activity (either another energy-related activity or market-based activity) have to provide for, in accordance with Energy Act, separate accounts for each energy-related activity in line with Slovenian Accounting Standards.

The activities of public service of transmission system operator (Eles) and the public service of distribution system operator (SODO) in Slovenia are carried out in separate legal entities, as their sole activities; for this reason they do not keep separate accounts.

On the basis of the relevant contracts the owners of the electricity-distribution infrastructure prepared separate accounts for the activities which are carried out for SODO.

The process of certification of the transmission system operator laid down by Directive 2009/72/(EC) of the European Parliament and the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC has not yet been transposed into the current Energy Act. The transposition of Directive is envisaged by next amendments to the Energy Act.

### 3.2.3 Technical functioning

#### 3.2.3.1 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, uses the following ancillary services:

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

For 2012 the next scope of the ancillary services was predicted:

- the reserve for the secondary control of frequency and power:  $\pm 80$  MW,
- the reserve for the secondary control of frequency and power: 348 MW,

In 2012, Eles introduced new method for selecting the providers of ancillary services. For the first time selection of bidders was applied for two consecutive years, for 2012 and 2013. Ancillary services providers for tertiary control of frequency and power were chosen at the auction, providers of other ancillary services were selected through the direct negotiations with potential bidders.

For the selection of provider of tertiary reserve at the auction, Eles foresaw three products. Based on statistical analysis of the engagement of reserve for tertiary control in previous years the system operator established that only about 10% of tertiary activations required engagement of total power of more than 130 MW. According to the previous analysed period Eles had never used a full range of tertiary reserve. Based on these facts three products were created, which differed with regard to the quality parameters and the source of the reserve. Characteristics of individual products of tertiary reserve are shown in Table 4.

**Table 4: Required product quality of tertiary reserve in 2012 and 2013**

	Product A	Product B	Product C
Quantity (MW)	134	66	148
Source of the reserve	Slovenia	ENTSO-E	ENTSO-E
Activation time	$\leq 15$ min	$\leq 15$ min	$\leq 15$ min
Time to announce changes of activation	$\geq 50$	$\geq 25$	$\geq 15$
Number of activations in year	= 0 h	$\leq 12$ h	$\leq 24$ h
Durration of one activation	$\geq 16$ h	$\geq 16$ h	$\geq 16$ h

Source: Eles

For leasing products for tertiary reserve for 2012 and 2013, Eles on 5 July 2011 carried out an auction. At this auction the bidders offered different prices for leasing and energy for each production unit, with which they took part at the auction. The final results are shown in the table below.

**Table 5: Auction results for the lease of tertiary reserve for 2012**

Product	Selected bidder	Leased capacity (MW)	Lease price (EUR/MW)	Energy price (EUR/MWh)
<b>Product A</b>				
	TE-TOL	10	50,000.00	63.00
	HSE	29	25,500.00	260.00
	HSE	29	26,500.00	260.00
	HSE	42	47,860.00	210.00
	HSE	24	79,970.00	140.00
<b>Product B</b>				
	Energy Financing Team AG	52	16,800.00	210.00
	HSE	14	79,970.00	140.00
<b>Product C</b>				
	Energy Financing Team AG	148	13,200.00	160.00

Source: Eles

The providers of other ancillary services were chosen by Eles on the basis of direct negotiations with potential providers of these services. Due to the nature of remaining ancillary services only providers with production resources located within Slovenia could be selected.

### 3.2.3.2 The balancing

In accordance with Article 22a of the Energy Act the transmission network operator - Eles is responsible for balancing the imbalances in the Slovenian network. Within the balance scheme, stipulated by the Rules Regarding the Operation of the Electricity Market (the Official Gazette of the Republic of Slovenia, Nos 98/09, 97/11), 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. Until 15 October 2012 Eles was buying required balancing energy in line with the System Operation Instructions for the Electricity Transmission Network (the Official Gazette of the Republic of Slovenia, No 71/12, and before introduction of the new rules in accordance with instructions issued in the Official Gazette of the Republic of Slovenia, No 49/2007), under which the TSO could, in order to balance the imbalances, use the secondary or tertiary control reserve, or bought or sold the required balancing energy in electricity market in Slovenia or abroad. On 16 October 2012 in Slovenia balancing electricity market was established, which means that since then Eles was buying or selling energy for balancing primarily in this market.

The balancing market is organized by the company Borzen, the electricity-market operator, d.o.o. (hereinafter referred to as Borzen). Trading on this market is carried out as continuous trading, which means that the transaction is concluded whenever adequate supply and demand meet. Trading on the balancing market is implemented through a trading platform for collecting purchase and sale bids, which is open for all members of the balancing scheme, e.g. the balance responsible parties and subgroups. Eles buys and sells electricity intended for the settlement imbalances in the Slovenian electricity system, except energy for providing primary and secondary control, and for the engagement of the tertiary reserve that cannot be done through the trading platform. Trading on the balancing market is carried out

24 hours a day, seven days a week, and at most one day in advance. Trading with Hourly, 15 minutes, Base and Peak products is possible. Between 16 October and 31 December 2012, for a total of 27,779 MWh of electricity were sold in the balancing market.

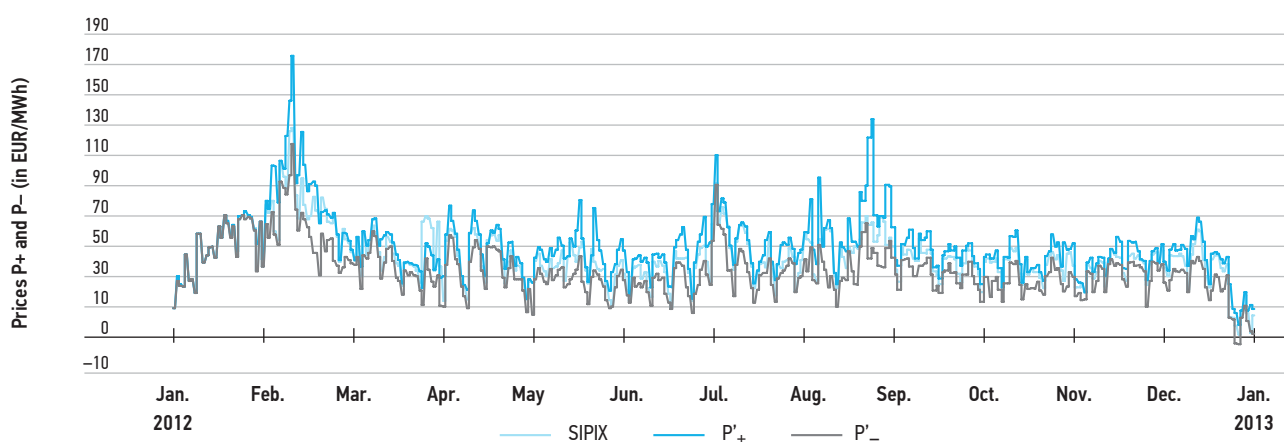
Borzen is responsible for imbalance settlement. The imbalance settlement is carried out on the basis of the provisions from the Rules of the Operation of the Electricity Market. In 2011 rules were amended, becoming into force in 2012. New provisions that became applicable in 2012 are mostly related to the modified method of settling imbalance settlement. First, the market operator determines the total amount of imbalances for each balance group and for each accounting interval (1 hour). Later it prepares financial value of these imbalances, taking into account the actual costs for imbalances incurred by SOPO (realisation of a balance group), and hourly index of electricity on the Slovenian power exchange. In that way, basic prices of imbalances,  $C_+$  and  $C_-$  are determined.  $C_+$  refers to positive deviations (realisation of the balance group is lower than planned value), and  $C_-$  refers to negative imbalances. Within imbalance settlement for each balance group it has to be examined whether the imbalances were inside or outside of the tolerance band. According to the amended rules the market operator since 2012 each month does the correction of the basic prices of imbalances in such a way that the revenues and expenditures from the balance sheets of balance groups, without taking into account the penalization of deviations outside the tolerance band, cover all TSO's incurred costs for balancing. Calculated price correction is made in both directions – for surpluses and deficits. Correction is made in as many accounting intervals as necessary to cover the imbalance costs in accounting period. In this way the corrected imbalance prices,  $C'_+$  and  $C'_-$ , are achieved. Calculation is made without taking into account penalties for deviations and planned deviations (deviations of the balance groups without delivery points). Calculation of penalties for deviations outside the tolerance band is carried out by the market organizer after price correction, which means that the accounting surpluses arise only from penalties for deviations imposed to the balancing groups.

In financial statement, for each accounting interval the price is determined on the basis of positive and negative deviations and actual incurred costs of the TSO by accounting balancing deviations. Price of deviations is determined for each direction separately ( $C_+$  and  $C_-$ ). The financial statement of each balancing group for accounting period is equal the sum of products of the quantity and price deviations in each accounting interval of an accounting period.

On the basis of the settlement account for all accounting periods and correction of prices  $C_+$  and  $C_-$ , the market organizer every month carries out a financial settlement of imbalances. Financial settlements are prepared for balance groups with relevant delivery points or production-delivery points. For groups that do not have such points, i.e. groups of traders who do not supply electricity to the end customers in Slovenia, the financial settlements are made only when the responsible parties announce planned imbalances.

Figure 6 shows the price movements for imbalances  $C'_+$  and  $C'_-$ , and the price index in the Slovenian electricity exchange SIPIX in 2012.

**Figure 6: Average daily values of the basic prices of imbalances  $C'_+$  and  $C'_-$  in 2012**



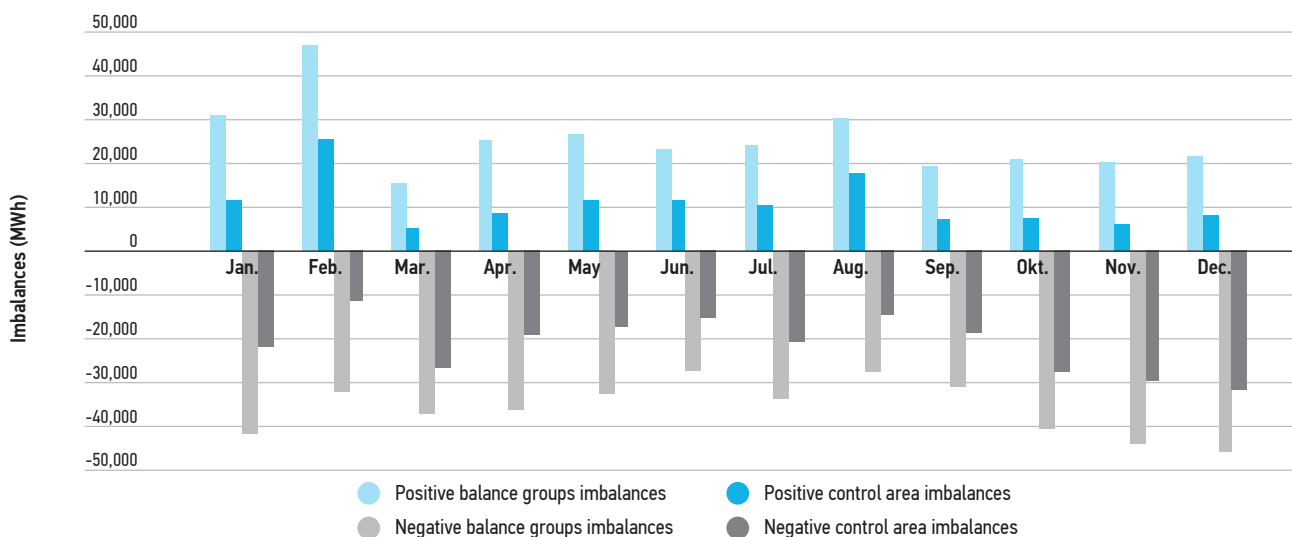
Vir: Borzen

From January to December 2012 the average value of derived price for positive imbalances  $C_+$  accounted to 60.41 EUR/MWh, and for negative imbalances  $C_-$  44.35 EUR/MWh. The maximum value of  $C_+$  in this period amounted to 481.88 EUR/MWh, and the lowest 0.00 EUR/MWh. The highest price  $C_+$  occurred on 23 August in 21-hour block, and the lowest in more intervals at the of December. The highest price of  $C_-$  occurred was 217.28 EUR/MWh, on 10 February in 19-hour block, and the lowest 121.56 EUR/MWh, occurred on 25 December in fourth hour block.

According to the amended rules for the calculation basic prices of imbalances  $C_+$  and  $C_-$ , and consequently for the calculation of derived prices of imbalances,  $C'_+$  and  $C'_-$ , Slovenian Stock Exchange Index SIPX is used. The average value of SIPX index amounted to 53.15 EUR/MWh. The maximum value of SIPX occurred on 10 February, in 19-hour block, when it was 224 EUR/MWh, and the lowest was 0.00 EUR/MWh, appearing during more intervals in December. The value of  $C'_+$  was on average for 7.25 EUR higher than the SIPX index value, while the value of  $C'_-$  on average of 8.80 EUR lower than the SIPX index value.

Figure 7 shows the total of positive and negative imbalances of all balance groups in Slovenia for 2012.

**Figure 7: All imbalances of the Slovenian network in 2012**



Source: Borzen

The highest positive imbalances occurred in February – 47,349.87 MWh, and the highest negative in December, 46,169.12 MWh. In addition, the figure shows imbalances of the whole system. They are, of course, a bit lower than the imbalances of balance groups, but maximums are recorded in the same months as the balance groups' imbalances levels.

In 2012 the number of balance groups and subgroups significantly rose. At the beginning of the year 40 groups and subgroups were registered by the market organizer, and at the end of the year 48 balance groups and 20 subgroups. The number increased mainly because of entries of foreign traders to the Slovenian market, but not at suppliers, but as wholesale traders. Among balance groups is the so-called ECO balance group, which includes all producers that generate electricity from RES or CHP, receiving guaranteed purchase. This group is managed by the Centre of Support, which operates within the Borzen. Costs incurred by this group are covered by the contribution for support the production of electricity from RES and CHP. The producers from RES and CHP that receive operating support are included in the balance groups of suppliers or traders, which purchase their electricity. Imbalances costs of these producers are paid by suppliers or traders.

### 3.2.3.3 Safety and Reliability Standards and Quality of Service

In International Electrotechnical Vocabulary IEC 60050-617- Part 617: Organization/Market of Electricity is used the term "Quality of Electricity Supply", which define the supply continuity, the voltage quality and the commercial quality.

At their work, the system operators and electricity distribution companies the Slovenian standards, or technical report, which are accepted in the Standardization system in Slovenia:

- SIST EN 50160:2011, which replaces SIST EN 50160:2008: Voltage characteristics of electricity supplied by public distribution networks
- SIST-TP IEC/TR3 61000-3-6:2004: Electromagnetic compatibility (EMC) - Part 3: Limits - Section 6: Assessment of emission limits for distorting loads in MV, HV and EHV power systems - Basic EMC publication
- SIST-TP IEC/TR3 61000-3-7:2004: Electromagnetic compatibility (EMC) - Part 3: Limits - Section 7: Assessment of emission limits for fluctuating loads in MV and HV power systems - Basic EMC publication

In order to reduce costs of the system operators the quality of electricity supply can also be 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 Energy Agency on the basis of minimum quality standards. The term supply quality covers the following:

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

Article 42 of Directive No 72/2009 allows Member States that in the event of a sudden crisis in the energy market may temporarily take the necessary safeguard measures. This article is not yet implemented into Slovenian legislation.

#### 3.2.3.3.1 Continuity of supply

The data on the continuity of supply were collected by the uniform methodology, in accordance with the Act Concerning the Submission of Data about the Quality of the Electricity Supply. Data on supply continuity are sent by using Web services.

The SAIDI indicators for unplanned interruptions caused internally from 2010–2012, sent by the electricity distribution companies, are shown in table below.

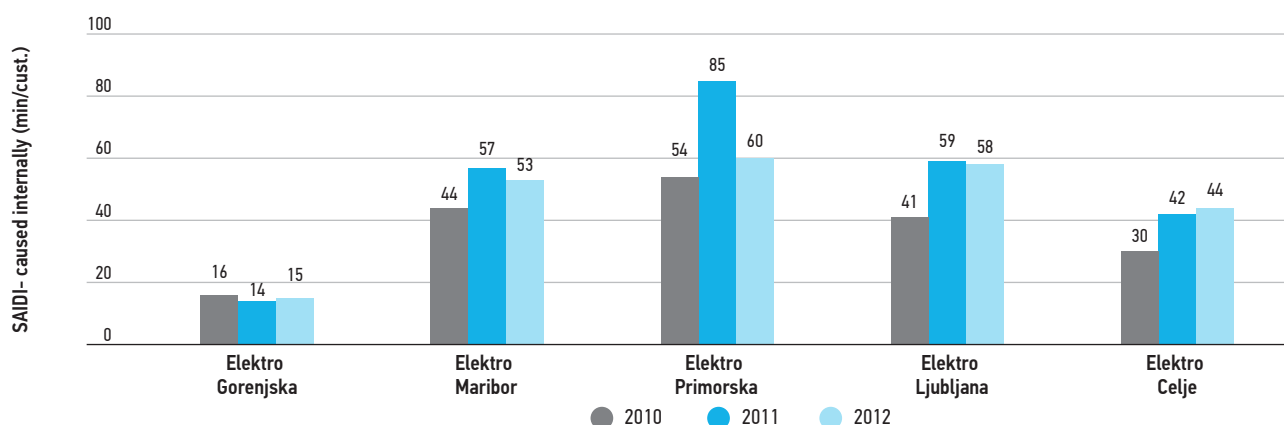
**Table 6: SAIDI by year – from 2010 to 2012 unplanned interruption caused internally**

Company	SAIDI – Unplanned, long interruptions [min/cust.] (internal)		
	2010	2011	2012
Elektro Gorenjska	16	14	15
Elektro Maribor	44	57	53
Elektro Primorska	54	85	60
Elektro Ljubljana	41	59	58
Elektro Celje	30	42	44

Sources: Companies' data

Figure 8 shows the SAIDI between 2010 and 2012 for unplanned long-term interruptions (caused internally). According to the achieved level of indicator SAIDI in 2011 it can be noticed that SIDI in 2012 did not significantly changed, however, a substantial improvement of Elektro Primorska can be observed. During the years the lower values of SAIDI in the area of Elektro Gorenjska are evident, mainly because of the specific environmental parameters and the structure of the network system, where cable networks prevail.

**Figure 8: SAIDI from 2010 to 2012 unplanned interruption caused internally**



Sources: Companies' data

On the basis of the SAIDI and SAIFI for 2012 relating to individual network owners, the Energy Agency calculated the aggregate value of SAIDI and SAIFI indicators on the basis of the number of all customers in Slovenia. In tables 7 and 8 the SAIDI and SAIFI indicators that relates to all interruptions which namely affect a customer are shown. At calculating these indicators, as, in addition to internal interruptions, the external interruptions due to force-majeure are also covered; planned interruptions are shown separately.

**Table 7: SAIDI and SAIFI at the national level from the period 2010–2012 (unplanned)**

Indicator/causes	Unplanned interruptions					
	2010		2011		2012	
	Internal causes	All causes	Internal causes	All causes	Internal causes	All causes
SAIFI – national level [interr./cust.]	1.08	1.81	1.33	1.81	1.40	2.99
SAIDI – national level [min./cust.]	39	81	55	76	50	169

Sources: Companies' data

**Table 8: Indicators SAIDI in SAIFI at national level from 2010–2012 (planned interruptions and all interruptions)**

Indicator	Unplanned interruptions			All interruptions		
	2010	2011	2012	2010	2011	2012
SAIFI – national level [interr./cust.]	0.85	0.98	0.88	2.65	2.79	3.86
SAIDI – national level [min./cust.]	104	127	117	185	203	286

Sources: Companies' data



### 3.2.3.3.2 Commercial quality

In 2012 the monitoring of commercial quality indicators continued. The collected parameters are merged into the following groups:

1. Connection
2. Customer care
3. Technical service
4. Metering and Billing

Table 9 shows average values of some commercial quality indicators relating to connecting to a network and technical services of fuse or electricity meter.

**Table 9: Average values of some commercial quality indicators**

Commercial Quality Indicator	Elektro Gorenjska	Elektro Maribor	Elektro Primorska	Elektro Ljubljana	Elektro Celje
<b>Connection</b>					
Average time for issuing the approval for connection (days)	14.00	14.60	28.76	17.50	8.03
Average time for issuing the contract for connection to the LV network (days)	8.00	9.70	3.67	9.60	3.84
Average time for activating the connection to the network (days)	5.18	5.30	3.64	3.70	3.04
<b>Technical services – elimination of failures</b>					
Average time until the start of restoration of supply following failure of fuse (06.00 – 22.00) [h]	1.45	1.43	2.08	0.87	1.41
Average time until the start of restoration of supply following failure of fuse (22.00 – 06.00) [h]	1.37	0	2.58	1.50	1.21
Average time to repair meter failure [days]	4.00	2.59	3.60	2.90	5.94

Sources: Companies' data

In 2012 the Energy Agency introduced a unified procedure for collecting complaints relating to commercial quality. Classification of complaints is consistent with ERGEG recommendations, Ref, E10- CEM-33-05 (June 2010). Data on commercial complaints are summarized in Table 10.

**Table 10: Number and shares of justifiable complaints relating to commercial quality in 2012**

Reason for complaint	Number of all complaints	Number of justifiable complaints	Share of justifiable complaints [%]
Cost estimation for simple works	0	0	0
Issuing of approval for connection	17	3	18
Issuing of the contract for connection to the LV network	9	1	11
Yearly by meter readings by the designating company	18	14	78
Repairing meter failure	235	121	51
Answering to the voltage complaint	67	56	84
Elimination of voltage variation	6	1	17
Maximum permitted duration and number of unplanned long-term interruptions (for end-users to MV)	2	1	50
Maximum permitted duration of individual unplanned interruption	1	0	0
Activation of connection to the network	0	0	0
Restoration of supply following failure of fuse	18	3	17
Incorrect disconnections due to mistakes of maintenance personnel	8	6	75
Answers to written questions, complaints or users enquiries	58	26	45
Restoration of powers supply following disconnection due to non-payment	0	0	0
Not coming or be late for pre-arranged visit	1	0	0
Time for giving information in advance of a planned interruption	4	1	25

Sources: Companies' data

Data on complaints show that customers mostly complained about the meter failure, and the largest share of justifiable complaints is related to poor voltage quality.

The level of commercial quality is determined by 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.

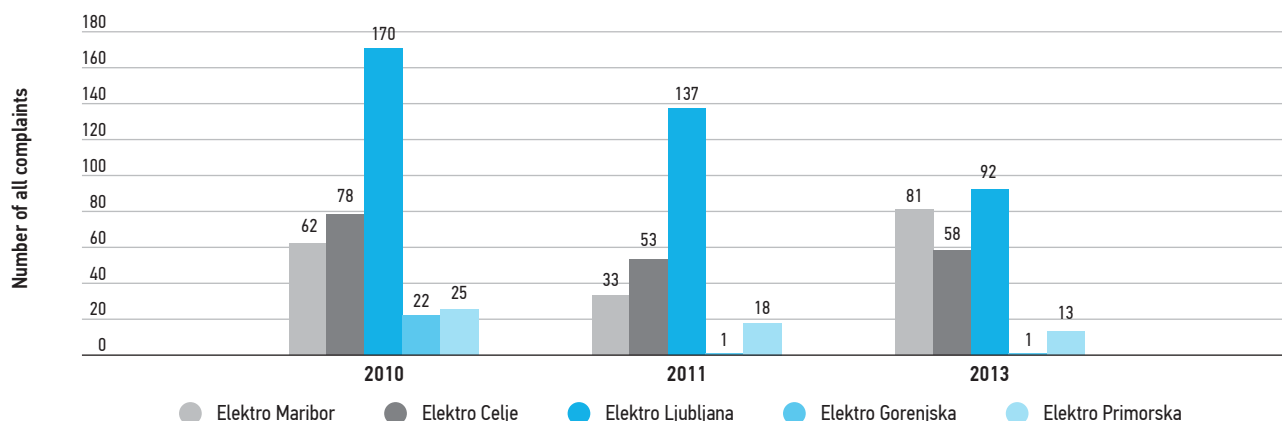
### 3.2.3.3.3 Voltage quality

In line with the legislation, the system operators 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. The voltage quality is monitored also in the procedure of issuing the connection approval. By that, the issuer can examine the condition of the network.

The owners of the distribution networks collect the data relating to the voltage quality at the metering points for continual or periodic monitoring in accordance with standard SIST EN 50160.

The number of complaints varies over the years (Figure 9); so it is very difficult to determine the trend of increasing or decreasing in number of complaints against improper voltage quality. According to the number of all complaints received, Elektro Ljubljana has the leading position, but the number of complaints in 2010–2012 has been decreasing.

**Figure 9: Number of all complaints relating to voltage quality for 2010–2012 by company**



Sources: Companies' data

**Table 11: Number and shares of justifiable complaints to voltage quality for 2010–2012**

Company	2010			2011			2012		
	All complaints	Number of justifiable complaints	Share of justifiable complaints	All complaints	Number of justifiable complaints	Share of justifiable complaints	All complaints	Number of justifiable complaints	Share of justifiable complaints
Elektro Maribor	62	47	75.8%	33	25	75.8%	81	57	70.4%
Elektro Celje	78	59	75.6%	53	47	88.7%	58	37	63.8%
Elektro Ljubljana	170	110	64.7%	137	111	81.0%	92	47	51.1%
Elektro Gorenjska	22	9	40.9%	1	0	0.0%	1	1	100.0%
Elektro Primorska	25	17	68.0%	18	10	55.6%	13	10	76.9%
<b>Total</b>	<b>375</b>	<b>242</b>	<b>67.8%</b>	<b>242</b>	<b>193</b>	<b>79.8%</b>	<b>245</b>	<b>152</b>	<b>62.0%</b>

Sources: Companies' data

### 3.2.3.3.4 The voltage quality of the transmission network

In accordance with the provisions of the General conditions for the supply and consumption of electricity (the Official Gazette of the Republic of Slovenia, No. 117/02), the TSO (Eles) is obliged to carry out all the tasks necessary for safeguarding the service quality of the transmission system operator.

In 2012 the TSO carried out permanent monitoring of voltage quality of the high-voltage network in line with the requirements of the Standard SIST EN 50160 in 181 connection points (between distribution, production and direct consumers). The monitoring of voltage quality will continue at the remaining connection points between the transmission network and its users, where permanent monitoring is not yet established, as well as at the connection points with transmission networks of Croatia, Austria and Italy. 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 (ESN).

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, on average, consistent with the requirements of the SIST EN 50160 standard. In some points some voltage unbalances and flickers were detected also in 2012.

Excessive flicker values appeared in three areas around large customers using facilities which overtake irregular inductive current resulting in a large voltage fluctuation on the transmission network.

The most extensive flicker impact was felt throughout the Gorenjska Region and in some Ljubljana nodes. Slightly smaller impact was perceived in Koroška region. The third area with minimal flicker impact was Celje region.

System operating instructions for the electricity network determine in more details the connection of the production facilities with an installed capacity up to 10 MW. An increased interest of producers to connect to the internal network was noticed. The advantage of such connection is that the producers receiving operating support for the produced electricity are using less electricity from the public network, and at the same time electricity is consumed on the location of the production facility.

#### **3.2.3.4 The long-term development of the electricity network**

Every two years the transmission and distribution system operators prepared development plans for a period of ten years; plans are evaluated and approved by the ministry responsible for energy. These plans consider the strategic national energy policies, and are harmonised with each other. When preparing 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 locations for new large production sources. In the development plans physical and financial extent of investments in new facilities are determined, as well as investments in renovation of existing facilities of electricity infrastructure on transmission and distribution network.

Last development plans of both system operators were prepared for the period 2011–2020. The expected investments in the electricity infrastructure for the transmission and distribution amount to € 2,393 million, of which € 635 million are allocated for the transmission network, and € 1,758 million are allocated for the distribution network.

According to the plan for electricity distribution networks, the investments will reach its peak in 2015, after that gradually decline, and again rise in 2020. In the transmission network the scale of investments will significantly decrease after 2014.

Basic development strategies of the distribution system operator in the next decade emphasize investments in development of services for the operating the network. The cabling of MW network is continuing. These investments are important because the impact of environment on cables is, comparing to overhead lines, smaller. In that way the quality of electricity supply improves, and spatial planning is much easier.

The distribution system operator will improve the quality supply and reduce number of short-term and long-term interruptions with investments in automation and control of operation of the network.

The distribution network has to adapt to the increased connection of new dispersed generation from renewables and cogeneration to LV and ML network. Connection of dispersed sources to the network has to be reliable and safe, balancing of consumption and production of electricity has to be enabled. The concept of smart grids will allow flexibility (to meet customers' needs by responding to their requirements), access (connection to the network for all users), security of electricity supply (by providing and improving reliability and quality), and efficiency.

Smart grids include also investments in advanced metering systems. Pilot projects show that advanced metering systems offer a lot more than just measuring and transferring data, and because of lower operating costs it would be rational to use such systems for all customers. In development plans up to 2020 the transmission system operator takes into consideration the basic guidelines covering the construction of 400 kV inner-loop network, new connections to the neighbouring network systems, the control of unwanted energy flows and adequate voltage conditions, as well as a reliable and safe operation in accordance with the recommendation and set criteria by ENTSO-E. In the period up to 2020 major investments planned are 2 x 400 kV Beričevo–Krško transmission lines, transition of transmission lines Divača–Kleče–Podlog–Cirkovce from 220 kV to 400 kV and construction of 2 x 110 transmission line Beričevo–Trbovlje.

International lines with Italy are also planned, (2 x 400 kV Okroglo-Videm (Udine), and with Hungary (2 x 400 kV Cirkovce-Pince transmission lines). For all these investments, especially for the 400-kV lines, is typical that the period of construction extends with every 10-year development plan in particular due to the difficulties associated with the placing of the line facilities in the environment. Together with Cirkovce–Pince transmission line the new 400 kV DTS will be built in Cirkovce.

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

The Energy Agency determines the methodology for setting the network charge and the criteria for establishing eligible costs for electricity networks and the methodology for charging for the network charge. On the basis of the methodology for setting the network charge and the criteria for establishing eligible costs for electricity networks, the Energy Agency sets the network charges for the use of electricity networks, for the distribution networks, and for the ancillary services. On the basis of determined network charges and the methodology for charging for the network charge, the Energy Agency determines the tariffs for transmission and distribution networks, ancillary services, specialised ancillary services and for connected load.

### 3.2.4.1 Setting the network charge

The year 2012 was the last year of the third regulatory period, which lasted from 1<sup>st</sup> January 2011 to 31<sup>st</sup> December 2012. The regulation was carried out in line with Act Determining the Methodology for Charging for the Network Charge and the Methodology for Setting the Network Charge and the Criteria for Establishing Eligible Costs for Electricity Networks (Official Gazette of RS, No. 59/2010, 52/2011).

The methodology for setting the network charge is based on the method of regulated network charge, which is implemented in a way that by establishing network charge and other revenues and by taking into account surpluses of the previous years, the eligible costs and deficits from the previous regulatory years of the system operator are covered.

Before the start of the third regulatory period, the Energy Agency determined the system operators a regulatory framework. The regulatory framework is an estimation of eligible costs and resources for covering eligible costs and deficits or surpluses of the previous years of the regulatory period of the system operator.

The eligible costs of the system operator are:

- the costs of operation and network maintenance,
- the costs for electricity losses in the network,
- depreciation costs,
- regulated return on assets.

Other sources to cover the eligible costs of the system operator apart from the network charge and surpluses from the previous years are:

- revenues relating to billings,
- revenues from the telecommunication services,
- revenues from compensations between transmission system operators,
- revenues from congestions,
- revenues from charging for the average costs for a connection and the network charge for connection load, free-of-charge received assets, co-investments and funds relating to revenues from congestions,
- revaluated operating incomes related to claims due to bankruptcies and compulsory settlement,
- other revenues arising from the provision of a regulated activity.

Revenues associated with the average cost for making a connection and connection load, free-of-charge received assets, co-investments and funds relating to revenues from congestions are annually recognized in the amount of depreciation.

The regulated network charge is also incentive based. Incentives depend on achieving lower costs than eligible, and the achieved level of the quality of supply.

If the costs of the system operator are lower than actual eligible costs, it may keep the difference.

Regulation based on the quality of the electricity supply is implemented by supply continuity indicators (SAIDI, SAIFI) for the activity of the distribution system operator. For each year of the regulatory period, by establishing baseline of indicators SAIDI and SAIFI and by taking into account system of standard for supply continuity, the Energy Agency determines the reference level of the supply continuity indicators. At the end of the year derogation from the reference level is established, which than is a basis for determining q factors for individual distribution areas. Factors q are determined by using the scheme of eligible costs of operation and maintenance. For the system operator factors represent the proportion of the (non-)eligible costs of operation and maintenance. If the system operator does not reach the required quality of supply, eligible costs of operation and maintenance are reduced (system operator is penalized), on the other hand, if the required level of the quality of supply is met, the system operator is entitled to actual controlled operating and maintenance costs (incentives).

After every regulatory year the system operator is obliged to determine the derogations from the regulatory framework, which are determine as the difference between planned and actual eligible costs of the system operator and difference between planned and actual financing sources for covering eligible costs. By the methodology of regulated network charge the system operator is obliged to consider the surplus of the network charge as dedicated revenue for covering deficit of the previous years or eligible costs of the following years. At the same time the system operator has the right to enforce the network charge deficit in establishing the network charge in coming years.

The Energy Agency monitors the implementation of the regulatory framework during the regulatory period by monitoring monthly realization of the network charge, analysis the specific eligibility criteria and reviews the calculated derogations from the regulatory framework.

The regulatory framework can be modified during the regulatory period, if the Energy Agency establishes that significant changes within the operation of the system operator occur.

The Energy Agency shall issue a separate decision, if it concludes that derogations were not calculated in accordance with the methodology.

In accordance with EA, the test of the methodology can be required, if, within two months after the issuing of the methodology, a legal interest is identified and reasons for review are presented. The Energy Agency must test the methodology within two months, and notify the applicant of its findings.

### **3.2.4.2 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. To divide the costs across different voltage levels the gross approach with respect to calculating the network charges for the transmission and distribution networks.

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## **3.2.5 The business operation of the regulated companies**

### **3.2.5.1 The business operation of the transmission system operator**

According to unaudited financial statement Eles ended the financial year 2012 with a net profit of € 6.01 million, which was € 1.91 million more than in 2011.

In 2012 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, and from other services.

**Table 12: Transmission system operator's network charge**

(in million EUR)

Year 2012	Regulatory Framework	Realization	Index
			Real./Reg. frame
Network charge for the transmission network	67.43	65.98	97.85
Network charge for the ancillary services	35.41	34.93	98.64
Network charge for the specialised ancillary service	0	0.10	
<b>Total network charge</b>	<b>102.84</b>	<b>101.01</b>	<b>98.22</b>

Source: Eles

In 2012 Eles realized for 2.15% less profit from the network charge than expected by the Energy Agency in the regulatory framework. The revenues from ancillary services were realized for 1.36% less than expected by the regulatory period. Network charge for the specialised ancillary service was not planned by the regulatory framework, but it was realized in the amount of € 0.10 million.

Within other revenues Eles realized the revenues from the auctions for allocating congested cross-border transmission capacities, and revenues from the ITC mechanism, amounted to € 64.93 million, which was 52.37% more than in 2011.

In 2012, in accordance with Article 46a of the EA and Regulation (EC) No 714/2009 of the European parliament and of the Council on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 (hereinafter referred to as Regulation 714/2009), Eles in its income statement reduced or separated the part of the revenues from the auctions for allocating congested cross-border transmission capacities. Eles separated the part of revenues from the auctions for allocating congested cross-border transmission capacities that were allocated for the maintenance or increasing of interconnection capacities through the investments to the network.

Eles owns the transmission system network and provides the public service of the transmission system operator. In 2012, the total length of transmission lines was 2682 kilometres. At the end of 2012 Eles had 530 employees, the same number as in 2011.

### 3.2.5.2 The business operation of the distribution system operator

SODO, d.o.o., (hereinafter referred to as SODO) ended the financial year 2012 with a net profit of € 2.62 million (according to unaudited financial results), which was € 0.67 million more than in 2011. In 2012 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 a connection load, and from other services.

In the regulatory framework for 2012 the Energy Agency expected € 264.04 million revenues from the network charge for the distribution network. Due to lower consumption than expected, the revenues decreased to € 253.48 million, which was 4% less than expected. The revenue from the network charge for the specialised ancillary service was € 2.34 million.

At the end of 2012 the company had 29 employees, 3 more than in 2011.

SODO provides the public service of the distribution system operator on the distribution network is total length of 65,857 kilometres, which also include street lighting. Of these, SODO owns 26 kilometres of the network, 1029 kilometres are owned by the customer. The rest of the network is leased by SODO, the owners and lengths of leased network are listed below:

- 17,493 kilometres; Elektro Celje, company for electricity distribution, d.d., Vrnčeva 2a, 3000 Celje, [www.elektro-celje.si](http://www.elektro-celje.si),
- 5,385 kilometres; Elektro Gorenjska, company for electricity distribution, d.d., Ulica Mirka Vadnova 3a, 4000 Kranj, [www.elektro-gorenjska.si](http://www.elektro-gorenjska.si),

- 17,145 kilometres; Elektro Ljubljana, company for electricity distribution, d.d., Slovenska cesta 58, 1000 Ljubljana, www.elektro-ljubljana.si,
- 16,148 kilometres; Elektro Maribor, company for electricity distribution, d.d., Vetrinjska ulica 2, 2000 Maribor, www.elektro-maribor.si in
- 8,630 kilometres; Elektro Primorska, company for electricity distribution, d.d., Erjavčeva 22, 5000 Nova Gorica, www.elektro-primorska.si.

In line with the legislation, SODO signed, 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 (hereinafter referred to as the contract) with the owners of the electricity-distribution infrastructure.

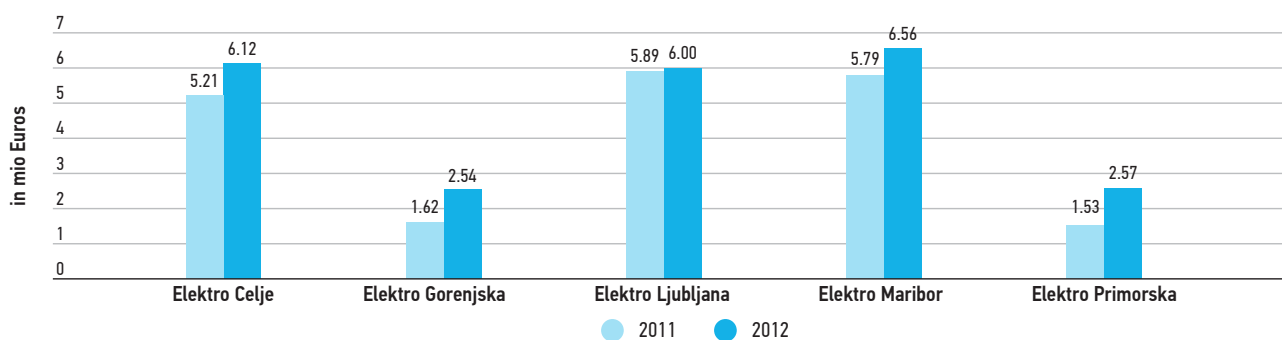
The above contract regulates all the issues relating to the extent and purpose of using the electricity-distribution infrastructure: the leasing fee, the terms and conditions, the maintenance of the electricity-distribution infrastructure and other issues associated with the concerned infrastructure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

### 3.2.5.3 The business operation of the owners of the electricity distribution infrastructure

In 2012 the owners of the electricity distribution infrastructure generated revenues from leasing out the distribution network to the system operator, providing the services for the distribution system operator and from other services in the market.

In 2012 the owners of the distribution infrastructure generated € 24.91 million of net profit (unaudited financial statements). With leasing of the distribution infrastructure and provision of services for the system operator (rent and services) they generated € 23.79 million of net profit, which was 18.7% more than in 2011.

Figure 10: Profit from leasing and service activities for SODO in million euros



Sources: Companies' data, Energy Agency

At the end of 2012 the owners of the distribution infrastructure employed a total of 3013 employees, which was a 1.5% decrease with respect to the number of staff in 2011. Leasing and the services had 2438 employees, which was 0.43% increase in comparison with the previous year.

### 3.2.5.4 Business operation of the market operator

The company Borzen, the electricity-market operator, d.o.o., is a company that is 100-percent owned by the Republic of Slovenia.

In line with the EA, Decree on the method for the implementation of public service obligation relating to the organization of the market in electricity, Act establishing the company Borzen, the electricity-market operator, d.o.o., and other relevant regulations, Borzen



performs the public service of market operator, which includes activities of the Centre of Support (Centre for RES/CHP support), and in addition, it performs a commercial activity – the provision of services for the company BSP Regional Energy Exchange, d.o.o.

Energy Act determines the activity of the electricity-market operator, and the Centre of Support as one public service, but it also determines the separate management of accounts for the Centre for Support. For providing the separate management of accounts, the electricity market operator and the Centre for Support are treated as two separate financial entities. Borzen provides the separate accounts for each public service and separately for the market activity.

In 2012 the company generated (unaudited financial results) € 4.35 million, which was almost the same as in the previous year. The same applies also for the expenditure, which amounted to € 2.32 million. The net profit of the market operator was € 1.67 million, also the same as in the previous year. The market operator generated € 1.10 million, and the net profit of the Centre of Support was € 0.57 million. At the end of the year 2012 the company had 30 employees.

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## 3.2.6 Cross-border transmission capacities

### 3.2.6.1 Access to the cross-border transmission capacities

The allocation and the use of the cross-border transmission capacities (hereinafter referred to as CBTCs) in the EU were in 2012 regulated by Regulation No 1228/2003 on the Conditions for Access to the Network for Cross-Border Exchanges in Electricity and repealing Regulation (ES) No 1228/2003, which was adopted within the Third Energy Package.

Under the provision of this regulation the system operators in individual countries are responsible in this area. With appropriately defined CBTCs and procedures for allocation of the rights to use CBTCs we ensure that the flows across the cross-border transmission lines and in all parts of the internal transmission network within limits, which still allow safe and reliable operation of all interconnected power systems. Regulations, inter alia, require the mandatory use of the market based method for allocating the rights to use available CBTCs, among which in Europe currently explicit and implicit auctions are used.

In 2012, in comparison with the previous year no significant changes in this area were imposed. The only important change was the introduction of allocation of CBTCs by intraday on the border with Italy in June. This was the last of the three borders to start with this type of allocation. Since June, on all borders allocation of CBTCs were conducted according to Intraday, Day ahead, Monthly auctions and Yearly auctions. The allocations of CBTCs on monthly and yearly level were conducted on all three Slovenian electricity borders (with Austria, Italy and Croatia)

by explicit auctions. On the borders with Austria and Croatia on daily level explicit auctions were held, while on the border with Italy implicit auctions were used within market coupling between Slovenia and Italy. Intraday allocations were performed on the borders with Austria and Croatia within continuous trading, while on the border with Italy two explicit auctions were held every day; the first auction was for allocations of CBTCs for each hour of the day, and was held in the afternoon, while the second one was intended for allocation of CBTCs for the last eight hours of the day, and it was held in the morning on the day of delivery. All explicit auctions on the border with Italy were conducted by the auction house CASC EU with its headquarters in Luxembourg, all explicit auction on the Austrian border by the auction house CAO based in Germany, while explicit auctions on Slovenian-Croatian border were exercised by the transmission system operators of the two countries, Eles and HEP-OPS. Slovenia, therefore, on all three borders implemented the requirements of the Regulation 714/2009 related to the allocations of CBTCs.

Table 13 shows a review of the allocated CBTCs by an individual border, the total revenues from the auctions and the price for allocated megawatt hour.

**Table 13: Review of the allocated CBTCs and the revenues from the auctions by the border**

Border	Allocated (MWh)	Revenues (EUR)	Price for allocated CBTCs (EUR/MWh)
SI-IT	1,926,637	32,490,051	16.86
IT-SI	124,750	571,240	0.77
SI-AT	6,056,598	420,647	0.07
AT-SI	4,093,228	24,878,447	6.08
SI-CRO	6,731,804	1,852,199	0.28
CRO-SI	19,527,940	1,434,928	0.15

Source: Eles

It is clear from the table that, even in 2012, the highest prices were set for the CBTCs in the direction from Slovenia to Italy. This is still mainly because of price differences between Slovenia and Italy. At the same time on the Austrian-German market the electricity prices were lower than in the Slovenian market, and because of that the prices were higher in the direction from Austria to Slovenia, which was helped by the fact that in a large part of the Balkan was affected by the draught and consequently the production in hydro-power plants was lower than planned. Thus, the need to import electricity from Austrian-German market to the Balkan countries increased. On the other borders the prices for CBTCs were lower due to low demand, or high availability of CBTCs, which applies especially for Slovenian-Croatian border. The table also shows that allocated amounts of CBTCs are larger than actually realised flows. 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 2012, market coupling continued on the Slovenian and Italian border by which CBTCs for a day ahead started to be allocated through implicit auctions. Market coupling brought many benefits to the Slovenian electricity market, particularly in terms of the establishment of stock market liquidity, in order to acquire credible stock market index and to achieve optimal utilisation of the cross-border transmission infrastructure on the Slovenian-Italian border. Since the beginning of implementation of market coupling problems were caused by the fact that the energy purchased in the Slovenian market has to be paid within two days after the date of delivery, while in the Italian market the energy has to be paid not before 16th working day in the second month following delivery, which is on average more than 60 days after delivery. Such arrangements caused financial costs to both transmission operators, Eles and Terna, which were in 2012 operated as intermediaries between the stock markets. The situation was even worsened by the fact that traders a large part of the yearly and monthly allocated CBTCs returned to the system operators, who by using the rule "use a CBTC or lose it" allocated these capacities through market coupling. For this reason, allocated CBTCs through market coupling were much higher than initially planned, and consequently the financial costs incurred were higher as well. In 2012, a temporary solution was found, implemented in June, and according to this solution any additional costs due to the returning of capacities are taken over by the Italian side, where the problems because of late payment deadlines also originated. At the end of 2012 the final solution was found, implemented in the beginning of 2013, and according to this the same payment deadline is obligatory, which is two days after delivery.

According to the Regulation No 714/2009 the national markets of EU countries have to gradually merge into a single market in such a way that first single markets on the regional levels are established. Seven such regions are determined by the regulation. Because of its geographical position, Slovenia is included in three regional markets for electricity – Central-Eastern Europe, Central-South Europe and South-East Europe, and in so called eight region of South East Europe. The details on the developments in the regions are given in the next section.

### 3.2.6.2 Cooperation between regulators

In 2012, most of the cooperation between the regulators of the European countries took place within the Agency for the Cooperation of Energy Regulators (ACER). In the field of electricity the regulators in each region cooperated in order to establish target models for allocation of CBTCs until 2014, to prepare framework guidelines for different areas of the electricity market, and to prepare for the implementation of the Regulation No 1227/2011 on wholesale energy market integrity and transparency (REMIT).

The Slovenian electricity market is situated between three different regional markets with very different energy prices. These are the market of Central-Eastern Europe (Germany, Austria, Poland, Czech Republic, Slovakia and Hungary), the Italian market, and the market of South-East Europe. In all three markets regional initiatives are being carried out under the guidance of ACER and national regulators.

In the region Central-Eastern Europe since 2006 activities have been carried out to establish and allocating CBTCs according to the new methodology based on actual load flows in the network (so called FB or Flow Based method). All the necessary preparations to implement this method are carried out by the system operators under the supervision of the regulators. The start of using this method has been in past years repeatedly postponed. In 2011, the TSOs of the region admitted that they cannot agree on the use of this method, and they asked regulators to assist in taking decision. The latter, together with ACER, came to the conclusion that the best solution for the region is to begin immediately preparations for the introduction of the European target model for allocating CBTCs for a day ahead. In 2012, the regional regulators and ACER signed a joint statement, according to which they agreed that the target solution for market coupling is by using FB method. In a single step it should be introduced by the end of 2013. This market coupling would be introduced together with the region North-West Europe (NWE), and at the same time the compliance with region Central-West Europe (CWE) has to be ensured. After the adoption of this statement the entire work of system operators and regulators in the CEE region focused on the achievement of this objective, accompanied by power exchanges.

As in the CEE, in the region Central-South Europe (CSE) majority of activities was dedicated to find the ways to achieve the target model of the market to 2014. After 2014, the allocation of CBTCs for day ahead will be carried out through market coupling, but unlike the CEE region, it will be carried out by using ATC/NTC method. An important change will occur to closing time of trading in the Italian market, which will move from 9.15 to 12.00. Aside from the introduction of price market coupling in the region CSE, until 2014 the new method of allocating CBTCs within intraday will have to be prepared, since current method with two auctions is not in compliance with the European target model for this area – allocations of CBTCs through continuous trading.

In the so called eighth region South-East Europe in 2012 the activities for establishing a coordinated auction office continued. As most of this region is composed by 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.

The Energy Agency cooperated with ACER in project of retail electricity prices in EU analysis for the purposes of preparing Annual Market Monitoring Report for 2011.

Close cooperation is established within activities for the implementation of REMIT, which in the first phase deals particularly with the development of the IT system for the registration of the electricity and gas market participants.

In order to ensure implementation of the task related to electricity market monitoring concerning cross-border issues, the Energy Agency started bilateral talks with the Austrian regulatory authority on signing the Memorandum of Understanding, according to which the regulatory authorities would strengthen cooperation on mutual exchange of information on suspicious actions in the context of electricity market abuses.

### 3.2.6.3 Control over the investment plans of the transmission system operator

In July 2012 ENTSO-E announced a 10-year development plan (TYNDP) for the period 2012–2022. TYNDP includes planned investments in the transmission infrastructure in 34 European countries. Over 100 projects are identified as pan-European projects in the total estimated value of € 104 billion, out of which € 23 billion are allocated for submarine cable connections.

TYNDP in its context promotes the integration of renewables, reliable electricity supply, as well as promotes the internal EU electricity market.

In TYNDP for 2012-2022 for the Slovenian transmission system the following investments are foreseen:

- 2 x 400 kV Beričevo–Krško transmission line,
- 2 x 400 kV Cirkovce–Pince transmission line,
- 2 x 400 kV Okroglo–Videm transmission line,
- 2 x 400 kV Divača–Cirkovce the transfer from 220 kV to 400 kV,
- a new connection between Italy and Slovenia.

The investment in 2 x 400 kV Beričevo–Krško is under construction, 2 x 400 kV Cirkovce–Pince in a planning phase and obtaining approvals, and other investments are classified as long-term plans. All these projects are planned in the system operator's TYNDP, except the new connection between Italy and Slovenia, which is still under study.

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## 3.2.7 Compliance

In accordance with the Third Energy Package the national regulatory authorities of EU Member States have to provide for the implementation of binding decisions of ACER and the European Commission. To this end, the required provisions will be implemented to the Slovenian energy legislation, which will in practice enable the Energy Agency to meet these requirements. The provisions will be needed as early as in 2014, when network codes, prepared on the basis of the ACER's framework guidelines by the ENTSO-E, will come into force.

Since 2004, when the first Regulation on conditions for access to the network for cross-border exchanges in electricity (Regulation No 1228/2003) entered into force, the Energy Agency is responsible for compliance with this regulation in Slovenia; the regulation was on 3 March 2011 replaced by the current Regulation No 714/2009.

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## 3.3 Market-based activities

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### 3.3.1 Organized electricity market in Slovenia

The Slovenian organized electricity market for electricity is basically divided into the wholesale market and the retail market. On the wholesale market, producers, traders and suppliers of electricity participate. They trade on the basis of closed contracts, in which the quantity and the time profile of supply of contractual volumes of electricity are set in advance, so that the prices do not depend on the actual realization of the contracts. The wholesale market participants conclude their business by the bilateral transactions in so called OTC market or at the exchanges in Slovenia and abroad. In 2012, two new types of markets were established in Slovenia, these are balancing market and the intraday market. They both started to operate on 16 October. On the balancing market Eles buys and sells energy for settlement of imbalances in the system, and on the intraday market traders and suppliers purchase and sell energy at the end of exchange trading for day-ahead. The purpose of setting up intraday trading is to enable traders and suppliers that, especially in the case of unpredicted events or changed circumstances, prevent any deviations from schedules that would be encountered if the market would not exist.

In the retail market the suppliers and customers enter into open contracts, in which the quantities of energy supplied and the time profile of supply of contractual volumes are not set in advance. Customers pay the energy supplied according to actual amount of electricity consumed, as measured by the installed meters.

Borzen, d.o.o., the organizer of the Slovenian electricity market, is, according with the EA, mandated to record all the closed contracts on a regulated market. Thus, Borzen supervises the agreed contractual obligations in which electricity is bought or sold in Slovenia, or is transferred across the regulated area. This includes the recording of all contracts between members of the balance scheme; all export and import closed contracts and closed business transactions on the exchange. In addition, the organizer of the market in the form of operational schedules of production and consumption keeps records of the contracts between the suppliers, the consumers and electricity producers.

In 2012 a total of 100,291 closed contracts and a total of 81,505,102 MWh of operational forecasts included in the open contracts were registered. In comparison with 2011, the number of recorded closed contracts and operational forecasts increased by 6.7%, and the total amount of electricity from recorded closed contracts and operational forecasts increased by 11.5%.

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## 3.3.2 Production and the wholesale market

### 3.3.2.1 Production of electricity

In 2012 the following 9 companies operating large facilities with a capacity of over 10 MW:

- Dravske elektrarne Maribor (DEM),
- Soške elektrarne Nova Gorica (SENG),
- Savske elektrarne Ljubljana (SEL),
- Hidroelektrarne na spodnji Savi (HESS),
- Termoelektrarna Šoštanj (TEŠ),
- Termoelektrarna Trbovlje (TET),
- Termoelektrarna Brestanica (TEB),
- Termoelektrarna Toplarna Ljubljana (TE-TOL),
- Nuklearna elektrarna Krško (NEK).

Companies DEM, SEL, HESS and SENG generate electricity in hydroelectric power plants, NEK in a nuclear power plant, TEŠ and TET in thermoelectric power plants running on coal, TEB produces electricity from liquid and gaseous fuels, and the TE-TOL Ljubljana cogenerates heat and electricity in a cogeneration process using coal.

Within the company Holding Slovenske elektrarne (the HSE) in 2102 companies DEM, SENG, HESS, TEŠ and TET were operating. The HSE represented the first energy pillar in the Slovenian wholesale market. The second energy pillar of the wholesale market was formed by the group of GEN energija, in which companies SEL, TEB and NEK were operating.

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, which in recent years faces the highest growth. Except for small solar power plants in 2012 the number of new facilities that produced electricity from other renewable sources (biomass, biogas, wood biomass, landfill gas, etc.) increased as well. The start of the operation of the first wind power plant in Dolenja vas was also an important event in 2012.

**Table 14: Installed capacities in the production facilities in the Republic of Slovenia**

Producer	Installed capacity [MW]	Share – all producers in RS	Share on the transmission network
<b>HSE</b>	<b>1,887</b>	<b>57.9%</b>	<b>67.7%</b>
HPP	1,039		
TPP	848		
<b>GEN energija</b>	<b>764</b>	<b>23.4%</b>	<b>27.4%</b>
HPP	119		
TPP	297		
NPP*	348		
<b>TE-TOL</b>	<b>113</b>	<b>3.5%</b>	<b>4.1%</b>
<b>Other small producers (on the transmission network)</b>	<b>25.6</b>	<b>0.8%</b>	<b>0.9%</b>
Small HPP	10.4		
Cogeneration units	15.2		
<b>Other small producers (on the distribution network)</b>	<b>471.19</b>	<b>14.5%</b>	<b>–</b>
Small HPP	101.51		
Solar power plants	240.41		
Wind-powered plants	2.03		
Facilities using biomass	5.20		
Geothermal power plants	0.00		
Facilities using landfill gas	7.06		
Facilities using gas from purification plants	0.20		
Facilities using biogas	29.17		
CHP facilities using wood biomass	10.64		
CHP using fossil fuels	40.46		
Other	34.52		
<b>Total in RS</b>	<b>3,260</b>	<b>100%</b>	<b>–</b>
<b>– on the transmission network</b>	<b>2,789</b>	<b>–</b>	<b>100%</b>

\*The 50-% of the installed capacity of Krško NPP is taken into account  
Sources: Companies' data

According to 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 2012 Slovenian power plants produced a total of 14,872 GWh of electricity, but the actual Slovenian production was smaller, amounting to 12,250 GWh.

In 2012 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 and the hydroelectric power plants producing almost 70% of all the electricity.

These are followed by the nuclear power plant, producing about one fifth of all the electricity.

**Table 15: Shares of different types of electricity production in Slovenia**

Type of production	Production (GWh)	Share	Production – 50% NPP (GWh)	Share
Nuclear power plant	5,243	35.3%	2,622	21.4%
Thermoelectric power plants	4,764	32.0%	4,764	38.9%
Hydroelectric power plants	3,815	25.7%	3,815	31.1%
Other small producers (on the transmission network)	93	0,6 %	93	0,8%
Other small producers (on the distribution network)	956	6.4%	956	7.8%
<b>Total</b>	<b>14.872</b>	<b>100,0%</b>	<b>12.250</b>	<b>100,0%</b>

Sources: Companies' data

In 2012 a good of 173.1 MW of new production capacities were connected to the Slovenian electricity network, mostly solar power plants – 121.6 MW. At the same time for 24 MW of production facilities ceased to operate, the largest share belongs to steam blocks of the TPP Brestanica (21 MW)

**Table 16: Connections and disconnections of production facilities in 2012**

Type of production	Installed net capacity in 2012 (MW)	Disconnected power plants in 2012 (MW)
Thermoelectric power plants using gas and fossil fuels	0.0	21.00
Hydroelectric power plants	39.5	0,00
Solar power plants	121.6	0,00
Wind-powered plants	2.0	0.00
Facilities using biomass	0.0	1.90
Facilities using biogas	1.5	0.00
CHP facilities using wood biomass	1.5	0.00
CHP using fossil fuels	4.9	0.00
Other	2.2	1.04
<b>Total</b>	<b>173.1</b>	<b>23.94</b>

Sources: Companies' data

### 3.3.2.2 The degree of competitiveness of the production companies

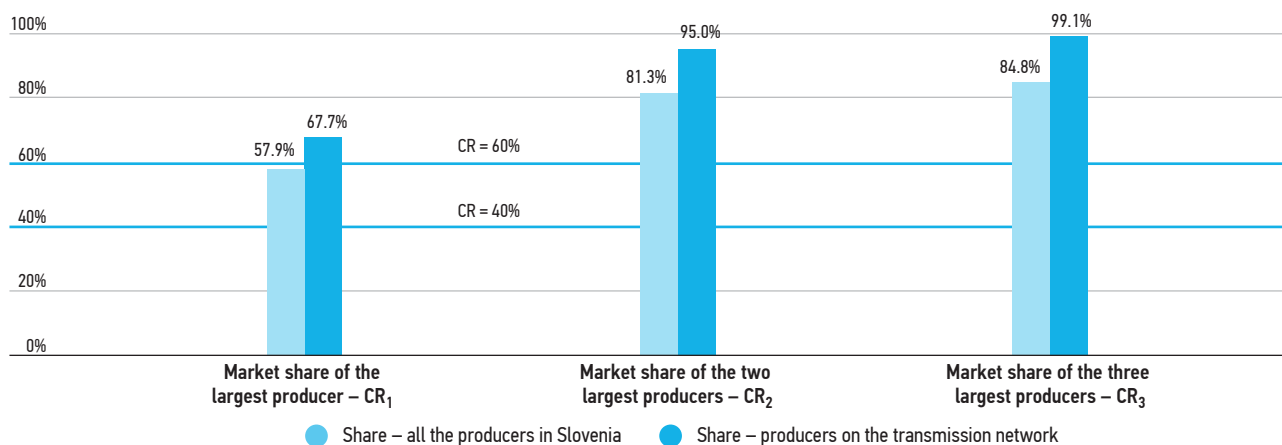
With a concentration rate, we express the total market share of the largest companies in the area, and measure the level of market dominance, or oligopoly. The concentration rate is mainly affected by two factors: the number of companies in the market and their relative sizes. As the concentration rate 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%. It also applies that two or more companies have dominant position if their share exceeds 60%. In the electricity market the concentration of the production is of utmost importance.

In the figures below three different indicators of concentration rate, i.e., the market share of the largest producer (CR<sub>1</sub>), the market share of the two largest producers (CR<sub>2</sub>), and the market share of the three largest market producers (CR<sub>3</sub>) in Slovenia.

Figure 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 per cent of the capacity installed at the Krško NPP is taken into account).

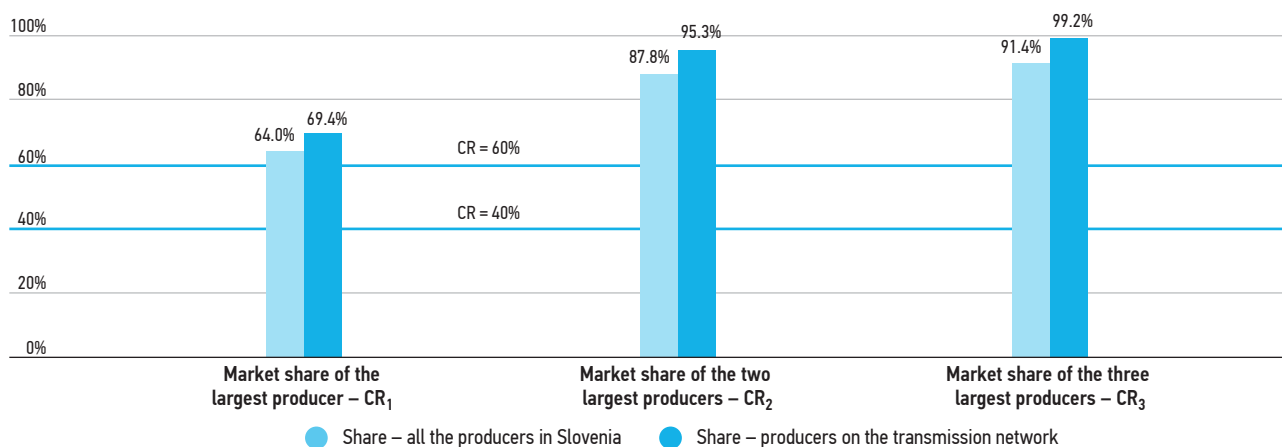
**Figure 11: Cumulative share of the one (CR<sub>1</sub>), two (CR<sub>2</sub>) and three (CR<sub>3</sub>) largest producers with respect to the installed capacity (50% of Krško NPP)**



Sources: Companies' data

Next figure shows the CR indicators with respect to electricity production (50% of Krško NPP is taken into account).

**Figure 12: Cumulative share of the one (CR<sub>1</sub>), two (CR<sub>2</sub>) and three (CR<sub>3</sub>) largest producers with respect to electricity production (50% of Krško NPP)**



Sources: Companies' data

In 2012 no significant changes were noted in the market structure caused by the ownership and operational restructuring of the production companies. Two energy pillars in the wholesale market are formed: HSE and Gen energija remained the dominant company in 2012 as well. The share of the two largest electricity producers on the transmission network (CR<sub>2</sub>) exceeded 95%, and the three largest electricity producers on the transmission network



managed more than 99% (CR<sub>3</sub>). In the wholesale market very tight oligopoly is created, caused by the fact that there are only two energy pillars.

The Herfindahl-Hirschmann index (HHI) takes into account the total number of companies in the market, and their relative sizes. Companies with smaller market share have less weight. An HHI up to 1000 indicates a low concentration; between 1000 and 1800 indicates a medium concentration; and above 1800 indicates a high market concentration. A high concentration means a small number of market participants with large market shares.

The HHIs 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% of the production from the Krško NPP. The situation is shown in tables 17 and 18.

**Table 17: HHI with respect to the installed capacity**

Producers	Market share with respect to the installed capacity		HHI with respect to installed capacity	
	Total in RS	On the transmission network	Total in RS	On the transmission network
HSE	57.9%	67.7%	3,349	4,577
GEN energija	23.4%	27.4%	549	750
TE-TOL	3.5%	4.1%	12	16
Other small producers (on the transmission network)	0.8%	0.9%	1	1
Other small producers (on the distribution network)	14.5%	–	209	–
<b>Total</b>	<b>100.0%</b>	<b>–</b>	<b>4,120</b>	<b>–</b>
<b>HHI with respect to installed capacity</b>	<b>–</b>	<b>100.0%</b>	<b>–</b>	<b>5,344</b>

Sources: Companies' data

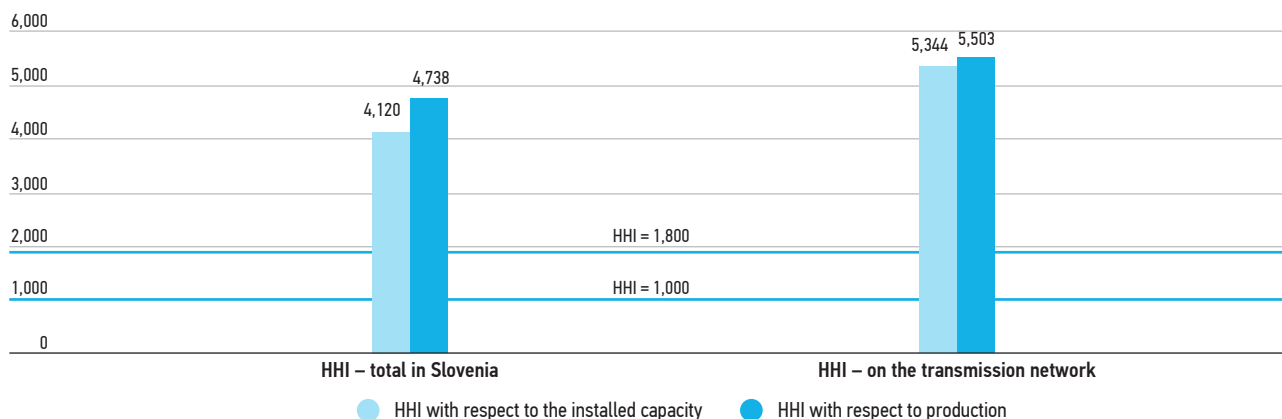
**Table 18: HHI with respect to production**

Producers	Market shares with respect to production		HHI with respect to production	
	Total in RS	On the transmission network	Total in RS	On the transmission network
HSE	64.0%	69.4%	4,096	4,818
GEN energija	23.8%	25.8%	568	668
TE-TOL	3.6%	3.9%	13	15
Other small producers (on the transmission network)	0.8%	0.8%	1	1
Other small producers (on the distribution network)	7.8 %	–	61	–
<b>Total</b>	<b>100.0%</b>	<b>–</b>	<b>4,738</b>	<b>–</b>
<b>HHI with respect to production</b>	<b>–</b>	<b>100.0%</b>	<b>–</b>	<b>5,503</b>

Sources: Companies' data

In 2012 were HHIs still very high and significantly exceeded the upper limit of the medium concentration (HHI = 1800), showing the dominant position of the producers DEM, SENG, TEŠ, TET and HESS, joined in the HSE with respect to the production of electricity as well as the provision of ancillary services. Gen energija consists of SEL, TEB and Krško NPP. The third largest producer is TE-TOL. Other small producers connected to the transmission and distribution network contribute as well to the total production of electricity in Slovenia.

**Figure 13: HHI of the production companies**



Sources: Companies' data

### 3.3.2.3 The business operations of production companies

According to the unaudited financial statements, the companies for electricity production finished 2012 with a net profit of € 50.59 million, which was 96.8% more than in 2011. In 2012 the best financial results were achieved by the Termoelektrarna Šoštanj, contributing 64.2% of the total generated amount.

**Table 19: Net profits of the companies for electricity production**

	In million EUR		Index
	2011	2012	12/11
Dravske elektrarne Maribor	10.50	7.34	69.9
Savske elektrarne Ljubljana	0.77	0.57	74.0
Soške elektrarne Nova Gorica	6.16	7.08	114.9
Hidroelektrarne na spodnji Savi	0.45	1.22	271.1
Termoelektrarna Brestanica	1.07	1.56	145.8
Termoelektrarna Šoštanj	6.06	32.46	535.6
Termoelektrarna Trbovlje	0.05	0.06	120.0
Termoelektrarna Toplarna Ljubljana	0.65	0.30	46.2
Nuklearna elektrarna Krško	0.00	0.00	
<b>Total</b>	<b>25.71</b>	<b>50.59</b>	<b>196.8</b>

Sources: Companies' data (unaudited financial statements)

At the end of 2012 the companies for electricity production had 2206 employees, of which the hydroelectric power plants employed 560, the thermoelectric power plants employed 1081, and the Krško Nuclear Power Plant employed 615 staff members. In comparison with 2011 the number of employees in the thermoelectric power plants decreased by 52 employees, or 4.8%, the number of employees in the Krško Nuclear Power Plant decreased by 8 employees, or 1.3%, and the number of employees in the hydroelectric power plants increased by 1, or 0.2%.

**Table 20: Number of employees in the companies for electricity production**

	2011	2012	Index 12/11
Dravske elektrarne Maribor	285	290	101.8
Savske elektrarne Ljubljana	115	110	95.7
Soške elektrarne Nova Gorica	133	129	97.0
Hidroelektrarne na spodnji Savi	26	31	119.2
Termoelektrarna Brestanica	117	114	97.4
Termoelektrarna Šoštanj	477	464	97.3
Termoelektrarna Trbovlje	204	193	94.6
Termoelektrarna Toplarna Ljubljana	285	260	91.2
Nuklearna elektrarna Krško	623	615	98.7
<b>Total</b>	<b>2,265</b>	<b>2,206</b>	<b>97.4</b>

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

**Table 21: Ownership structure of the companies for electricity production**

	Republic of Slovenia	Holding Slovenske elektrarne	GEN energija	Javno podjetje Energetika Ljubljana	Other shareholders	Dravske elektrarne	Hrvatska elektroprivreda
Dravske elektrarne Maribor		100.0%					
Savske elektrarne Ljubljana			100.0%				
Soške elektrarne Nova Gorica		100.0%					
Hidroelektrarne na spodnji Savi		51.0%	12.6%		5.6%	30.8%	
Termoelektrarna Brestanica			100.0%				
Termoelektrarna Šoštanj		100.0%					
Termoelektrarna Trbovlje		81.3%			18.7%		
Termoelektrarna Toplarna Ljubljana	14.8%			85.2%			
Nuklearna elektrarna Krško			50.0%				50.0%

Sources: Companies' data

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

The activity of the electricity exchange in the Republic of Slovenia is being carried out by BSP, Regional Energy Exchange, d.o.o. In 2012 the company BSP performed the following services for traders of electricity:

- Day-ahead market which includes also market coupling with Italy;
- Submission for Clearing (OTC), the process of registration in the system of accounting and financial settlement for bilateral agreements concluded outside the exchange;
- Intraday market (from 16 October 2012), which includes trading on balancing market, jointly operated by BSP, Eles and Borzen.

In 2012, no transaction was concluded in the area of OTC clearing. In day-ahead market favourable conditions from 2011 continued, when the trading volume, compared with previous years, increased significantly on behalf of market coupling with Italy. Thus, in 2012 we had with real-time hourly pricing, mainly due to sufficient volume of trading on the stock day-ahead market. On day-ahead market is conducted in a manner of auction trading in which market participants should submit and withdraw their bids in the trading platform till the end of the trading; after closing time the stock exchange calculate the marginal price, which is the price of all concluded deals for certain product. For day-ahead trading the Slovenian stock exchange uses only hourly products, which means that traders could bid (for buying and selling) only for an individual hour.

In 2012, the total amount of traded energy on day-ahead market amounted to 4,422,008 MWh; for 11.4 TWh tenders were registered, out of that for 5 TWh for buying and 6.4 TWh for selling offers. In 2011, the total amount of traded energy was 1,527,966, which means that in 2012 the total amount increased for almost three times.

In 2012, the average annual Base price amounted to 53.15 EUR/MWh, and average Peak price to 61.81 EUR/MWh, which means the highest price was reached in extremely cold and dry February, together with increased consumption and decreased production due to bad hydrology. The lowest price was noticed in December, mainly due to holiday and related lower consumption and inactivity of suppliers at the end of the year, when the price was practically zero. The highest trading volume was reached in October, when average daily volume exceeded 15 GWh, and the lowest in August, when number of overhauls were announced, as well as lowering of CBTCs on the border with Italy; average daily trading volume was 8.75 GWh.

In Table 22 a comparison of average daily electricity prices for Base and Peak for the Slovenian and neighbouring stock exchanges in 2012 is shown.

**Table 22: Prices for Base and Peak on the Slovenian and neighbouring stock exchanges**

<b>Borza</b>	<b>Base (EUR/MWh)</b>	<b>Peak (EUR/MWh)</b>
Slovenia (BSP)	53.15	61.81
Austria (EXAA)	43.22	48.88
Germany (EPEX)	42.60	48.51
Hungary (HUPX)	51.38	61.07
Italy (GME – Nord)	73.81	79.35

Source: BSP Southpool

The data in Table 22 show that the prices on the BSP varied between the prices on the power exchanges in the German-Austrian market and Italian market. Prices in Hungary were in 2012 slightly lower than the prices in Slovenia. Intraday trading unlike the trading on day-ahead market is conducted in a manner of continuous trading; the participants can submit and withdraw their bids as long as there are overlaps of supply and demand. From

16 October 2012 until the end of the year 261 contracts were concluded on the day-ahead market, in a total amount of 30,079 MWh. The share of transaction for energy needed for balancing was 92.4%. The volume of bids for this period amounted to 707,607 MWh.

### 3.3.2.5 Renewable energy sources and cogeneration of useful heat and power

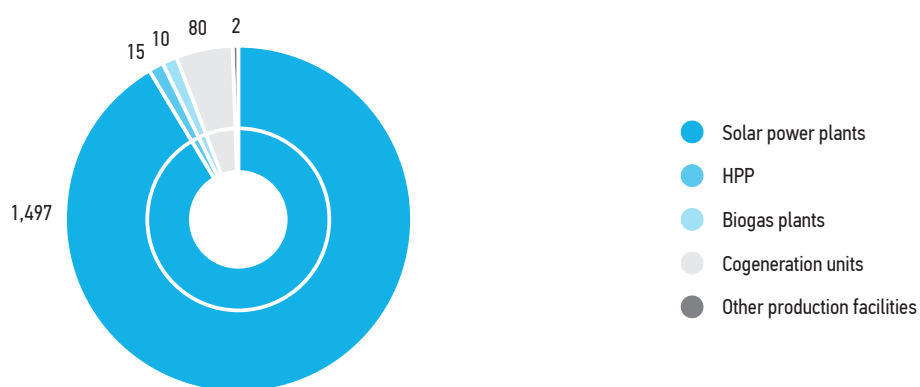
In 2012 the Energy Agency issued 1,604 declarations for a production facility using RES or for cogeneration facilities. Most of declarations were, due to a favorable rate of support, issued for solar power plants. For some production facilities (mainly CHP), for which the validity of existing declaration expired, new declarations were issued.

**Table 23: Production of units included in the support scheme and paid support**

Type of production facility	Electricity produced (in GWh)	Paid support (in million EUR)
HPP	100.6	5.8
Solar power plants	121.4	38.2
Wind-powered plants	> 0	> 0
Biogas plants	150.6	18.3
Facilities using wood biomass	80.9	8.7
CHP facilities using fossil fuels	199	18.4
Others	1.5	0.4
<b>Total</b>	<b>654</b>	<b>89.8</b>

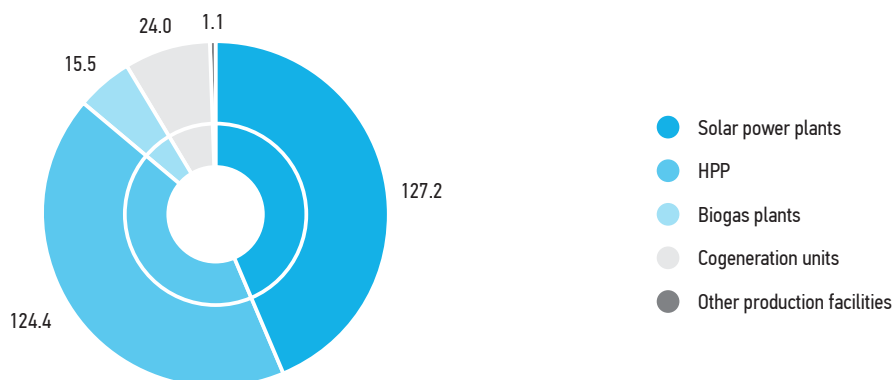
Source: Borzen

**Figure 14: Number of the issued declarations for production facilities in 2012**



Source: Energy Agency

**Figure 15: Net capacity in MW of production facilities with issued declarations in 2012**



Source: Energy Agency

Other production facilities are the plants using landfill gas or gas from purification plants, and wind-powered plants.

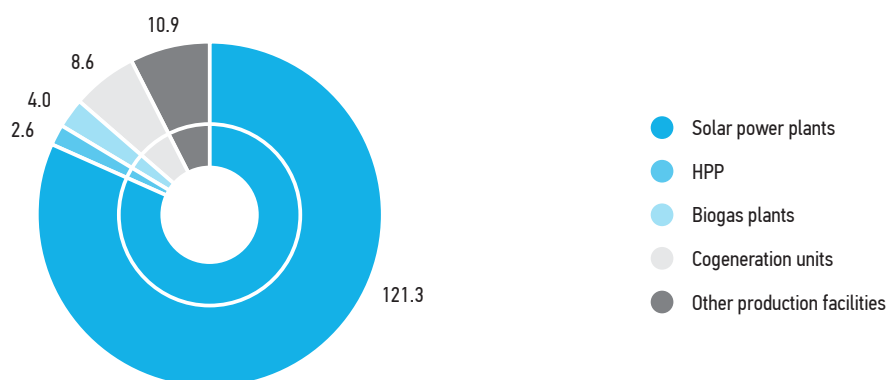
In 2012 the Energy Agency issued 1516 decisions on granting support allowing the support to be obtained according to the new support scheme, most of them for solar power plants.

**Figure 16: Number of issued granted support for the production facilities in 2012**



Source: Energy Agency

**Figure 17: Net capacity of the production facilities in MW that received decisions on granting support**



Source: Energy Agency

In 2012 the Energy Agency issued guarantees of the origin of electricity for a total of 819.7 GWh and for a total of 17.4 GWh RECS certificates (Renewable Energy Certification System).

### 3.3.2.6 Emission allowances

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 in the period from 2008 to 2012 by average 8% per year 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 allowances 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.

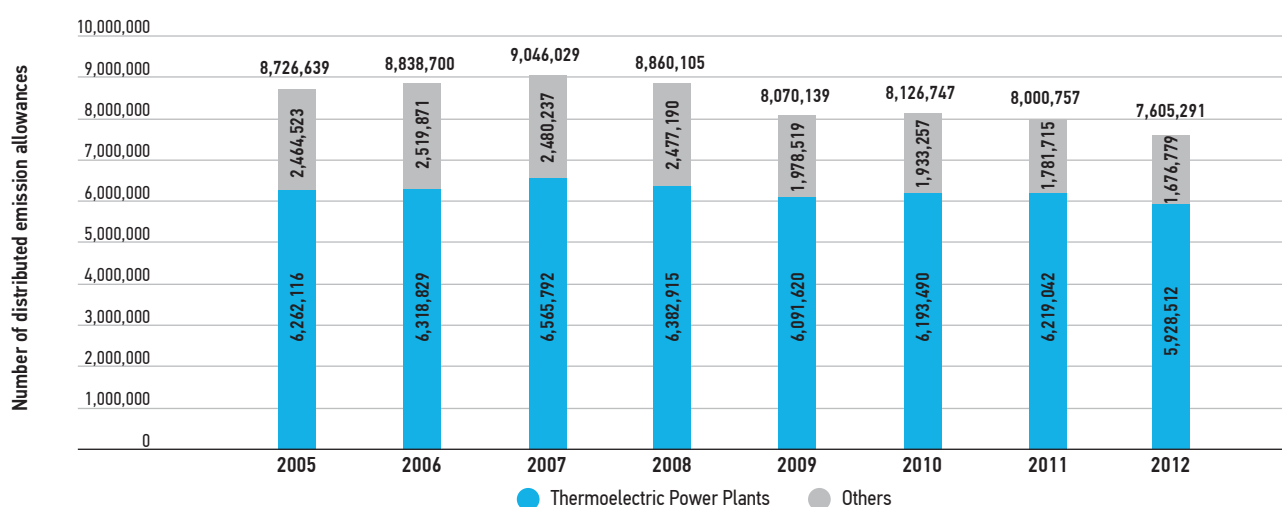
In line with the Environmental Protection Act, the National Distribution Plan for Emission Allowances for the Period 2008–2012 was prepared in Slovenia. This document sets the number of emission allowances distributed by the state free of charge. One emission allowance represents a tonne of CO<sub>2</sub>. For each current year, the companies, i.e., the operators of the facilities have to register the number of emission allowances that matches their CO<sub>2</sub> emissions. If their emissions exceed the number of distributed emission allowances, the operators have to buy the remaining emission allowances in the market. If, on the other hand, the operators have a surplus of emission allowances because they produce small amounts of emissions, they can sell their allowances at the auction or bilaterally.

The National Distribution Plan for Emission Coupons for the Period 2008–2012 (second trading period) was valid for the period between 1 January 2008 and 31 December 2012. A total amount of emission coupons for the distribution to the facility operators for the period 2008–2012 is 41,494,687 greenhouse-gas emissions or on average 8,298,937 tonnes per year.

The National Distribution Plan for Emission Coupons for the period 2008–2012 covers 41.6% of greenhouse-gas emissions in Slovenia (according to the data for 2004). When setting the numbers of emission allowances for individual sectors, the target emissions relating to these sectors from the Operational Programme for Reducing Greenhouse-Gas Emissions were considered.

In 2012 the thermal-energy sector was handed over 5,928,512 emission allowances which represented 78% of all emission allowances distributed in Slovenia. With respect to the actual emissions and the prices for emission allowances in the market, we can conclude that the price for emission allowances did not significantly affect the price for the electricity produced in Slovenia.

**Figure 18: Number of distributed emission allowances for period 2005–2012**



Sources: National plan for the distribution of Emission Allowances, Environmental Agency of the RS

**Figure 19: Trends of the price for emission allowances from the second trading period in 2012**



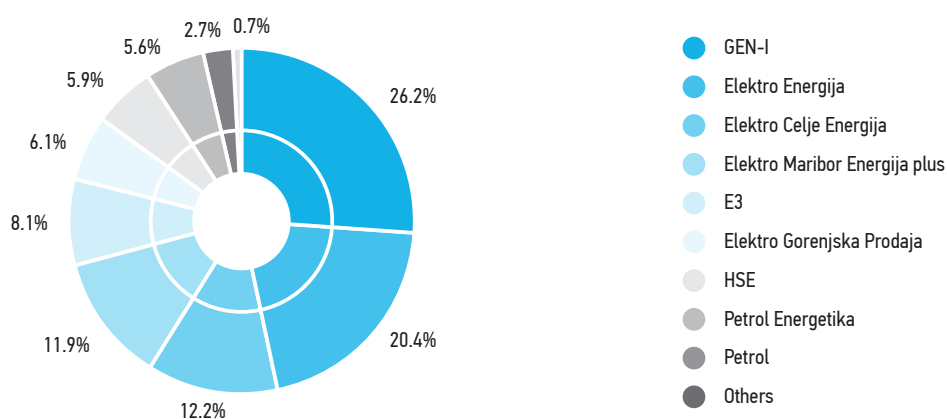
The price for emission allowances on EEX (purchased in 2012 for 2013) was changing throughout the year without any real trend, and values ranged between € 6 and € 10 per tonne of CO<sub>2</sub>.

### 3.3.3 Supply and the retail market

#### 3.3.3.1 Supply to all end customers

In 2012, in the Slovenian retail market 13 suppliers were active supplying electricity that under contracts delivered electricity to 8 large customers connected to the transmission network, and to 930,244 business and household customers connected to the distribution network. It was possible to buy electricity on the power exchange in Slovenia (Borzen), and on foreign exchanges according to the capacity – availability of cross-border transmission paths.

**Figure 20: Market shares of the electricity suppliers to all customers at the end of 2012**



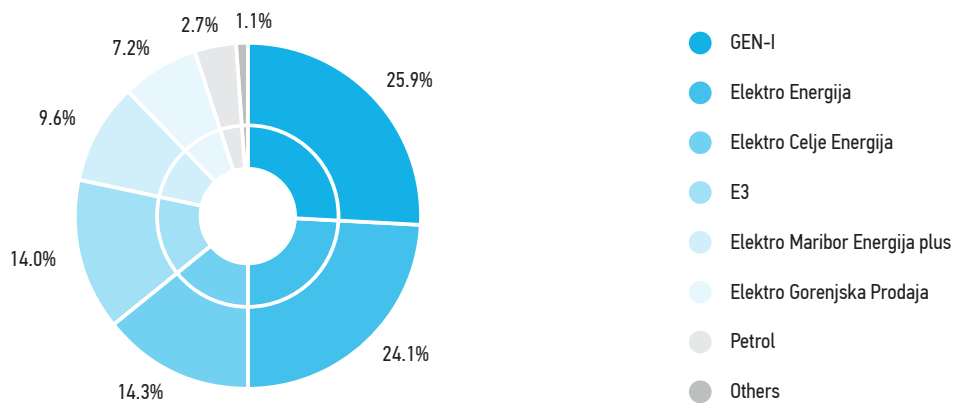


At the end of 2012 the end customers in Slovenia were supplied with 12.3 TWh of electricity. GEN-I had the largest market share, 26.2%; the second largest share had the company Elektro Energija, 20.4%.

### 3.3.3.2 Supply to the customers on the distribution network

With respect to the market shares of the suppliers to the customers on the distribution network, GEN-I had the largest share, with almost 26% of market share. GEN-I replaced the previous largest supplier Elektro Energija, which in 2012 had 24.1% of market share.

**Figure 21: Market shares of the suppliers to the customers on the distribution network at the end of 2012**

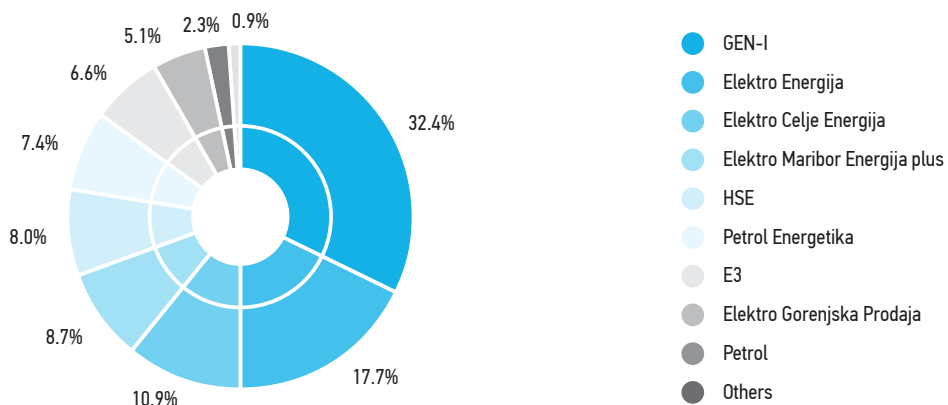


Sources: Companies' data

### 3.3.3.3 Supply to all business customers

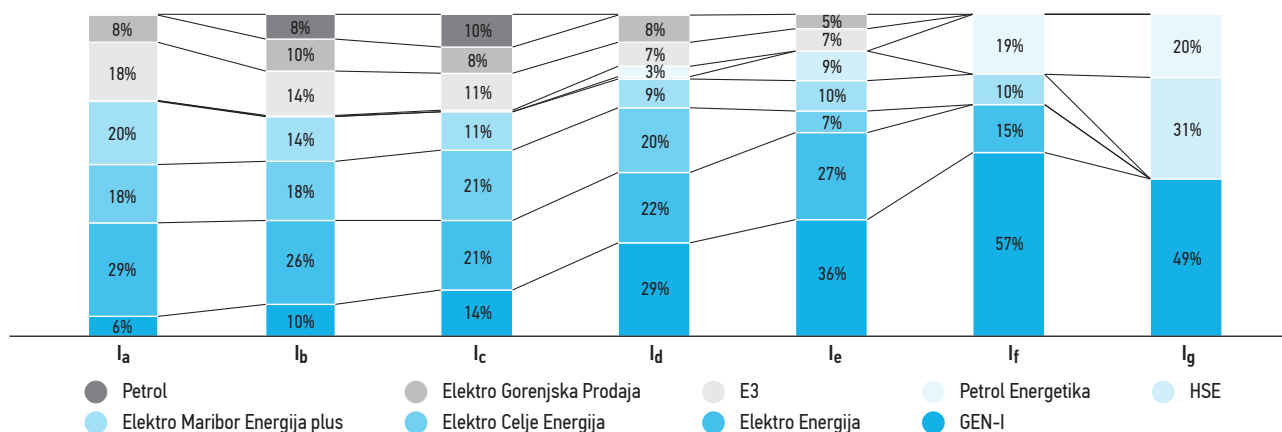
With respect to business customers in 2012 the largest share had GEN-I with 32.4%. Elektro Energija was second with 17.7%. The remaining suppliers in the retail market were represented by relatively smaller market shares.

**Figure 22: Market shares of the suppliers to the business customers at the end of 2012**



Sources: Companies' data

**Figure 23: Market shares of suppliers to the business customers according to the customer group at the end of 2012**



Sources: Companies' data

Figure 23 shows the market shares of suppliers to the business customers according to the customers' group. Customers are divided according to annual consumption into following groups:

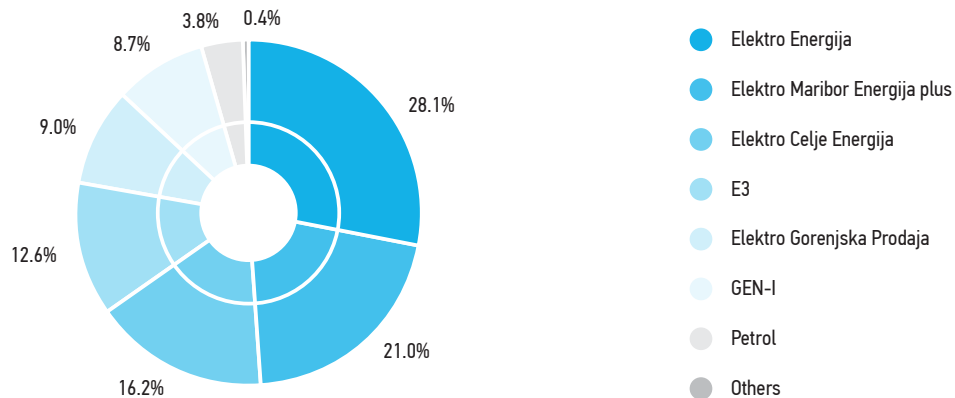
- I<sub>a</sub>: annual consumption under 20 MWh,
- I<sub>b</sub>: annual consumption from 20 MWh to 500 MWh,
- I<sub>c</sub>: annual consumption from 500 MWh to 2,000 MWh,
- I<sub>d</sub>: annual consumption from 2,000 MWh to 20,000 MWh,
- I<sub>e</sub>: annual consumption from 20,000 MWh to 70,000 MWh,
- I<sub>f</sub>: annual consumption from 70,000 MWh to 150,000 MWh,
- I<sub>g</sub>: annual consumption over 150,000 MWh.

GEN-I has a dominant market share in the groups I<sub>d</sub>-I<sub>g</sub>, of which the largest share 57%, is in group I<sub>f</sub>. With the growth of annual consumption, generally, number of active suppliers decreases; so there are genuine only three suppliers to the group with the largest consumption (I<sub>g</sub>) – GEN-I, HSE and Petrol Energetika.

### 3.3.3.4 Supply to the household customers

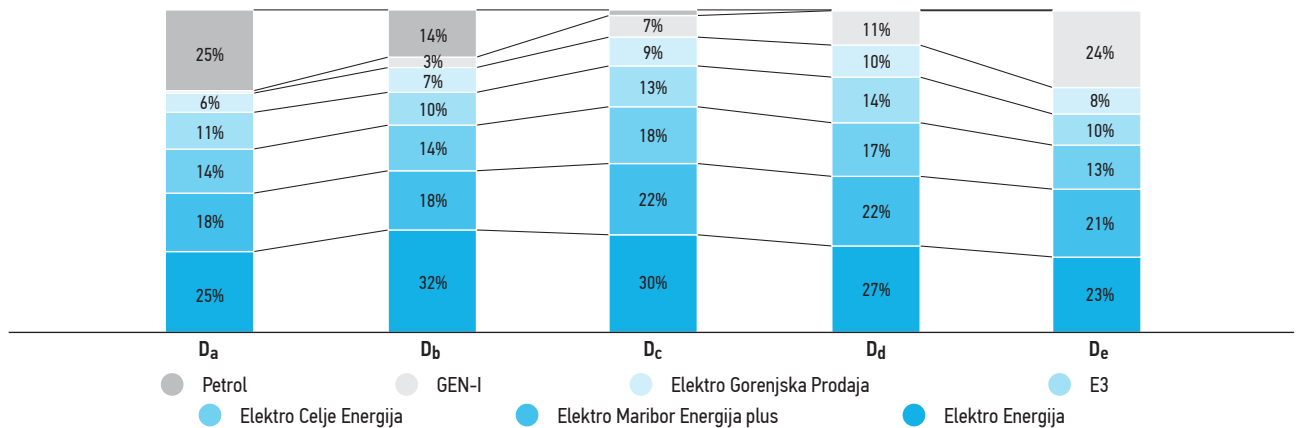
With respect to the market shares of the suppliers to the household customers, in 2012 Elektro Energija had the largest share, supplying almost one third of all households in Slovenia. Other suppliers that were before the unbundling parts of distribution companies followed. GEN-I and Petrol, which entered the market as last, had together 12.5% of market share.

**Figure 24: Market shares of the suppliers to the household customers at the end of 2012**



Sources: Companies' data

**Figure 25: Market shares of the suppliers to the household customers with respect to the consumption group at the end of 2012**



Sources: Companies' data

Figure 25 shows the dispersion of market shares to the household customers, which are according to the annual electricity consumption divided into the following groups:

- D<sub>a</sub>: annual consumption under 1000 kWh,
- D<sub>b</sub>: annual consumption from 1,000 kWh to 2,500 kWh,
- D<sub>c</sub>: annual consumption from 2,500 kWh to 5,000 kWh,
- D<sub>d</sub>: annual consumption from 5,000 kWh to 15,000 kWh,
- D<sub>e</sub>: annual consumption from 15,000 kWh.

There was an increase in the market share of GEN-I to the household customers with the highest annual consumption (groups D<sub>d</sub> and D<sub>e</sub>), on the other hand Petrol had the largest share in the group of customers with lower annual consumption (groups D<sub>a</sub> and D<sub>b</sub>). Other suppliers had almost equal market shares – only for customer group D<sub>c</sub>, which represents an average household customer in Slovenia, shares are slightly different.

### 3.3.3.5 The degree of competition in the retail market – supply to all end customers

Table 24 shows the entire retail market, which also includes large end customers connected to the transmission network.

**Table 24: Market shares of suppliers to all customers in Slovenia**

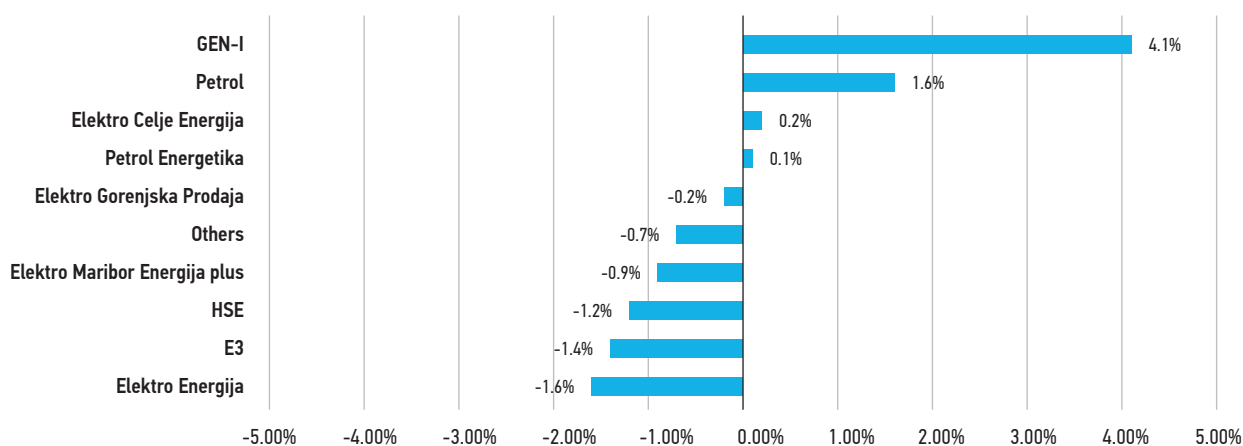
Supplier	Supplied energy (GWh)	Market share
GEN-I	3,214.3	26.2%
Elektro Energija	2,501.4	20.4%
Elektro Celje Energija	1,500.5	12.2%
Elektro Maribor Energija plus	1,457.9	11.9%
E3	998.3	8.1%
Elektro Gorenjska Prodaja	749.8	6.1%
HSE	727.8	5.9%
Petrol Energetika	682.3	5.6%
Petrol	332.7	2.7%
Others	87.4	0.7%
<b>Total</b>	<b>12,252.3</b>	<b>100.0%</b>
<b>HHI of suppliers to all end customers</b>		<b>1,575</b>

Sources: Companies' data

Look at the entire market segment, which includes customers on the transmission network, shows medium market concentration of, since HHI was below the upper limit of 1800.

Figure 26 shows that in 2012 the market share increased the most GEN-I for 4.1% and Petrol for 1.6%. Apart from Elektro Celja Energija and Petrol Energetika, other suppliers decreased their market shares in this part of supply.

**Figure 26: Changes to the market shares of the suppliers to all customers in 2012 with respect to 2011**



Source: Energy Agency

### 3.3.3.6 The degree of competition in the retail market – supply to customers on the distribution network

Market shares of the suppliers in the retail market to supply customers on the distribution network are shown in Table 25.

**Table 25: Market shares of the suppliers to the customers on the distribution network**

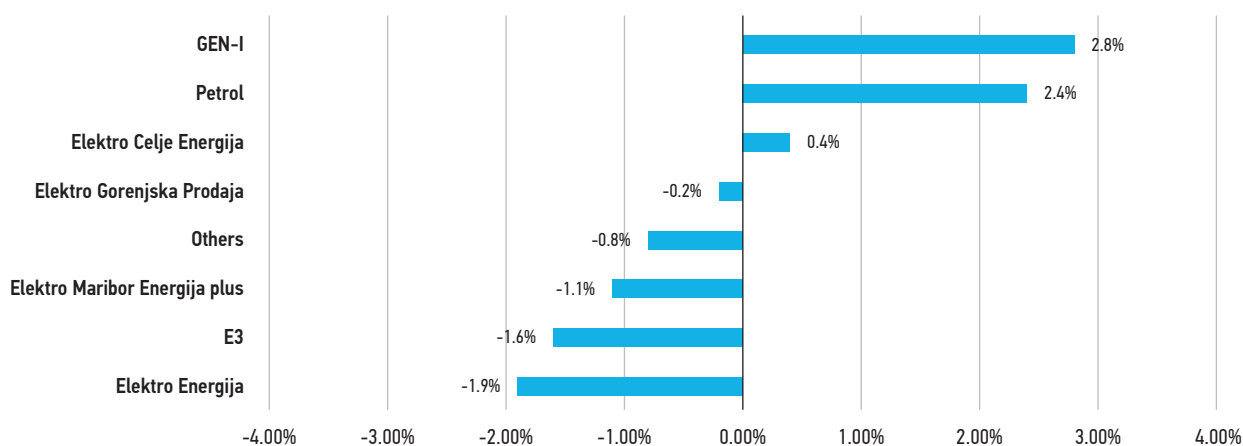
Supplier	Supplied energy (GWh)	Market share
GEN-I	2,694.0	25.9%
Elektro Energija	2,501.4	24.1%
Elektro Celje Energija	1,484.3	14.3%
Elektro Maribor Energija plus	1,458.0	14.0%
E3	997.9	9.6%
Elektro Gorenjska Prodaja	749.9	7.2%
Petrol	388.5	3.7%
Others	115.6	1.1%
<b>Total</b>	<b>10,389.6</b>	<b>100.0%</b>
<b>HHI of suppliers to all end customers</b>		<b>1,813</b>

Sources: Companies' data

Also in 2012, none of the companies had a dominant position, as none of them had a share larger than 40%. Despite the diversification of supply the concentration was still high, HHI exceeded 1800.

In 2012, GEN-I increased its market share again, for around 2.8 percentage point, and became a supplier with the largest market share in this part of the market. Its market share strengthened Petrol, by 2.4%, and Elektro Celje Energija for 0.4%. Market shares of others supplier decreased, as shown in Figure 27.

**Figure 27: Changes to the market shares of the suppliers to all the customers on the distribution network in 2012 with respect to 2011**



Source: Energy Agency

### 3.3.3.7 The degree of competition in the retail market – supply to all business customers

Market shares of the suppliers to the business customers in 2012 are shown in Table 26.

**Table 26: Market shares of the suppliers to the business customers**

Supplier	Supplied energy (GWh)	Market share
GEN-I	2,937.8	32.4%
Elektro Energija	1,608.9	17.7%
Elektro Celje Energija	986.6	10.9%
Elektro Maribor Energija plus	790.8	8.7%
HSE	727.8	8.0%
Petrol Energetika	671.0	7.4%
E3	598.2	6.6%
Elektro Gorenjska Prodaja	462.9	5.1%
Petrol	211.0	2.3%
Others	86.0	0.9%
<b>Total</b>	<b>9,080.9</b>	<b>100.0%</b>
<b>HHI of suppliers to all business customers</b>		<b>1,749</b>

Sources: Companies' data

Medium market concentration continued in this part of the market, since HHI value was under 1800. The largest market share had GEN-I, which dominated in this part of the market with a little over than 32%.

**Figure 28: Changes to market shares of the suppliers to the business customers in 2012 with respect to 2011**

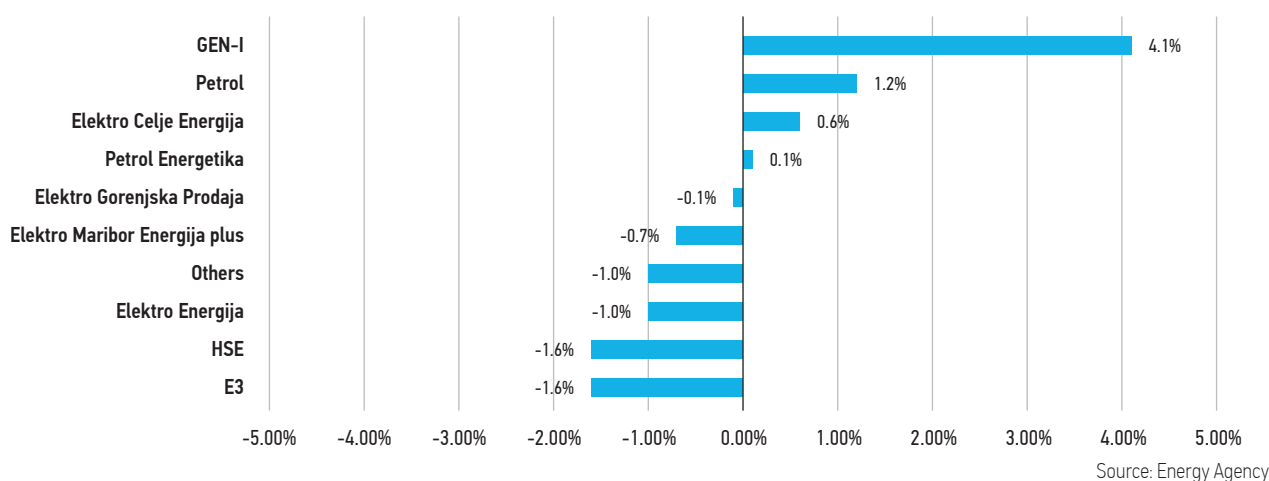


Figure 28 shows that in 2012 the largest market share with respect to 2011 gained the company GEN-I – 4.1%. The most lost HSE and E3, each 1.6%.

### 3.3.3.8 The degree of competition in the retail market – supply to the household customers

Market shares of the suppliers to the household customers in 2012 are shown in Table 27.

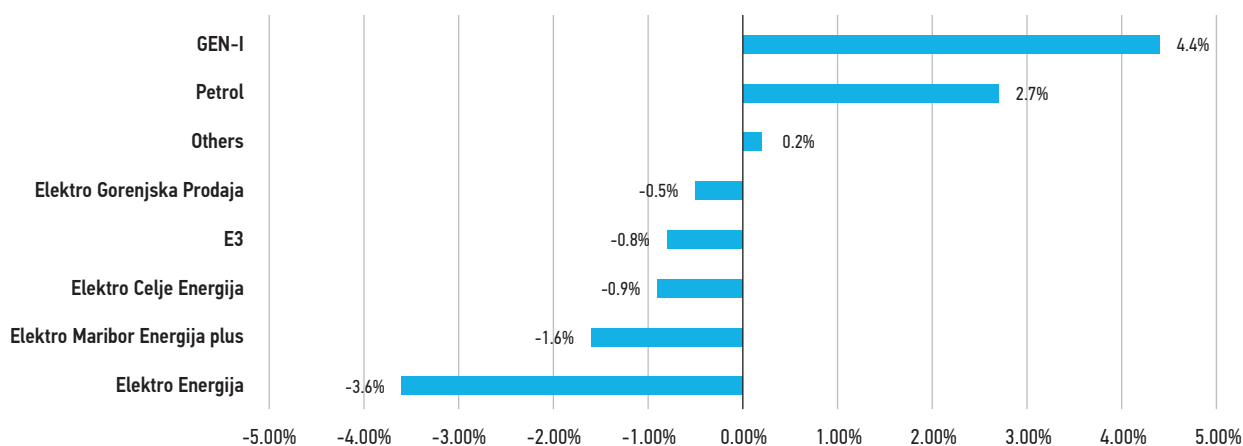
**Table 27: Market shares of the suppliers to the household customers**

Supplier	Supplied energy (GWh)	Market share
Elektro Energija	892.6	28.1%
Elektro Maribor Energija plus	667.1	21.0%
Elektro Celje Energija	513.9	16.2%
E3	400.1	12.6%
Elektro Gorenjska Prodaja	286.8	9.0%
GEN-I	276.5	8.7%
Petrol	121.7	3.8%
Others	12.7	0.4%
<b>Total</b>	<b>3,171.4</b>	<b>100.0%</b>
<b>HHI of the suppliers to the household customers</b>		<b>1,829</b>

Sources: Companies' data

In the segment of household consumption, the market concentration was high, since HHI exceeded the value of 1800. The largest market share had Elektro Energija, supplying almost 28.1% of all household customers, followed by Elektro Maribor Energija plus with 21%. Together two suppliers supplied more than half of the household customers.

**Figure 29: Changes to the market shares of the suppliers to the household customers in 2012 with respect to 2011**



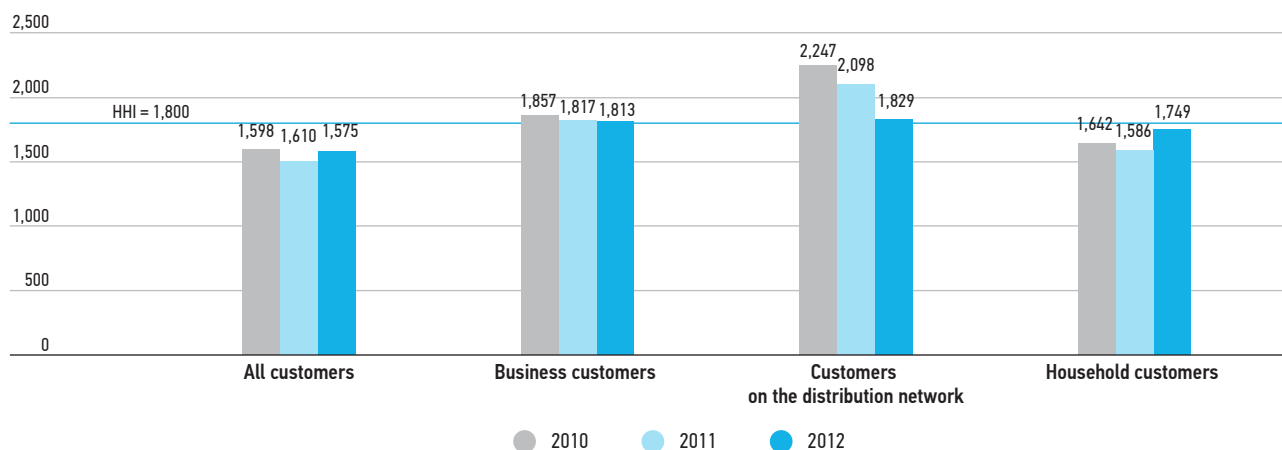
Source: Energy Agency

Figure 29 shows that GEN-I in 2012 again strengthened its market share according to data from 2011 for 4.4%. That applies also for Petrol, which recorded increased in its market share for 2.7%. All other suppliers decreased their market share, most of them Elektro Energija for 3.6%.

### 3.3.3.9 The degree of competition in the retail market – trends of the HHIs in the retail market for 2010–2012

Trends of HHIs during the last three years were, except for business customers, in all retail markets negative, reflecting the strengthening of competition between suppliers. In 2012 the HHI for the part of business customers increased slightly, as a result of higher market share of GEN-I. In general, the retail electricity markets in Slovenia indicated medium concentration, since HHI was around 1800.

Figure 30: Trends of the HHIs in retail market for 2010–2012



Sources: Companies' data

### 3.3.3.10 Comparison of electricity prices for typical industrial customers in the retail market

The price of electricity supplied includes:

- the energy price,
- the network charge for the transmission and distribution network and ancillary services,
- supplement to the network charge for covering the costs of recording the contracts on a regulated market and for the operation of the Energy Agency,
- the contribution to supporting electricity production from domestic energy sources, RES and CHP,
- the contribution to the provision of security the supply by using domestic primary energy sources,
- the contribution to supporting energy efficiency programmes,
- the excise duty,
- the value added tax.

The average electricity price for industrial customers without VAT in 2012 in Slovenia in 2012 was 85.1 EUR/MWh.

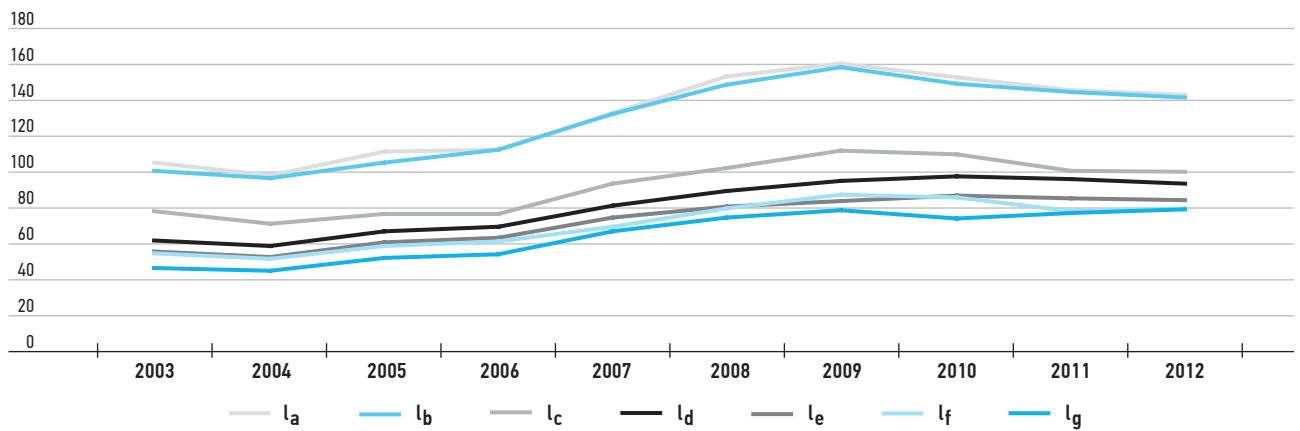
In the structure of the price without VAT the share for energy amounted to 67%, for the network charge 25%, and the share for contributions and supplements 8% of the final price.

Graph in the Figure 31 shows trends of the electricity prices for typical industrial customers in Slovenia for 2003–2012. Standards customers groups according to the old Eurostat methodology are used:

- $I_a$  – annual consumption 30 MWh, a power of 30 kW,
- $I_b$  – annual consumption 50 MWh, a power of 50 kW,
- $I_c$  – annual consumption 160 MWh, a power of 100 kW,
- $I_d$  – annual consumption 1,250 MWh, a power of 500 kW,
- $I_e$  – annual consumption 2,000 MWh, a power of 500 kW,
- $I_f$  – annual consumption 10,000 MWh, a power of 2,500 kW,
- $I_g$  – annual consumption 24,000 MWh, a power of 4,000 kW.



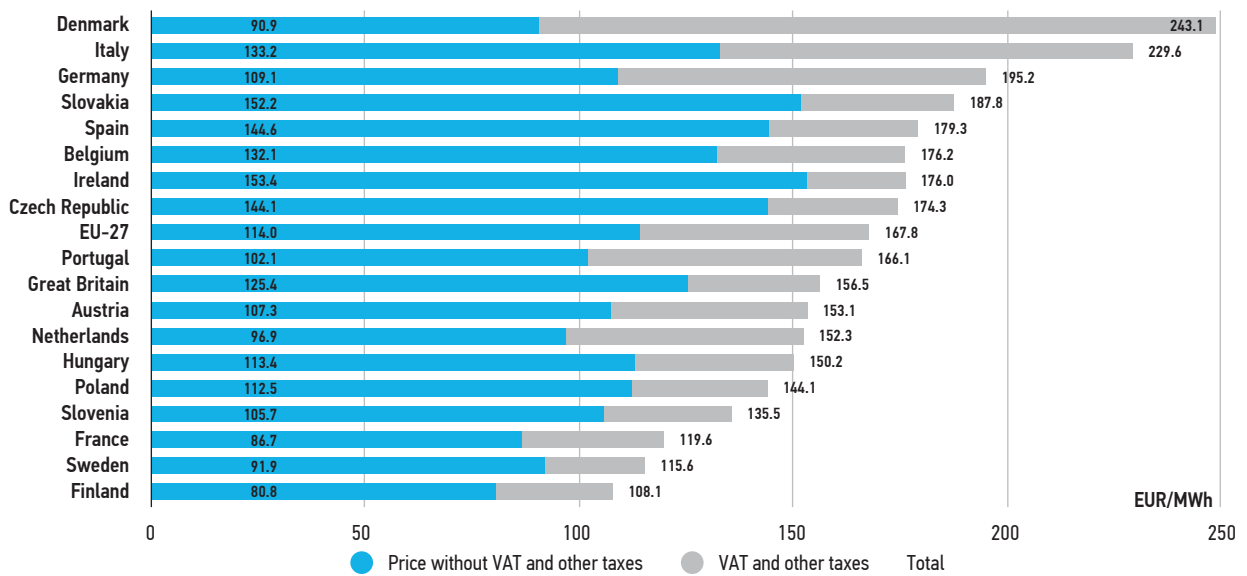
**Figure 31: Trends of the electricity prices for typical industrial customers in Slovenia for 2003–2012 (old methodology Eurostat)**



Source: Statistical Office of the Republic of Slovenia

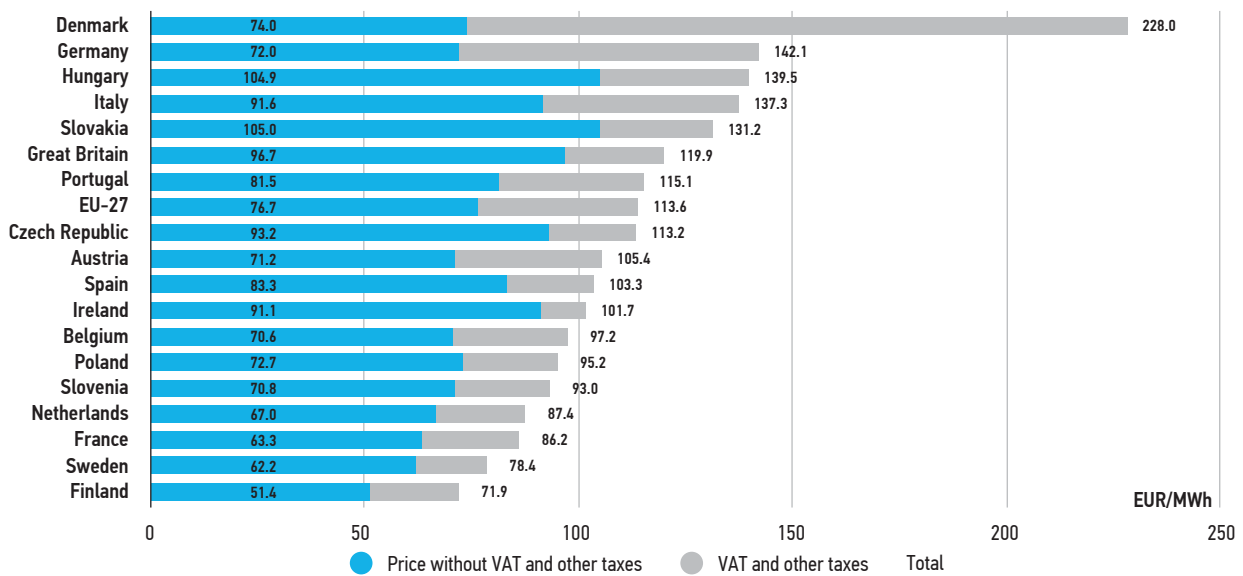
Below is a comparison of electricity prices in some EU countries for the second half of 2012 for two typical industrial customers selected inline with the new methodology Eurostat. Final prices are shown, in which for Slovenia the price for energy, the use-of-network price, excise duties, contributions and VAT are included.

**Figure 32: Comparison of electricity prices for a typical industrial customer with an annual consumption of 20 to 500 MWh in the EU and Slovenia for the second half of 2012**



Source: Eurostat

**Figure 33: Comparison of electricity prices for a typical industrial customer with an annual consumption of 20 to 70 GWh in the EU and Slovenia for the second half of 2012**

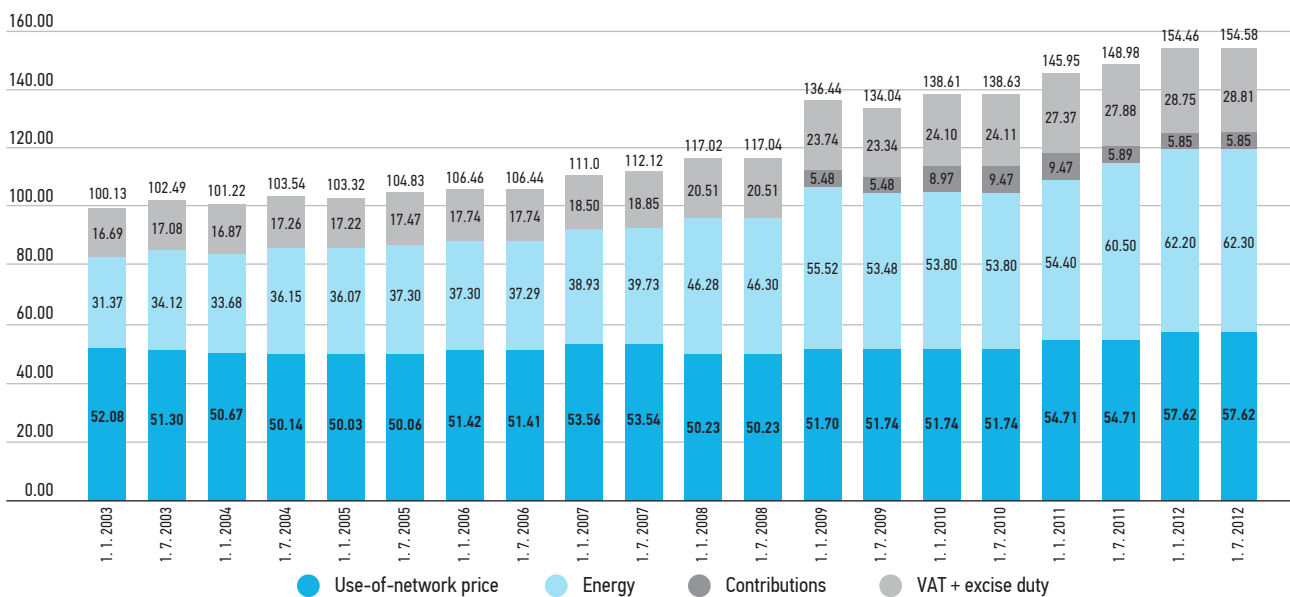


Source: Eurostat

### 3.3.3.11 Comparing electricity prices in the retail market for typical household customers

Households in Slovenia are free to choose their electricity suppliers since 1 July 2007. Electricity is offered in variety of packages that take into account consumption, mode of consumption, and primary energy source to produce electricity.

**Figure 34: Trend of the final electricity price for a typical household customer (D<sub>c</sub> – 3,500 kWh per year) in EUR/MWh**

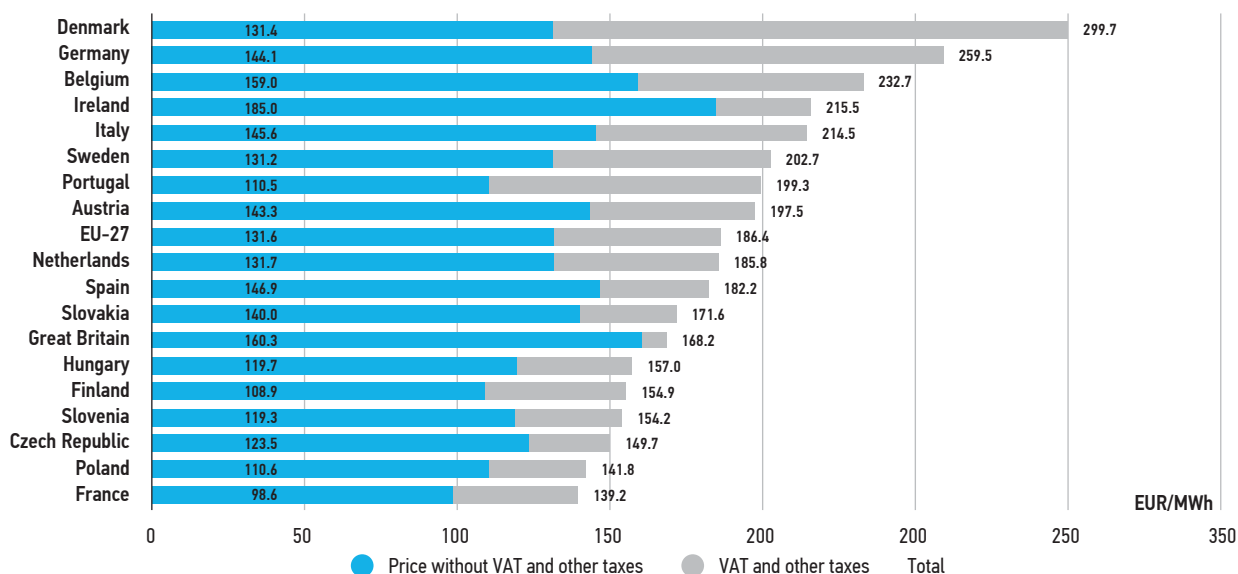


Source: Energy Agency

The final electricity price for a typical household customer D<sub>c</sub> was, between 2003 and the end of 2008, increasing with an average annual growth of 3.1%; during this time the use-of-network price was relatively stable, and was around 51 euros /MWh per typical customer D<sub>c</sub>. Until 1 July 2007, the electricity price was being set by the government. During that time, the selling price, which included the use-of-network price, did not entirely cover the costs of energy prices in the wholesale market. Therefore, after the market opening in 2007, the price for all customers increased by almost 19% per cent. Between 2009 and 2010, the final price for household customers increased, despite lower energy prices and relatively stable price for the use of network, because of the contributions that are intended to support the production from domestic sources, in cogeneration and from renewables, and for supporting programs to increase the efficiency of electricity use. In 2012 the shares of the use-of the network price and energy increased in the total price of electricity.

A comparison of electricity prices in some EU countries for the first part of 2012 for a typical household customer according to the new methodology Eurostat is shown below. Final prices, which include the price for energy, the use-of-network price, excise duties, contributions and VAT are presented.

**Figure 35: Comparison of the final electricity prices for a household customers with an annual consumption of 2,500 to 5,000 kWh in EU and Slovenia for the first half of 2012**



Source: Eurostat

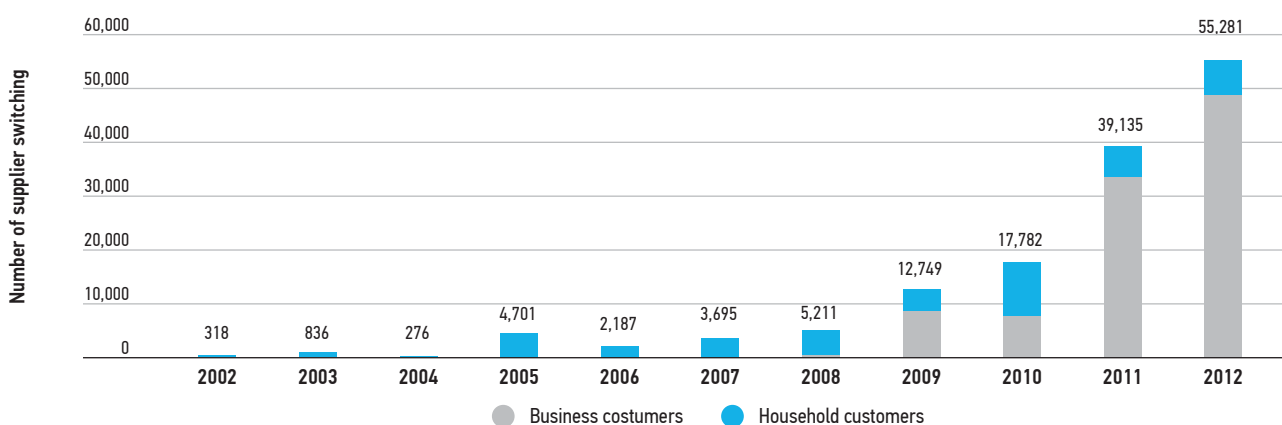
The average retail price of electricity for households in Slovenia for the first half of 2012 was 154.2 EUR/MWh.

International comparison is due to the availability of data of other Member States at the time of drafting this report possible only for the first half of 2012. During this period the final price of electricity for households with an annual consumption of 2500 do 5000 kWh amounted to 83% of average price in the EU (EU-27), and for industrial customers 81% (group I<sub>c</sub>, without VAT) (Statistical Office of the Republic of Slovenia, 4Q of 2012).

### 3.3.3.12 Supplier switching

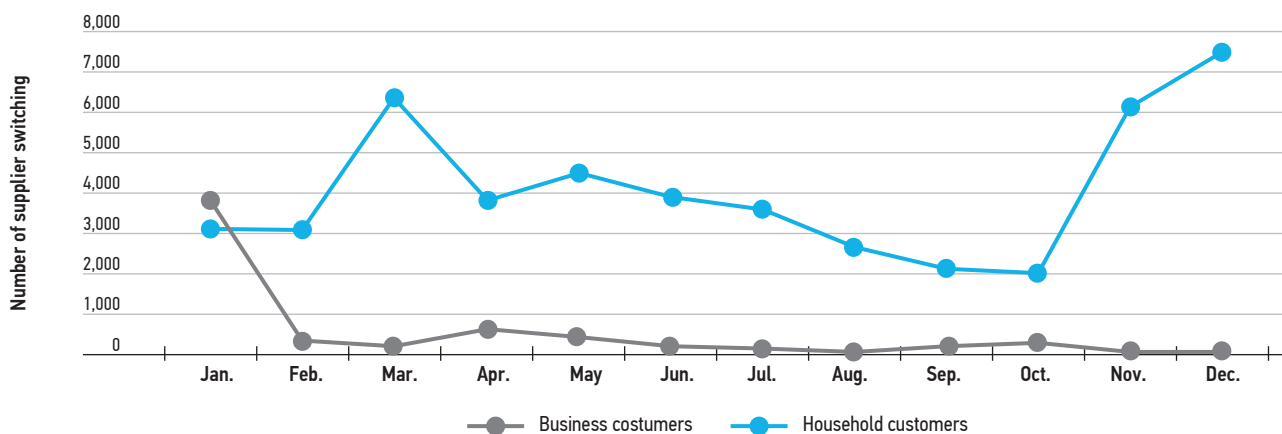
In 2012, 55,281 customers switched their supplier, of which the vast majority (48,794) were the household customers; this was a substantial growth of supplier switching numbers, and again the biggest number since the market opening (in comparison with 2011 the number of suppliers switching increased by 41%).

Figure 36: Number of supplier switching for 2002–2012



Sources: System operators

Figure 37: Trend of supplier switching in 2012 with respect to the type of consumption



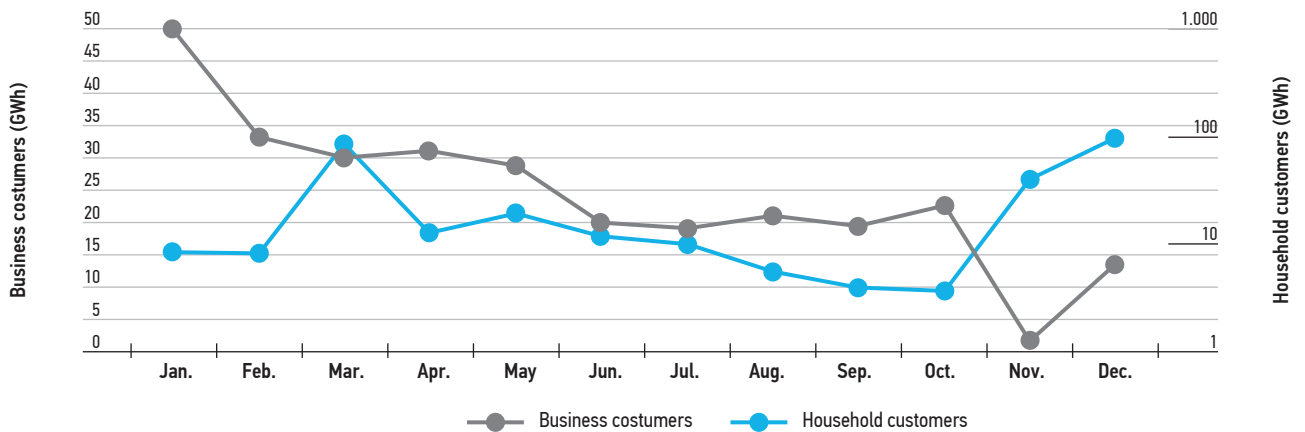
Sources: System operators

As in the previous years, most of business customers decided to switch supplier, at the beginning of the year when the contracts usually expire. The share of business switching in 2012 represented the largest share of switching in this part of the market.

Household customers switched supplier mostly in March and at the end of the year, when suppliers extendedly promote new offers (packages) for the supply of electricity.

Figure 38 shows dynamics of supplier switching with respect to the amount of the supplies energy. There is a close correlation between the amount of energy and number of switches, especially for the household customers. For business customers amounts are much higher at the beginning of the year, and decreasing during the year.

**Figure 38: Dynamics of supplier switching with respect to the amount of electricity**



Sources: System operators

### 3.3.3.13 Web application – Comparison of suppliers

In order to facilitate price transparency in the retail electricity market (mainly for household customers and small businesses) the Energy Agency on its web page offers the web application called the Comparison of Suppliers, which allows calculating and comparing the amounts of consumed electricity for all the offers entered in the application made by suppliers. Application provides calculations at the monthly and annual level and all the individual elements of the bill to be paid:

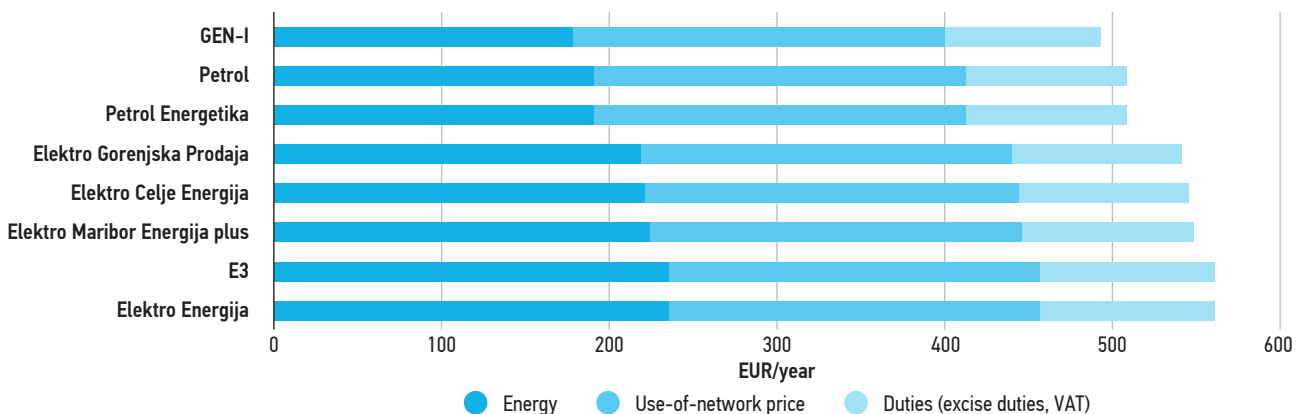
- energy,
- charge with contributions,
- according to the EA,
- excise duties,
- VAT.

Standard customers groups are defined by the annual consumption of electricity:

- $D_c$ : connected power 7 kW, high tariff consumption: 2,200 kWh; low tariff 1,300 kWh,
- $D_d$ : connected power 7 kW, high tariff consumption: 5,000 kWh; low tariff 2,500 kWh,
- $D_e$ : connected power 7 kW, high tariff consumption: 5,000 kWh; low tariff 15,000 kWh.

Figure 39 shows the comparison between the offers. Amounts represent the annual costs of a household in standard customer group  $D_c$ , the calculation takes into account the best offer (value for money) of each supplier (other than a conditional offer):

**Figure 39: Comparison of the best offers for the supplied electricity for the group  $D_c$**

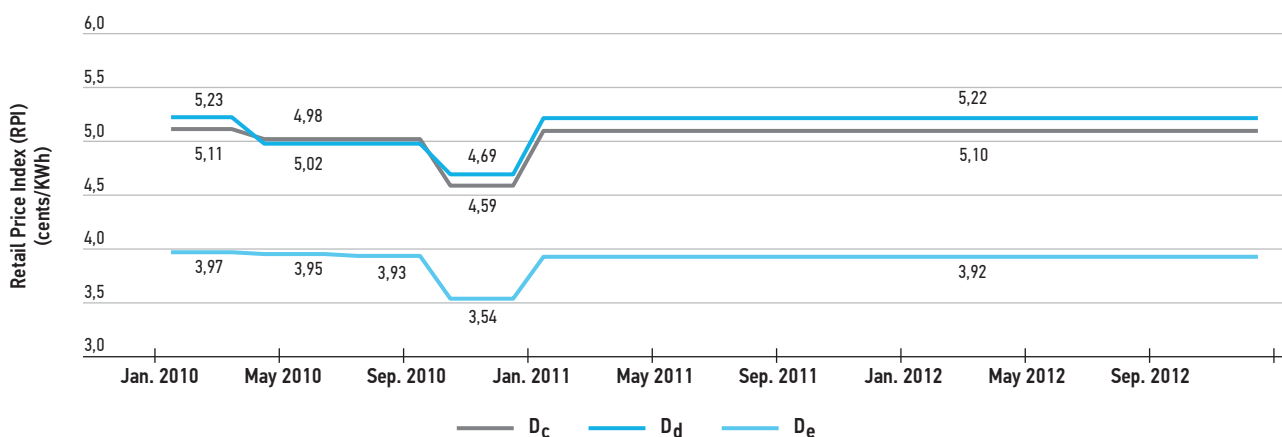


Source: Energy Agency, December 2012

The database of the web application the Comparison of suppliers offers data for monthly reports on prices for electricity. The retail price index represents the lowest price for electricity of all valid offers of suppliers in a given period (except for conditional offers).

Figure 40 shows trends of the retail price index (RPI) for standard customers groups  $D_c$ ,  $D_d$  and  $D_e$  in period 2010–2012. After negative trend in 2010, in the beginning of 2011 it strengthened again and did not change until the end of 2012.

**Figure 40: Retail market indices for standard customers groups  $D_c$ ,  $D_d$  and  $D_e$  in 2010–2012**



Source: Energy Agency

### 3.3.4 Recommendations on supply prices

Concurrently with market opening in July 2007 the Energy Agency offered to the public a web application Comparison of suppliers, with which we monitor the prices for household customers (and partially for small business customers); the application allows the comparison of offers for the supply. From the collected data the Energy Agency on the regular basis publishes the analysis the final amount for the consumed electricity, the price for energy and retail price index (RPI). The application is a tool for Energy Agency's monitoring of retail electricity market for households, by which level and price changes are regularly reviewed.

The Energy Agency also takes care that the price for the last resort supply is in accordance with Decree on the method for the implementation of public service obligation relating to the electricity distribution system operator, and public service obligation relating to the electricity supply to tariff customers. This regulation provides that the price for last resort should not be for more than 25% higher than the market price for the supply of comparable customer. Electricity prices for last resort supply and for the supply of vulnerable customers are released to the public.

### 3.3.5 Measures taken to prevent abuses and to promote competition

In the wholesale market the same rules apply to electricity as to other commodities, mainly with respect to preventing the restriction of competition and any abuse of a dominant position. The market transparency is provided for by publishing the relevant information, which is mostly available on the web sites of individual market participants. The companies providing a public service also have to observe the prescribed mode of publishing this information, as required by the current general acts. Most of the information relating to the wholesale market is maintained and disclosed by Eles and Borzen.

In the retail market the Energy Agency in 2012 made a significant contribution to the transparency of prices and offers for household customers and thus contributed to the functioning of competition. For this purpose, it delivered web applications for the comparison of offers and checking electricity bill. Moreover, it provided e-services for monitoring individual offers by sending automatic messages when offers changed. The entire set of web applications was upgraded. It also published monthly report on the supply of electricity and retail market index for household customers. In accordance with the provisions of the Third Energy Package the Energy Agency actively contributed to the unification of data exchange for the most important market activities. It had been active in the section IPET (at Chambers of Commerce and Industry of Slovenia), where we actively work on solving the problems of current projects on information exchange in the electricity market.

In 2012 Slovenian Competition Protection Agency adopted one decision, but the proceeding against the electricity market participant was stopped.

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## 3.4 Reliability of the electricity supply

The reliability of the electricity supply to the customers depends on the capacity of the power system and the sufficiency of production sources and energy. We can speak of the two functional aspects of the security of supply - sufficiency of production sources and the security of the network. The sufficiency describes the ability of all the available production sources to meet the demand for electricity in any time, taking into account planned stops and unplanned outages of the system. In broader sense the sufficiency means a sufficient reserve of affordable raw materials and resources for production of electricity.

Network security is the ability of the system to withstand disturbances such as outages of elements, failures, such as short circuits. In order to ensure the network security, in Slovenia the n-1 criterion is used for the transmission network, and for higher levels of the distribution networks. By using n-1 criteria, it is guaranteed that in case of a failure of any component of the system, overloading, limits exceeding or supply interruptions are avoided.

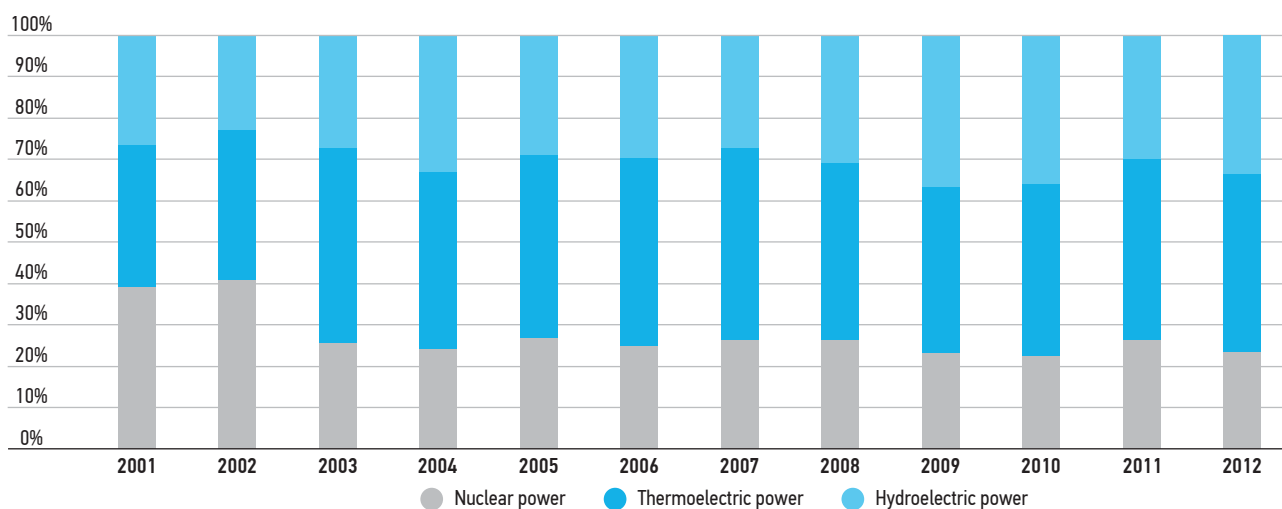
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### 3.4.1 Monitoring balance of supply and demand

Amount of electricity, delivered to the transmission network, in 2012 decreased for 1.1% in comparison with the previous year, taking into account half of the production of the Krško NPP. Due to favourable hydrological conditions in 2012 hydropower plants delivered 10.9% more electricity to the transmission system than in 2011. Thermo power plants and NPP in 2012 delivered less electricity than in 2011; less electricity from NPP was the result of planned outage in April 2012, and amounted to 11.3%.

Since 2000 the structure of the production has not been changing significantly. In 2012 the largest share of delivered electricity belonged to thermo power plants – 42.7%. Hydropower plants followed by 33.7%. The lowest was the share of nuclear power plant (half of its production considered), and it accounted to 23.6%.

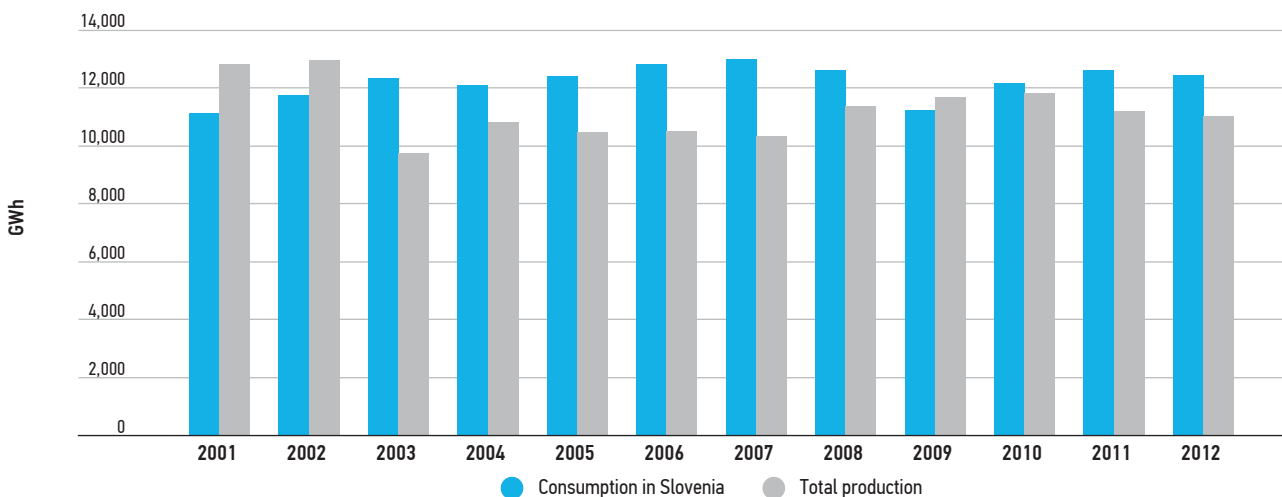
**Figure 41: Structure of electricity production on the transmission network for 2001–2012 (period 2001–2002 includes the total production of the Krško NPP)**



Source: Eles

In 2012 the consumption on the transmission system decreased for one per cent, mainly due to decrease in consumption from distribution network by 2.6% in comparison with the previous year. The consumption of direct customers increased by 4.6%, and PSPP Avče used 30% more electricity from the transmission system for pumping water in 2012 compared with the previous year.

**Figure 42: Production and consumption of electricity on the transmission network for 2001–2012 (period 2001–2002 includes the total production of the Krško NPP)**

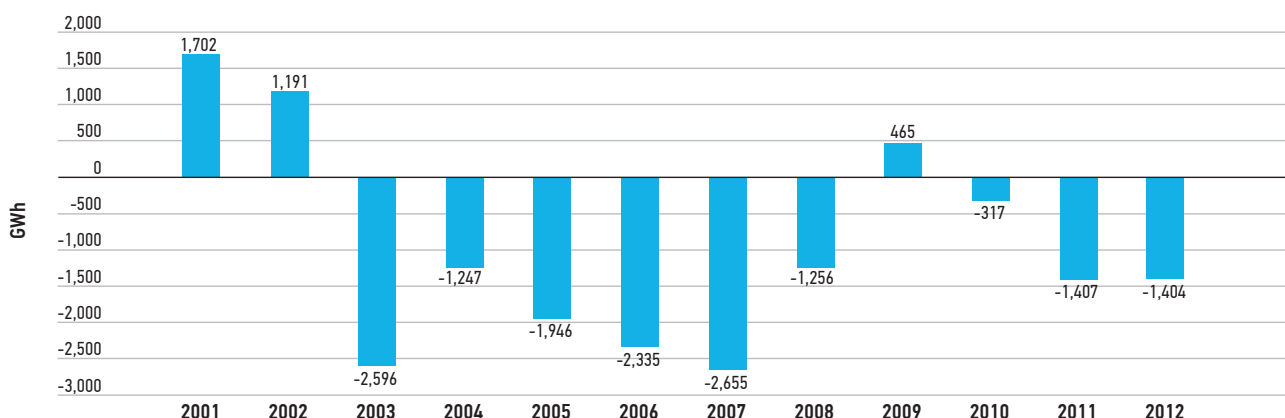


Source: Eles

Compliance between production and consumption of electricity is shown in the next two figures. After 2009, when electricity consumption decreased due to economic crisis, which led to surpluses, in 2010 deficit occurred. This deficit further increased in 2011, and in 2012 the situation remained more or less the same as in the previous year.



**Figure 43: Surpluses and deficits of electricity on the transmission network for 2001–2012 (period 2001–2002 includes the total production of the Krško NPP)**



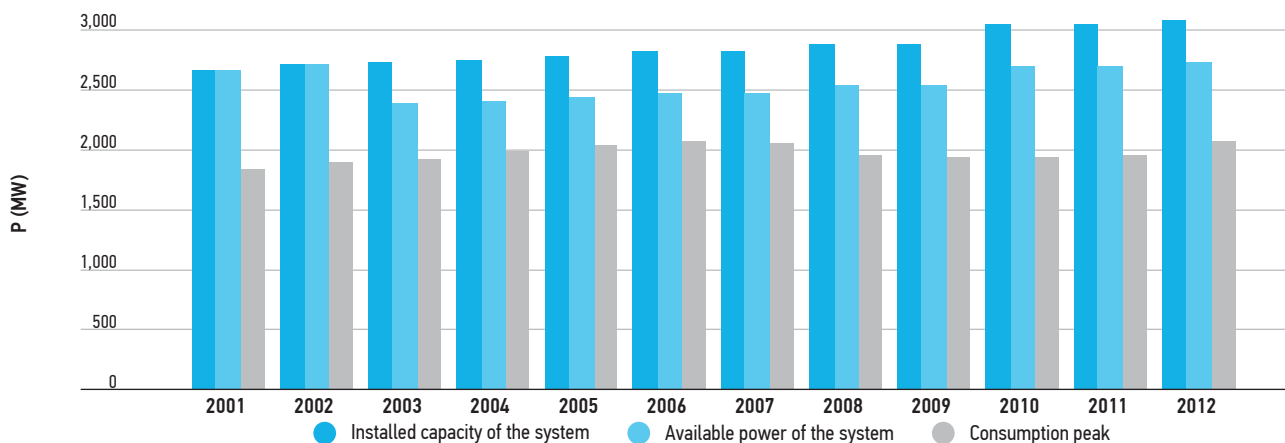
Source: Eles

Peak load, this is the maximum hourly average load in the year, increased in 2012 by 6% in comparison with 2011. If we compare the values of peak load over the past decade, we can establish that the value each year steadily increased compared to the previous year, except between 2007 and 2009, when the values substantially decreased.

Figure 44 shows peak consumptions, installed capacity of production facilities and the power available for the Slovenian market for 2001–2012. The difference between the installed capacity of the production facilities and actual available power represents 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 2012 the new hydropower plant Krško was connected to the Slovenian transmission network, and at the same time the steam part in thermoelectric power plant Brestanica ceased to operate. Installed capacity on the transmission system increased by approximately 18 MW. The Figure 44 shows that the Slovenian production system fully covers the needs for power.

**Figure 44: Installed capacity of production facilities, the power available for the Slovenian market, and the peak consumptions for 2001–2012 (period 2001–2002 includes the total production of the Krško NPP)**



Source: Eles

### 3.4.2 Monitoring investment in production capacities in relation to the security of supply

The TSO for the electricity network produced a TYNDP for the transmission network in Slovenia from 2013 to 2022. This plan includes expected trends of final electricity consumption, consumption from the transmission network, and peak consumption for the next decade. Final electricity consumption is estimated based on various assumed rates of economic growth, demographic trends and energy policy. On the basis of planning of final consumption, estimation on consumption of electricity from the transmission network was prepared. Peak-power consumption of the transmission network was determined as the function of final consumption and consumption on the transmission network. The plan also includes scenarios for covering consumption with production facilities and the expected changes in production facilities connected to the transmission network.

**Table 28: Changes to the production facilities for the next ten years**

	Installed capacity (MW)	Expected year of change
<b>Hydropower plants</b>		
Krško	38	2012
Brežice	56	2016
Mokrice	32	2017
Moste 2, 3	48	2017
Učja	34	2018
Suhadol	41	2018
ČHE Kozjak	403	2018
Hrastje Mota	20	2019
Trbovlje	35	2020
Zadlaščica II	5	2021
Renke	36	2022
<b>Wind-powered plant</b>		
Avče	10	2015
<b>Thermoelectric power plants</b>		
TEB TA1	-10	2012
TEB TA2	-11	2012
TEŠ block 3	-50	2014
TEŠ block 4	-248	2014
TEŠ block 6	545	2015
TET PB 1+2	-58	2013
TET PPE	282	2015
TEB PB1	-21	2016
TEB PB2	-21	2016
TEB PB3	-21	2016
TEB PE VI-IX	80	2015
TE-TOL Block 1	-39	2020
TE-TOL Block 2	-29	2016
TE-TOL Block 4 PPE1	117	2016
<b>Nuclear power plant</b>		
JEK 2	1,100	2022

Source: Eles

Table 28 shows 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.

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### 3.4.3 Measures to cover peak demand and shortages of electricity

In 2012, the total amount of undelivered electricity to the transmission network amounted to 971.8 MWh, which was significantly higher than the year before, when it was 69.7 MWh.

The largest share of undelivered electricity, 842.1 MWh, was the result of strong storm in Gorenjska Region in September. Another two extreme incidents were a short circuit in DTS Cirkovce, which caused outage of more transmission lines and transformers in Štajerska Region (undelivered 47.8 MWh of electricity), and failure of a support insulator in DTS Slovenska Bistrica (undelivered 46.7 MWh of electricity). Other causes for undelivered electricity were strong wind, switching operations faults, storms, hidden defects of protection system and other causes.

Despite the fact that in 2012 domestic sources for electricity production were not entirely sufficient to cover Slovenian electricity demand, the supply was never interrupted as a result of shortage of production sources.

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## 3.5 The protection of electricity customers and dispute settlement

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### 3.5.1 The protection of electricity customers

The household customers of electricity 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 Consumer Protection Act. The companies and other organizations providing public service 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.

Household customers have, as active participants in the market, the following rights:

- right to choose the supplier,
- right to enter into supply contract,
- right to a reliable and quality supply,
- right to be informed,
- right to transparent price and billing,
- right to legal certainty.

Each household customer who connects a facility to the distribution network has the right to freely choose the electricity supplier. Household customer can, without any reason and without any costs, switch the supplier. Switching is carried out by SODO on the first day of the month, if the complete application for switching was registered at SODO by the tenth day of the preceding month.

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. If the fixed term contract on the supply is concluded, a household customer has to be given a written notice about the consequences of a termination 30 days before the termination of a contract.

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 supply to vulnerable customers is the responsibility of the system operator. The latter also carries out the last-resort supply to the customers whose supply contracts were terminated because of the insolvency or illiquidity of the supplier. SODO must inform customers on the conditions for the provision of both types of supply. The last-resort 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. It can last up to 60 days and can be extended up to the request of the customer. The prices for the last-resort supply must be publicly available and higher than the market price for the supply to a comparable customer, but not more than 25%. This price is determined by SODO, or, if SODO does not do that, by the Energy Agency. In 2012, two customers were provided by the last-resort supply (from the group – other customers on LV).

The eligibility for the supply of vulnerable customers is assessed by SODO, on the basis of evidences submitted (a decision of the competent social service on the financial situation of the household, and medical examination that the person living with the customer uses medical devices, which for its functioning need electricity and disconnection of electricity would threatened the person's life).

All the supplier's costs arising from such a situation are covered by the revenues from the use-of-network price.

SODO is obliged to provide quality power supply. If the voltage quality is not as good as agreed upon, household customer has the right to request a contract on a non-standard quality. Conditions and integral parts of the contract are determined by the System operating instructions for the distribution network and General Conditions for the Supply and Consumption of electricity from the distribution system.

Household customers have the right to be informed of their rights in an understandable way about the prices, and that the prices can be compared. For this purpose the web application Comparison of Suppliers can be used.

The supplier is obliged to issue a bill, which has to be transparent and comprehensible. Bill has to disclose shares of production resources in the overall structure of electricity, information on the impact of the existing structure of production on environment (carbon dioxide emissions CO<sub>2</sub>, and problems relating to the nuclear waste.)

In addition, the suppliers have to provide websites, where one can get information on the environmental impact, in terms at least CO<sub>2</sub> emissions and the radioactive waste resulting from the electricity produced in the overall fuel mix is publicly available. The suppliers of electricity have to, at least once a year, inform customers about their individual annual consumption.

In 2012 the electricity suppliers were publishing the electricity prices for household on their websites. These publications included prices for different products or the electricity supply packets for households.

When SODO wants temporarily interrupt the supply, household customers have to be informed on time in writing or in by any other appropriate way. When interruption of supply is related to a wider range of customers, it is sufficient that SODO at least 48 hours in advance announced the interruption by the mass media.

If household customers do not meet their obligations, SODO can stop the supply prior written notice and set the deadlines for the fulfilment of their obligations. The period should not be shorter than eight days.

In Slovenia the customers have the opportunity to exercise the right to appeal, or legal redress and the settling of disputes.

In line with the EA, the user of electricity 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 breaches of the general supply conditions and the system operation instructions, or the status of a specific customer. Customer has the right to make an appeal on the Energy Agency's decision to the Ministry, responsible for energy.

Amendments to the Energy Act in 2012 provide for the new regulation of the protection of household customers in case of disputes between a customer and supplier. According to the new legislation suppliers have to provide transparent, simple and non-payable procedures for dealing with customers' complaints. If a customer does not agree with the decision, he can address his claim to the court. For this purpose the suppliers in 2012 published more detailed rules on handling complaints and about the appointment of the impartial persons responsible for handling complaints.

In Slovenia any breaches of the general rules relating to consumer protection are addressed and also appropriately sanctioned by the Market Inspectorate.

Household customer has a right to compensation for the damage caused by unreasonable or unlawful behaviour of the system operator or the market organizer; the right to compensation can be enforced by the court in the following cases:

- if there was unreasonable interruption to supply, or disconnection of electricity supply carried out by the SODO;
- if the supply interruption lasted unreasonably long;
- if the quality of supply does not meet applicable standards or contractually agreed levels;
- due to disturbances caused by another user;
- if the customer was unable to switch the supplier due to SODO's fault.

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### 3.5.2 The deciding on disputes and complaints

The Energy Agency is legally authorised to decide, in an administrative procedure in the first instance, on dispute between the network user and the system operator or the market operator, and in second instance, on appeals against the decisions of the system operator relating to a connection approval.

Before the network user submits an appeal for decision-making process in an administrative procedure in the first instance, the preliminary proceedings with the system operator have to be carried out. If the system operator and the network user do not resolve the issue, the request for a decision-making can be sent to the Energy Agency; the request must be accompanied by supporting documents and evidence of the correct preliminary proceedings. The application has to be submitted within 15 days after the written response from the system operator or the market operator. If the system operator does not reply within 2 months, the network user should submit the appeal for decision-making process to the Energy Agency within 15 days after the 2 months deadline. The Energy Agency shall decide on the appeal in an administrative procedure no later than 4 months. Against the Energy Agency's decision an appeal can be submitted to the Ministry, responsible for energy, or to file a lawsuit in the Administrative Court.

For administrative applications, filed to the Energy Agency, and for the final decision of the Energy Agency no administrative fees are charged.

In 2012 the number of requests to decide in the administrative procedure was lower by 3 requests in comparison with 2011, when the number was 30. In 2012 the Energy Agency received 27 requests. All but one were related to electricity.

As in the last four years, in 2012 the most of the decisions were made with respect to the appeals against the issued connection approvals. Customers made complaints because of disagreements with the charged use-of-network price for connected load and technical conditions for connection.



Natural gas

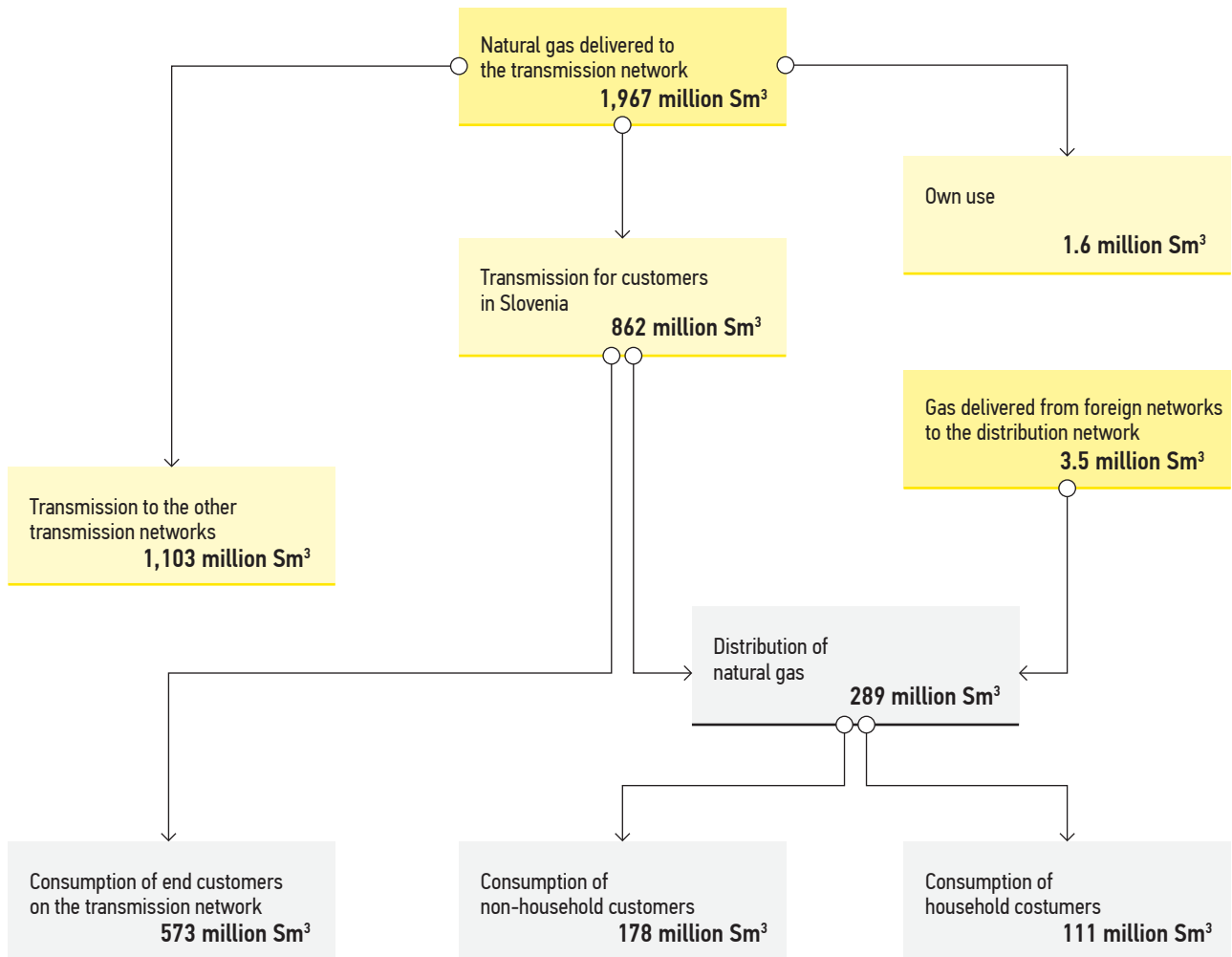
In 2012, the Slovenian natural gas market was characterized by further reduction of demand for natural gas in comparison with 2011. Domestic consumption decreased by 4%, while the consumption of industrial customers connected to the transmission network fell from 604 million Sm<sup>3</sup> to 573 million Sm<sup>3</sup>, or almost 5%. The consumption of end customers on the distribution networks decreased by 2 million Sm<sup>3</sup> regarding the year before, which was a 4% decrease.

Despite the fact that demand for natural gas in 2012 declined by around 4% compared with 2011 this was not the worst decrease in consumption in recent years. In 2011, gas demand had already decreased by 13% compared to the year before.

The only area where the use of gas increased is the Slovenian transmission network for transmission of natural gas to other transmission systems. The transferred capacities to other transmission systems were in 2012 higher for 34%.

Lower consumption of natural gas is primarily a reflection of the ongoing overall crisis in Slovenia, and further increase in gas prices, which fell in the second half of the year. Consumption of natural gas was lower despite a small increase in the number household and non-household customers.

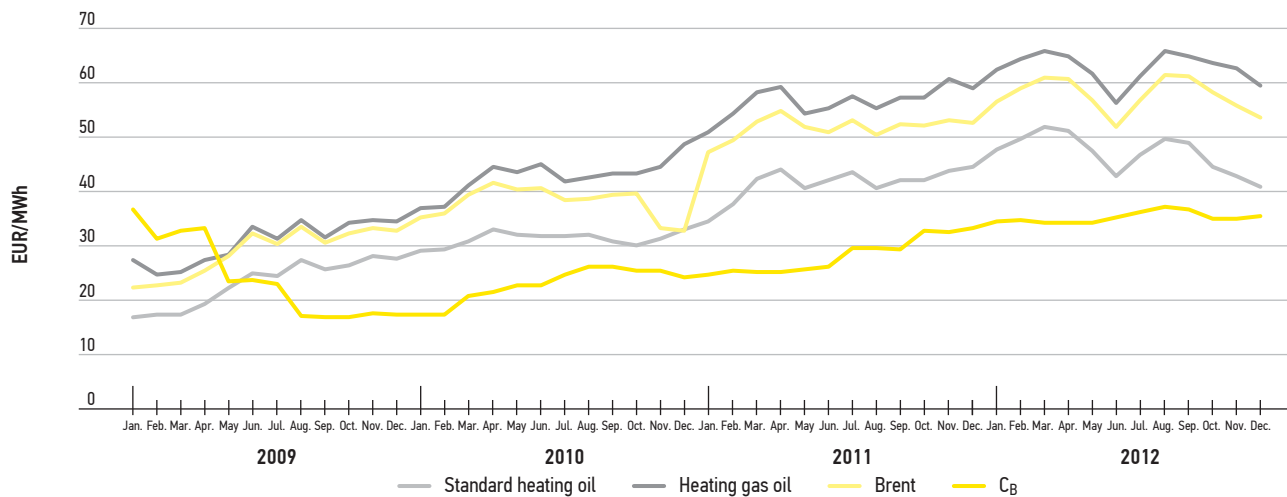
**Figure 45: Basic details about the transmitted and consumed amounts of natural gas**



Source: Energy Agency

Despite minor problems, supply of natural gas in 2012 was running smoothly. A new supplier entered the market, which led to an increased market dynamic and stronger competition and consequently lower prices for end customers. The new supplier entered the market in the second half of the year, thus the results will be more illustrative the following year. Amounts of natural gas purchased under the long-term contracts were still decreasing, having a positive effect on lowering prices, but the final ratio between amounts purchased under the long-term contracts and short-term contracts should be considered also from the perspective of the security of supply.

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



Source: Energy Agency

Figure 46 shows the trends of the prices for Brent oil, standard heating oil, heating gas oil and the basic price for natural gas on the transmission C<sub>B</sub> between 2009 and 2012. A noticeable correlation between these trends is obvious.

Prices of all monitored elements except for the basic price of natural gas since 2009 have been increasing; only minor reductions were noticed during this period. The basic price in 2009 decreased, and after that started to increase with approximately the same pace as for other energy sources.

In accordance with the provisions of Regulation 715/2009 and the Act Determining the Methodology for Charging for the Network Charge for the Gas Transmission Network, the Energy Agency introduced the legal basis for calculating the network charge for individual services of the transmission system by setting methodology regarding entry and exit points. Due to separate lease and separate management of individual transport contracts at entry and exit points of the transmission system the charging of network charge has to base on a separate calculation for each individual entry and exit point. The methodology regarding entry and exit points means a system of uniform tariffs for each entry and exit point within individual customers group.

In the past year, the Energy Agency issued an approval to the transmission system operator, the company Plinovodi, for the tariffs for the transmission system network for 2013; for the first time the tariffs are set according to the methodology for entry and exit points and not by the of postage-stamps method.



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## 4.1 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 2012 in the natural gas market 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 2012 there was no need for these services.

In line with legislation, in the natural gas market the Energy Agency carried out many regulatory activities. The main activities are among others setting the network charges for the gas transmission and gas distribution networks. In 2012, the methodology which establishes the three-year regulatory period for the gas distribution network was adopted. The Energy Agency issued the new methodology for the transmission system network, according to which in 2013 the network charge will be calculated on the basis of entry and exit points. The Energy Agency also issued the approval to the Rules for the implementation of the Regulation 719/2009.

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### 4.1.1 The regulation of the transmission and distribution activities

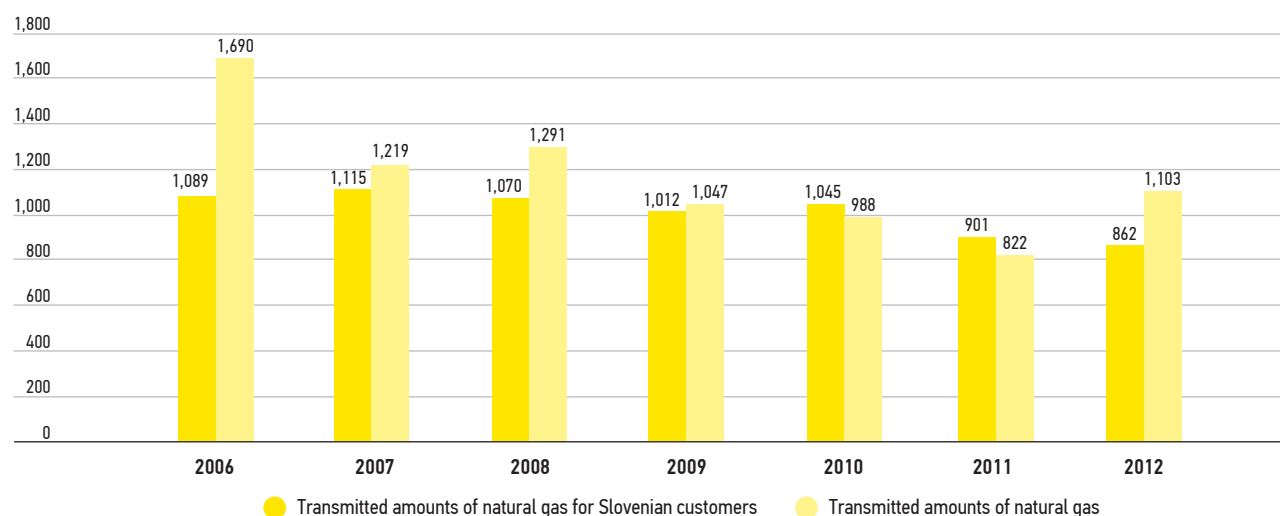
The activity of operating the natural-gas transmission network is carried out as a national mandatory public service. The provider of this service is the company Plinovodi. According to the Third Energy Package and Act amending the Energy Act (EZ-E) the legal person who operates the transmission system network has to own the entire network system and meet all legal requirements for carrying out the tasks of the independent transmission system operator for natural gas (ITO). In 2012, the gas company Plinovodi fulfil all the requirements for carrying out the tasks of ITO and was successfully certified. By amending the Energy Act – EZ-E some legal basis for enhanced regulatory monitoring were implemented into the Slovenian energy legislation, as well the introduction of a compliance officer.

Regulated activities of operating the natural-gas distribution system are carrying out as an optional local public service. In Slovenia, 16 companies for natural-gas distribution provided this service in 2012.

#### 4.1.1.1 The transmission of natural gas

In 2012, Slovenian customers continued to use less natural gas from the transmission system. In comparison with the previous year 4.3% less gas was transferred for the customers in Slovenia, and compared to 2010 the decline in consumption was 17.5%. Gas transmission to the neighbouring countries in 2012 ceased to decline, as it was in the last three years. For 34.2% more gas was transferred than in 2011, which represents the highest amounts of gas transferred after 2008. Figure 47 shows the transported quantities of natural gas.

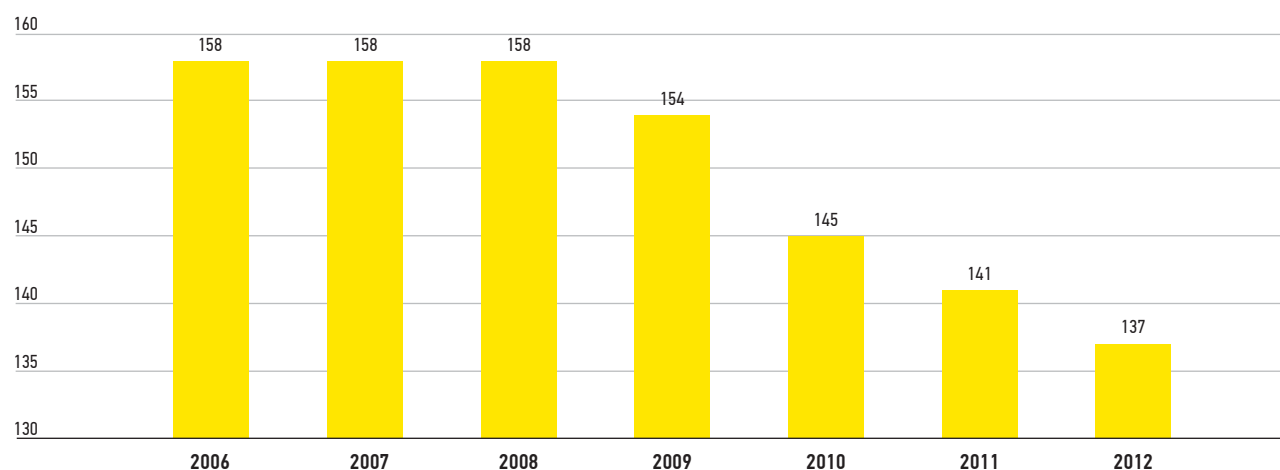
**Figure 47: Transported quantities of natural gas**



Source: Energy Agency

The transmission system operator provided transmission of natural gas through the high-pressure and medium-pressure gas networks. It operated, planned and maintained the transmission network for 16 distribution companies and 137 end customers connected directly to the transmission system. Numbers of end customers connected directly to the transmission system from 2006 are shown in the next figure.

**Figure 48: Number of end customers on the transmission network**

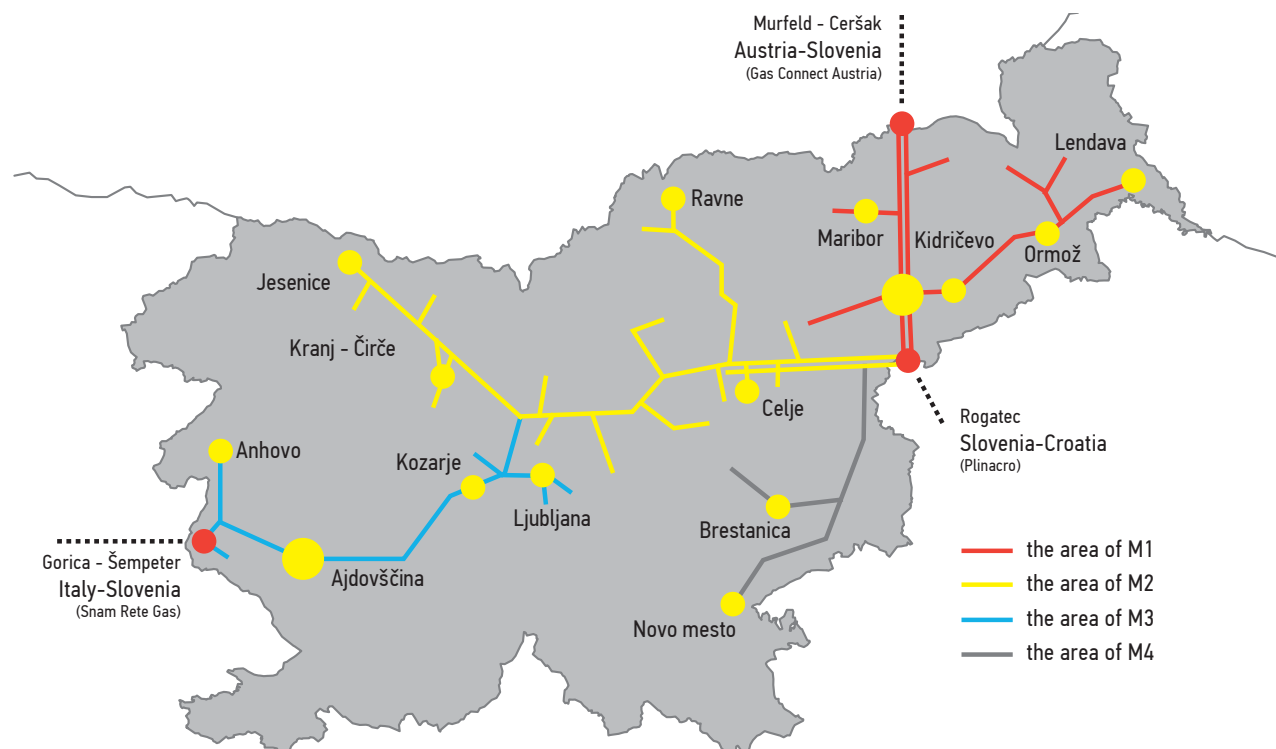


Vir: agencija

#### 4.1.1.1.1 The gas transmission network

In 2012, 40 kilometres of pipelines with a nominal pressure of more than 16 bars were built. Total length of high pressure pipelines is so far 885 kilometres. The length of pipelines with a nominal pressure of less than 16 bars has remained the same and it is 209 kilometres. The gas transmission network also consists of 197 metering-regulation stations, 43 metering stations, 4 reducing stations, and compressor stations in Kidričevo and Ajdovščina. In Figure 49 a schematic map of the Slovenian transmission system network is shown.

**Figure 49: Schematic map of the gas network with relevant points**



Source: Plinovodi

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, the company Plinovodi.

The maximum daily peak load of the network for the customers in Slovenia was 5,350,494 Sm<sup>3</sup>. The transmission of natural gas was conducted in accordance with plans and without any disruption.

In 2012, the transmission direction from the border point Ceršak by pipeline M1 and M2 was contractually congested and at the same time commercially the most attractive. The highest daily utilisation in Ceršak was 97.1%, which was 4.5% more than the year before. The highest monthly utilisation, 83.1%, was reached in this point, and compared with last year, it did not significantly change. In 2012, a significant increase in utilisation of the transmission line M1-Rogatec to Croatia appeared, as a result of more additional contracts for the transmission in the direction from Ceršak to Rogatec. The average monthly utilisation of transmission capacities in this direction exceeded 50% for almost the whole year, and in December almost 74%.

The planned works on the transmission network caused supply interruptions totalling 26 hours. The longest time of an interruption was 9 hours and the shortest time 6 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.

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

The gas transmission system operator finished the financial year 2012 with a net profit of € 8.4 million, which was 60.6% more than the year before. At the end of 2012 the company had 159 employees, or one more than in 2011.

#### 4.1.1.1.3 The ownership of the transmission system operator

The transmission system operator has been, since the establishment on 1 January 2005, 100% owned by the company Geoplin d.o.o., which is a supplier of natural gas. Transmission system operator, together with Russian partners, founded the company South Stream. Each company is the 50% owner of the new company.

#### 4.1.1.1.4 The investments in the transmission network

The transmission system operator continued to implement investments according to the adopted ten-year development plan. Investment programme was carried out, in addition to the pipeline facilities, also for diversified supply of the Slovenian energy market and cross-border transmission, reconstruction, upgrading and other functionality improvements of the system.

In 2012 the transmission system operator allocated € 38.1 million for the build-ing and renovation of the transmission network, which was 50% less than the year before. The operator financed 38% of the investments by using the amortisation costs, the same amount, or € 14.6 million were financed with own resources, and almost € 9 million were non-refundable funds from the EU (EEPR).

In addition to putting into service parallel pipeline M1/1 Ceršak–Rogatec, the most important event was obtaining the operating permit for parallel pipeline M2/1 Rogaška Slatina–Trojane in the section Rogaška Slatina–Podlog. The project preparation and documentation related to 17 national spatial plans, foreseen in development plan, continued. Adopted and published were the regulations on national spatial plan for more projects related to new constructions or reconstructions of transmission network. All studies for the projects, for which financing was approved by the programme TEN-E 2010, are completed. Activities required for the connection of the Slovenian cost to Italian transmission system were taking place rapidly through the year. The transmission operator put a lot of effort into the preparation of documents necessary for the pipelines to be placed within the projects of common interests.

For the implementation of the investments in the gas transmission network in accordance with the long-term development plan on the basis of applicable legislation, the transmission system operator, the company Plinovodi, as ITO every year prepares a development plan, which has to be approved by the Energy Agency. In 2012, the TSO prepared Development plan for the transmission network for the period 2013–2022, and held a public consultation. Table 29 provides an overview of the activities related to investments in the transmission network.

**Table 29: Review of 1st priority activities related to the investments in the gas transmission network**

Facility	Activities in 2012
Pipeline M2/1b Rogaška Slatina–Trojane	Construction in progress, completion expected in 2013
M2/1c Trojane–Vodice	Construction in progress, completion expected in 2013
M5 Vodice–Jarše R51 Jarše–TE-TOL	Decision to continuing activities to obtain a building permit
R25A/1 Trojane–Hrastnik	The national spatial plan (NSP) is being prepared, decision to continuing planning until regulation on NSP
Extension of the compressor station Kidričevo, 1st phase	Decision on construction adopted, construction in progress
M6 Ajdovščina–Lucija, section OSP – Koper, connection to the Italian transmission system	The national spatial plan (NSP) adopted
R38 Kalce–Godovič	The national spatial plan (NSP) adopted in 2011, further activities depend on the users of transmission capacity
R51b TE-TOL–Fužine/Vevče	The national spatial plan (NSP) is being prepared, decision to continuing planning until regulation on NSP

Sources: Plinovodi, Energy Agency

#### 4.1.1.2 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:

- as a public company established by a local community;
- can be regulated with a concession act between the concessionaire and the local community as the awarding authority or
- as an investment of public capital into the activity of private law.

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 2012 there were 61 local communities that had this service regulated with a concession contract between the concessionaire and the local community. In 14 local communities public companies were providing this service, and in one local communities this service is carried out as an investment of public capital into the activity of private law. In 76 local communities, this service was carried out by 16 system operators of the distribution network. In community of Šenčur the activity was carried out by 2 system operators, as the local community determined 3 areas. In additional 9 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 is not yet ready for use.

All companies which are in Slovenia engaged in the distribution of natural gas are at the same time also the suppliers of natural gas. For the distribution system operators that have fewer than 100,000 customers connected to a distribution network the legal unbundling of services is not required. In Slovenia, all distribution system operators fulfil this condition, in that way they do not need legal separation of distribution and supply, 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 2012 Slovenia had a total of 4342 kilometres of gas-distribution pipelines with different pressure levels, which was 1.3% more the year before. The majority, as much as 49% of these lines, operate at a pressure between 100 millibars and 4 bars, as shown in Table 30. The distribution lines, together with the corresponding facilities, are mainly owned by the system operators.

**Table 30: Distribution lines and metering stations**

Length of the network with pressure level between 4 and 16 bar	47 km
Length of the network with pressure level between 100 mbars and 4 bars	2,129 km
Length of the network with pressure level up to 100 mbars	2,166 km
Number of metering stations	42
Number of metering-regulation station	138

Source: Energy Agency

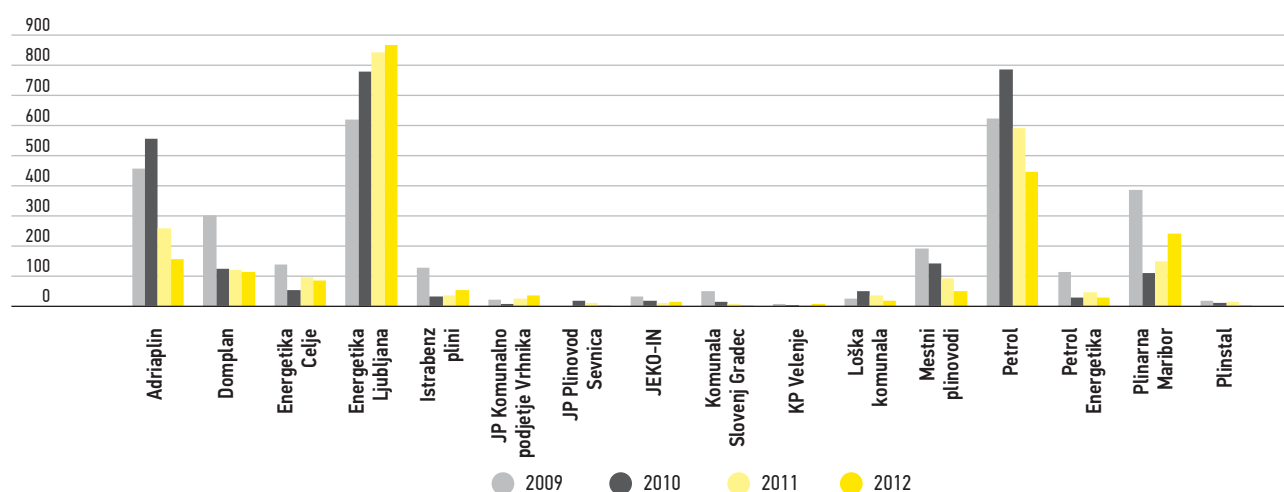
The reliable and safe operation of a gas distribution network is only possible if regular and extraordinary maintenance work is carried out. The regular maintenance work was, on average, completed in eight hours. There was a total of 361 unplanned maintenance works, in duration of four hours on average, and a total of 79 unplanned supply interruptions due to force majeure or third parties, the total duration of which was 502 hours.

#### 4.1.1.2.1 The customers connected to the distribution network

In 2012 a total of 131,515 gas customers, in 76 local communities, were connected to all the distribution networks, which was 1% more than the year before. There was for 0.5% more household customers, and non-household for 6% more than the year before. The distribution system operators distributed 289 million Sm<sup>3</sup> of natural gas to these customers, which represents an annual decrease of 4%. Distributed quantities were lower for households, amounting to 5.2%, and 3.6% for non-households.

In 2012 the distribution system operators connected 2112 new customers, which was almost 9% less than in 2011. Numbers of new customers on the distribution networks for 2009–2012 is shown in Figure 50.

Figure 50: Numbers of new customers on the distribution networks for 2009–2012



Source: Energy Agency

On average, the distribution system operators issue a connection approval in 25 days after the receipt of an application. At one system operator, the longest period for issuing the connection approval, lasted on average 60 days. To make a physical connection to a network took eight days on average.

In 2012 the use-of-network prices charged to the customers connected to a gas distribution network were regulated. The household customers connected to the distribution networks use natural gas mainly for cooking, preparing hot water and heating. As much as 96% of customers use up to 4500 Sm<sup>3</sup> of natural gas per year, and 90% less than 2500 Sm<sup>3</sup>; less than 4% of customers with annual consumption over 4500 Sm<sup>3</sup> represents 64% of the total consumption on the distribution network.

#### 4.1.1.2.2 The business operations of the distribution system operators

In 2012, 9 distribution companies had a total net profit of € 1.963 million; the remaining 7 companies had a total net loss amounting to € 0.984 million.

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

On 31 December 2012 there were 12 companies for gas distribution owned by one or more local communities and by domestic or foreign legal entities. Four system operators are without a majority owner, as they are owned by several individuals.

Ownership structure is shown in the next table.

**Table 31: Ownership structure of the companies for gas distribution**

Ownership structure of the companies for gas distribution	Number of companies
Majority ownership of one or more municipalities	6
Majority ownership of a domestic legal entity	5
Majority ownership of a foreign legal entity	1
No majority owners	4
<b>Total</b>	<b>16</b>

Source: Energy Agency

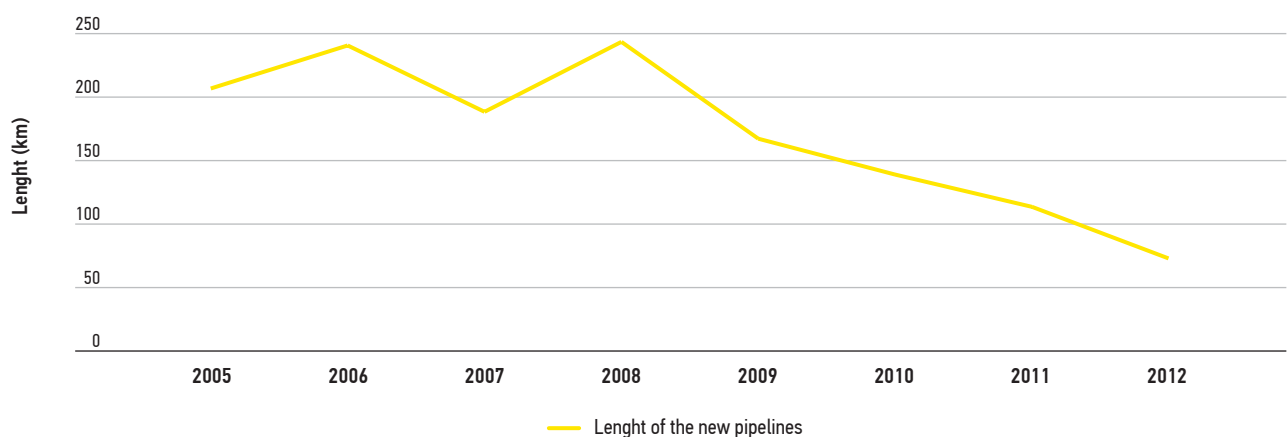
Distribution networks were owned by 9 system operators. The remaining 7 system operators in 2012 were not the owners of the distribution networks. If the system operator does not own the network or its part, it has to conclude an agreement which settle all issues relating to the use of the network. A contract has to regulate in particular the scope and purpose of the use of the network, rental charge or other payments, conditions and procedures of current and investment maintenance of the network, and other issues needed for carrying out tasks of the system operator. The content of the contract and its implementation in terms of compliance with the methodologies on network charges in under the supervision of the Energy Agency in accordance with Article 31b of the Energy Act.

#### 4.1.1.2.4 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.

A total of 72 kilometres of the new gas pipelines of the distribution networks were constructed. Since 2008 building of new pipelines has been declining, as shown in Figure 51.

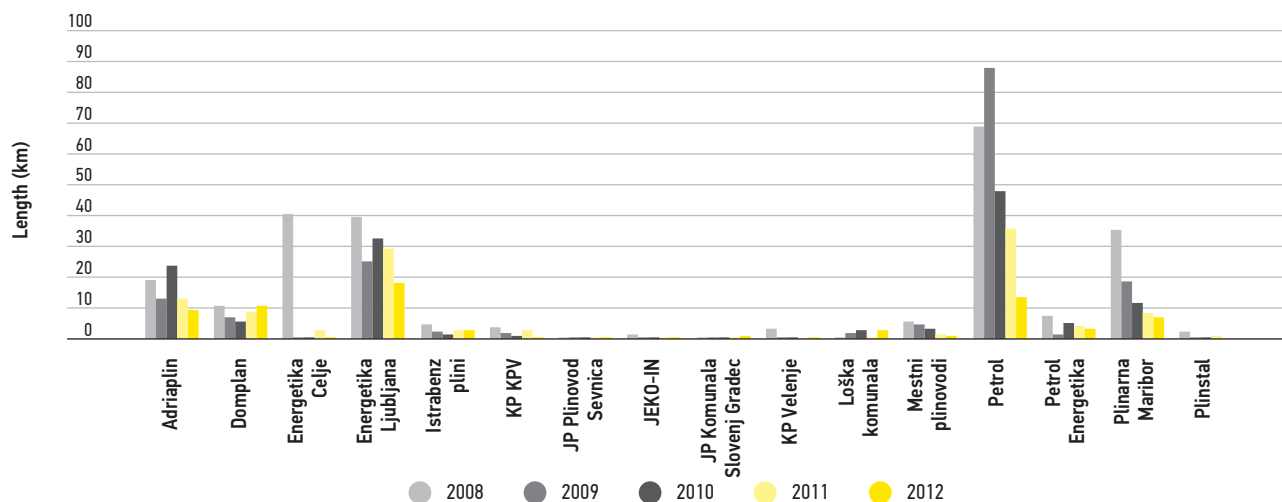
**Figure 51: Building of new distribution networks**



Source: Energy Agency

Figure 52 shows the intensity of the construction of new pipelines of individual distribution system operators. In recent years, most of system operators build new pipelines less intense.

**Figure 52: Length of new distribution networks in 2008–2012**



Source: Energy Agency

### 4.1.1.3 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 intended for the operation of the Energy Agency. The network charge is used for financing the costs of the system operators and the costs of ancillary services. 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 is set by the government.

#### 4.1.1.3.1 The network charge for the transmission network

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 methodology for setting the network charge determines the mode, conditions and method of setting the network charge, and the criteria for establishing the eligible costs of the system operator, which include also incentives for more efficient operation of the system operator. The method of price capping is used when setting the network charge. Since 1 January 2013 the network charge for the transmission system network is determined by the entry/exit point's methodology, which established a system of uniform tariffs for each entry and exit point within individual customer group, and apply to the whole territory of Slovenia.

The network charge depends on the leased contractual transmission capacity, the transported quantities of natural gas, the type of metering device used, and taking into account other parameters of the methodology for charging the network charge.

The network charge for a three-year period is set by the gas transmission system operator by the public authority with the Act Setting the Network Charge for the Gas Transmission Network. The system operator publishes and implements this act in the Official Gazette of the Republic in Slovenia after obtaining approval from the Energy Agency.

From 1 January 2013 the users are charged for the following elements:

- network charge for entry points,
- network charge for exit points,
- network charge for own use,
- network charge for measurements.

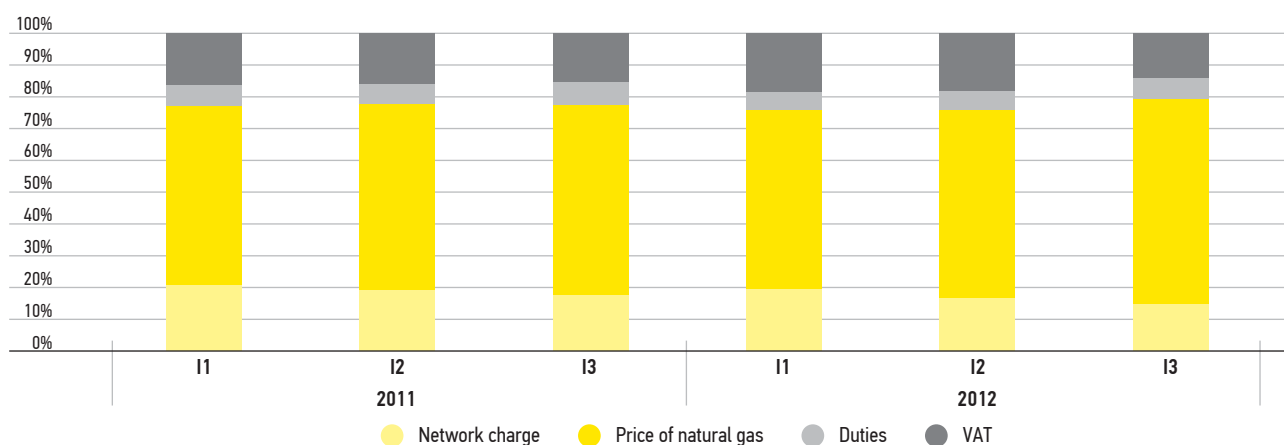


Tariffs reflect eligible costs of the transmission system operator. For customers, connected to the gas transmission system, the network charge is disclosed separately on the bill.

The final price of natural gas for industrial costumers consists of the use-of-network price, gas price and taxes. Taxes consist of CO<sub>2</sub> taxes, excise duty and supplement for energy efficiency improvement. Taxes account from 6 to 7% of the final price of gas. The price of gas as a commodity for industrial customers represents from 57 to 64% of the final price, and the network charge from 15 to 19% of the final price.

Figure 53 shows the structure of price for industrial customers.

**Figure 53: Structure of the final gas price for industrial customers in 2011 and 2012**



Source: Energy Agency

#### 4.1.1.3.2 The network charge for the gas distribution networks

The network charge is determined in accordance with 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 acts were established and adopted by the Energy Agency.

The methodology for setting the network charge determines the mode, conditions and method of setting the network charge, the criteria for establishing the eligible costs of the system operator, and incentives for efficient operation of the system operator. The network charges for the distribution networks also include the costs related to the use of the transmission network.

When setting the network charge the method of regulated network charge is used, which determines causal relationship between the eligible costs and the revenues of the system operator. Network charge as a part of the price for the use of distribution network is an annual revenue of the system operator, used for covering the eligible costs of a system operator.

Tariffs for the distribution networks are unified for individual customers groups for individual geographical areas. Prices for all typical customers in different areas are not the same as the prices reflect different costs of distribution system operators in individual geographical area. Individual customer groups are defined in line with the methodology for charging for the network charge.

Distribution system operators determined the tariffs in act setting the network charge tariffs for the gas distribution network relating to an individual geographical areas; act were published in the Official Gazette of the Republic of Slovenia, after prior consent of the Energy Agency. In 2012 a total of 24 acts setting the network charges for the gas distribution networks were implemented in 78 local communities

Distribution system operator charges:

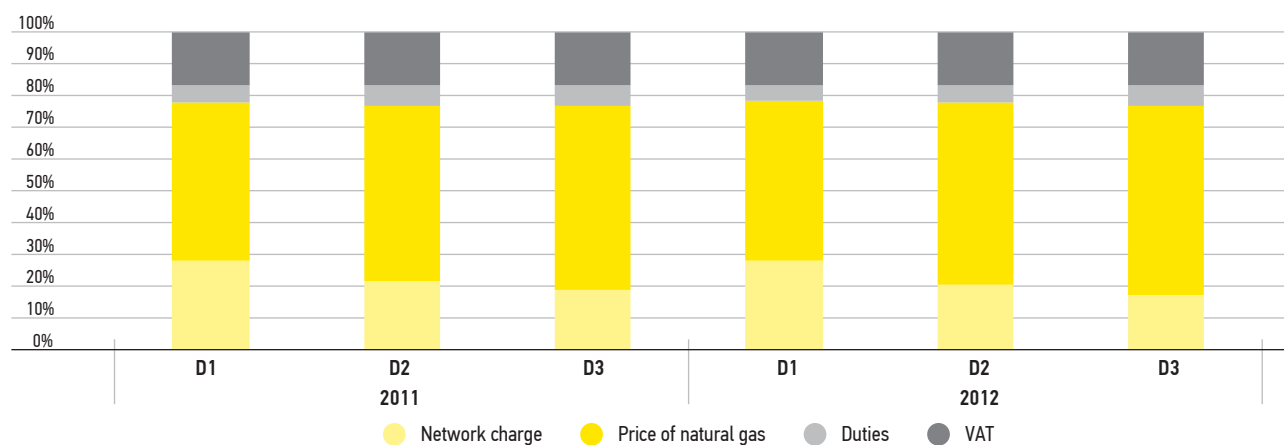
- the amount of natural gas distribution,
- the amount of measurements performed.

In 2012 all gas distribution system operators provided for a separate disclosure of the use-of-network price on the bills issued to their customers.

The final price for natural gas consists of the use-of-network price, the price for natural gas, and taxes. Taxes consist of taxes for CO<sub>2</sub>, excise duty, and supplement for energy efficiency improvement. Taxes were accounting around 6% of the final price. For the household customer the price of gas as commodity represents from 50 to 59% of the final price, and the use-of-network price from 17 to 28% of the final price.

Figure 54 shows the structure of the final price for household customers.

**Figure 54: The structure of the final price of natural gas in 2012 for household customers**



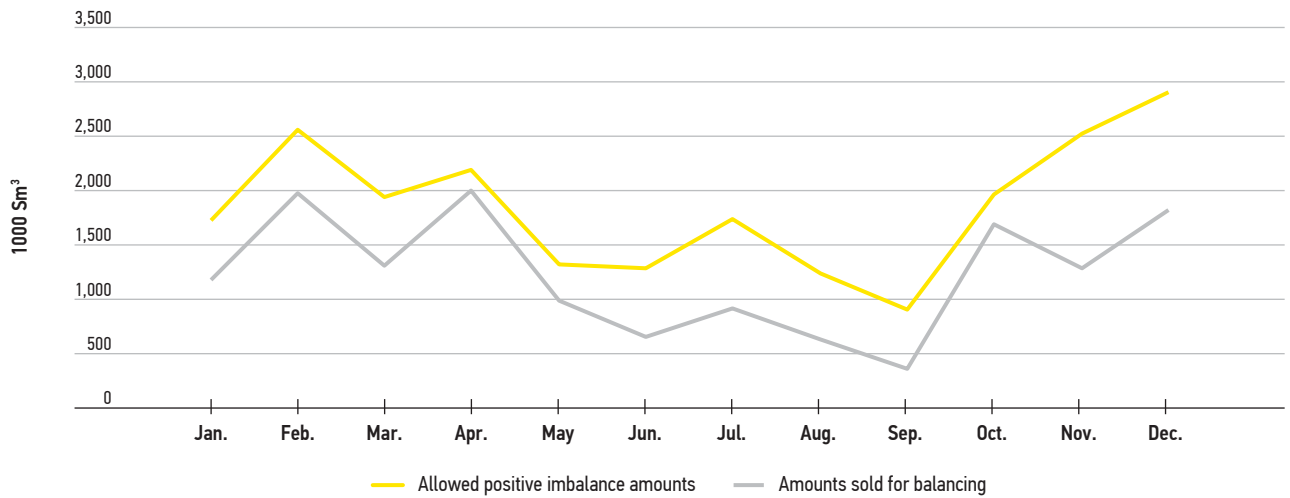
Source: Energy Agency

#### 4.1.1.4 The balancing

In 2012 three balance responsible parties carried out balancing of the imbalance amounts for the members of their groups – Geoplin, Adriaplin and GEN-I. The transmission system operator charged for imbalance amounts and took care for balance of the system by buying and selling natural gas.

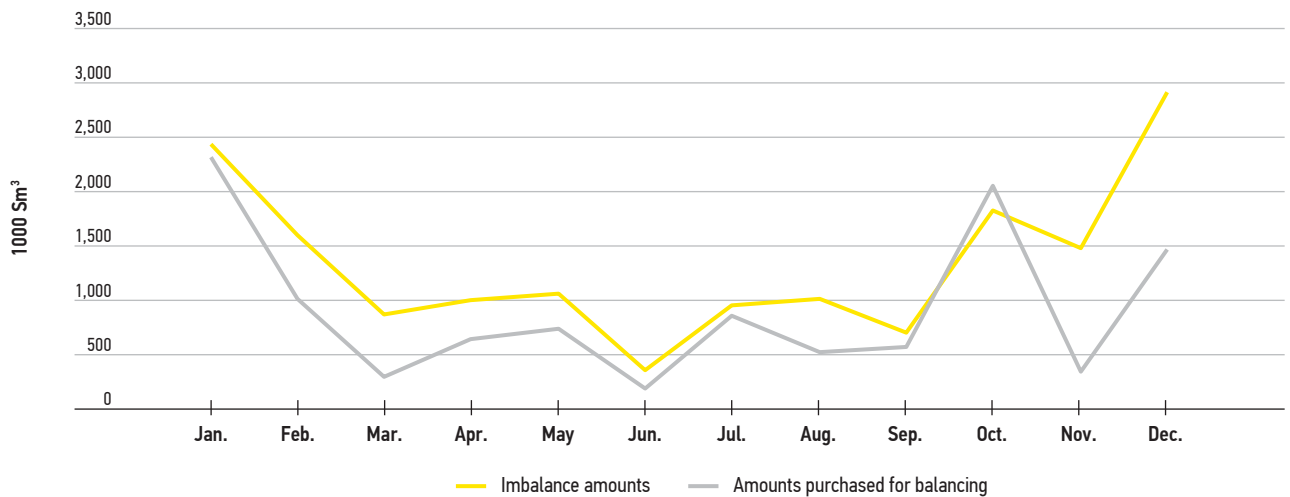
For customer the amounts of gas required for balancing imbalance amounts on daily basis amounted to 4.5%. In comparison with 2011 for balancing 53% more gas was needed. The amounts needed for balancing the transmission network, decreased for 38% regarding the previous year, and accounted for 3% of all transferred gas for the Slovenian customers. Next figures show the amounts for balancing.

**Figure 55: Amounts of natural gas required for balancing and amounts sold for balancing**



Source: Energy Agency

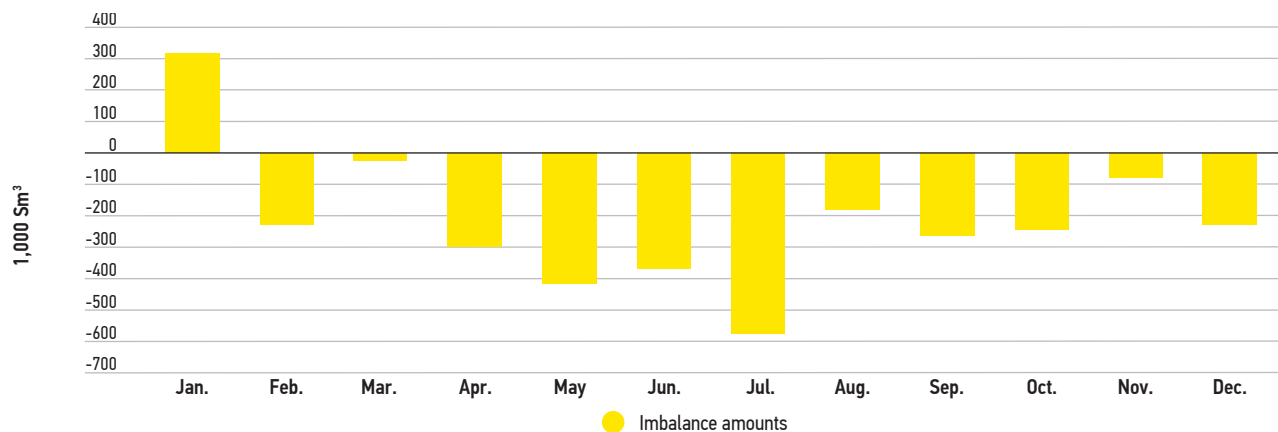
**Figure 56: Amounts of natural gas for balancing and amounts purchased for balancing**



Source: Energy Agency

In 2012, the accumulate difference of 3.2% million Sm<sup>3</sup> was established according to the formula for system of equations, which was 0.37% of the transferred quantities for the customers in Slovenia. In Figure 57 positive and negative balancing differences are shown.

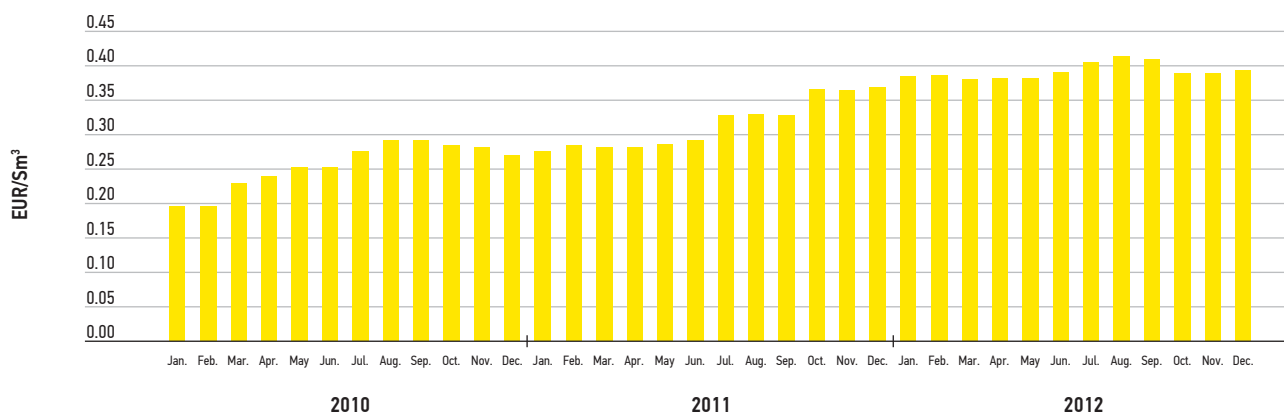
**Figure 57: Gas amounts for balancing of positive and negative differences**



Source: Energy Agency

The grounds for settlement of imbalances, the differences and for own use is the basic price  $C_B$  (Figure 58). Basic price was  $C_B$  in 2012 on average 0.3919 EUR/Sm<sup>3</sup>, almost 24% more than the year before, and as much as 54% more than in 2010.

**Figure 58: Basic price ( $C_B$ ) movements from 2010 to 2012**



Source: Energy Agency

#### 4.1.1.5 The secondary market of transmission capacities

In the secondary market of transmission capacities eligible users can lease transmission capacities from those users of transmission network that do not need their leased capacities and thus offer them for sublease.

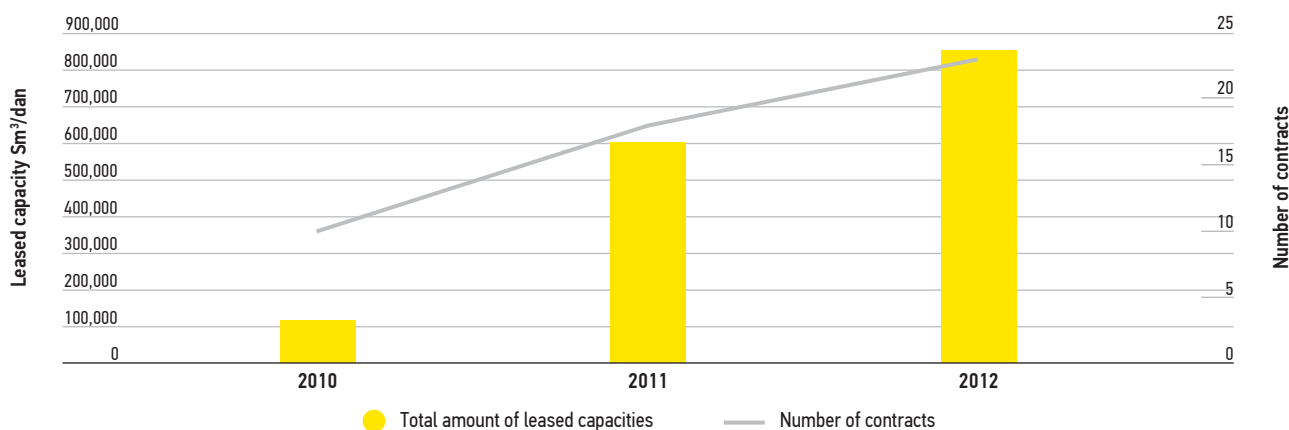
The table below shows the trading of spare capacities in the secondary market in 2012.

**Table 32: Trading of spare capacities in the secondary market 2012**

Number of suppliers of spare capacities	14
Number of bids	28
Total amount of spare capacities in Sm <sup>3</sup> /day	898,377
Number of enquires for spare capacities	9
Number of enquires	23
Total amount of enquired capacities in Sm <sup>3</sup> /day	853,877
Number of suppliers who sold spare capacities	10
Number of enquirers who leased spare capacities	9
Number of contracts for sublease	23
Total amount of subleased capacities in v Sm <sup>3</sup> /day	853,877
Number of refused sublease	0

Sources: Energy Agency, Plinovodi

In the last three years, the total amount of subleased capacity on the secondary market increased by almost seven times, and the number of contracts for sublease went from 10 in 2010 to 23 in 2012. Such increases indicate the development of the secondary market, which results in improving of the utilisation of transmission network. Increasing of leased capacities and number of contracts are shown in the next figure.

**Figure 59: Development of the secondary capacity market**

Sources: Energy Agency, Plinovodi

#### 4.1.2 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 16 providers.

The gas transmission system operator carried out its service, 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 2012 we did not notice any special effects of legal unbundling on the investments and supply reliability.

None of the 16 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 31 shows the ownership structure of the gas distribution system operators. In 2012 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.

In line with the Directive 2009/73/EC, by request of the transmission system operator and after examination the opinion, dated 13 June 2012, of the European Commission, which confirmed the Energy Agency's position on certification of ITO, the Energy Agency on 11 July 2012 issued the decision on certification of ITO, the company Plinovodi. It was established that the company Plinovodi meets all the requirements for carrying out the tasks of the ITO and shall be certified. Since the company waived the right to appeal, the decision of 16 July 2012 became final.

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### 4.1.3 The allocation of cross-border transmission capacities

#### 4.1.3.1 The cross-border transmission capacities of the network

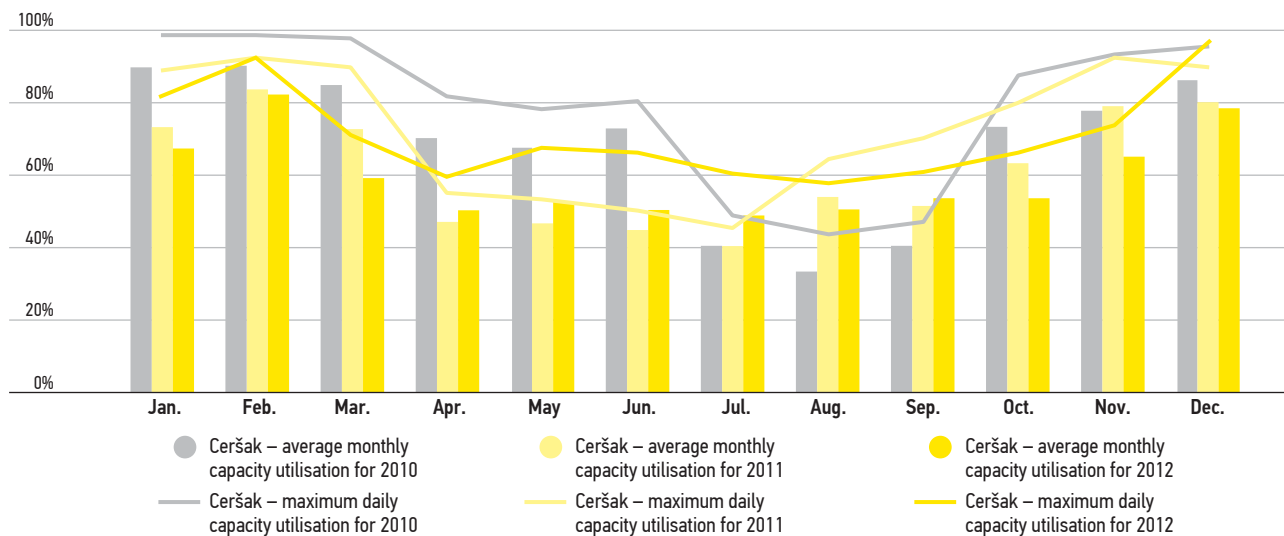
The cross-border transmission capacities are used for the provision of a reliable supply with natural gas in Slovenia and for the transit of natural gas. In most of 2012 the average monthly utilisation of 2 out of 3 metering-regulation station (MRS) was lower. In comparison with previous years the utilisation of the MRS Ceršak decreased by around 2%, and in Šempeter a decrease was even bigger, reached 5.3%. The average monthly utilisation of MRS Rogatec turned up, which resulted in a 13.3% increase comparing to 2011.

Average monthly and highest daily utilisation of the main transmission capacities on average exceeded the utilisation in comparative period of 2011.

The largest decline in average utilisation was noticed in MRSs Rogatec and Šempeter in the beginning of heating season 2012/2013; this especially applies to MRS Šempeter.

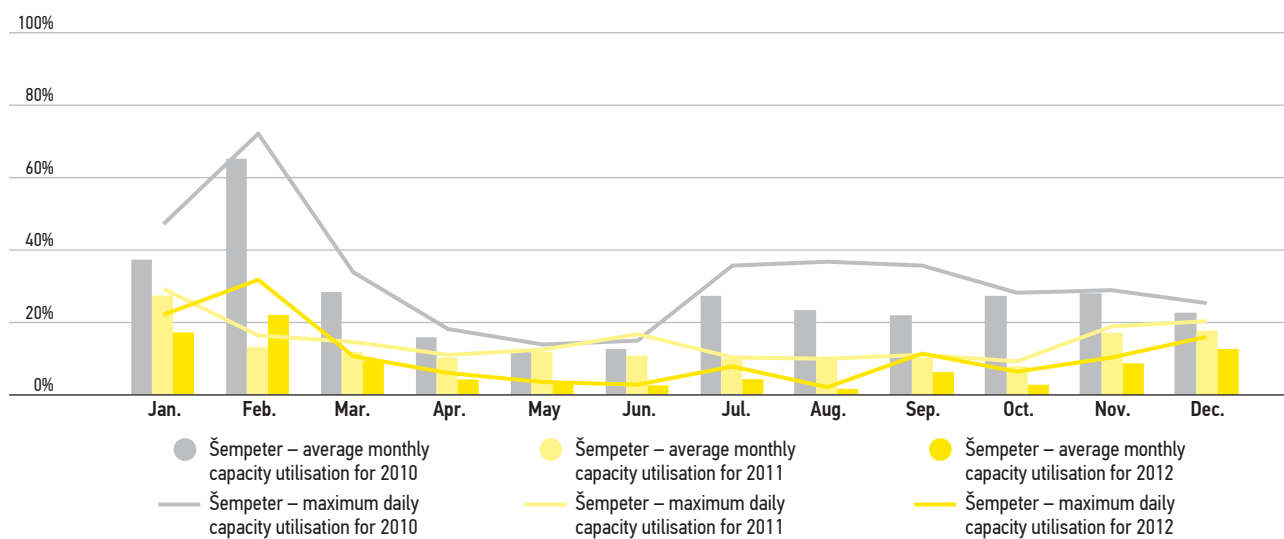
In 2012 the average annual utilisation of the capacity of the most important border-entry metering-regulation station, Ceršak, was 59.5%, the average annual utilisation of the entry-exit station Šempeter was 7.8%, and of Rogatec amounted to 57.7%. Figures 60 to 62 show the average monthly and highest daily utilisation of individual border metering-regulation stations.

**Figure 60: Maximum daily and average monthly capacity utilisation of the metering-regulation station Ceršak**



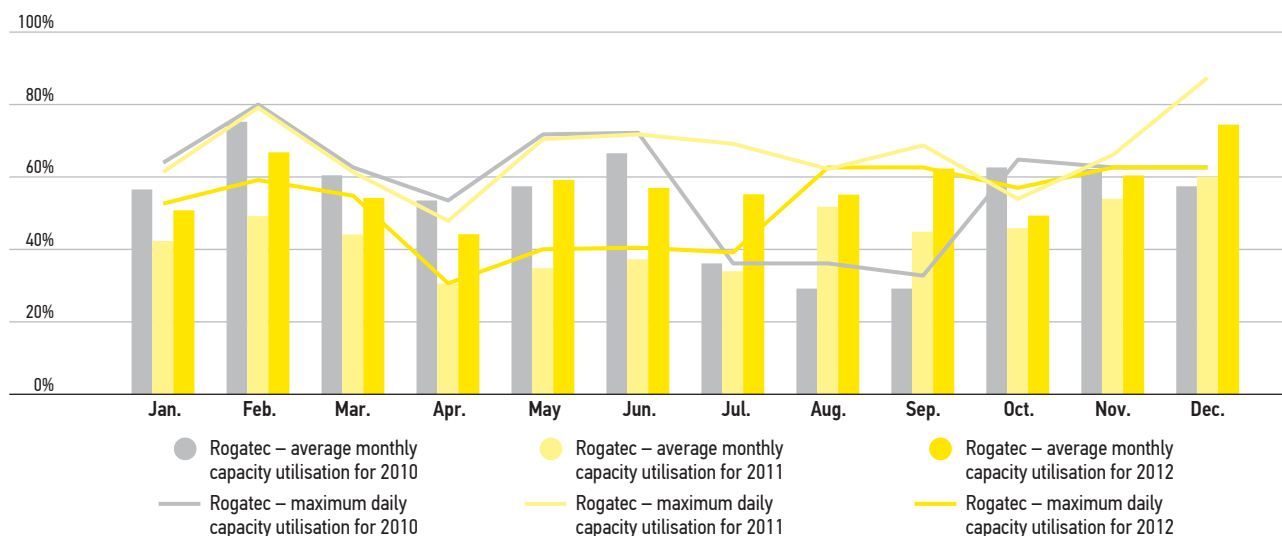
Source: Plinovodi

**Figure 61: Maximum daily and average monthly capacity utilisation of the metering-regulation station Šempeter**



Source: Plinovodi

**Figure 62: Maximum daily and average monthly capacity utilisation of the metering-regulation station Rogatec**



Source: Plinovodi

#### 4.1.3.2 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 pipe-line system, the configuration and the operational characteristics of the entire system, and its operational boundary conditions.

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.

#### 4.1.3.3 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.

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. The transmission system operator can, in addition



to manage contractual congestion in Slovenia, sale short-term interruptible capacity in the primary market of transmission capacity. In that way, in case of contractual congestion the transmission system operator can sale already leased and at the same time unused transmission capacity in the form of short-term interruptible capacity.

The average total amount of leased contracted capacity of a 10 million Sm<sup>3</sup>/day/year was in 2012 higher than the one the year before. Slovenian customers leased the same amount of a 6 million Sm<sup>3</sup>/day/year, but the share in individual months is decreasing on account of leased capacity for cross-border transmission. Due to congestion and high utilisation of the transmission network, especially in the direction of Ceršak-M1, M2, and irrespective of the new pipeline M1/1, until construction of M2 such contracts are concluded only in a limited extent.

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 long-term and short-term contracts for the network access.

According to the Energy Agency's data in 2012 the transmission system operator had 210 new uninterruptible access contracts with the network users, and with the annexes to the concluded contracts extended of the 16 existing uninterruptible long-term contracts. A significant increase in the number of the new long-term contracts in 2012 is mainly the result of the course of existing long-term contracts.

In the primary market of the transmission capacities, 29 contracts for short-term network access were concluded between the system operator and the network users.

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#### 4.1.4 The congestion-management mechanisms

Technical characteristics and configuration of the transmission system dictate its technical capacity, or the maximum firm capacity that the TSO can provide for the network users, taking into account the whole system and its operational requirements. If demand for capacity exceeds the technical capacity, we are talking about the contractual congestion. In addition to contractual congestion, physical congestion occurs when the actual supply requires all of the technical network's capacities.

In the transmission network the long-standing problem of contractual congestion (demand for capacity exceeds the technical capacity) still exists, while the physical congestion of the highest utilised direction in 2012, compared to prior years, slightly decreased. One of the major reasons for less used of the transmission network is still deep economic and general crisis in Slovenia. The most congested part of the Slovenian transmission network was still in the direction of Ceršak-Rogatec, through pipelines M1 and M2 – where the supply of natural gas from the east (Russian and Austrian supply sources) is carried out, and in M1 also operates the compressor station Kidričevo.

Long-term leased transmissions capacities in the MRS Ceršak meet currently available technical capacity. Daily utilisation of capacity during of the heating season in December reached 97.1%, and the average monthly utilisation of capacity in February was 82.4% of its technical transmission capacity. Maximum congestion relief of the transmission system occurred during the heating seasons, when the congestion of the most used direction reached 51.1% of its technical transmission capacity.

High capacity utilisation in the direction Ceršak-Rogatec in winter continues to show the importance of this direction for meeting growing peak consumption of wide domestic consumption and consumption for electricity generation, which remains a bottleneck. The transmission system operator will, in 2012, with the activation of additional pipeline, which is a part of a new investment programme, eliminated the described bottleneck.

In 2012, increase in utilisation of the transmission line Ceršak-Rogatec was a result of additional contracts for cross-border transmission in this direction. Thus, the average monthly utilisation of this direction for almost the entire year 2012 exceeded 50%, in December even 74.5%. Due to reduced transmission for domestic customers in increased available technical capacity of gas pipelines in the direction Ceršak-Rogatec, utilisation of capacity is in this direction slightly lower than in comparable period in 2011, despite decreased cross-border transmission of gas to Croatia.

## 4.2 The market-based activities and competition

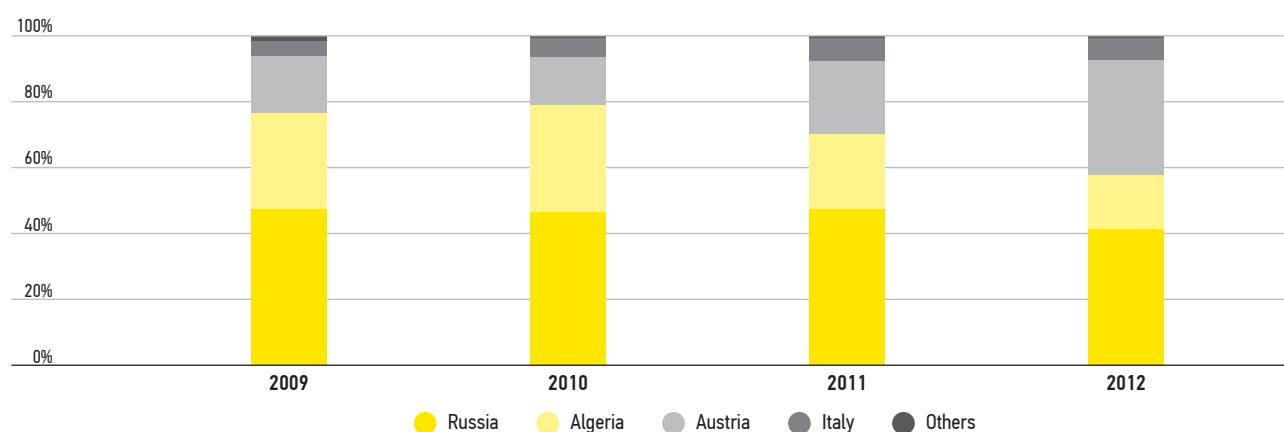
In 2012, particularly in the last few months, the Slovenian natural gas underwent major changes. A new supplier, with offers that increased dynamic on supply and demand side, entered the market. Suppliers offered new prices and services and looked for a balance between demand and supply of customers, who became finally more aware of the possibilities in choosing a gas supplier.

In 2012 there were 21 suppliers selling natural gas to 131,652 end customers. The number of switches increased in November and December, when the largest number of customers switched supplier. In 2012, 11,294 customers switched supplier, which is around 8.6% of all customers.

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

Slovenia does not have its own natural gas resources and depends entirely on foreign sources. Gas is supplied to the Slovenian border mostly from Russia and Algeria. In 2012, import from Russia decreased by 6%, and amounted to 42%, import from Algeria decreased by 7%, and amounted to 16%, and we imported 7% from Italy, the same as last year. Reduced import from Russia and Algeria reflected in increased import from Austria. We imported 35% of gas from Austria, which was 13% more than last year. Sources of natural gas, described by percentages, are shown in the next figure.

Figure 63: Sources of natural gas



Sources: Companies' data

Demand for natural gas decreased also in 2012. In comparison with the previous year the import for the end customers decreased by another 4%. Table 33 shows the quantities of imported natural gas for the past three years. Geoplin also imported quantities for its own use and for balancing the transmission network; these quantities are not part of the numbers below.

**Table 33: Imported gas for domestic consumption between 2010 and 2012 in Sm<sup>3</sup>**

Supplier	2010	2011	2012
Geoplin	982,384,614	829,828,077	785,313,598
Adriaplin	56,982,045	71,605,418	65,742,373
GEN-I			14,947,419
Petrol	3,959,838	3,702,201	3,557,733
<b>Total</b>	<b>1,043,326,497</b>	<b>905,135,696</b>	<b>869,561,123</b>

Sources: Companies' data, Energy Agency

The largest importer, trader and supplier of natural gas in 2012 was still Geoplin. Its share of the total imports decreased for another per cent according to 2011, and was just over 90%. The share of other importers, Adriaplin and Petrol, accompanied by GEN-I, did not exceed 10%. Petrol imported natural gas for its customers from Italy and Croatia through the two distribution networks, which are not connected to the gas transmission network.

The participants of the wholesale market are the traders who supply natural gas to other suppliers. In the Slovenian wholesale market 4 suppliers of natural gas were active.

In the wholesale market nearly 302 million Sm<sup>3</sup> were sold. The largest share among traders still had Geoplin. Its share accounted around 71%, one per cent less than the previous year. The entire wholesale market is shown in Table 34, showing market shares of individual traders. HHI for the wholesale market in Slovenia was 5868, which is slightly lower than in 2011.

**Table 34: Market shares and the HHIs relating to the wholesale gas market**

Wholesale market	Share
Geoplin	71.37%
Petrol Energetika	27.82%
ENOS	0.67%
Istrabenz plini	0.14%
<b>Total</b>	<b>100%</b>
<b>HHI of the wholesale market</b>	<b>5,868</b>

Sources: Companies' data, Energy Agency

## 4.2.2 The supply and the retail market

Suppliers to the retail market and end customers form the Slovenian retail market for natural gas. Shares within the market did not significantly change in 2012. Geoplin remained the company with the biggest market share; its share increased for one per cent, and amounted to around 63%. The shares of Petrol and Petrol Energetika decreased slightly. GEN-I, who is a newcomer to the market, joined the companies that have more than one per cent share. The HHI of the retail market was 4186.

Following table shows the entire retail market with market shares.

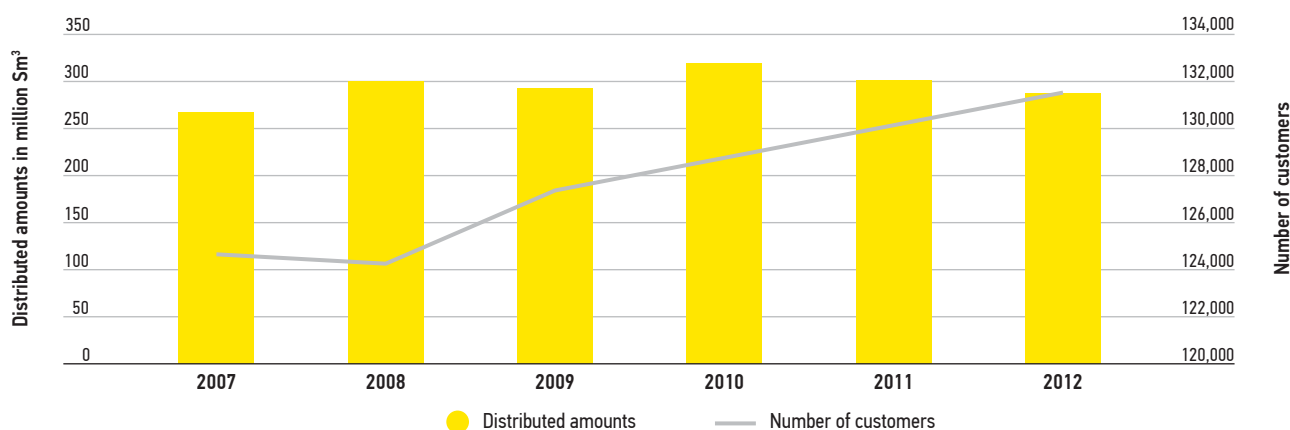
**Table 35: Market shares and the HHIs relating to the entire retail market**

Company	Share
Geoplin	63.27%
Energetika Ljubljana	7.80%
Adriaplin	7.18%
Plinarna Maribor	5.87%
Petrol Energetika	3.60%
Petrol	2.90%
Energetika Celje	2.47%
Mestni Plinovodi	1.69%
GEN-I	1.52%
Others	3.70%
<b>Total</b>	<b>100.00%</b>
<b>HHI of the retail market</b>	<b>4,186</b>

Sources: Companies' data, Energy Agency

In the retail market almost 70% of gas was sold to the industrial customers, connected directly to the transmission network. There were 137 such customers. The remaining amount of gas was distributed to the 131,515 customers, which were 1363 customers more than the year before. The part of the retail market, supplied by distribution networks, is made up of 118,154 household customers, who used nearly 111 million Sm<sup>3</sup>, and 13,361 of non-household customers with total consumption of 177 million Sm<sup>3</sup> of gas. Consumption decreased a little in the whole retail market, despite the higher number of customers. Next figure show distributed quantities in relation to the number of customers.

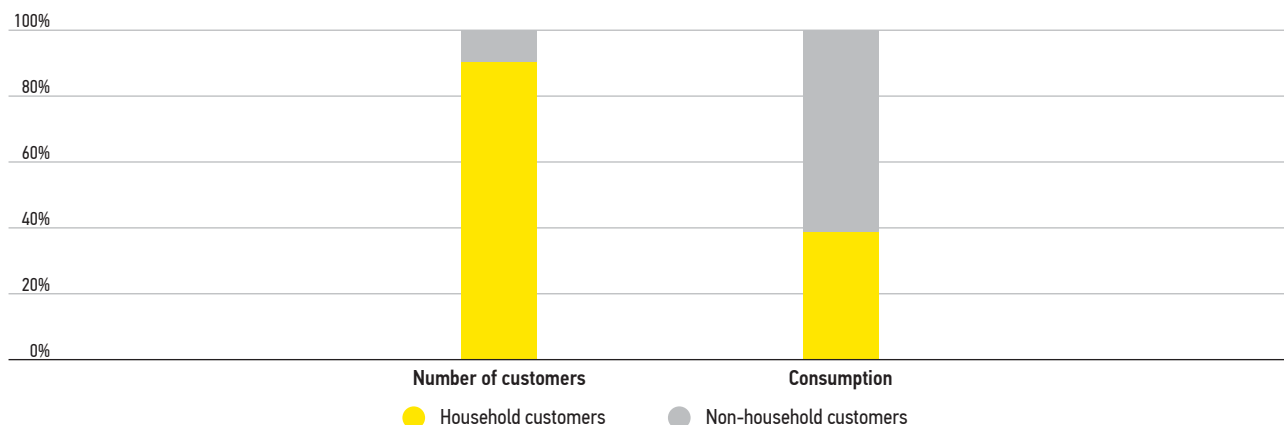
**Figure 64: Distributed quantities and the number of customers on the distribution network**



Sources: Companies' data

With respect to the total number of customers, the share of household customers remains the same, which is 90%, and has remained stable over the last few years. Their consumption does not change a lot as well, and presents 40% of total consumption of the customers connected to the distribution networks (Figure 65).

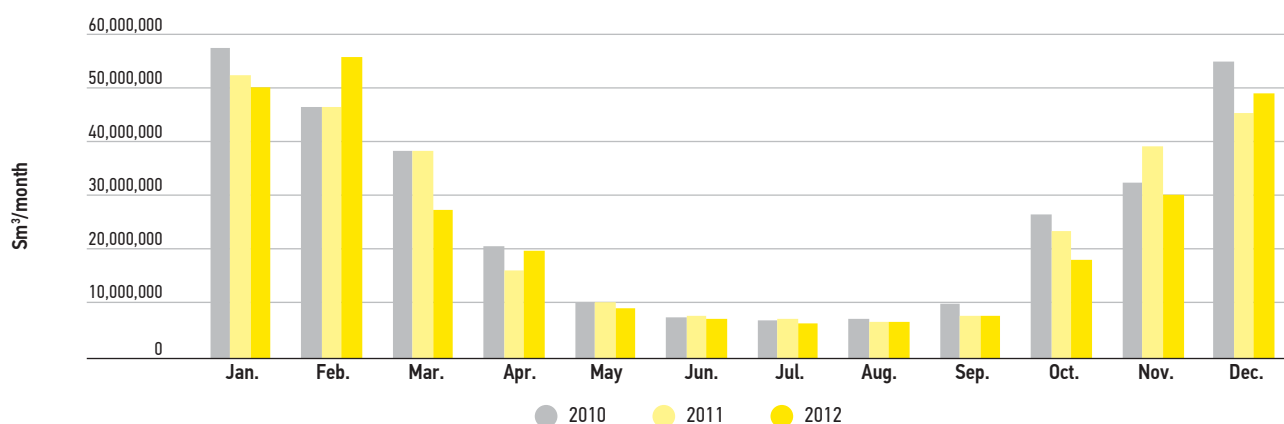
**Figure 65: Ratio between the numbers of customers connected to the distribution network and their consumption**



Sources: Companies' data, Energy Agency

Trends of gas consumption on the distribution network by months are shown in Figure 66; the decrease in consumption in 2012 is obvious.

**Figure 66: Gas consumption by months in 2010–2012**



Sources: Companies' data, Energy Agency

The activities of the market for natural gas are reflected also by the number of customers that switched supplier. In comparison with 2011, when 97 out of 130,152 customers connected to the gas distribution networks switched supplier, in 2012 a total of 11,294 customers, out of 131,652, switched their supplier. The per cent of switching, almost 8.6%, indicates that the competition in the retail market increased significantly.

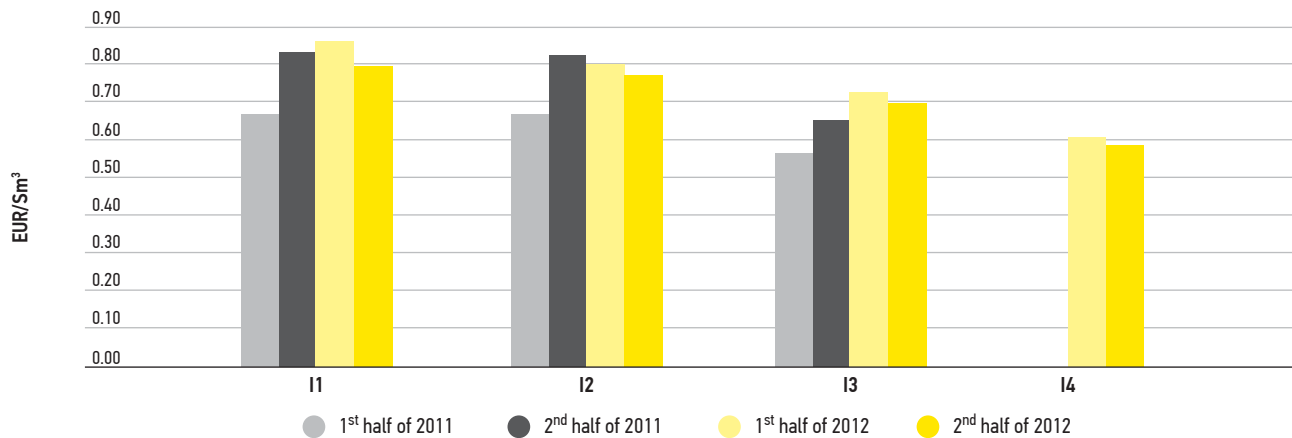
#### 4.2.2.1 The prices for natural gas in Slovenia

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

By selecting their suppliers, the customers can influence one fraction of the final price, i.e., the price for natural gas that the suppliers set on the market-based principle and it is not regulated. 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).

In the first half of 2012 the gas prices for individual standard groups of industrial customers in Slovenia were continually increasing. In the second half of 2012 prices decreased mainly a result of the entry of the new supplier, who offered lower prices, to the market. In the last quarter of the year almost all suppliers decreased their prices.

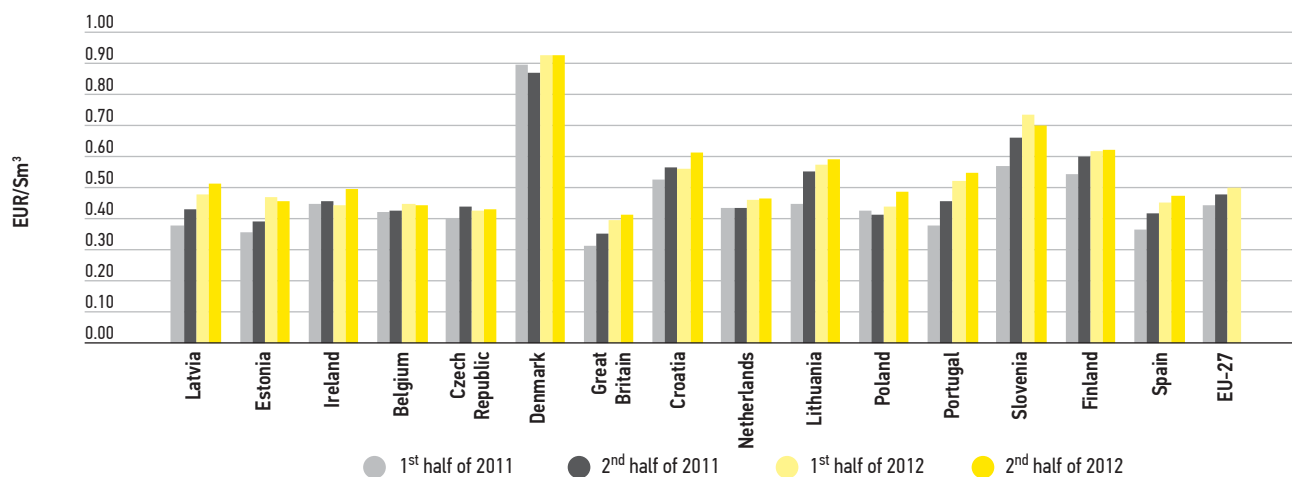
**Figure 67: Final gas prices for industrial customers including VAT and other taxes**



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

Figure 67 shows the trends of the gas prices by groups of the industrial customers of natural gas for the period starting in the first half of 2011 and finishing at the end of 2012. Gas prices did not change the same for all customers groups, as in the first half of the year the prices for groups I1 and I3 increased, and decreased for the group I2. In the second half of the year significant reduction of prices was registered.

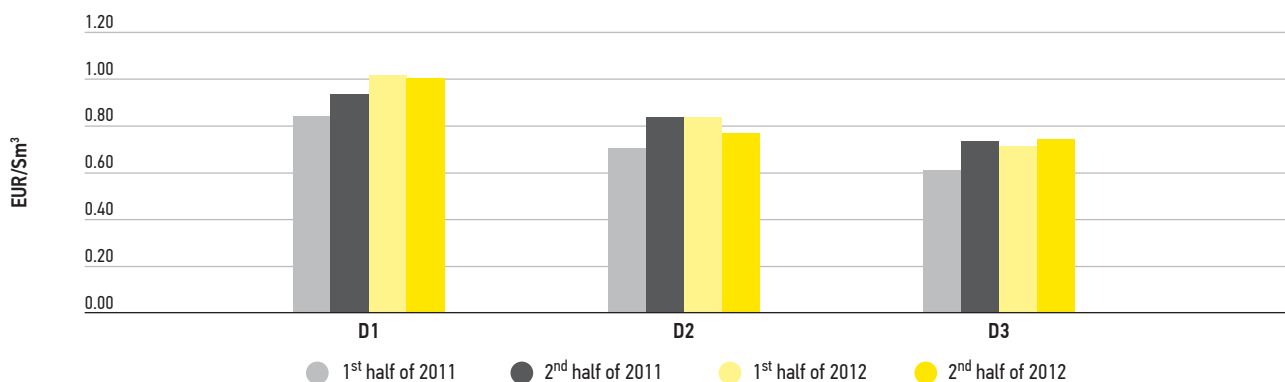
**Figure 68: Final gas prices including VAT and other taxes for typical industrial customers I3 in Slovenia and some other EU countries**



Sources: Eurostat, Energy Agency

The above figure shows the final gas prices for the half of the year in Slovenia and some other EU countries for big industrial customers I3 with an annual consumption between 264,349 and 2,643,489 Sm<sup>3</sup> of gas. According to Eurostat at the time of preparation of this report the information for the second part of 2012 was not available. In most of the countries the continued growth of the prices was registered in comparison with 2011. This applied also for Slovenia, but it should be mentioned that unlike in other countries, prices in Slovenia decreased and became similar to those in other EU countries. The highest average price was in Denmark, amounted to 0.93 EUR/Sm<sup>3</sup> of gas, following by Slovenia with an average price of 0.72 EUR/Sm<sup>3</sup> and Croatia – 0.59 EUR/Sm<sup>3</sup>.

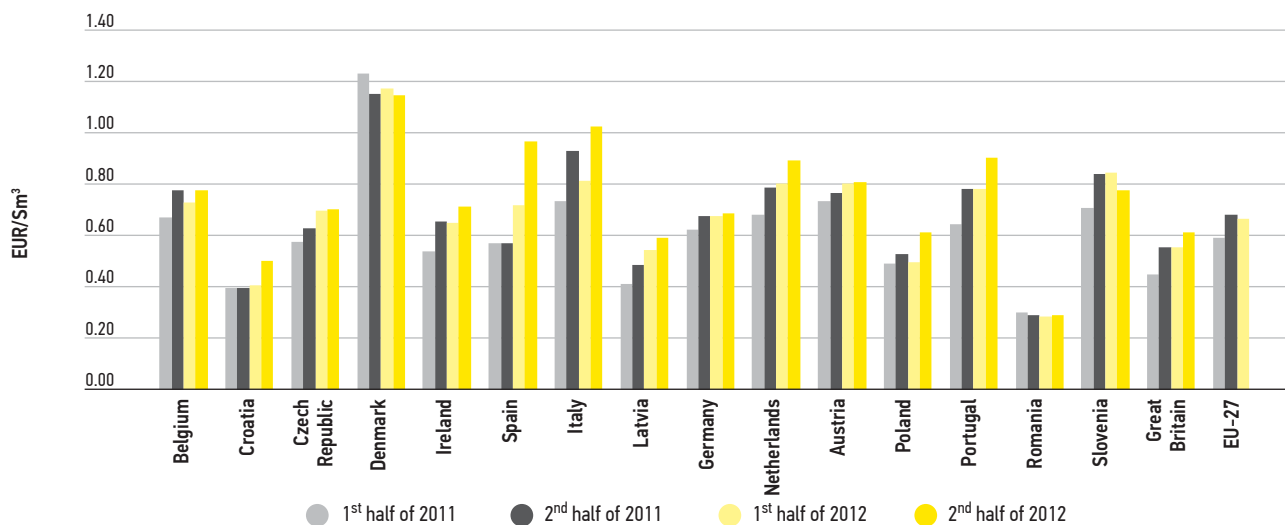
**Figure 69: Final gas prices for typical household customers including VAT and other taxes in Slovenia from 2011**



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

Figure 69 shows natural gas prices, including VAT and other taxes for household customers from the first half of 2011 till the end of 2012. The highest prices for cubic meter of gas were in the group with the lowest consumption, D1. In the second half of 2012 price reduction followed for customers groups D1 and D2, and for D3 the price became equivalent to that in the second half of 2011. Only November and December affected the price reduction.

**Figure 70: Final gas prices including VAT and other taxes for typical household customers D2 in Slovenia and in some other EU countries**

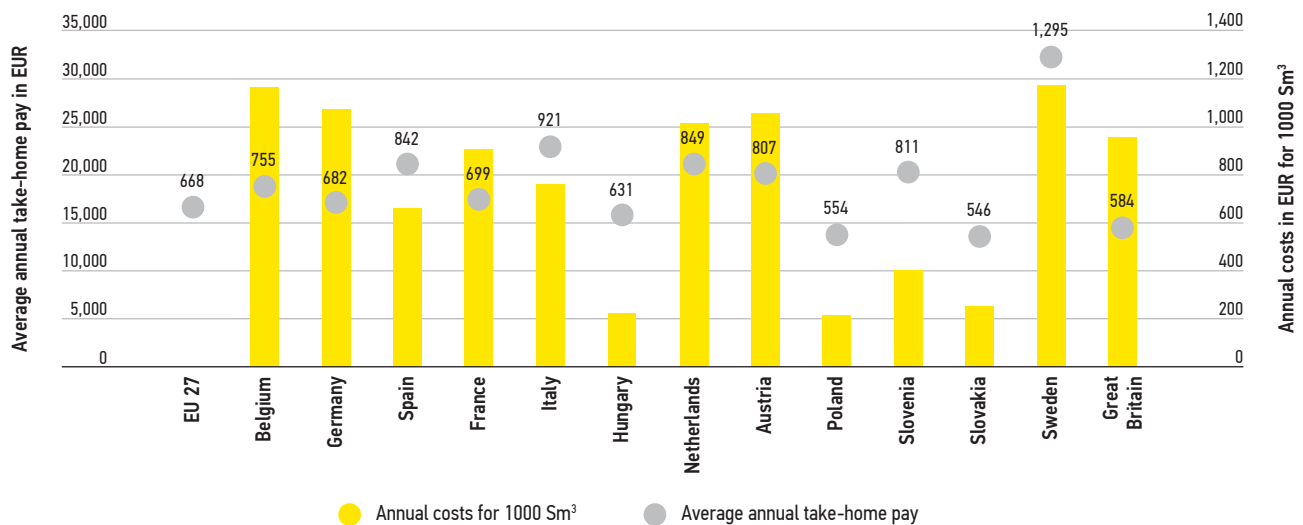


Sources: Eurostat, Energy Agency

Gas prices for typical household customers D2 with an annual consumption between 529 Sm<sup>3</sup> and 5287 Sm<sup>3</sup> are shown in Figure 70. It is obvious that in 2012 the prices were increasing. The average price of gas in relevant countries was 0.72 EUR/Sm<sup>3</sup> of gas, and was for 11.5% higher than the previous year. The highest price of gas was in Denmark, and the lowest in Romania. By lowering the prices in the second half of 2012, Slovenia came closer to the average gas price of relevant countries, but still 8% above average.

An interesting comparison of gas prices among countries as the ratio between average annual salary and costs for natural gas for the consumption of 1000 Sm<sup>3</sup> is shown in the next figure.

**Figure 71: Average annual costs for natural gas and average annual take-home pay of household customer**



Sources: Eurostat, Energy Agency

Annual costs for gas in Slovenia indicate bigger burden for the average customer, than this was the case in some other neighbouring countries (e. g. Austria).

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

In terms of anti-trust and abuse of dominant position the same rules apply to the natural gas market as for the other types of goods. Transparency in the wholesale market is ensured through the publication of information, which are, in most cases, available on the websites of individual market participants.

In the retail market of gas the Energy Agency contributed to the transparency of prices and offers, and thus to the functioning of competition. For this purpose the Energy Agency developed a web application that enables comparison of offers for natural gas.

In 2012 the Competition Protection Office did not adopt any decision, or took action against any of participants in the market for natural gas.



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#### 4.2.4 The deciding on disputes and appeals

In 2012 the Energy Agency received one request to decide in the area of natural gas. By decision the Energy Agency identified infringement of the general condition of supply and consumption of the distribution system operator.

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#### 4.2.5 Ensuring compliance with legislation

In accordance with Directive 2009/73/EC, and by taking into account the opinion of the European Commission of 13 June 2012 confirming the position of the Energy Agency that the operator of the transmission system operator fulfils the requirements for independent transmission system operator (ITO), the Energy Agency on 11 July 2012 issued the decision on certification the gas company Plinovodi as the independent system operator. It was established that the company meets all the requirements for carrying out the tasks of ITO and shall be certified. Since the company waived the right to complain, the decision became final on 16 July 2012. On its 35<sup>th</sup> regular session on 25 October 2012 the Government of the Republic of Slovenia appointed the company Plinovodi as the independent transmission system operator.

In the process of certification the Energy Agency gave its consent to Compliance programme and consent to the appointment of a compliance officer.

In accordance with Article 31e of the Energy Act the Energy Agency in the process of monitoring the independent transmission system operator issued the approval to the commercial and financial agreements with the vertically integrated undertaking. The Energy Agency issued an opinion to the proposed decision of the Supervisory board for the mandate of the Director of the company Plinovodi. It also received two information of the ITO on recruitment conditions and identity of the persons responsible for the management. After examining individual documents it was determined that there are no reasons for issuing negative decisions.

In 2012, the Energy Agency continued to monitor the implementation of the rules for the transmission system operator under Regulation (EC) No 715 on Conditions for Access to the Natural Gas Transmission Networks and repealing Regulation (EC) 1775/2005 and established that all requirements were met.

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### 4.3 Security of supply

Security of supply with natural gas to the customers on the transmission and distribution networks was not at risk in any way. Due to security of supply mechanisms, despite the cooler period at the beginning of 2012 and some difficulties in fulfilling contractual obligations, all needed gas for specific customers and all the others was supplied on time.

Due to the relevant legislation, the approach to ensuring security of supply did not change significantly. The existing tools and mechanisms were used in the same manner and to the same extent.

Amendments of the national legislation that would enable the implementation of provisions of Regulation (EC) No 994 on security of supply have not yet been carried out, which causes delays to performing the provisions of security of supply in Slovenia.

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## 4.4 The protection of customers

The household customer of natural gas buys energy as individual and uses it for own domestic use, which excludes business activities. His rights are protected with the regulations regulating the energy market and also with the Consumer Protection Act and Consumer Protection against Unfair Commercial Practices 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 basis of Decree on functioning of the natural gas market, Act determining the methodology for setting general conditions for the supply and consumption of natural gas from the distribution network and 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.

The above mentioned documents also determine 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.

Household customers have the right to choose and change supplier of natural gas. The Energy Agency offers on its website an application Comparison of Suppliers, which provides information on suppliers of natural gas in individual geographical areas and allows the calculation of gas prices and other information by which household customer can choose a supplier. Switching can be done without any costs for a customer. The change of supplier is carried out on the first day of the month, if a new supply contract is registered with the system operator to whose network a household customer is connected, up to tenth day of the preceding month.

In 2012, 1165 household users were disconnected, all of them because they did not pay all charged gas or the network-use price. No household customer was disconnected due to supplier that would cease to exist as an entity.

To 1076 customers the distribution was stopped permanently, of which were 1006 household customers. Despite the non-payment of bills, the system operator in 2012 did not disconnect 318 household customers; 4 of them were referring to the rights of not being disconnecting because their lives and health would be endangered.

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### 4.4.1 The protection of vulnerable customers

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 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.

In line with the provision of Decree on functioning of the natural gas market a household customer who has no means of subsistence and therefore his life and health or life and health of persons living with him, exercising the right to maintain the energy supply, if he is the recipient of social welfare. This right can be exercised between 1 October to 30 April, but only for a time when bad finance situation can be proved. All 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. The supplier for costs, which are incurred for all further deliveries, invoices system operator, to whom the customer is connected. In 2012, 4 customers exercised this right.

## 4.4.2 The right to appeal, or the right to legal redress, and the setting 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. 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, or the status of a specific customer. A user of gas network has the right to appeal against the decision of the Energy Agency to the Ministry of Infrastructure and Spatial Planning, or in case of the Energy Agency's decision-making process, relating to the network access, initiate legal proceedings in the Administrative Court.

Amendments to the Energy Act in 2012 provide for the new regulation of the protection of household customers in case of disputes between a customer and supplier. According to the new legislation suppliers or their association have to provide transparent, simple and non-payable procedures for dealing with customers' complaints. For this purpose they have to appoint independent and impartial persons responsible for decisions on complaints regarding alleged breaches of the gas supply contracts. If a customer does not agree with the decision, he can address his application to the court.

In Slovenia any breaches of the general rules relating to consumer protection are addressed and also appropriately sanctioned by the Market Inspectorate.

In 2012, the distribution system operators of natural gas received 4340 complaints. Household customers addressed 3511 complaints, which was 19% less than the year before. Most of the complaints, 3001, were related to invoicing. A total of 957 complaints were unjustified, which was 27% of all complaints received. A detailed presentation of complaints by subject is given in Table 36.

**Table 36: Complaints of gas customers to DSO in 2012**

Number of all complaints:	3,511
– connection procedure	11
– planned interruption of supply	0
– unplanned interruption of supply	19
– network charge	28
– metering	187
– general conditions	18
– bill	3,001
– switching	4
– others	243
Unjustified complaints	957

Source: Energy Agency

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. 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.

Suppliers of natural gas in 2012 received a total of 8693 complaints, or 42% more than in 2011. Household customers addressed 7321 complaints. Most complaints were related to invoicing. There were 92% of such complaints. Unjustified complaints, or 54%, were rejected.

Details are given in Table 37.

**Table 37: Complaints of gas customers to suppliers in 2012**

Total number of complaints by household customers:	7,321
– price	32
– supply terms	211
– contract terms	31
–bill	6,752
– technical reasons	4
– disconnection due to non-payment	23
– switching	268
Unjustified complaints	3,976

Source: Energy Agency

In accordance with amendments of the Energy Act the suppliers on their websites published the rules on appointment of persons to deal with complaints. Four suppliers issued their own rules, and the remaining 13 decided to issue the rules as a part of association GIZ DZP, g.i.z. (Slovenian Interest Group for Gas Distribution).

In 2012 the appointed person received 3 complaints from the household customers.

#### 4.4.3 The right to compensation

In accordance with the Energy Act the supplier itself or together with other suppliers within the interest group shall establish a system of refunds or compensation for customers in case of the breaches of supply obligations. Customer has a right for compensation in accordance with the amount of damages, severity of the offense and degree of responsibility.

Decree on functioning of the natural gas market provides as mandatory element of the contract between the supplier and household customer the rights to compensation and refund arrangements, which apply in cases if a quality of supply does not meet the contractually agreed value.

#### 4.4.4 Publication of prices

All the suppliers of natural gas were publishing gas prices on their websites without using a special password. In 2012 all prices were without any restrictions available also through the web application Comparison of supplier. The gas prices for household customers are set independently by the suppliers, while the use-of-network prices are charged for by the gas distribution system operators on the basis of the published price lists in the Official Gazette issued in line with Energy Act and methodologies for determining and charging network charge.



# District heating



District heating in Slovenia is defined as a local optional public service, under certain legal requirements may also be implemented as a commercial activity of supply of end customers. The distribution of heat includes the supply of heat or cold from the distribution networks, and the operation of the system operator of the distribution network. Prior to the start of these services, or to distribute heat 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.

Data that follow present the situation in the area of district heating in the Republic of Slovenia within the scope of energy activities of the registered holders of the licences to distribute heat, or licences to produce heat for district heating of above 1 MW.

## 5.1 The supply of district heating

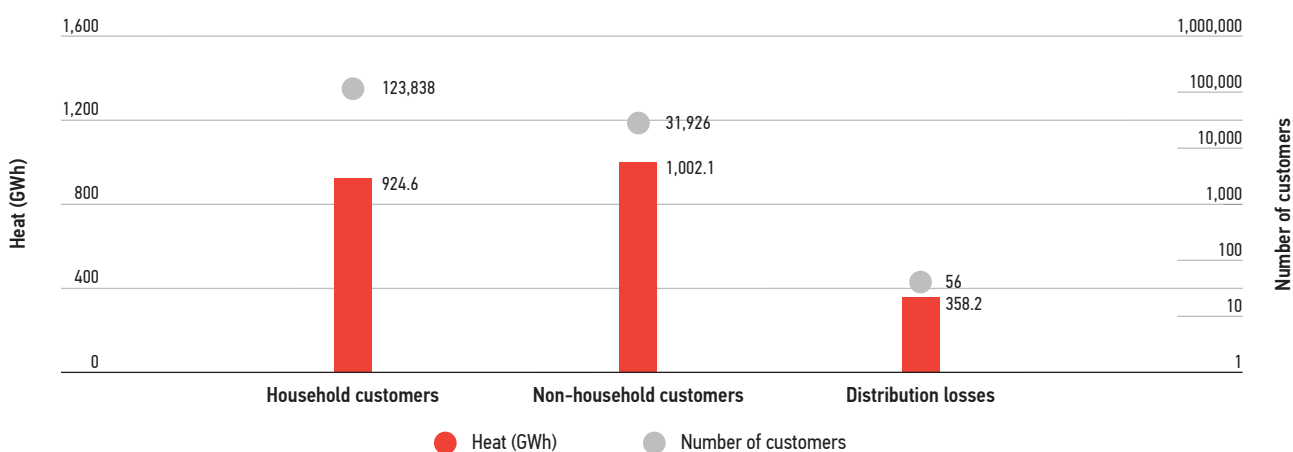
In Slovenia in 2012, 79 of the 108 licence holders, active in 55 municipalities, were involved in heat supply. Of these, 58 companies were involved in both heat distribution for district heating and heat production for district heating of above 1 MW; 8 companies were only involved in the distribution, and 7 companies only produced heat.

Only one large system with a cooling aggregate power of the 965 kW operates in the Velenje City Municipality, while investing in new systems of district cooling is because of the economic recession currently not possible.

For the purpose of heat supply, licensed producers of heat for district heating and for the supply to industry, with the facilities' installed power of above 1 MW, produced 2484.1 GWh of heat and 837.9 GWh of electricity, or 665.8 GWh of electricity at the busbars of the cogeneration processes. The largest share of heat – was used for the supply to 123,838 household customers, which used 924.6 GWh, or 40.5% of heat; 43.9%, or 1002.1 GWh were used for the supply to industrial and other non-household customers. Heat losses incurred during the distribution amounted to 15.7% of all the heat delivered to the distribution networks.

Figure 72 shows the heat consumption by type of customers and the customer numbers.

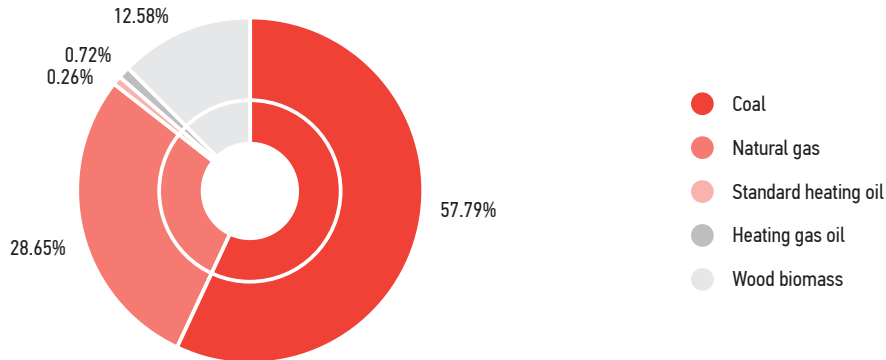
**Figure 72: Heat consumption by type of customers and the customer number**



Source: Energy Agency

In the structure of used primary energy sources for the heat production, coal covers 57.8%, natural gas 28.6% and heating oil 0.7%. Wood biomass and other primary renewable sources of energy cover 12.6% of the energy sources.

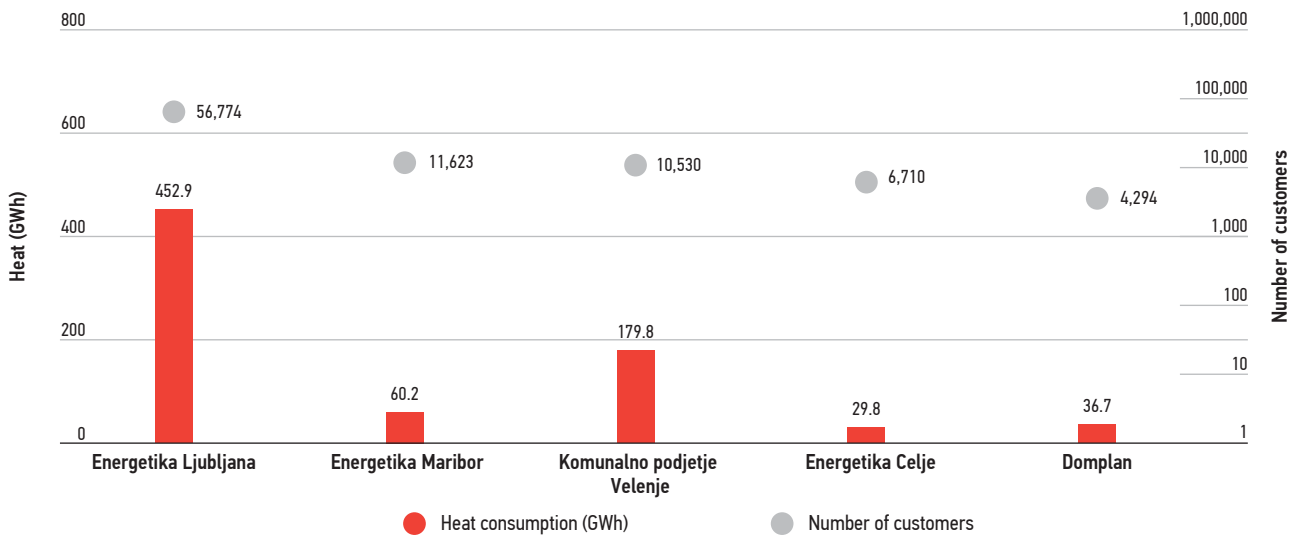
**Figure 73: Structure of the primary energy sources for the production of heat for district heating**



Source: Energy Agency

The five largest heat-distribution companies supplied 57.7% of all the households, distributing 82.1% of the heat produced for district heating. Figure 74 shows the distributed amounts of heat to the household customers and the number of customers, which were supplied by the 5 largest distribution companies.

**Figure 74: Largest distributors of heat to households in 2012**

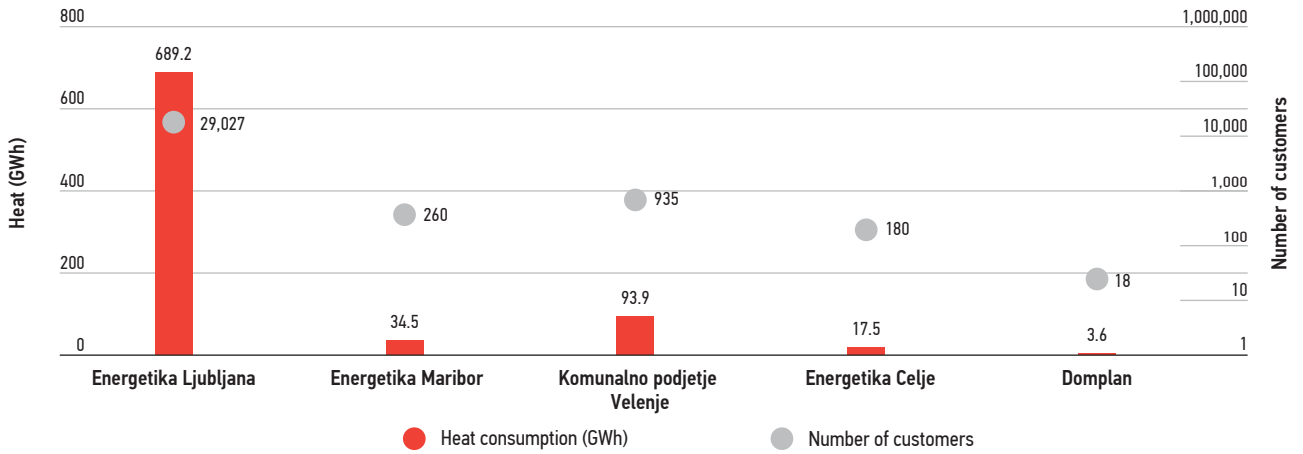


Source: Energy Agency

The 5 largest distribution companies supplied heat to 95.3% of all non-household customers, distributing to them as much as 83.7% of the required heat.



**Figure 75: Largest distributors of heat to non-households in 2012**

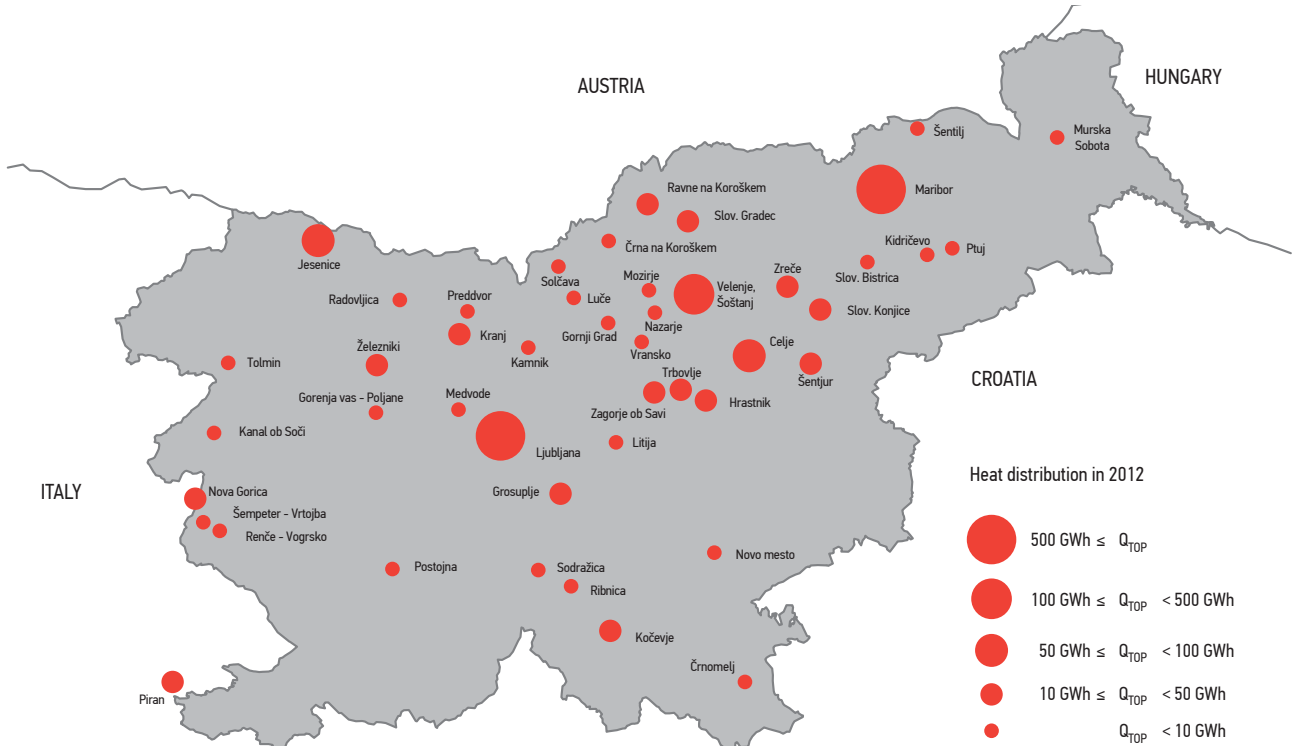


Source: Energy Agency

## 5.2 The distribution network

In 2012 the service of heat distribution was, in the Republic of Slovenia, carried out by 79 licence holders. The heat distribution networks were set up in 55 of the 212 Slovenian municipalities, their total length being 733.6 kilometres. Large system of with a cooling power is carried out only in the City Municipality of Velenje, the distribution network is 1.05 kilometres long. The next figure shows their locations and the sizes of the distributed amounts.

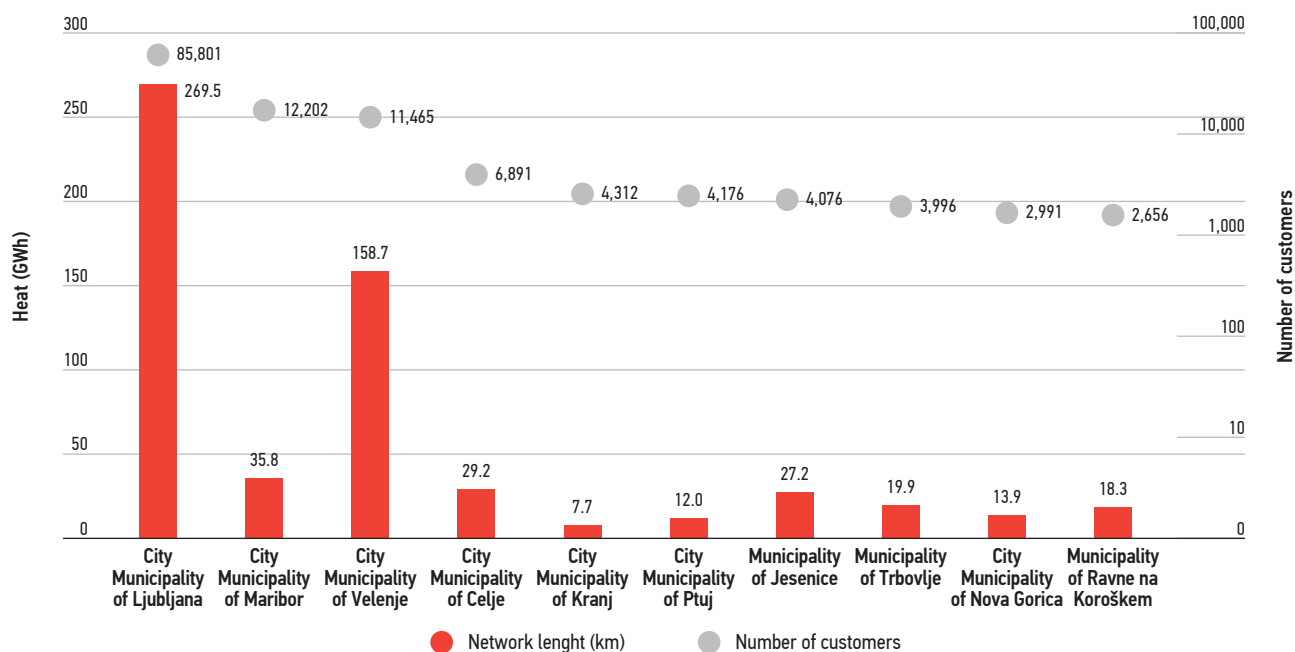
**Figure 76: Heat distribution networks in Slovenia in 2012**



Source: Energy Agency

With respect to the temperature regime of the operations of individual networks, the networks are the warm-water networks and hot-water networks cover 97.7%, and steam networks cover 2.3% of the total distribution networks. The municipalities with the longest networks are Ljubljana (269.5 kilometres of hot-water and warm-water network) and Velenje, together with Šoštanj, (158.7 kilometres of warm- water network). The next figure shows the lengths of the 10 largest heat distribution networks in individual municipalities, and the numbers of connected users.

**Figure 77: Length of heat distribution networks by municipality, and the numbers of connected users in 2012**



Source: Energy Agency

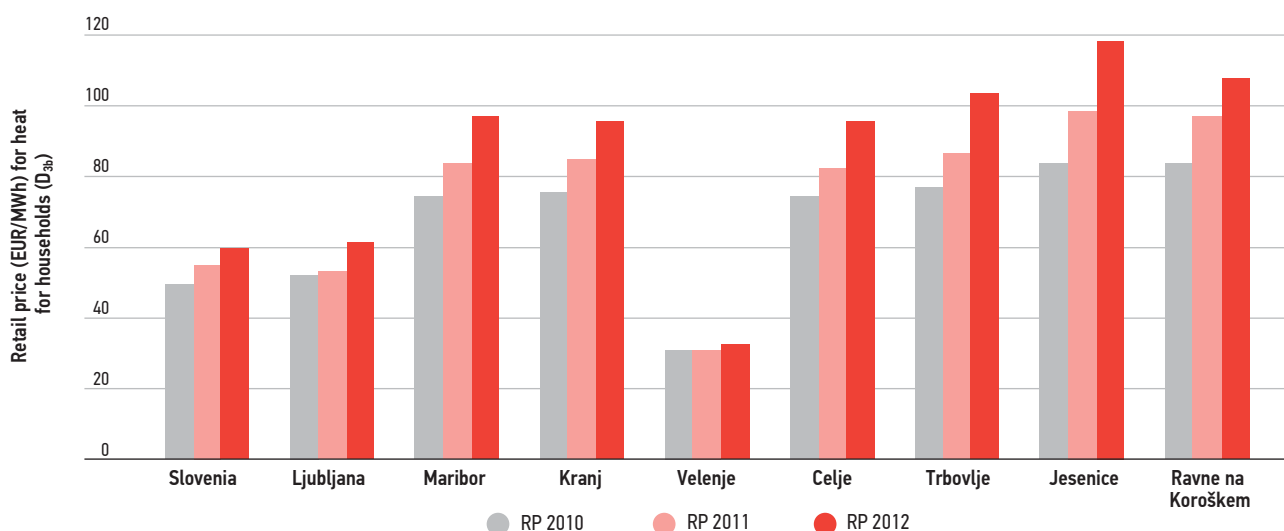
### 5.3 The prices for heat

Retail prices for heat from the distribution networks for standard customer group D3b in selected number of Slovenian municipalities, in 2012 accounted for 40.5% of the total distributed heat supplied to the households.

The standard customer group 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.

Figure 78 shows the average retail prices for heat from the distribution systems relating to selected Slovenian municipalities. It also shows that the average retail heat price for household customers compared with the previous year increased on average by 10%; the highest price increase, 15%, affected customers in the area of Trbovlje.

**Figure 78: Trends in the average retail prices of district heating for household in selected Slovenian towns for 2010–2012**



Source: Statistical office of the Republic of Slovenia

## 5.4 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 and the methodology for the preparation of the tariff systems for the supply and consumption of heat from the distribution networks;
- keep a record of appeals against the decisions on issuing or refusing an approval to connect to the network for the supply of heat or other gas, which are made by the mayors;
- 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.

### 5.4.1 System operation instructions for the heat distribution network and the legal arrangements of the status of the local public service providers of district heating

In 2012 the Energy Agency issued 4 approvals to the system operation instructions for district heating (hereinafter referred to as system operation instructions).

In the process of assessment the legal status of public service providers, this is a condition for issuing approval to the system operation instructions, the Energy Agency determined some legal imperfections; the competent Ministry was notified about them.

Due to inadequate legal arrangements of the public service for district heating it was not possible to continue with the procedure of issuing approvals to the system operation instructions for the geographical areas of Loče in the municipality of Slovenske Konjice and submitting its findings regarding legal arrangements of public service provider of district heating in this area to the competent Ministry and asked for assessment.

The Ministry was again notified that the public service providers in municipalities of Ptuj, Kidričevo, Kamnik and Gornji Grad, according to the Energy Agency, still do not have their legal status properly arranged; according to the Public-Private Partnership Act (the Official Gazette of the Rep. of Slovenia, No 127/06) the deadlines to which this public service can be carried out by current providers have already expired. Due to inadequate legal arrangements it was not possible to continue with the procedure of issuing approvals to the system operation instructions for the above mentioned geographical areas.

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#### 5.4.2 Records of appeals

On the basis of the eighth 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, which are made by the mayors. The number of these appeals is submitted to the Energy Agency once a year.

The Energy Agency call upon the municipalities, in which public service of district heating, or gas supply, except for natural gas, is performed, to provide information on number of complaints.

On the basis of the notifications from different municipalities (50 Slovenian municipalities), the Energy Agency established that, in 2012, there were no such appeals.

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#### 5.4.3 Suppliers' report

On the basis of the third paragraph of Article 33 of the EA, the suppliers, if they carry out the market activity of the end customers, are obliged to submit to the Energy Agency once a year the report on the total annual amount of supplied energy; the report has to be submitted up to 15 February for the previous year.

The suppliers that carry out the market activity of district heating or the supply with other gases from independent network system in 2012 were asked to send the reports.

The Energy Agency received 33 reports; some suppliers again, by mistake, reported also about the areas where they provide the public service. Two suppliers reported that last year they made a mistake and in fact they did not perform market activities.

On the basis of received reports and some additional explanations the Energy Agency established that in 2012 the district heating and supply with other gases was carried out by 29 suppliers.

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#### 5.4.4 Assessing the compliance of General Conditions for the Supply and Consumption of heat with the Energy Agency's methodology

In 2012, the Energy Agency received 2 requests for the assessment of general conditions for the supply and consumption of heat from the distribution network (hereinafter referred to as General Conditions) with the Energy Agency's methodology. According to the Energy Agency, the control over the public providers of district heating is reduced due to deleting the required approval of local community to the General Conditions, and because current Energy Act no longer determines the body responsible for assessing the above mentioned compliance. The Energy Agency notified the responsible Ministry on this issue.



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## List of abbreviations and acronyms

<b>ACER</b>	European Agency for the Cooperation of Energy Regulators
<b>CBTC</b>	cross-border transmission capacities
<b>CEER</b>	Council of European Energy Regulators
<b>CGS</b>	combined gas and steam
<b>CHP</b>	combined heat and power
<b>CSLOeX</b>	hourly index
<b>DSO</b>	distribution system operator
<b>DTS</b>	distribution-transformer station
<b>DES</b>	domestic energy sources
<b>EA</b>	Energy Act, the Official Gazette of the RS, 27/07 (EZ-UPB2), 70/08 (EZ-C), 22/10 (EZ-D))
<b>EEPR</b>	European Energy Programme for Recovery
<b>EEX</b>	European Energy Exchange AG, Leipzig
<b>Eles</b>	ELES – Elektro Slovenija, d.o.o.
<b>ENTSO</b>	European Network of Transmission System Operators
<b>GDP</b>	gross domestic product
<b>GPP</b>	gas power plant
<b>GoO</b>	guarantee of the origin
<b>HHI</b>	Herfindahl-Hirschmann index relating to market concentration
<b>HPP</b>	hydroelectric power plant
<b>HSE</b>	Holding Slovenske elektrarne, d.o.o.
<b>HV</b>	high voltage
<b>ITO</b>	Independant Transmission System Operator
<b>Krško NPP</b>	Krško Nuclear Power Plant, d.o.o.
<b>LV</b>	low voltage
<b>MRS</b>	metering-regulation station
<b>MV</b>	medium voltage
<b>NPP</b>	nuclear power plant
<b>P+ and P-</b>	main energy imbalance prices
<b>PSPP</b>	pumped-storage power plant
<b>RECS</b>	Renewable Energy Certificate System
<b>RES</b>	renewable energy sources
<b>RP</b>	Retail Price
<b>RS</b>	Republic of Slovenia
<b>SAIDI</b>	System Average Interruption Duration Index
<b>SAIFI</b>	System Average Interruption Frequency Index
<b>SLOeX</b>	organised electricity market index
<b>SODO</b>	SODO Electricity Distribution System Operator, d.o.o.
<b>TPP</b>	thermoelectric power plant
<b>TSO</b>	transmission system operator



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