REPORT ON THE WORK OF THE ENERGY AGENCY OF THE REPUBLIC OF SLOVENIA AND SITUATION IN THE ENERGY SECTOR IN 2001

energy agency
of the Republic of Slovenia

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The Government of the Republic of Slovenia accepted the Report on the Work of the Energy Agency of the Republic of Slovenia and the Situation in the Energy Sector in 2001 at its 91st regular session on 16 September 2002

The Republic of Slovenia is going through probably the most important phase for its energy sector in decades. After long years of a most predictable order in the sector, we are entering the era of the market. Although the functioning of the market and its laws are predictable, particular outcomes, such as the price of electricity on a given day are not so certain.

For the purpose of this transition we adopted the Energy Act and many by-laws and technical regulations. One of the chapters of the Energy Act provides for an independent regulatory body, namely the Energy Agency.

Before us is the Agency's first Annual Report. Plainly, the Agency has taken on its intended shape and it is ready to carry out the tasks entrusted to it by the Energy Act. I can therefore commend the Agency for the work it has done, especially the way it has organised its work and the code it has produced for regulation of the prices for use of the networks.

Of course, the Agency still has a lot to do. Special attention will need to be paid to the by-laws still in preparation and their impacts on costs, which underlie prices. It will also be important to assure that the electricity network price-setting mechanism does not lead to skewed development of the networks. Namely, optimal network development is crucial in assuring the necessary quality of electricity and hence a fundamental condition for successful economic development. We expect the Agency to continue in the future to give consideration to the principe of stable conditions for the economy, as much for electricity producers as for consumers.

Minister
Janez Kopač, M.Econ.
Ministry of the Environment,
Spatial Planning and Energy

The process of liberalisation and deregulation of the energy sector has laid the groundwork for a new style of energy market in Slovenia.

This report covers the first, perhaps historic year in the opening of the electricity market. The greatest changes in 2001 took place in that area because the transitional period allowed by the Energy Act for the introduction of the electricity market came to an end after the first third of the year. 2001 also saw the launch of brand new institutions, such as the electricity market operator and the Energy Agency of the Republic of Slovenia.

Thematically, this report encompasses the energy chapters most closely related to the processes of liberalisation and deregulation. Its objective is to present to a specialist audience the state of affairs in the market following the adoption of the principle that energy is a commodity. The report therefore focuses on the course of changes that have taken place, the current status of the processes of introducing the market, and the activities completed so far and their further projections.

The Energy Agency was established by the Energy Act to regulate the operation of the electricity and gas markets and it began work in January 2001. During the year it was actively involved in the process of opening the electricity market at all levels, and secured certain key conditions for it to unfold smoothly.

The basic by-laws for the functioning of the electricity market were promulgated the year before and certain key enactments were passed in the course of 2001 when implementation was in its most intense phase. On 15 April 2001, the internal electricity market was formally inaugurated after the end of the prescribed transitional period. The Energy Agency had to actively participate in the preparation of a large number of legal documents and conditions governing the market.

Since the Energy Agency was due to start operating in January 2001, its organisational foundations had to be laid during 2000. All activities to support the Agency's effective performance of its functions were successfully carried out.

I trust that the report fulfils its mission and that the reader will find in it all the key information relating to the energy sector and the state of energy trading in Slovenia.

Director,
Prof. Dr. Jože Koprivnikar

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1 LIBERALISATION OF THE ENERGY MARKET

1.1. THE PROCESS OF OPENING THE ENERGY MARKET IN SLOVENIA

Major milestones in the process of deregulation and liberalisation, which constitutes a historic change in the energy sector in Slovenia, were passed in 2001. The Energy Act[1] (hereon: EA), which was promulgated in September 1999, introduced the energy market in order to modernise the energy regime in the light of contemporary developmental trends. At the same time the EA represents an important step in harmonising national legislation with that of the European Union in this sector. It allows for competition in the energy market and prescribes effective regulation of the energy supply. Thus, the foundation stones were laid for the establishment and opening of the energy market.

1.2. LIBERALISATION OF THE ELECTRICITY MARKET

The last transitional provisions of the EA for the implementation of changes in the electricity sector expired in 2001; the bulk of the necessary by-laws were prepared in the course of the year. The newly ordained institutions (the Energy Agency and the electricity market operator – the Exchange) were launched while electricity undertakings adjusted for work in compliance with the EA and the unfamiliar circumstances of operating in an internal electricity market until 1 January 2003.

After that date the market will open up to international trading. This means that every eligible customer will then be entitled to purchase from foreign suppliers and import electricity on condition of reciprocity and within prevailing cross-border capacity constraints.

The EA opens the electricity market to eligible customers who may contract electricity from various suppliers either directly or through the organised market. It introduces licences for conducting energy business, authorisation of production by means of an energy permit, the status of a qualified electricity producer, and provides for the protection of domestic primary energy sources and rescue of stranded investments. The EA institutes the principle of the separation of energy activities and the principle of regulated third party network access, which entails the regulation of use-of-network charges and network access.

The process of establishing the market began in 2000 with an initial phase of transformation into or the founding of the following market players:

- transmission and distribution network operators and transmission and distribution service providers, to ensure untrammelled operation of the electricity system;
- a market operator as a legal entity, to organise the market;
- the Energy Agency as an independent organisation to regulate the electricity and natural gas markets.

This met the basic requirements for the functioning of the internal electricity market and subsequent to 15 April 2001 it was joined by:

- producers;
- eligible customers (with more than 41kW capacity at each connection point; and electricity distribution service providers);
- traders, market intermediaries and agents.

The relationship between the electricity market players is shown in Figure 1:

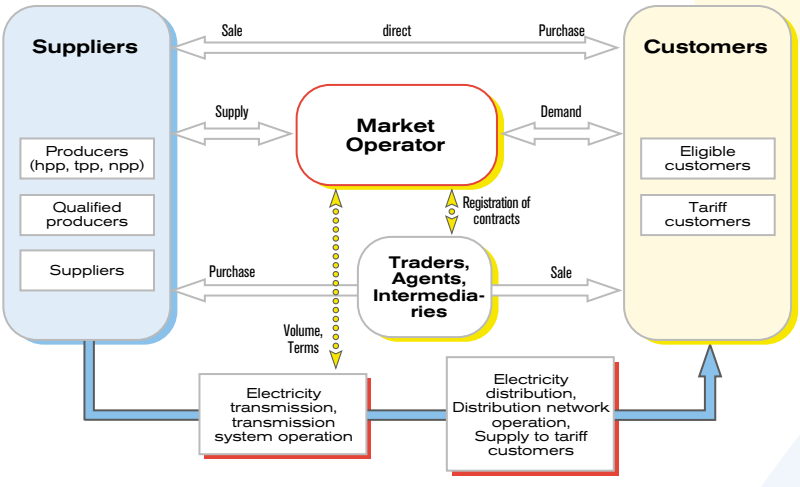


Fig. 1: Chart of the electricity market

[1] Energy Act, Uradni list Republike Slovenije (Official Gazette of the Republic of Slovenia), No.79/99, 8/00

1.3 LIBERALISATION OF THE NATURAL GAS MARKET

As with the electricity market, preparations have been under way to establish market relations in natural gas supply and introduce a natural gas market. The EA is harmonised with the EU Directive on the Internal Gas Market (98/30/EC), which is the basis for the gradual liberalisation of the market that was launched in the EU in 2000.

The EA makes certain important stipulations regarding the gas transportation network: the transportation of gas is an obligatory national public service (PS); and so too is operation of the network. The distribution of gas is an elective local PS.

Pursuant to the EA, the gas market and hence access to the gas network shall be opened to eligible customers on 1 January 2003 on the principle of negotiated third party access (nTPA).

The use-of-network charge is set by the transportation network operator. The gas transportation service provider is obliged to publish at least once a year, with the assent of the Ministry responsible for energy[2], the indicative prices and other commercial terms for use of the network. The prices and the terms must be published for the first time no later than 31 December 2003.

The first phase of the opening of the gas market will begin on 1 January 2003. Customers consuming more than 25 million cu.m/yr of gas per connection and natural gas-fired electricity producers shall be eligible customers. The gas transportation service provider is obliged to allow an eligible customer access to its network, which is negotiated by contract.

Legal entities engaged in more than one energy activity in the area of gas supply or additionally in other activities outside the energy sector must separate business accounts in accordance with the law on commercial companies, ensure their proper auditing and publish the audited statements of account. To preclude cross-subsidies, discrimination against customers and impairment of competition, legal entities shall assure separate accounting for each energy activity in accordance with Slovenian accounting standards.

Gas customers and gas distributors taking 5 million cu.m/yr or more at any one connection become eligible customers as of 1 January 2008 under the provisions of the EA.

The following diagram shows a projection of the natural gas market:

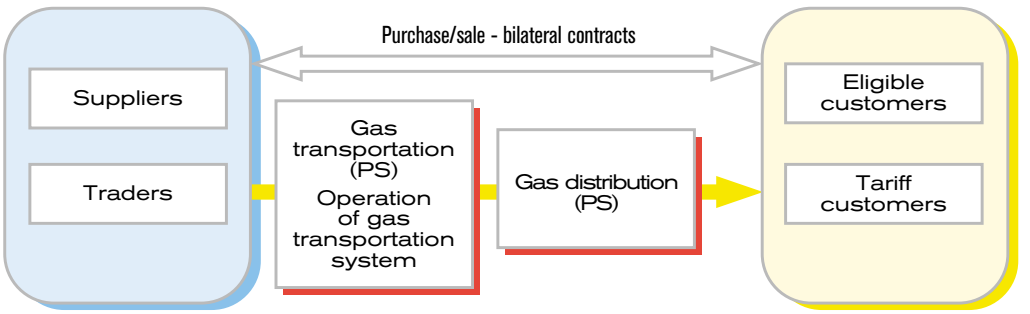


Fig. 2: Chart of the gas market

[2] The Ministry of Environment and Spatial Planning as of 2001.

1.4 STATE OF THE ELECTRICITY MARKET COMPARED TO EU COUNTRIES IN 2001

Figure 3 shows a comparison of the degree of opening of the electricity market with that in EU countries. The degree of opening is defined here as the share of total electricity use in each country accounted for by eligible customers, that is those customers with a free choice of supplier. It can be seen that the degree of opening in Slovenia is greater than the EU average since a good half of EU countries have only opened their markets to the level of 30% as prescribed by the EC's Internal Electricity Market Directive (96/92/EC)[3]. It must be borne in mind, however, that up to the end of 2002 only domestically produced electricity may be traded in Slovenia. This will change as of 1 January 2003 when the market will open on an international scale as well.

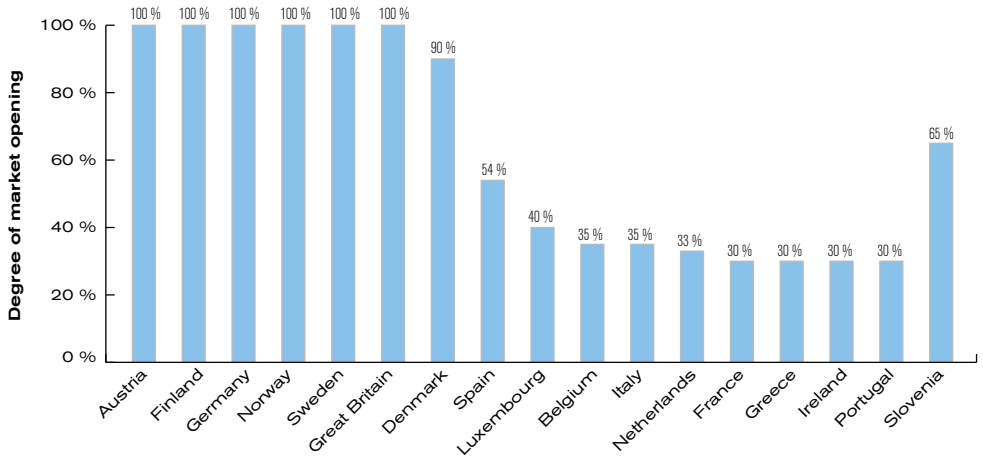


Fig. 3 Comparison of the degree of opening of EU and Slovenian electricity markets (as of December 2001)

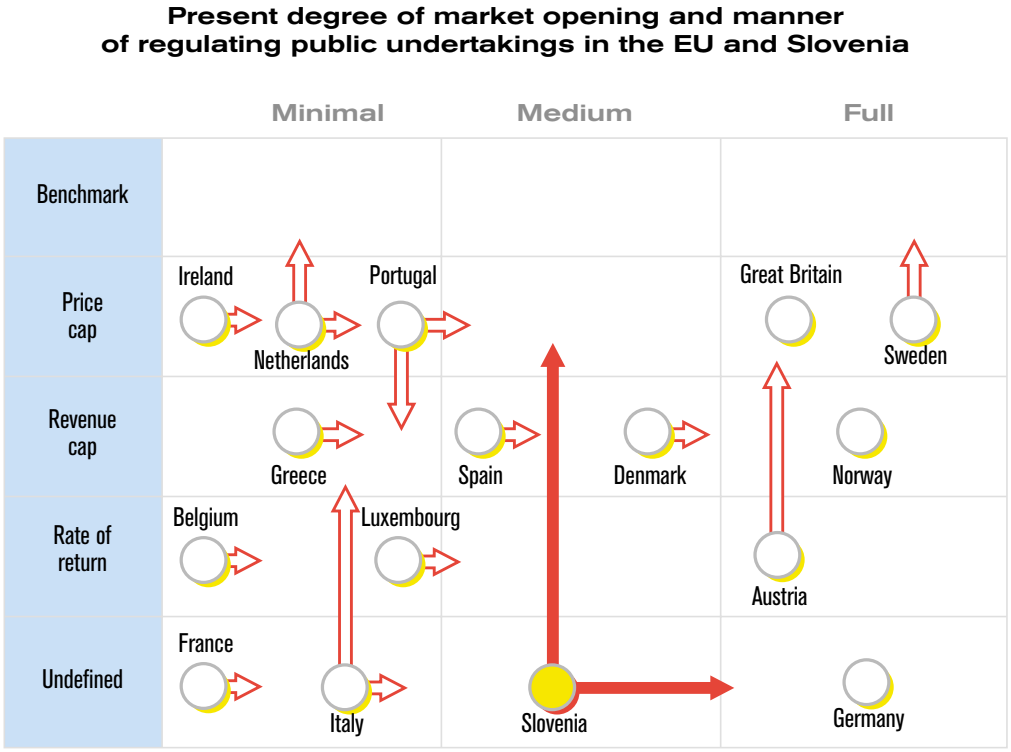


Fig. 4: Manner of regulation

[3] Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, OJ L 027 30.01.1997

2 THE ELECTRICITY SYSTEM – TRANSFORMATION, STATE AND TRENDS

2.1 REVIEW OF ELECTRICITY SECTOR TRANSFORMATION

2.1.1 From reorganisation to the new Energy Act

In the process of deregulation of the electricity sector at the start of the 1990s the existing vertically integrated generating, transmitting and distributing electricity enterprise was transformed into several independent undertakings:

- eight generating enterprises – organised according to type of primary fuel (hydro, thermal and nuclear power)
- five distribution enterprises, organised on a regional basis (Elektro Celje, Elektro Gorenjska, Elektro Ljubljana, Elektro Maribor, Elektro Primorska);
- one transmission enterprise (Elektro Slovenija).

The sector continued to function under the classical system of supply on a single buyer principle. This role was assigned to Elektro Slovenija d.o.o (Eles) which at the same time operated the transmission system and was solely authorised for import and export of electricity.

The adoption of the EA launched the process of transforming electricity undertakings for the purpose of participating on the common EU market. Following the example of the EU countries, the European internal electricity market directives were incorporated into the EA. The EA allows eligible customers (all physical or legal entities with a connection exceeding 41kW in capacity) to freely choose supplier. This cut-off point actually means 65% opening of the electricity market.

The model employed in the transformation of the electricity sector is based on regulated third party access (rTPA) for the transmission and distribution networks. At the same time, a strict distinction is drawn between regulated monopoly activities (e.g. the networks) and unregulated market activities (e.g. electricity trading). Thus the transmission system operator (TSO) may no longer engage in classical electricity trading, and distribution undertakings have to separate their network business from electricity supply to tariff and eligible customers.

The EA introduced the distinction between regulated and unregulated activities. The objective is to ensure greater transparency and especially to preclude cross-subsidisation between market and regulated activities. Under the EA both the generation and supply of electricity to eligible customers are market activities. The external market is scheduled to open on 1 January 2003. Prior to that date the Government shall supervise the degree of opening by means of annual import quotas. The EA allows competition in accordance with the principles of non-discrimination and transparency and establishes efficient regulation of the electricity market, which is the duty of the Energy Agency. The Agency is also responsible for setting prices in the area of regulated natural monopolies (such as the electricity network).

Even before transformation began the situation with regard to separation of activities was relatively clear because electricity undertakings were separated vertically according to production, transmission and distribution activities without equity interlinkings. Consequently all that was necessary was to separate market and regulated activities within the transmission and distribution undertakings and this was done in the course of 2001.

Changes took place in the organisation of the production sector in September 2001 when the five production companies (the hydro power companies Dravske elektrarne Maribor d.o.o., Savske elektrarne Ljubljana d.o.o., Soške elektrarne Nova Gorica d.o.o., the thermal power companies Termoelektrarna Brestanica d.o.o. and Termoelektrarna Šoštanj d.o.o.) and the coal mine, Premogovnik Velenje joined to form Holding Slovenske elektrarne (Slovenian Electricity Power Plants Holding – HSE).

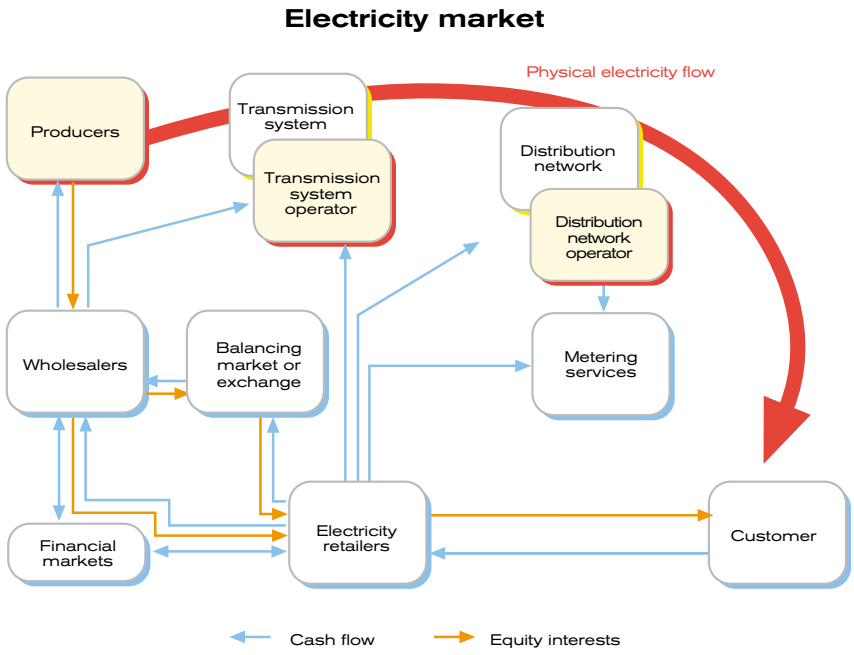


Fig. 5: Electricity market relations

2.1.2 Regulatory basis for electricity sector transformation

2.1.2.1 Energy Act

The EA was adopted in 1999 and entered into effect on 15 October 1999. Many by-laws pursuant to it have already been passed but there are still many existing by-laws passed under the Energy Economy Law (Official Gazette of the Republic of Slovenia, No. 33/81 and 29/86). The latter have to be thoroughly harmonised, completely reworked, or replaced by new ones. Not all the necessary new regulations were issued by the end of 2001, but the EA provided for this situation by allowing extension of the validity of many of the prevailing regulations until new ones entered into force. By the end of 2001, 27 new enactments or by-laws were issued. The principal milestones in developing the regulatory framework for reorganisation of the electricity system are the following documents:

- Decision on the Foundation of the Energy Agency (Official Gazette of the Republic of Slovenia, No 54/2520/2000)
- Decision on the Determination of Electricity Distribution Network Operators in the Republic of Slovenia (Official Gazette of the Republic of Slovenia, No. 54/2000)
- Decision on the Determination of the Electricity Transmission System Operator in the Republic of Slovenia (Official Gazette of the Republic of Slovenia, No. 54/2000)
- Ordinance on the Manner of Providing the Economic Public Service of Organising the Electricity Market (Official Gazette of the Republic of Slovenia, No. 54/2000)
- Ordinance on the Manner of Providing Economic Public Services in the Field of Electricity Distribution (Official Gazette of the Republic of Slovenia, No. 54/2000)
- Ordinance on the Manner of Providing the Economic Public Service of Electricity Transmission and the Economic Public Services of Operating the Transmission System (Official Gazette of the Republic of Slovenia, No. 54/2000)
- Statute of the Energy Agency (Official Gazette of the Republic of Slovenia, No. 102/2000)
- Ordinance on the Conditions and Procedure for Granting or Revoking a Licence to Engage in Energy Activities (Official Gazette of the Republic of Slovenia, No. 21/2001)
- Ordinance on the Conditions for Acquiring Qualified Electricity Producer Status (Official Gazette of the Republic of Slovenia No. 29/2001)
- Rules for the Functioning of the Electricity Market (Official Gazette of the Republic of Slovenia, No. 30/2001)
- Code of Rules for Setting Prices for the Use of the Electricity Network and Criteria for Justification of Costs (Official Gazette of the Republic of Slovenia, No. 30/2001)
- Ordinance on Setting the Highest Tariffs for the Sale of Electricity to Tariff Customers, (Official Gazette of the Republic of Slovenia, No. 85-4407/2001)

The following main deadlines were set in these documents or in their amendments:

- separation of accounts for regulated activities – 1 January 2001,
- launching of the market for domestically produced electricity – formally 15 April 2001 but

actually 15 October 2001 because existing suppliers were tied to contracts with eligible users valid as of 14 April 2001 which were automatically extended to 15 October 2001. New supply contracts with eligible customers under market terms were concluded from that latter date onwards,
- launching of the market for electricity produced outside Slovenia – 1 January 2003.

The principal provisions of the EA and certain of the by-laws are set out below.

The EA changes and re-defines in many ways the situation in the energy sector in compliance with the EC Directive 96/92/EC3 on the general rules for the operation of the internal electricity market in the EU and Directive 98/30/EC on the internal gas market in the EU. The principle of a free electricity and gas market has thus been introduced on our territory.

The EA determines:
- the principles of energy policy;
- the rules for the functioning of energy markets;
- the rules for the conduct of economic public services (hereon: PS) in the energy sector,
- the principles of assured supply and efficient energy use and the conditions for the operation of energy installations,
- the conditions for the conduct of energy activities,
- regulation of the granting of licences and energy authorisations, and
- the bodies performing administrative duties under this law.

The EA defines the following energy activities:
- the production of electricity and district heating, crude oil refining and oil product processing
- operation of the electricity and gas networks,
- storage of gas, liquid and solid fuels;
- supply of electricity, gas or heating
- organisation of the electricity market
- trading, representation and intermediation on the organised electricity market

A licence is required for each of the aforementioned activities. It is granted by the Energy Agency and the conditions for the licence are prescribed by the Government. The Energy Agency is established by the EA as an institution in the energy sector to regulate the functioning of the electricity and gas markets. It is a legal entity under public law and an independent organisation.

The EA defines some of the aforementioned activities as obligatory national PSs:
- electricity transmission,
- operation of the transmission system,
- electricity distribution
- operation of the distribution network,
- supply of electricity to tariff customers, and
- organisation of the electricity market.

The activities conducted by PSs are in the main regulated by the Energy Agency. The remaining activities are market activities.

In the electricity field the scope of regulation of activities under the current energy legislation by the Energy Agency as a regulatory body is shown below:

ACTIVITY (PS)	REGULATION by the Agency
• Transmission Transmission system operation	regulated
• Distribution Distribution network operation	regulated
• Tariff customer supply	not regulated
• Market organisation	partly

The EA allows the same legal entity to perform several PSs. However, articles 37 and 38 require a legal entity performing several energy activities, or another activity in addition to one energy activity, to keep separate accounts in conformity with the provisions of the law on commercial companies, ensure their audits and to publish the audited accounts in a daily newspaper. To preclude cross-subsidisation, discrimination of customers and distortion of competition, such legal entity must ensure separate accounts for each energy activity in conformity with national accounting standards.

The EA deals only passingly with many subjects and relegates their precise treatment to the by-laws that it envisages. For full harmonisation with the EU directives a whole series of by-laws have to be drawn up. The way PSs perform their work in the field of transmission and distribution is determined by two respective ordinances: the Ordinance on the Manner of Providing PS in the Field of Electricity Distribution and the Ordinance on the Manner of Providing Electricity Transmission PS and Transmission System Operation PS.

2.1.2.2 Ordinance on the manner of providing PSs in the field of electricity distribution[4]

The Ordinance on the Manner of Providing Economic Public Services in the Field of Electricity Distribution (hereon: the Ordinance) regulates the conduct of three economic public services as laid down in EA article 20:
- electricity distribution,
- operation of the distribution network, and
- supply of electricity to tariff customers

The Ordinance determines the rights and obligations of the particular PS providers, the organisational set up, mode and conditions for the provision of the services that comprise the public service, the rights and obligations of the users and the manner of financing the particular public service.

Distribution - the Ordinance precisely determines the scope of distribution obligations:
- electricity transportation on the distribution network,
- responsibility for on-going and capital maintenance of the network,
- responsibility for development and supervision of construction of the distribution network.

[4] Uradni list Republike Slovenije (Official Gazette of the Republic of Slovenia), No. 54/2000, 31/01

A distributor earns revenue to finance the public services from charges for electricity distribution which the network operator pays from the use-of- network charges to the distribution provider or which is settled internally when the one and the same legal or physical entity provides both distribution and network operation services. For this reason, before commencing the service the distributor must conclude a contract with the network operator whereby the latter undertakes operation of the distribution network through which the distributor provides the public service. (In the case that distribution and network operation is performed by one and the same legal or physical entity, the relationship between them must be regulated by an agreement similar to an internal document.) This contract must include the electricity distribution charge agreed between the distributor and the operator internally. If this contract is not concluded within the prescribed term, the matter is settled by order of the competent minister, upon the advice of the Energy Agency.

Distribution network operation –the Ordinance precisely determines the scope of the obligations:

- management and operation of the network
- assuring network access for eligible customers and producers
- implementing system operation instructions

Distribution network operation is financed from the use-of-network charge, which the user pays to the network operator for each access made. The level of the charge and the manner of its calculation are determined by the Code of Rules for Setting Prices for the Use of the Electricity Network and Criteria for Justified Costs prepared by the Energy Agency.

Supply to tariff customers - the Ordinance precisely determines the scope of the obligations:

- securing electricity for tariff customers,
- sale of electricity to tariff customers in conformity with the tariff system,
- sale of electricity on the distribution network,
- informing tariff customers about trends and their own consumption behaviour.

The public service of supplying tariff customers is financed by payments by the tariff customers. The Government determines the tariff system and tariff items such that the electricity price for tariff customers includes the use of transmission and distribution network charges.

2.1.2.3 Ordinance on the manner of providing electricity transmission and transmission system operation PSs[5]

The Ordinance on the Manner to Perform Electricity Transmission PS and Transmission System Operation PS regulates the performance of two public services, determined by EA article 20:

- electricity transmission,
- transmission system operation.

The Ordinance determines the rights and responsibilities of the PS providers, the organisational set up of these services, the mode and conditions for providing the services, the rights and responsibilities of the users and the manner of financing the particular PSs.

[5] Uradni list Republike Slovenije (Official Gazette of the Republic of Slovenia), No. 54/00, 79/00, 124/01

Transmission - the Ordinance precisely determines the scope of the obligations:

- transmission of electricity on the network
- responsibility for maintaining the primary and secondary systems of the network,
- responsibility for development and supervision of construction of the network.

The transmission provider earns revenues to finance the PS by means of electricity transmission charges, which the system operator calculates internally from the use-of-network charges. The relationship between the transmission provider and the network operator is regulated by means of a contract similar to an internal document. This contract includes the charge for electricity transmission settled internally by the transmission provider and the system operator. If this contract is not concluded within the set term, it is prescribed by the Agency.

2.1.2.4 Code of rules for setting prices for use of electricity networks and criteria for justification of costs[6]

Use-of-network (or system) charges are determined by means of the Code of Rules for Setting Prices for the Use of Electricity Networks and Criteria for Justification of Costs. The valid version of this document for 2001 was issued in April 2001.

The following features of the electricity system were taken into consideration in devising the Code:

- the Slovenian electricity system is small in comparison with neighbouring systems, however it constitutes an important transit route because of its geographical location;
- the bulk of production is located in the east of the country (85%) while electricity use is fairly evenly distributed countrywide;
- owing to advanced age and long-term deinvestment the networks are in need of thorough rehabilitation;
- the high-voltage network (HV) comprises 400 kV, 220 kV and 110 kV lines. The medium-voltage network (MV) comprises aboveground lines and cables of 35 kV, 20 kV and 10 kV. The low-voltage network (LV) comprises lines and cables of less than 1 kV;
- the 400 kV network is not looped inside the country, which precludes major transits;
- all high-voltage deliveries are at the 110 kV level;
- less than 3% of generation is at the medium and low-voltage level.

On examination of the methods employed in countries with markets that are already open, the following key criteria were selected in designing a method to satisfy domestic circumstances:

- transparency,
- simplicity,
- applicability to domestic circumstances,
- compliance with domestic legislation,
- equality for all network users,
- incentives for efficiency and reliability of operation of the networks, and
- investment efficiency incentives.

After analysis of the advantages and disadvantages, the post-stamp non-transactional method of costing electricity transmission and distribution was selected, with gross division of costs according to voltage level (without counting transformation as an independent level) and with the potential for development into a zonal method at the distribution level. This method is quite frequently used because it is relatively simple from both the technical and the administrative-executive standpoint. It is suitable for systems in which production and users are relatively evenly distributed and there are no major bottlenecks. Its disadvantage is that it does not directly fulfil the criterion of promoting investment efficiency, which is fulfilled by the zonal and nodal methods or a combination of them.

With the gross method, the costs of a particular network level are allocated to customers on that level in proportion to the relative overall use of the level. Thus lower level users are allocated a proportionate part for the use of the higher levels in addition to the costs of their own level.

The Code of rules meets the criteria of transparency of the network use charge and its components, which are:

- portion for the transmission system charge,
- portion for the distribution network charge,
- portion for system services,
- portion for the work of the Energy Agency,
- supplementals (priority dispatching, registration of contracts on the organised electricity market, etc.).

The transmission and distribution network charges cover: management, operation. maintenance and development of the networks to ensure long-term smooth electricity supply without bottlenecks and covering technical losses. In the initial stage of market opening it is prudent to calculate the costs of system services together with the costs of network use.

Thus the Code of rules defines the following transmission system services:

- frequency and power (primary, secondary and tertiary) regulation and balancing
- regulation of voltage and reactive power,
- assuring start-up of generators without outside fuelling,
- operating the transmission system,
- covering transmission system losses.

The main distribution system services are:

[6] Uradni list Republike Slovenije (Official Gazette of the Republic of Slovenia), No. 31/01, 103/01

- regulation of voltage and reactive power,
- operation of the distribution network
- covering distribution network losses

The Code of rules establishes the category of separate (particular) system services for covering impermissible deviations from operation schedules which exceed the set or agreed tolerance fields. A spirited debate over this took place in the summer-autumn of 2001. It is anticipated that the revised Code shall bring many changes and incorporate the concept of aggregating forecasts and balancing groups throughout the country.

The portion for the work of the Energy Agency is also included in the transmission system charge. It is proposed by the Energy Agency on the basis of its business plan, which contains its plan of work and its financial plan, and is approved by the Government.

The Code lists portions for special supplements. This group includes supplementals for which the Energy Agency is not competent and for which the network user is liable under another law or valid by-law. These supplementals are:

- priority dispatching under the EA and by-laws pursuant to it – the supplement is earmarked for covering the additional costs of the TSO and the DNOs incurred by purchasing and prioritised dispatching of electricity from a qualified producer or producers whose consumption of domestic fuel totals at most 15% of the primary energy. These costs derive from the difference between the prices paid by the TSO or DNOs and set by the Government annually, and the prices achieved on the market in the period in question;
- registration of contracts on the organised electricity market – this supplement is earmarked for Borzen d.o.o. which carries out the registration;
- possible supplement for incentives to qualified producers – to cover the costs of DNOs that are obliged to transport electricity to customers buying from qualified producers and eligible for a discount on the network use charge.

Therefore the charge for use of the electricity network is an aggregate concept for the above-mentioned components of which the Energy Agency determines:

- the transmission system charge portion,
- the distribution network charge portion,
- the system services portion.

Whereas the Government determines the level of the following components:

- the portion for the work of the Energy Agency (financial plan);
- special supplementals: when so determined by law or government by-law a supplement to the sum of components 1-4 of this paragraph may be added for:
- priority dispatching for producers using domestic fuel, in line with the EA and by-laws,
- priority dispatching by qualified producers, in line with the EA and by-laws,
- registration of contracts on the organised electricity market,
- other possible supplementals.

2.1.2.5 Review of some of the key general and specific enactments

Review of the key enactments in the electricity and gas fields current in 2001 showing the issuing authority and its competencies:

AUTHORITY and kind of enactment (ordinance, code of rules, decision, assent…)
State Assembly of Republic of Slovenia
National Energy Programme
Government of RS
Issues ordinances, decisions, etc.:
General Conditions for Electricity Supply and Consumption
Tariff System for the Sale of Electricity
Ordinance on the Conditions for Acquiring Qualified Electricity Producer Status
Ordinance on the Rules for Setting Prices for the Purchase of Electricity from Qualified Electricity Producers
Ordinance for the Conditions and Procedure for Granting or Revoking Licences to Conduct Energy Activities
Ordinance on the Manner of Providing Organised Electricity Market PS
Ordinance on the Manner of Providing Electricity Distribution PS
Ordinance on the Manner of Providing Electricity Transmission and Transmission system PSs
Ordinance on the Manner of Providing Gas Supply PS from the Transportation Network
Ordinance on the Manner of Providing Gas Transmission PS and Operation of the Distribution Network from the Transportation Network PS
Decision on the Establishment of the Energy Agency of RS
Statute of the Energy Agency of RS (assent)
Ministry for the Environment and Spatial Planning
General enactments:
System Operation Instructions (operator's proposal)
Conditions for the Granting of Energy Authorisations
Register of Qualified Producers
Decisions:
Acquisition of Qualified Producer Status
Energy Authorisations (for construction of plant, installations, networks)
On Appeals against a Decision to Grant or Withhold Assent for a Connection
On Appeals against a Decision to Grant or Withhold a Licence, etc.
Network operators (PS)
General enactments:
Draft Transmission network code, Distribution network code (Government competent)
Transparent and Non-discriminatory Criteria for Network Access (Energy Agency assent)
Operation of the Balancing Market - Eles
Decisions:
Access to Level I Network
Assent to Connection to Level I
Contracts:
Access contract
Contract on Balance Deviations
Contract on Electricity Purchases from Qualified Producers
Market operator
General documents:
Market Operation Rules
Service Tariffs - Government assent
Contracts:
Organised market admission contracts
Energy Agency of RS
General enactments:
Code of Rules for Setting Prices for the Use of the Electricity Network and Criteria for Justification of Costs
Code of Rules on the Data that Energy Undertakings Are Obliged to Report
Decisions:
Decisions on licences
Level II network access (decisions on appeals)
Formation of level II network use prices (decisions on appeals)
Other:
assent to the criteria for network access
assent to internal document on division of costs between the activities - PS within the legal entities

2.2 CURRENT STATE OF SEPARATION OF ACTIVITIES

2.2.1 Transformation of the transmission enterprise

Elektro Slovenija d.o.o. (Eles) is responsible for the operation and development of the national transmission system. Eles is wholly state-owned and organised as a limited liability company. The director, who is appointed and dismissed by the Government, manages its work and business. The broader management comprises a secretariat, public relations department, assistant director and advisors to the director, and the administrative services for internal auditing, work safety and quality control. The administration also comprises the financial-accounting and general sectors, which have preserved the existing structure. The business information system has become an independent department.

In accordance with EA article 20, two PSs have been formed: the transmission system operator (TSO) and the electricity transmission PS. These activities are regulated. Eles has set up two new departments: Telecommunications and the ICES Training Centre. These are both market activities. The scope of the services performed by Eles is shown in the following organisational chart:

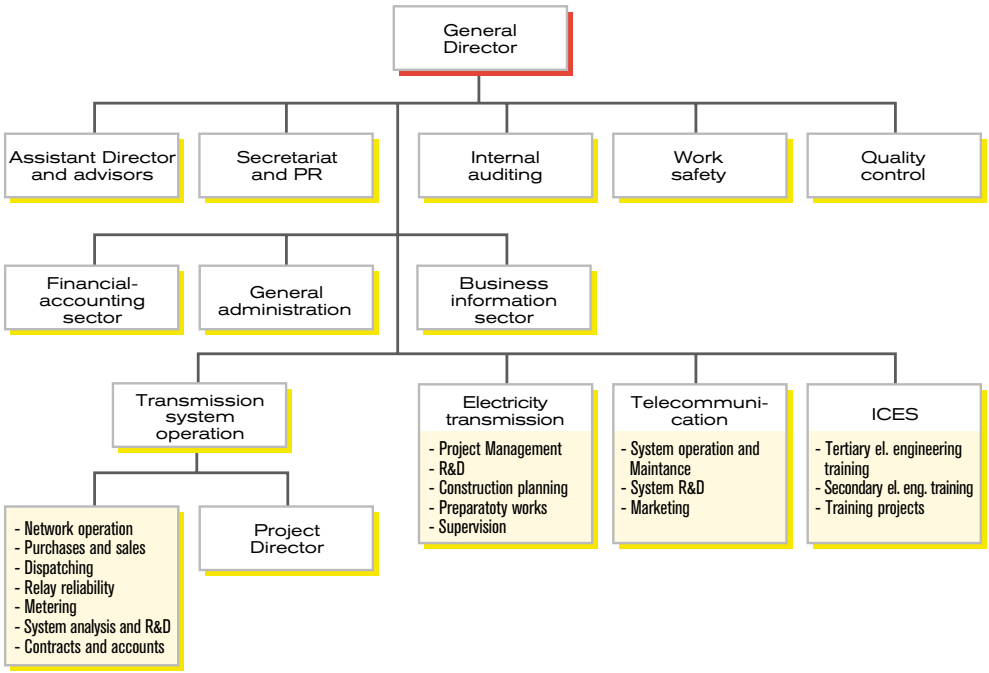


Fig. 6. Eles – organisational chart

As a concern, Eles also encompasses Trgel (100% owned), Borzen (100%), Sinergy (100%), Talum (80%), and Tovarna Dušika Ruše (TDR) Metalurgija (80%). Trgel was set up for electricity trading and will participate on the electricity market. Sinergy was established for telecommunications marketing. In 1998 Eles acquired a majority share in the aluminium mill, Talum and the nitrogen factory, TDR Metalurgija through a debt-for-equity swap. Eles also holds less than controlling stakes in the national iron-works company Slovenske železarne d.d., Informatika d.d. and Eldom d.o.o. The present organisational structure of Eles is shown below (see also Fig. 6):

- **Accounting sub-units:**
- Transmission system operation
- Electricity transmission
- Management and administration
- Telecommunications
- ICES
- **Daughter companies:**
- Trgel d.o.o., Ljubljana
- Sinergy d.o.o., Ljubljana
- Talum d.d., Kidričevo
- TDR Metalurgija d.d., Ruše
- **Companies in which Eles has a minority stake:**
- Informatika d.d., Maribor
- Eldom d.o.o., Maribor
- Slovenske železarne d.d., Ljubljana
- banks, etc.

2.2.2 Transformation of distribution undertakings

Each of the five distribution undertakings (Elektro Celje, Elektro Gorenjska, Elektro Ljubljana, Elektro Maribor, and Elektro Primorska) are organised as share companies. The principal stakeholder in each is the state (approximately 80%) while various Authorised Investment Companies hold the remainder of equity.

Under the EA the distribution companies are required to separate their energy activities, obtain licences for them and modify their organisational structure in compliance with the new regulations. Their activities are separated as follows:

Regulated activities (PS)	• distribution • supply to tariff customers (with less than 41 kW capacity) • distribution network operation
Unregulated activities	• generation • supply to eligible customers (over 41 kW capacity) • trading, representation and mediation on the organised market
Non-energy activities	• construction and refitting • network construction

New organisational structure of the distribution companies

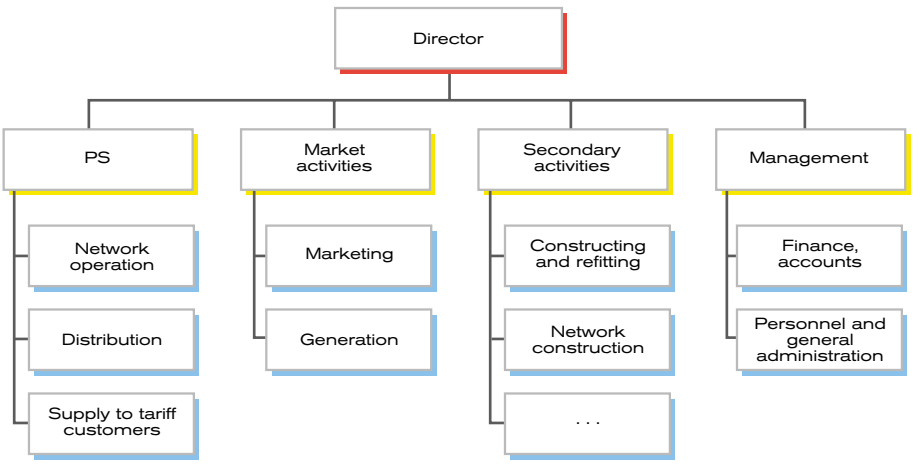


Fig. 7: Distribution company organisational chart

2.2.3 Services performed by transmission and distribution undertakings

The definition of the services performed by transmission and distribution undertakings sets the dividing lines between regulated and unregulated services (see sections 3.2.1 and 3.2.2). It reflects international regulatory practice and is adapted to the functional separation of activities dealt with in the preceding two sections.

The only actual differences concern the allocation of the costs of network losses. It is international practice to allocate the recovery of losses to the transmission and distribution services. In the Slovenian system the transmission operator is deemed liable for them and consequently these costs are classified amongst operating service costs.

2.2.3.1 Transmission undertaking

Transmission services encompass transmission system services and transmission system connection services. Transmission system services include transmitting electricity on the network in a reliable and efficient manner, the development of the system and ensuring efficient maintenance of system assets in conformity with operating and other instructions and the pertinent domestic technical standards. Transmission sys-

tem connection services are those related to ensuring reliable and efficient connections to the network and regular maintenance of network connection assets in conformity with the requirements of operating instructions and the pertinent domestic technical standards.

The costs of the transmission undertaking associated with the provision of transmission services include the costs of the fixed network assets (depreciation and return on assets), the costs of maintaining the transmission system, network development costs and general costs incurred in attaining the required level of service quality.

Operating services are those services provided by the transmission system operator to maintain power balance in the system in conformity with quality criteria which are defined in the operating instructions, restores balance after a disruption, and assure capacity for reactivating the system after breakdown.

The costs borne by the transmission undertaking in providing operating services include operation and management costs, the costs of purchasing electricity to cover transmission losses, and the costs of purchasing system services.

Diverse services refers to services provided by the transmission undertaking which are neither transmission nor operational. These are not regulated. Examples are:

- engineering and consultancy services
- telecommunications,
- equity participation in production undertakings or diversification activities in various other kinds of undertakings.

2.2.3.2 Distribution undertakings

Distribution services encompass distribution network services and distribution connection services. Distribution network services include distributing electricity on a distribution network in a reliable and efficient manner, developing the network, and ensuring efficient maintenance of network assets in conformity with the requirements of operating and other instructions and pertinent domestic technical standards. Distribution network connection services are those associated with ensuring reliable and efficient connections to the network and regular maintenance of network connection assets in conformity with operating instructions and pertinent domestic technical standards.

The costs borne by distribution undertakings in connection with providing distribution services include the costs of the fixed network assets (depreciation and return on assets), the costs of network maintenance, network development, and the general costs incurred to attain the required level of quality of service.

Operating services are the services provided by DNOs to maintain system power balance in conformity with quality criteria set down in the operating instructions, and to restore balance after disruption.

The costs borne by the distribution undertaking in providing operator services include the costs of operating and managing the network, the costs of purchasing electricity to cover distribution losses, and the costs of purchasing system services from the TSO.

Retail supply services encompass the purchase and sale of electricity to final customers. Activities associated with trading are:

- those involved in the purchase of electricity for the final customer
- meter reading, accounting, bill collection from final customers

Diverse services is the general term for the services provided by a distribution undertaking which are neither distribution, nor operating, nor retailing. They are not regulated. Examples of these are:

- engineering or consultancy services
- telecommunications
- own electricity generation or equity participation in other generation undertakings

The foregoing are examples of services in which cross subsidisation between regulated and unregulated activities could easily occur, with the costs of various market services being allocated to regulated activities and the revenues treated as unregulated revenues outside regulatory control. In order to assure non-discriminatory terms of network access and the equality of all players and to preclude transfer of costs and cross subsidies, guidelines have to be carefully crafted to differentiate activities and define the separation of activities, cost allocation, obligations regarding data exchanges, etc.

2.3 MARKET (UNREGULATED) ACTIVITIES

2.3.1 Electricity producers

In the summer of 2001 the Government adopted the Act on Establishment of the Limited Liability Company, Holding Slovenske Elektrarne d.o.o. (Hereon: HSE). Five producers and a coal mine were merged primarily to unify their electricity marketing and improve their competitiveness. The HSE group consists of three enterprises with chains of hydro-electricity plants (hpp): Dravske elektrarne Maribor d.o.o. Savska elektrarne Ljubljana d.o.o., and Soške elektrarne Nova Gorica d.o.o., as well as the gas-fired Termoelektrarna Brestanica d.o.o. (tpp), the coal-fired Termoelektrarna Šoštanj d.o.o. (tpp). and the coal mine Premogovnik Velenje d.d.

Following this merger, producers on the electricity market include HSE and three independent enterprises: Nuklearna elektrarna Krško (npp), the combined district heating station Termoelektrarna-toplarna Ljubljana (chp), and the coal-fired Termoelektrarna Trbovlje (tpp).

Fig.8 Production enterprises

2.3.2 Integration of the national system in the EU transmission network

Compared with others around the world the European electricity market is one of the most developed and encompasses large internal markets in which the rules are already well formed. The complete integration of these markets is really only a question of time. Technical co-operation between the states was largely shaped by the Union for the Co-ordination of Transmission of Electricity (UCTE). In recent years, as the UCTE has annually analysed the growth of electricity interchanges, the European Transmission System Operators (ETSO) group has emerged in the EU. Slovenia has joined ETSO, as a member of the UCTE and as an EU candidate. Full membership and thus the right to engage in cross-border trading may be expected in the course of 2002. This will allow the players on the Slovenian market equal terms with others engaged in cross-border trading.

Fig.9: Slovenian electricity system - transmission lines, substations (RTP) and generating plants

2.4. THE MARKET OPERATOR AND ITS ROLE

2.4.1 The electricity market operator

Establishment of a market operator is one of the EA requirements as well as a fundamental condition for opening the electricity market. The organised market is the centre-point where supply and demand intersect.

The Rules of the Electricity Market[7] precisely lays down the functioning of the market, the rights and duties of the market operator and its members.

Market organising PS is provided by Borzen d.o.o. which was founded on 28 March 2001 as a daughter company of Eles. Borzen has a highly qualified staff with many years' experience in the energy, financial, technical and management fields as well as in planning and electricity system analysis. Eles ran a separate account from 1 January to 30 September 2001 for transactions related to Borzen's planned separation out as an independent undertaking. Borzen was registered as an independent legal entity on 1 October 2001 and consequently only worked independently for three months in that year.

Borzen is equipped with the latest communication, computer and technical equipment for smooth functioning of the organised market. This equipment may be divided into four main units: the trading system, the bilateral contract registration and scheduling system, and the financial settlement and business information system.

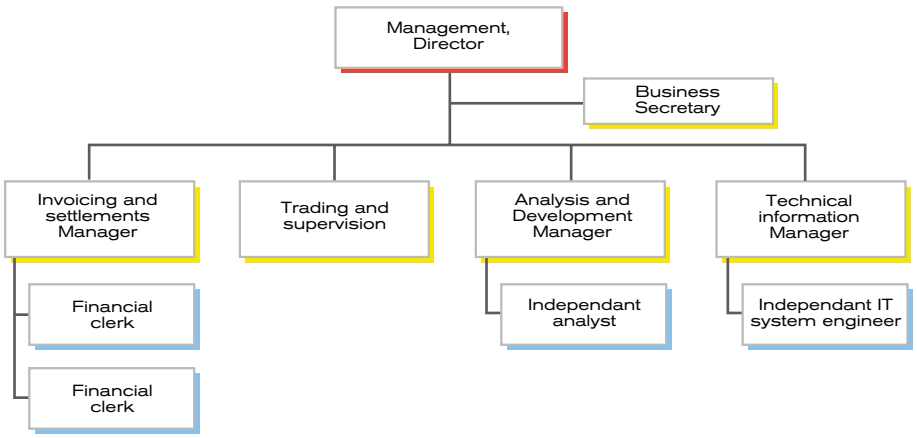


Fig. 8: Market operator - organisational chart of Borzen

2.4.1.1 Role and tasks of market operator

The market operator's principal tasks are:

- to provide an interface for purchase and sale offers – an exchange (daily, hourly markets),
- to account and settle contracts concluded on the market – clearing house function
- the registration of bilateral contracts,
- preparation of schedules,
- publication of market price trends,
- training market members.

Like any other organised market, in order to function effectively the organised electricity market has to satisfy the fundamental principles of exchange trading:

- Transparency (plain, clear and public operations for all participants; publication of market trends);
- Liquidity (mitigation of extraordinary shifts in the volume of supply and demand without exaggerated price swings; no participant should have excessive impact on market price formation);
- Security (EA, Rules for the Functioning of the Electricity Market, members' financial guarantees diminish financial risks);
- Fairness (non-discrimination is legally prescribed)
- Effectiveness (adaptable trading-information system).

The market operator assures market transparency by publishing the prices and volumes contracted on the market on particular term contracts and by publishing separate indexes. This allows the participants to prepare trading strategies and to form their offers.

[7] Official Gazette of the Republic of Slovenia, No. 30/01

2.4.1.2 Trading on the organised market

The electronic trading system installed is the foundation for daily trading. This means that electricity that will be produced and used tomorrow is already traded today. Trading may be done through spot trading or by open-bid auction. The standard products are traded. These are base load, trapezoidal, night power and hourly trades.

Trading on an organised market brings the following benefits:

- protection against financial risk,
- scope for optimal planning of electricity production and use,
- the direct interface between supply and demand enables high liquidity,
- bilateral contracting gives greater security,
- standardised exchange products allow orderly trading that can be supervised in conformity with the rules,
- publication of trades and exchange indexes allows analysis and price trend forecasts,
- scope for reducing operational costs.

2.4.1.3 Accounting and settlement

The system of accounting and settlement permits financial allocation, accounting and financial settlement of all deals contracted on the organised market (daily market). Participants obtain the accounts for the deals made each trading day, and at the same time statements of the net liabilities (purchaser) and receivables (seller).

2.4.1.4 Membership in the market

Participants must be licensed for trading on the market by the Energy Agency and have completed an admission contract with the market operator. On the last day of 2001 there were 11 registered members of the market. Each member is classified in one of the following categories on the basis of the admission contract:

- **Buyer/seller:** buys and sells in own name and on own account and is entitled only to conclude deals which on one side involve an own point of change of title,
- **Trader:** buys and sells in own name and on own account and may additionally act as a market agent or intermediary,
- **Market agent:** buys and sells in own name on another's account and may also act as a market intermediary. An agent may only conclude deals which on one side involve an own point of change of title,
- **Market intermediary:** intermediates in bilateral deals; does not participate in the daily market or in the balancing system.

At the present time only legal persons from within the borders of Slovenia may be members of the market, foreign traders will be able to join it once the market is opened up internationally and once Slovenia joins the EU.

2.5 ENERGY MARKET AND THE ROLE OF THE REGULATOR

2.5.1 Duties and responsibilities of the Energy Agency

In accordance with the EA the Energy Agency was established as an independent organisation discharging legally prescribed duties and activities associated with the regulation of the electricity and gas markets in the course of these duties. The Decision on the Foundation of the Energy Agency was promulgated in June 2000, and in September that year the Government gave its assent to its Statutes. In order to ensure the transparent and unprejudiced functioning of the market, in the interests of all participants, it carries out the following prescribed duties:

- By a general act it sets the charges for use of the electricity network. It determines efficient costs and other price components for network use on the basis of data and the criteria for evaluating efficient costs.
- Settles disputes arising from:
  - refusal of access to the electricity or gas networks,
  - charges for use of the electricity or gas networks.
- Grants licences for energy activities in conformity with the provisions of the EA and by-laws,
- Co-operates with competent authorities and inspection services,
- Publishes annual reports and public information,
- Performs other duties associated with the supervision of the electricity and gas markets.

The Energy Agency engages in bilateral relations and participates in international organisations concerned with the supervision of the electricity and gas markets.

It supervises the functioning of the electricity market on the basis of the Ordinance on the Provision of Distribution PS and Transmission PS, by collecting and registering contracts on network access and temporary access to the network, or parts of contracts concerning volumes, terms and other parameters pertinent to the manner and characteristic supply curves, or network load.

The Energy Agency also carries out other activities insofar as they are related to the discharge of its legal duties in the regulation of activities. It also identifies irregularities in the operation of the electricity and gas markets, which constrain the development of competition or impair it, and other abuses of monopoly positions.

2.5.2 The objective of economic regulation and the Energy Agency's role

2.5.2.1 Economic regulation

The objective of regulation is consumer protection provided, however, that the regulated undertaking remains economically viable and has an incentive to operate efficiently. The Energy Agency is thus placed between the customer on the one side, who seeks low prices and quality services, and the regulated undertaking, which seeks higher prices and above all a suitable return. For example, for the domestic economy as a customer, electricity and the network use prices constitute a major part of product costs so that in setting the network use charge it has to consider what the economy can bear. In its work the Energy Agency applies competitive market terms to best motivate the undertaking to earn profits, invest in new technology and reduce costs and prices.

The energy activities designated as PSs are related to the infrastructure, which is not the subject of competition and constitutes a natural monopoly that only allows the market to function if it is accessible to all without discrimination. Because of the obligation to meet public needs, which cannot otherwise be met on the market, these activities have to be regulated. In supervising natural monopolies an effective balance has to be sought between preventing unjustified profits and promoting greater efficiency. Through its control of prices and the profitability of investments and by monitoring strategic planning decisions the Energy Agency aims to establish a stable, predictable and transparent economic environment.

The introduction of economic regulation is essential because of the need to monitor and supervise activities in parts of the market where it cannot be presumed that the customers' or other interests will assure full and fair competition. Since competition is not possible with natural monopolies, economic supervision with regulation is necessary to prevent the abuse of the market strength of the obligatory PS.

In a market economy it is competition and profit that drives the undertaking to greater and greater innovation and cost reduction because competition forces it to offer quality services at the lowest possible price. Competition is effective where an undertaking cannot raise its price above competitors' without risking loss of market share, and where profits can only be increased by reducing costs.

Economic regulation then entails continual monitoring of regulated activities and supervision to check that the undertaking is not exceeding the highest permitted levels of particular parameters.

2.5.2.2 Stable and predictable regulatory framework

Economic regulation has to permit a reasonable rate of return on capital and consequently strategic management decisions such as investments in regulated activities are evaluated the same way as in industry where competition prevails. This means that the Energy Agency takes care that excessive profits are not permitted and that return on assets in regulated activities will enable the adequate performance of the activities including the financing of investments, and that quality of services shall be assured.

In setting network use charges the Energy Agency strives for the following goals in particular:

- protection of the interests of electricity customers with regard to the conditions of supply, reliability and long term quality of retailing services,
- assurance of the financial stability of regulated activities,
- quality and accessible services at an acceptable price,
- promotion of efficiency and economy,
- promoting research and development and the application of new technology.

The establishment of a credible and temporally consistent regime of electricity market regulation is an important factor in attracting investment capital to the sector. Investors want guarantees that regulatory guidelines and practices will not change continuously.

The regulatory regime has to be set up in such a way that it does not exclude certain sources of finance and investment. This aspect has to be considered in the broader context of a potential investor's prospects. At least three aspects of the sector would most probably be considered in a preliminary evaluation of the situation in the country:

- the stability of general economic development and the credibility of economic and stabilisation policy,
- the credibility and consistency over time of regulation in the electricity sector,
- guarantees for financing conditions expressed as return on investment (the necessary, risk-adjusted rate of return).

Analysis of these three aspects is closely interconnected. An investor will only be interested if a project meets his financial requirements. This can only be assessed by reference to earnings in other sectors, in the industry in other countries, or with reference to international capital markets.

2.5.2.3 Price caps

The Energy Agency aims to establish economically efficient prices, which will promote the efficiency of both activity provider and the user, by means of the price cap method of economic regulation. These should allow the regulated provider adequate revenues to cover the economic costs of operations, depreciation costs, and return on assets.

The price cap method limits the level of average revenues or certain prices. Average revenues increase with inflation and decrease with the productivity growth rate fixed each year for each undertaking separately. The Energy Agency sets the maximum prices a regulated provider may charge for services. The price cap method is conceptually grounded in mimicking a competitive market in which a provider cannot raise his prices without risk of losing market share, which would make the higher prices unprofitable.

Because the method attempts to mimic the functioning of a competitive market, it has to take market risks into consideration. Given regulated operation with a guaranteed return, these risks will essentially be lower than in a competitive market. Regulated activities actually have low market risks compared with market activities. The volumes of electricity transmitted and distributed are rather precisely predictable and most costs can be relatively precisely assessed for some years in advance. Furthermore, the undertakings have guarantees that their justified revenues have been considered to cover the costs of comparable, efficient enterprises. Additionally, network undertakings do not have such obsolete infrastructure installations in need of radical revitalisation, nor the fear that new providers might appear and win away customers.

2.6 BUSINESS RESULTS IN THE ELECTRICITY AND COAL MINING SECTORS IN 2001

2.6.1 Physical volumes of business

2.6.1.1 Electricity sector

2.6.1.1.1 Output by sources

In 2001 total electricity output by all sources amounted to 13,941 GWh or 6.5% higher than the year before, and 6.3% higher than the amount planned in the Electricity Quantitative Balance (EQB) for 2001. Of the total, 94.6% of output was produced domestically and the remainder was either imported or borrowed. Hydroelectricity output overstepped the plan by 4.3% even though it was 1.8% lower than the year before. Thermal electricity output was 6.7% higher than planned and 7.8% higher than output the year before. The Krško npp did not attain its planned volume of output owing to an extended annual outage. Its output was nevertheless 10.8% higher than the year before. Electricity imports were 4.5 times higher than the plan and also 19.6% higher than the year before.

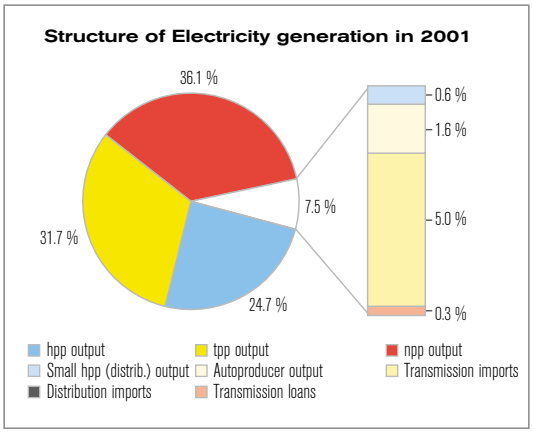


Fig. 9: Structure of electricity generation in 2001

2.6.1.1.2 Consumption

Net electricity consumption in 2001 amounted to 13,201 GWh and was 7.6% higher than planned and 7.4% higher than the year before. Of the total consumption, 19.8% was used by direct customers located in Kidričevo, Ruše, Jesenice, Štore and Ravne which take deliveries from the transmission network, 80.2% was used by distribution customers. Direct customer use did not reach the planned level, however it was 1.9% higher than the year before. Distribution customers took 3.6% more than planned and 4.3% higher than the year before.

Imports amounted to 2,460 GWh and were 31.8% higher than planned and 25.5% more than the year before. The following tables and graphs give detailed data on:

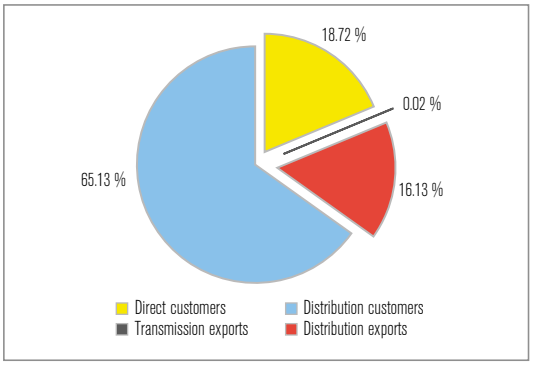
- sources and consumption of electricity in 2001 (GWh)

	2000 actual	EEB 2001	2001 actual	actual/plan 2001	actual 2001/2000
SOURCES					
hpp	3,513	3,306	3,449	104.3	98.2
tpp	4,092	4,135	4,413	106.7	107.8
npp	4,540	5,170	5,030	97.3	110.8
small hpp (distributors)	74	64	77	120.4	105.0
Autoproducer	199	287	224	77.9	112.6
Summary Generation in RS	**12,417**	**12,963**	**13,192**	**101.8**	**106.2**
Transmission imports	587	156	702	449.8	119.6
Distribution imports	0	0	0		
Transmission loans	87	0	47		53.5
Total	**13,091**	**13,119**	**13,941**	**106.3**	**106.5**
CONSUMPTION					
Direct customers	2,097	2,138	2,119	99.1	101.9
Distribution customers	8,204	8,261	8,559	103.6	104.3
Total domestic sales	**10,283**	**10,399**	**10,679**	**102.7**	**103.8**
Transmission exports	1,959	1,866	2,460	131.8	125.5
Distribution exports	2	0	2		107.2
Total sales	**12,245**	**12,265**	**13,141**	**107.1**	**107.3**
Transmission loans	48	0	60		124.7
Total net consumption	**12,293**	**12,265**	**13,201**	**107.6**	**107.4**
Transmission losses	289	257	327	127.3	113.2
Distribution losses	508	597	412	69.1	81.1
Total gross sales	**13,091**	**13,119**	**13,941**	**106.3**	**106.5**

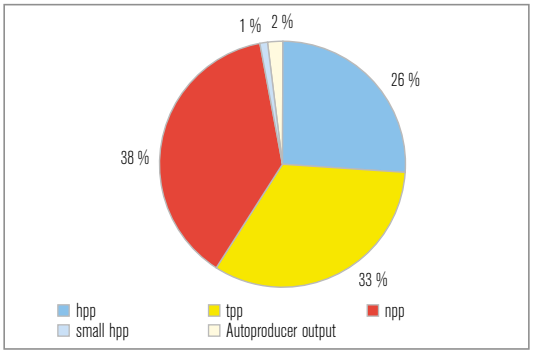
- electricity generation by station (GWh)

	EQB	Actual	% of plan.
Dravske hpp	2,594	2,697	104
Savske hpp	320	354	111
Soške hpp	392	395	101
Brestanica tpp	79	101	128
Šoštanj tpp	3,100	3,336	108
TET	563	576	102
Ljubljana chp	393	400	102
NEK	5,170	5,030	97
Krško npp	12,611	12,889	102
Total HSE	6,485	6,883	106

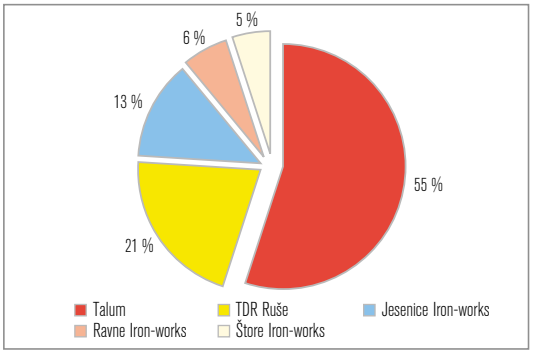
- structure of consumption:



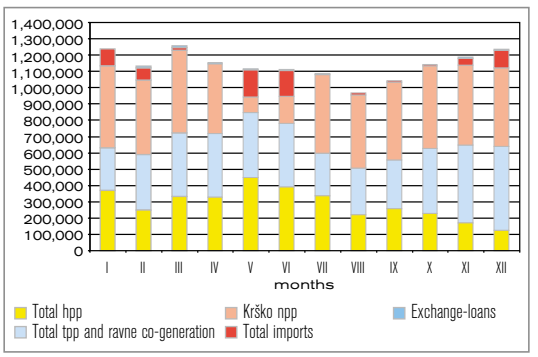
- electricity generation by type (GWh):



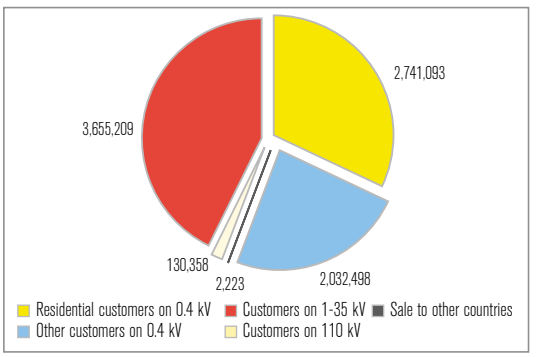
- Structure of retail consumption /by direct customers by location:



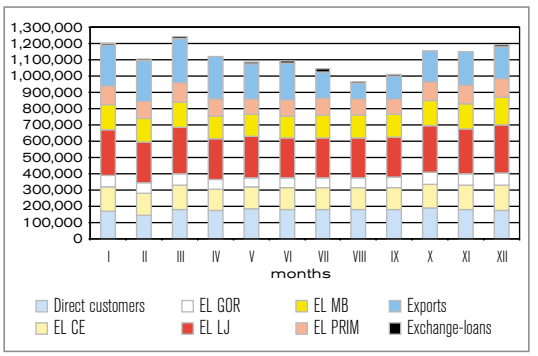
- electricity deliveries to the transmission network (MWh):



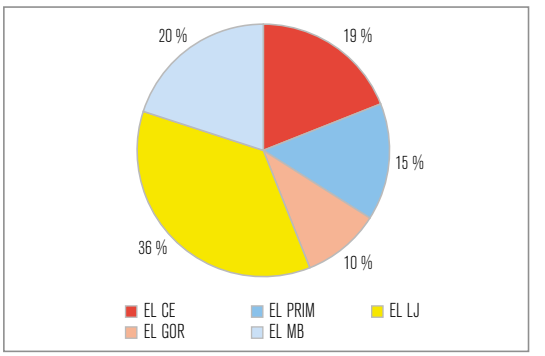
- Structure of consumption by distribution customers (MWh):



- transmission network deliveries to customers (MWh):



- shares of distribution enterprises in total electricity retailing:



2.6.1.2 Coal mining

Coal output at the Velenje coal mine in 2001 amounted to 3,488,145 mt or in calories, 36,740,278 GJ. This was 96.3% of the tonnage planned and 92.1% in GJ. Sales were 3.9% higher than the tonnage planned and 8.3% in terms of GJ. The main customer was the Šoštanj tpp which accounted for 95.4% of total sales of electricity grade coal, 3.5% of the heating grade coal, and 0.9% of the commercial grade coal.

The Trbovlje-Hrastnik coal mine achieved its planned volume of output, namely 684,972 mt, or 7,586,170 GJ.

2.6.2 Financial results of business

Revenues from the sale of 13,141 GWh electricity and network use charges in 2001 reached Sit 160,562.1 million, and revenues from transit to Sit 1,697.4 million. Total revenues thus amounted to Sit 162,259.5 million which is 16.9% higher than the year before and 14.1% higher than the revenues forecast in the Indicative Plan for the national electricity system in 2001 because transit revenues had not been planned. Compared with the year before, the volume of sales was 7.4% higher.

However, a direct comparison of revenues in 2001 and 2002 cannot properly be made because of a shift from 19% to 20% VAT. The revenues for 2001 include sales to tariff customers and the instalment paid in January 2002 relates to the month of December 2000. In value terms this amounts to SIT 3,596.6 million. Consequently the adjusted 2001 revenues, which may be compared to the previous year, amount to Sit 158,662.9 million, which is 14.3% higher than in 2000 and 11.6% higher than the revenues forecast in the Indicative Plan.

The average sale price (price of electricity and use-of-network charge) achieved is Sit 13.40.kWh and is 6.3% higher than the average the year before. Since the costs of living rose 8.5% in 2001 over 2000 this means a decline in real average sale price of 2.19%.

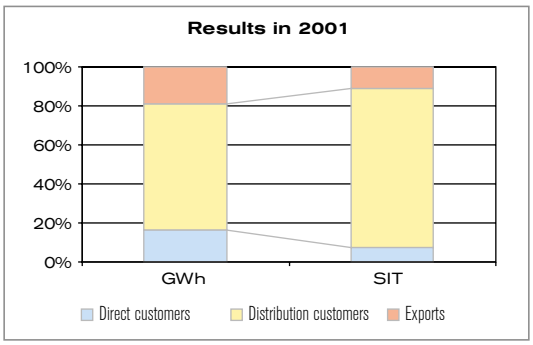
The Government is responsible for setting the tariffs for tariff customers and on 29 October 2001 it issued the Ordinance on Setting the Highest Tariffs for the Sale of Electricity to Tariff Customers (Uradni list RS, No. 85/01) which went into force on 1 November 2001 and raised tariffs 5%. Both electricity price and network use charge is included in the tariff charges.

Direct customers took 1.9% more electricity than the year before and the invoiced value of these sales (electricity + network use charge) was 5.3% higher.

Exports through Eles amounted to 2,460 GWh or 25.5% more than the year before in volume and 91.7% more in value terms.

The average export price achieved amounted to Sit 7.1/kW and was 52.7% higher than the year before.

The following graph compares quantity and value data for 2001.



Of total revenues from electricity and network use, which amounted to Sit 162,259.5 million, producers earned 66.2% or Sit 107,492.8 million, distributors 19.5% or Sit 31.624.7 million, and the transmission undertaking 8.8% or Sit 14,263.1 million. Purchases of electricity from abroad and from autoproducers amounted to 4.7% of the revenues earned, or Sit 7,661.9 million, while the remainder is made up of the costs of leasing capacity, co-generation, system studies, EGS (Company for development and Engineering), Borzen and the Energy Agency.

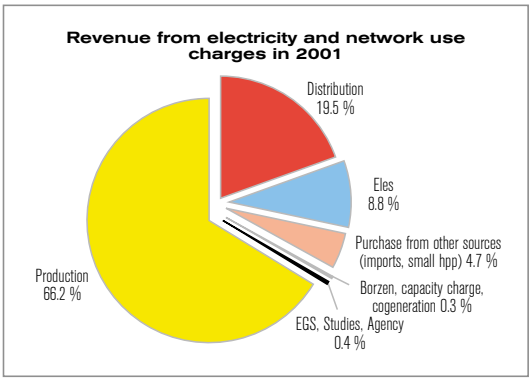


Fig. 10: Revenues from electricity and use-of-network charges in 2001

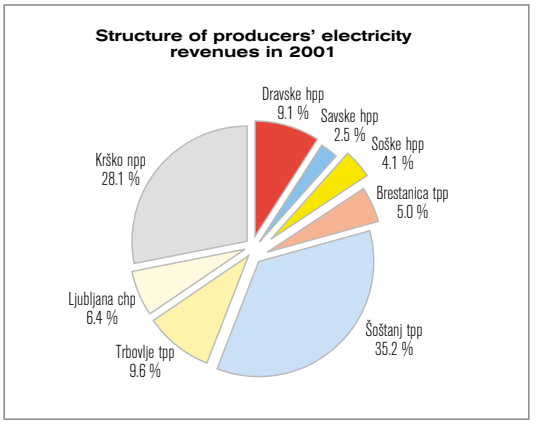


Fig. 11: Structure of producers' electricity revenues in 2001

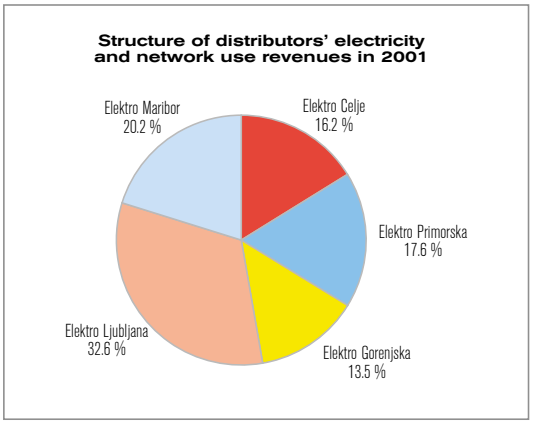


Fig. 12: Structure of distributors' electricity and network use revenues in 2001

2.6.3 Business results

Electricity undertakings concluded 2001 with losses amounting to Sit 344,263 million. Of these losses Sit 331,111 million is attributed to the evaluation of property, machinery and equipment as of 31 December 2001. Losses in this current year amount to Sit 11,264 million.

The Velenje and Trbovlje coal mines concluded the business year with losses amounting to Sit 48,899 million. The evaluation of property, machinery and equipment accounts for Sit 41,183 million of these losses. The mines' losses in this current year amount to Sit 7,716 million.

HSE concluded the 2001 business year with losses amounting to Sit 30,383.7 million. It was founded on 30 September 2001 and worked mainly on establishing its technical and legal groundwork and taking part in preparing electricity sales contracts for 2002. Its losses are due to the losses of affiliated companies and their asset re-evaluation.

Pursuant to the Government's decision of 14 May 2001, the Chamber of Economy of Slovenia commissioned an evaluation of the property, machinery and equipment of electricity and coal mining undertakings in their name and on their behalf. The evaluation was conducted by P&S poslovne analize in svetovanje d.o.o., Ljubljana. It resulted in a 38.6% reduction in the value of real estate in the electricity system, and a 61.1% reduction for the coal mines, compared to the year before. The value of equipment and other material fixed assets was decreased by 14.4% in the electricity and 34.3% in the coal mining undertakings.

The equity structure of electricity and coal mining undertakings at the end of 2001 is shown in the following table.

	HSE	TET	TE-TOL	NEK	EL CE	El PRIM	EL GOR	EL LJ	EL MB	RTH
State of RS	100.00	87.00	64.57	100.00	83.05	83.80	84.69	86.49	79.71	100.00
Invalid and pension insurance fund		0.65								
NFD 2 - investment fund		12.35								
Ljubljana City Municipality			35.43							
Authorised investment groups					13.91	14.36	12.53		16.67	
State investment fund					1.22	0.75	0.54		1.71	
State investment fund, PBS							0.51	1.38		
Slovenian indemnity fund					0.65	0.59	0.43		0.94	
Management and employees						0.50	0.41		0.89	
Other shareholders					0.34		0.89	12.13	0.08	
Banka Celje					0.83					
Total %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

% stake of HSE in dependent companies

Dravske hpp	79.39
Savske hpp	79.50
Soške hpp	79.50
Brestanica tpp	79.50
Šoštanj tpp	79.50
Velenje Coal Mine	75.94

Ownership structure of dependent companies on the day of HSE's foundation

HSE	78.99
Authorised investment groups	13.90
Republic of Slovenia	6.65
Other shareholders	0.45
Total %	100.00

3 THE NATURAL GAS MARKET IN 2001

3.1 THE GAS SECTOR IN 2001

The transitional periods laid down by the Energy Act are longer for the introduction of the gas market than for the electricity market. In 2001 the sector continued to function under unaltered conditions even though preparations were under way for the opening of the market, which will commence in 2003. At that time customers taking more than 25 million cu.m annually per connection and gas-fired electricity producers shall be eligible customers with the right to free choice of supplier. By the year 2008 the yearly consumption per connection benchmark will drop to 5 million cu.m annually.

Slovenia does not have its own natural gas deposits and consequently gas is imported by the domestic importer and transporter, Geoplin d.o.o. from Russia, Algeria and Austria and transported to customers along pipelines of various diameter and at various pressures.

3.1.1 Transportation enterprise

At present Geoplin owns and operates a 946-km long gas network. The trunk pipeline includes the following pipelines: from Ceršak to Rogatec, from Rogatec via Podlog to Vodice and from Roden to Novo mesto – all with a rated pressure of 50 bars – and the pipeline from Šempeter by Nova Gorica to Vodice with a rated pressure of 67 bars (Fig. 13). Through its connections to the pipelines of neighbouring countries the national network is an integral part of the European network.

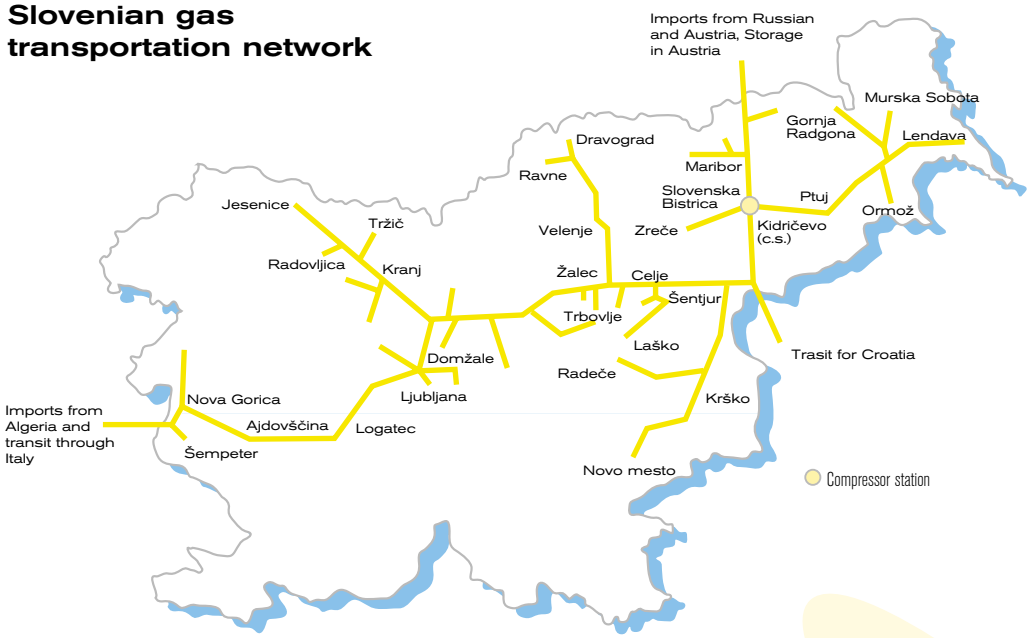


Fig. 13: The gas transportation network

In 2001 Geoplin sold 1,037 million Scu.m gas. Using the International Gas Union's classification, the structure of sales were as follows:

	in million standard cu.m.
General customers	188
District heating	72
Electricity generation	60
Industry	571
Non-fuel use	146
TOTAL	1,037

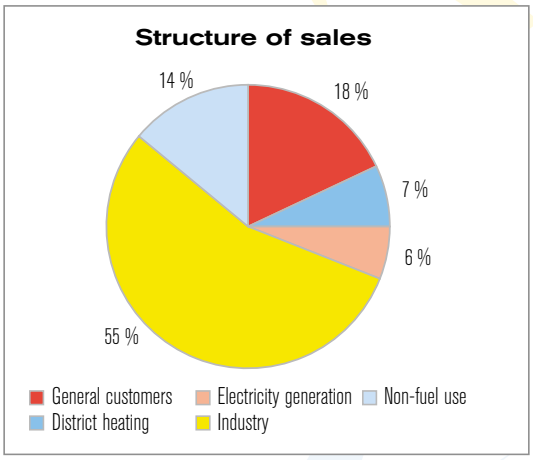


Fig.14: Structure of gas use countrywide

The Government set the average sale price of gas, before all taxes and levies, specifically for the first half of January with the Ordinance on Forming the Average Sale Price of Natural Gas from the Transportation Network[8], and thereafter, from 16 January onwards, with a further Ordinance on Forming the Average Sale Price of Natural Gas from the Transportation Network[9]. From 1 February 2001 to 31 October 2001 Geoplin allowed a 3-5.7% discount (varyingly over time). The resulting average discounted sale prices before taxes and after taxes are shown in Fig 15.

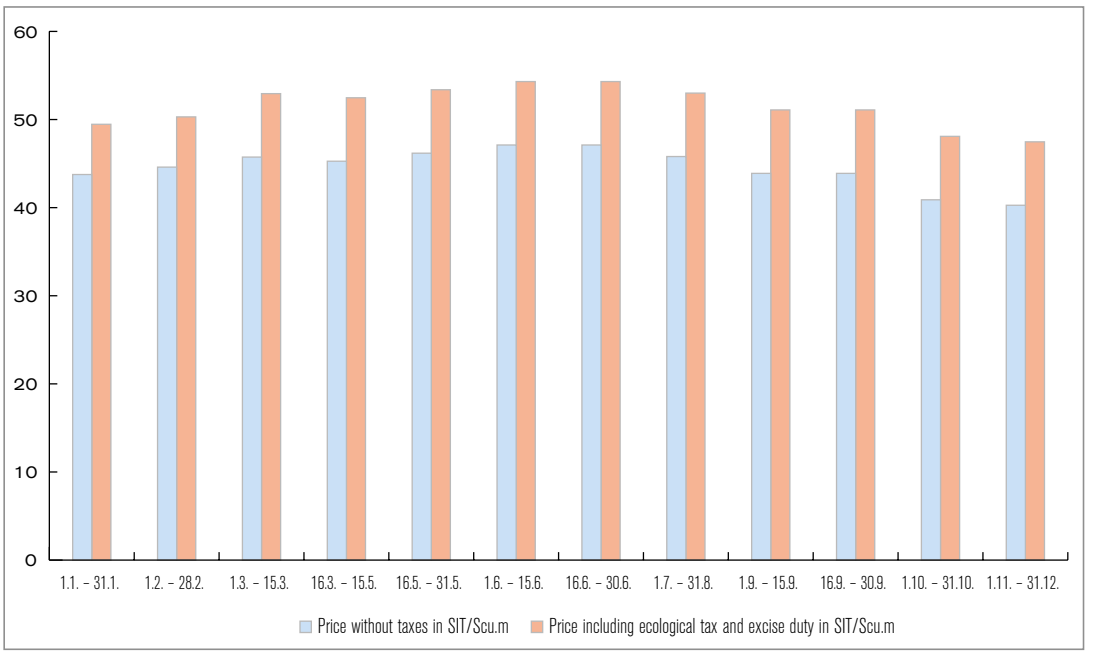


Fig. 15: Gas sales price trends in 2001

3.1.2. Distribution undertakings

Thirty undertakings were granted licences for gas distribution and retailing in 2001. Their business is very dependent on the local government because gas distribution is an elective local PS.

There are 39 local distribution networks in the country and 11 distribution enterprises supplying approximately 96,000 customers, most of them residential. The largest enterprise is Energetika Ljubljana, which serves about 49,000 customers. The other licensed enterprises supply industrial customers, mostly in closed complexes, or for now are neither distributing nor retailing.

Altogether 43 municipalities were connected to the gas network in 2001. Residential customers currently represent about 16% of total gas use in the country.

[8] Official Gazette of the Republic of Slovenia, No. 97/2000

[9] Official Gazette of the Republic of Slovenia, No. 2/2001

3.2. PREPARATIONS TO OPEN THE GAS MARKET

Liberalisation is expected to bring much smaller changes to the gas market than some other markets, such as the electricity market. The main reason for this is that the EU has only three major natural gas suppliers (Russia, Algeria and Norway).

Preparations are under way for the opening of the gas market, which the EA schedules for the beginning of 2003. Undertakings providing PSs in the sector have to be ready to operate under the new conditions by that date.

Gas transportation and operation of the transportation network is carried out by Geoplin d.o.o. In addition, Geoplin is also a supplier, primarily serving industrial customers and electricity producers. Distribution and distribution network operation PSs are provided by distribution undertakings as an elective municipal PS primarily to residential customers. The transportation enterprise and several distribution enterprises obtained licences for energy activities in 2001.

Geoplin is actively preparing for market liberalisation in conformity with the EA and other regulations. In this context it is preparing the required separation of accounts and consequently constructing a new cost monitoring system that will facilitate this separation. Parallel with this it is preparing and analysing guidelines to separate all other accounting categories relevant to the accounts.

Besides this, as the provider of the gas transmission and gas network operation PSs, it is also involved in preparing the necessary documents, namely the system operating instructions, indicative prices and other commercial terms for network use, and the tariff system for gas on the transportation network. The process and business information system is also being adapted to the new conditions and metering, as well as telecommunication and control elements of the network.

Most activities were launched in the summer of 2001 and have continued intensively into 2002. Despite their complexity and interdependency the essential documents will be ready by the end of 2002. Adapting technically to the new conditions is a many-year project because of the extensiveness of the technical and technological refitting involved (installation and integration of metering, telecommunication and process assemblies). The first phase of this will be completed by 1 January 2003.

In the past gas price was treated as a whole and it was not evident what portions gas as a commodity or network use represented. Separating retailing and trading from transportation, transportation network operation, distribution, and the distribution network operation PSs is a very demanding accounting task. Preparations for this began in 2001 and are proceeding with the aim of achieving transparent operation of undertakings on the market. Unlike electricity, the distribution of gas is an elective local PS under the EA and there is no legal requirement for uniform prices for the use of distribution networks.

The opening the gas market is proceeding according to EA provisions. In the EU a proposal has already been drafted with new uniform directives on the rules for the operation of the electricity and gas markets in the EU which envisage regulated access to the network (rTPA) in the gas sector as well.

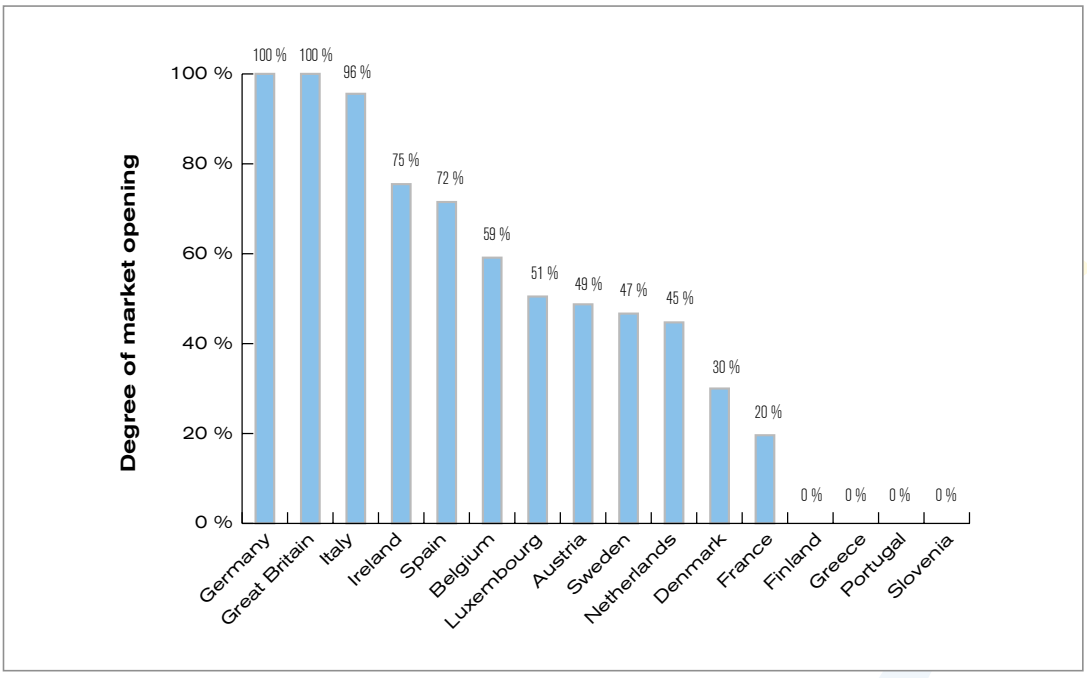


Fig. 16: Comparison of degree of opening of the gas market in the EU and Slovenia

4. WORK OF THE ENERGY AGENCY

4.1 THE ENERGY AGENCY'S MISSION, VISION, PHILOSOPHY AND POSITION

The Energy Agency is an independent organisation concerned with the implementation of the goals of national energy policy.

It is the vision of the Energy Agency to take part in determining energy policy goals and a strategy and regulatory framework that are based on incentives to energy undertakings as well as respect for consumer interests, and that at the same time facilitate the achievement of the goals set by the state.

By working efficiently and effectively, the Energy Agency acts as the co-ordinator of the energy sector. It represents the common interest and in that interest respects and reconciles the goals of the state, the energy undertaking, and the customer.

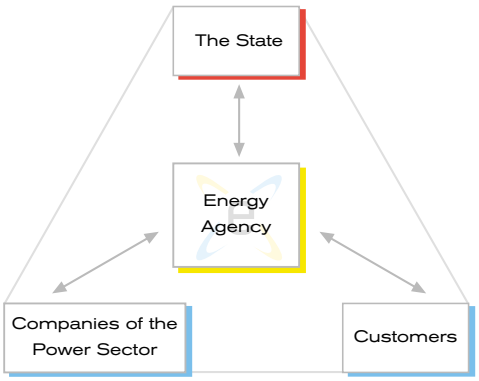


Fig. 20: The Energy Agency as the co-ordinator of the sector

The Energy Agency's guidelines in carrying out its tasks are expertise, consistent observance of the legal norms and respect for the equality of all energy market participants. It also constantly pays attention to protection of the environment and therefore supports endeavours in the direction of the sustainable use of energy sources. It watches over the transparency and openness of its work.

The process of deregulation and liberalisation has transformed the energy sector and brought the country to the top of a new developmental path. The state sets the goals of energy policy and takes appropriate decisions, at the same time it yields up its role of guiding the energy sector, as the owner of energy undertakings. The minimal necessary regulation, due to the partly (natural) monopolistic nature of the sector, the electricity and gas networks in particular, is performed by an independent regulatory institution to promote the realisation of energy goals with a suitable regulatory strategy. The Energy Agency may propose energy goals, but they have to be adopted by the state. The goals and interests of energy undertakings, and those of customers, who have a more active role under market conditions, may also change. This would alter the interrelations of the three principal groups of participants in the energy sector. The Energy Agency stands at the intersection of divergent goals and interests (Fig.20).

4.2 ELECTRICITY NETWORK USE CHARGE

4.2.1 The price formation method to date

In its section on prices, the Code of Rules on Setting of the Prices for the Use of the Electricity Networks and Criteria for Justification of Costs ('the Code') set the prices for 2001. These prices affect the operations of the PS regulated undertakings that are financed from the use-of-network charges (electricity distribution, operation of the distribution network, electricity transmission and operation of the transmission system) as well as the operations of eligible customers and other market participants.

Due to the introduction of market conditions, the year 2001 actually marked a special situation. In April the previously unified electricity price was divided into two: the electricity part and the use-of-network part. In setting the network use prices for 2001 (the portions for the transmission and distribution network charges) to meet the revenue needs of the PS regulated undertakings, and at the same time ensuring an integrated transition to the new way of financing regulated activities, the Energy Agency referred to the annual Indicative Plan of operation of the electricity system and its evaluations of the necessary costs of regulated activities and of transmission and distribution electricity losses.

The necessary costs of regulated activities were estimated on the following bases:

- costs of materials and services, which includes the costs of materials and services for current and capital maintenance, other material costs, the costs of services, insur-

ance premiums and other costs of labour together with holiday allowances, were considered at the planned nominal value in 2000 with the exception of holiday allowances;

- gross wages: calculated from the gross payments in the year before, together with a calculated reduction of 5% in the number of employed and a 2.9% increase in the sum of gross salaries, as well as the official 4.5% revaluation of the basic gross wage as at 1 January 2001,
- contributions and taxes on gross wages were calculated on the basis of average actual percentages in the period Jan-Sep/00,
- levies for land rent, water levies and similar costs were based on the undertaking's estimates;
- financial expenditures, which consist of interest on capital loans, take obligations in 2001 into account. Conversion of foreign currency obligations was done at the official rates as of 31 December 2000;
- depreciation was estimated by the undertakings in conformity with Slovenian accounting standards. With regard to necessary costs and payments, obligations related to the principal of long term investment loans in 2001 and the volume of investments were taken into consideration. Investments were included in the estimate of necessary outlays according to the guidelines such that continuation of investments already commenced, ecological rehabilitation and stipulations by inspectorates were firstly included, and secondly investments in reliable operation, appropriate quality of electricity delivered and part of investment documentation costs. Thus a level of 38% of financial cover of depreciation, calculated according to national accounting standards, was taken as a necessary outlay for regulated undertakings.

Since network use charges are set on the principle of a nationally uniform post-stamp and do not consider network density and distribution of customers, revenues from the network charge necessarily vary from one distributor to another. These revenues also differ from those estimated in the 2001 Indicative Plan to cover the necessary expenditures. Consequently the various revenues have to be balanced out amongst the distributors. This is done with correction factors for the transmission system charge, which are defined in the contract between the distributor and the transmission undertaking. The correction factors balance out the differences between revenues from the distribution network charge and differentiate between the prices for transmission services for different distributors. The corrected transmission prices are calculated by multiplying the uniform transmission system charge with the correction factor for the distributor.

The Energy Agency facilitated a coherent and painless transition to the new market conditions by taking the Indicative Plan into account and applying correction factors for PS regulated services.

4.2.2 Method of setting network use charges

In approaching the determination of the network use charges, the Energy Agency aimed to have the input values and the price calculation system defined by the beginning of 2001 to allow consistent regulation in the subsequent regulatory period.

Price regulation is oriented towards encouraging efficiency in the technical and economic senses. An incentive-based principle was employed, which requires instruments to evaluate justified costs.

The purpose of regulation is consumer protection but it should ensure at the same time that the undertakings regulated are economically viable and have an incentive to operate efficiently. The Energy Agency is consequently placed between the consumers, who want low prices and quality services on the one side, and the regulated undertakings, which want a higher price and above all suitable return on capital. The market conditions introduced by the EA compel undertakings to become more customer-oriented. They will succeed in this strategic orientation if they improve productivity, which can be done by reducing costs, but not to the detriment of quality of services.

In order to protect customers and competitors, the Energy Agency has to know how the distributor allocates costs between its regulated and unregulated activities and how it delimits sources between them.

With a view to the provisions for the external opening of the electricity market on 1 January 2003, in 2001 the Energy Agency worked on a price cap method of price regulation over a relatively long regulatory period. The goals it seeks to attain are:

a) an incentive-based regulatory regime which:
   - allows appropriate allocation amongst the particular regulated activities and their users together with the improvements in efficiency the Energy Agency may justifiably expect from the regulated activities, and
   - allows a steady flow of revenues for the regulated activities, which includes an appropriate and reasonable rate of return on efficient investments (in the Energy Agency's opinion) together with efficient provision and maintenance of regulated services;

b) precludes monopolistic profits from regulated activities – in the Energy Agency's opinion;

c) an environment that supports an efficient level of investment in various regulated sub-sectors;

d) an environment that supports efficient operation and maintenance in various regulated sub-sectors;

e) an environment that encourages efficient use of the existing infrastructure;

f) promotion of competition in the national electricity system;

g) regulatory responsibility through transparency and public disclosure of the regulatory process and the grounds for regulatory decisions;

h) reasonable certainty and temporal consistency regarding the outcome of regulatory processes and recognition of the adaptability of the regulated subjects in providing PSs;

i) stability and an acceptable balance between the interests of the regulated subjects, their customers and the general public, as the EA demands of the Energy Agency.

Irrespective of the distributors' legal status, the Agency has to ensure that the terms and prices for transactions between particular regulated and unregulated activities and affiliated parties accord with its stipulations regarding cost efficiency at each price review.

Besides setting network use prices, the Energy Agency has drawn up a general document defining precisely the principles and goals of determining particular network use price elements. At the beginning of 2001 it prepared a code of rules for electricity network use prices and the rules for their computation, as well as the basis for determining the justification of the costs of the PSs it regulates.

The Code of Rules for Setting Prices for the Use of the Electricity Network and Criteria for Efficient Costs which determines network use charges, their calculation and payment, was issued in April. The Government gave its assent to the code at its regular meeting and it was published in the official gazette (Uradni list 30/2001). One of the conditions for the formal commencement of the electricity market on 15 April 2001 was thereby fulfilled.

In selecting the method for charging for electricity transmission and distribution the Energy Agency used and elaborated technical analyses that had been drawn up earlier, in 2000. On the basis of technical studies, all the partners involved agreed to the following postulates in the first stage of the open market:

- the charge for particular groups of customers are equal irrespective of customer location and are not dependent on the length of the transmission path (post-stamp system);

- network use charge is paid only by customers, producers are exempt;
- the network use charge is based on a gross principle determining a proportionate share in covering the costs of the voltage level and all super-ordinate networks. This follows from the fact that more than 90 percent of electricity output is connected to the highest voltage levels;
- binomial tariffs (capacity and electricity) are used in pricing as well as seasonal and time of day tariffs to preserve continuity and control of marginal costs of the electricity system;
- to ensure the stability of the system a portion is allocated for system costs (regulation stocks, stocks for start-up generators, voltage regulation services, system operation, balancing the daily diagram).

Apart from the portions for regulated activities, the Code also allocates revenue and determines the pricing system for market participants as defined by the EA. It determines the financing of priority dispatching for qualified producers and for co-financing the portion for domestic producers using domestic coal. Last year the Trbovlje tpp was qualified as a priority-dispatching producer for that part of output produced with domestic coal, as was Ljubljana chp whose electricity generation process achieves above-average energy utilisation. The portions for the market operator, for registration of contracts on the organised market, and for the Energy Agency were also determined in the Government decision,

The revenues of providers of the same distribution PSs in different areas vary in relation to the size of assets required by a particular distributor as a consequence of the uniform network use price, paid by final customers throughout the country, and the varying costs per unit due to the differing objective characteristic parameters of distributors. The Energy Agency's substantiated balancing mechanism (proposed compulsory Fundamental Terms for Concluding Contracts between PS Providers) was adopted by the Government as a component part of regulating relations between undertakings.

The shares of the different components of the aggregate network use price in 2001 are presented in Fig. 17.

In the course of forming the 2002 prices the Energy Agency organised consultations with various customers and PS providers so as to reconcile and explain the content of the code. In reconciling proposals and conclusions particular agreements were taken into account and included in the process of preparing the new code. The same principles were applied as in 2001 but the crucial shift in tariff system services and priority dispatching was also taken into account. Network use prices for 2002 and the proposed accompanying correction factors, as required by the Code of Rules on Changes of the Code for Setting Electricity Network Use Prices and Justification of Costs, were prepared within the period stipulated and the Government gave its assent on 13 December 2001.

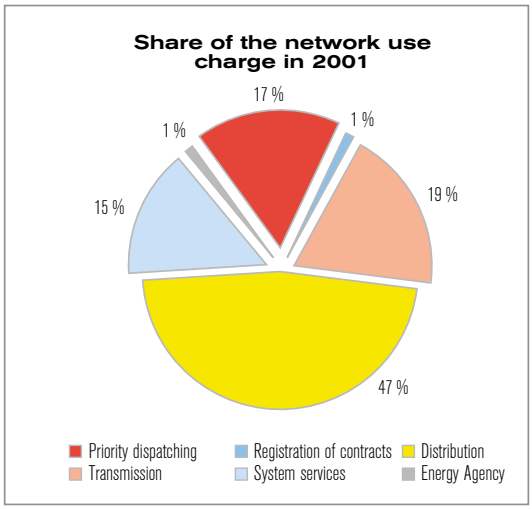


Fig 17: Shares of the network use charge in 2001

The Energy Agency continued its work in this domain to the end of 2001. It made changes of substance to the Codes to incorporate experience gained in the previous year of their application and following expert analysis of questions raised.

The Energy Agency prepared and submitted proposals to the competent minister and participated in the process of altering the ordinances on the manner of providing PSs in the area of distribution, transmission and transmission system operation. It also participated in preparing technical documents on rectifying deviations, which was subsequently dealt with by Eles as the transmission system operator PS, following changes to the by-laws.

4.2.3 International comparison of prices (network use charge components)

Due to the varying dynamics of opening electricity markets, prices for electricity supply services have been formed differently, and different criteria are used for allocating them to tariff customers in the EU countries. It is almost impossible to compare some of the price components. Eurostat, the EU's statistical organisation, follows the total price of electricity supply by various customer groups. In the residential group the typical customer annually uses 3,500 kWh.

Before the market was introduced in Slovenia, comparisons indicated that prices were higher in the majority of European countries than here. The widest gap was with residential customers as a consequence of the welfare policies of the previous system. The prices of services for qualified customers (industry, services – connection higher than 41kW) were more comparable. When the EU market opened it transpired that the industrial group was the most uniform of all customer groups. Eurostat data suggests that prices in countries bordering on Slovenia differ further from the Slovenian than those in more distant countries. This is because of the relatively similar structure of output and the production costs linked to that.

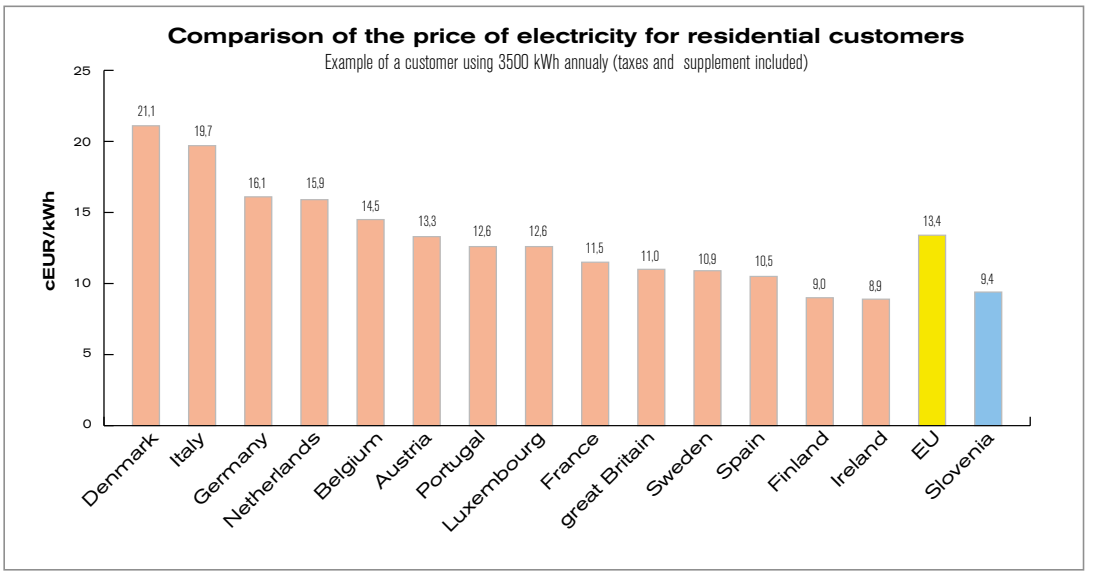


Fig. 18: Comparison of residential electricity prices

4.2.4 Standardisation

The players on the market are joined together by the standards required for electricity, which has become a commodity, namely in the first place:

- safe use and reliable supply;
- good quality;
- manner of transmission (voltage level);
- manner of use;
- the mode of communication on the deregulated market.

The principle task of the Energy Agency is to set the prices for use of the network and establish efficient costs. Prices are affected by the present state of the network and the investments required to implement energy policies. The justified costs, which derive from investments, have to conform to the standards. This applies for both the construction of new transmission lines, cable lines, distribution lines, switching and sub-stations as for the operation of electricity installations. In cutting costs or prices the standards should be understood as the bottom line of implementation. All above-standard implementations, whether with regard to equipment or voltage characteristics, are specifically evaluated.

Opening up the electricity market makes it more liberal, which is to say there are fewer prescribed requirements in the form of legislation or technical rules. Part of this role is taken over by standardisation which, although a voluntary process nonetheless produces standards that facilitate trading and negotiation on the market and is used in the main by everyone. Economic interests drive co-operation between electricity producers, transmission providers and distributors and the manufacturers of electrical equipment and devices. Every piece of equipment that can be bought on the market draws from the public distribution network and is constructed to function safely and reliably. The interests of both sides merge, as may be seen when electromagnetic compatibility levels are set.

Particular attention is paid to the standardisation of communication along electricity lines

whether with regard to the operation of electricity systems or for transmission of data for the operation of the electricity market.

The Energy Agency is therefore actively participating in the preparation of standards, at both the international and national level. The international technical committee IEC/TC 57 has issued a large number of standards. Where it is not possible to adopt standards, technical reports have been issued. These technical reports, which have been adopted as standards in the Slovenian standardisation system, present the communication systems of various countries. The Slovenian technical committee SIST/TC VTE (Operation control and telecommunications in the energy sector) has the task, along with the competent minister, of selecting which of these communications systems are the most suitable for use in this country.

4.2.5 Electricity quality

Expectations and requirements regarding electricity quality have become very significant. The quality of distributed electricity consists of the quality of the electricity itself and the quality of services provided by the distributor (Fig. 19).

In general electricity quality refers to the quality of electrical voltage and its availability. It is then a matter of assurance of supply, which means that the final customer is supplied smoothly regardless of any breakdowns. The other part of the quality of distributed electricity refers to the quality of the distributor's services, which is reflected in response to breakdowns, metering, accounts and the like.

The quality of the voltage on the public network is defined by European standard SIST EN 50160:2001 – Voltage Characteristics on public distribution networks, which has also been published in Slovenian. The standard defines the principal characteristics of voltage at the point of delivery of electricity to the customer on the low and medium-level public networks under normal operating conditions. It describes the limits or the values within which the customer can expect certain voltage characteristics. These values do not describe the typical situation for connecting the user to the network. Contemporary electricity equipment is constructed to this supply voltage and properly works within that range.

The purpose of the standard is to define and describe the characteristics of the supply voltage which are connected to:

- frequency
- value
- waveform, and
- symmetry of the triple-phase voltage system.

This is a 'purely' European standard, as evident from its numerical designation.

In addition to the foregoing standard there are others which define the level of electromagnetic compatibility in various electromagnetic environments for the low-voltage (EN 61000-2-2), the medium-voltage (EN 61000-2-12) and the planned level for the high-voltage network (IEC/TR IEC 61000-3-6), disturbance relay levels (EN 61000-3-2, EN 61000-3-12) and disturbance resistance levels (EN 61000-4-13).

Reliability of supply is not standardised in Europe; individual countries have their own standards or rules. In Slovenia certain values will be prescribed in the General Conditions for Supply of Electricity. The Energy Agency will co-operate with the Slovenian Standardisation Institute (SIST) and its electricity quality technical committee SIST/TC EMC (Electromagnetic compatibility) in order to follow the preparation of uniform European standards more easily. The IEC/TC 77 has begun to work on the international standardisation of electricity quality, and CENELEC and CLC/TC 210 on European standardisation.

Once electricity becomes a commodity, quality and quality supervision become important, just like price. The Faculty of Electrical Engineering, Computer and Information Sciences in Maribor is doing a comparative study of electricity quality at the EU level, which will serve in determining the benchmarks for continual voltage monitoring.

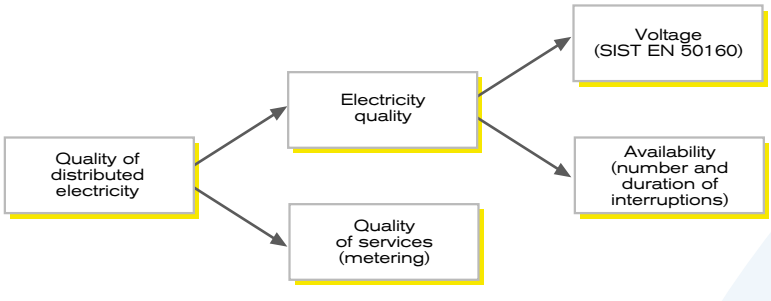


Fig. 19: Electricity quality

4.3 GAS NETWORK USE PRICES

The Energy Agency has followed and analysed events on the gas market in Europe and in Slovenia. As with the opening of the electricity market, gas undertakings are preparing for operation under market conditions. The Energy Agency's role will become more visible only after 1 January 2003 as the market opens up (see Ch.3), because the EA has stipulated the negotiated access principle (nTPA) for the gas network. It will primarily concern the settlement of disputes arising over restricted access to the network or the price for network use. The Energy Agency has drawn up a plan for comparative analysis of network use prices, which got under way in 2002.

The Energy Agency is following and analysing development trends on the gas market and its regulation in the EU. The proposed new, unified directive on the rules for the operation of the electricity and gas markets in the EU foresees a regulated mode of gas network access. The Energy Agency is gradually getting reading for the tasks that will follow from the adoption of the directive and the related legislative amendments.

4.4 SETTLEMENT OF DISPUTES

4.4.1 Settling disputes in conformity with the Energy Act

Under EA articles 87 and 88 the Energy Agency is formally responsible for settling certain kinds of disputes between market subjects and PS providers.

These are disputes that have arisen over:

- refusal of access to the electricity or gas networks, or
- prices charged for the use of the electricity or gas networks.

These disputes are settled in accordance with the provisions of the EA and the Law on General Administrative Procedure. As an independent organisation, the Energy Agency assures unbiased and public arbitration for all market subjects and thus assumes the legal responsibility for resolving these disputes. This role has far-reaching effects on the performance of energy activities and on market operations. The way of settling disputes laid down by the law is a demanding exercise. The Energy Agency has set up appropriate mechanisms and tools for reaching expert decisions in settling disputes. It is keeping records of disputes with data on their substance and the way they have been settled.

In 2001 the Energy Agency settled a dispute over refusal of access to the public transmission system which arose from twelve complaints

against decisions by the network operator. EA article 27, para. 3 allows the operator to refuse access because of technical or operating restrictions on the network. It must advise the customer or producer refused access of the substantiated reasons for the refusal. The party refused access may appeal to the Energy Agency. In this case twelve legal entities to whom access for the transmission of imported electricity in 2002 had been refused on the basis of the Criteria for Concluding Contracts for Access to the Electricity Transmission system for the Transmission of Imported Electricity in 2002 (Uradni list No. 70.01) entered an appeal. The Agency issued a decision within the required period in accordance with the Law on General Administrative Procedure, which was appealed in the Administrative Court in 2002. The court is expected to rule on the matter in the course of 2002.

The Energy Agency is also preparing itself to handle disputes concerning refusal of access to the gas network.

4.4.2 Alternative resolution of disputes

The Energy Agency may also mediate in disputes not cited in the EA if both parties to the dispute so request.

Its role is to mediate in the attainment of an agreement by the parties. Either party to this process of settlement may withdraw from it at any time. Once it is reached by the parties, an agreement is binding. This way of settling disputes does not exclude recourse to a court.

Six of the Energy Agency's staff completed a course on Alternative Dispute Resolution in 2001.

This area is becoming more and more lively. Many disputes are already arising in the energy sector, which call for technical proficiency as well as an acquaintance with the details of the sector.

The advantages of mediation, or the alternative resolution of disputes, are:

- the parties voluntarily entry into settlement with the help of a mediator;
- expert knowledge of the subject;
- speed of resolution: mediation itself lasts a day or two at the most and the whole process is over in 90 days at the most;
- the parties can break off the process at any time;
- costs are lower than other means of dispute settlement and particularly in comparison with the court path;
- better communication between the parties;
- facilitates subsequent communication between the parties.

4.5 LICENCES FOR ENERGY ACTIVITIES

The Energy Agency issues licences for energy activities to physical and legal entities according to EA article 87. At the beginning of 2001 it took an active part in drafting and passing the Ordinance on the Conditions and Procedure for Granting or Revoking a Licence to Engage in Energy Activities (Official Gazette of the Republic of Slovenia, No. 21/01, supplement Official Gazette of the Republic of Slovenia, No. 31/01). On 8 March 2001 the Government adopted this ordinance as a by-law governing the conditions and procedures for granting and revoking licences. Licences began to be issued on the first day the ordinance went into effect. The Energy Agency issues a licensing decision according to procedures under the Law on General Administrative Procedure. It has moulded the precise procedure to the actual situation. It has developed the necessary information base to keep a register of licenses issued and revoked and to build up an internal programme and database to support the files on licence holders.

In 2001 altogether 615 licenses to engage in energy activities were issued. Ten applications were rejected or the licensing process halted due to incomplete documentation or because the applicant was not eligible. In sum a total of 625 administrative procedures were carried out. The number of licences issued by type of energy activity is shown in table bellow.

All licence applications were dealt with in the specified period of time. There were no appeals against the decisions.

The Energy Agency keeps a punctual register of licences issued and revoked. It continuously updates the journal of issued and revoked licences, which is public. It also publishes the list of licences granted and revoked on its website: www.agen-rs.si.

Licenses are granted in conformity with the Law on General Administrative Procedure, the Ordinance on the Conditions and Procedure for Granting or Revoking a Licence to Engage in Energy Activities[10], and other pertinent laws and by-laws. In 2001 several enactments were passed which were not fully in accordance with the foregoing Ordinance (the Ordinance on the Type, Scope, and Conditions for Engaging in Supplementary Activities on Farms, Ordinance on the Introduction and Application of the Standard Classification of Activities...).

The Energy Agency regularly follows changes in the legislation pertinent to the granting of licences and has also drafted proposals for amendments to the Ordinance on the Conditions and Procedure for Granting or Revoking a Licence to Engage in Energy Activities with regard to reconciling state enactments.

The Energy Agency overcame some difficulties related to licensing and monitoring the fulfilment of conditions in co-operation with the appropriate inspectorates.

Number of licences granted by type of energy activity	
1. Electricity production in hpp over 10 MW	3 licences
2. Electricity production in tpp over 10 MW, excepting nuclear PP	5 licences
3. Electricity production in npp	1 licence
4. Electricity production in hpp not less than 1 MW or over 10 MW	19 licences
5. Electricity production in hpp less than 1 MW or in wind-driven hpp of any size	257 licences
6. District heat generation in PP over 1 MW thermal power	38 licences
7. Crude oil refining and oil product processing	1 licence
8. Electricity transmission	1 licence
9. Electricity distribution	22 licences
10. Gas transportation and supply and gas network operation	8 licences
11. Distribution and supply of natural and other energy gas and gas distribution network operation	30 licences
12. Electricity transmission system operation	1 licence
13. Electricity distribution network operation	10 licences
14. Gas fuel storage	12 licences
15. Liquid fuel storage with capacity over 25 mt and solid fuel storage with over 1000 mt storage	31 licences
16. Electricity supply to non-eligible customers	22 licences
17. District heat distribution and supply	37 licences
18. Trading on the organised electricity market	47 licences
19. Representation and mediation on the organised electricity market	30 licences
20. Organisation of the electricity market	1 licence
21. Liquid fuel production, trading and distribution	38 licences

[10] Official Gazette of the Republic of Slovenia, No. 21/01 and 31/01

4.6 MARKET REGULATION

Regulatory activities, above all the setting of network use charges, affect the work of the PSs or regulated undertakings and at the same time have a major impact on the work of eligible customers and other participants on the energy markets (electricity producers, traders, agents, intermediaries, the exchange). The regulatory framework, goals and measures are thus interdependent with the entire operation of the energy market.

The Energy Agency consequently collaborated intensively in 2001 on the preparation of all the legal acts and terms governing the operation of the electricity market, with particular attention to the supervisory function which shall take more precise shape and grow in scope in the coming years as the market develops.

It follows the work of the electricity market operator through the records of admission contracts and reports. It analyses the work of the market primarily from the standpoint of transparency and non-discrimination. With respect to electricity production it is implementing a project to construct a computer tool to simulate electricity market events.

4.6.1 Co-operation with other institutions

In view of the need to define regulatory rules, the Energy Agency has established communication and constructive dialogue with:

- PS undertakings;
- the ministry responsible for energy, and other ministries;
- kindred regulatory bodies at home and abroad;
- the Office for Protection of Competition;
- energy inspectorates, other inspectorates, and government services.

4.6.2 Co-operation with regulatory bodies abroad

In 2001 the Energy Agency established working contacts with regulatory bodies in neighbouring countries, namely, Austria, Hungary and Italy. It participated in the forum of regulatory bodies from Central and East Europe (ERRA) in Sofia, as an observer. It has also obtained observer status in the Council of European Energy Regulators (CEER), which includes the EU countries. In the future therefore it will attend the EU electricity regulators forum in Florence and the EU gas regulators forum in Madrid.

In October 2001 representatives of the Energy Agency visited the Italian regulatory body, Autorita per l'energia elettrica e il gas (AEEG). At the end of November an agreement was concluded between the AEEG, Eles and the Energy Agency determining the capacities of cross-border lines between Slovenia and Italy and their allocations in 2002.

4.6.3 Phare Programme projects

For the Energy Agency Phare Programme projects represent the transfer of regulatory experience from the EU countries. Phare project SL-990601.01.2 Support for Electricity and Gas Sector Regulation was successfully completed in March 2001.

As a result of its co-operation and the successful implementation of the first project, the Energy Agency has become both a direct user of the results (beneficiary) and a contractual partner in Phare project SI 2000/IB/EY-01 Liberalisation and Regulation of the Energy Market. A twinning contract with an international partner in the project is ready for signing. The project will get under way in 2002 and secure the assistance of permanent and part-time specialists in various parts of the Energy Agency's work.

Two projects were proposed for the Phare Programme in 2002 and were accepted in the draft financial memorandum (Phare FM 2002). They are expected to be carried out in 2003. A project fiche and terms of reference for each project were prepared in 2001. One of the projects concerns the gas network use charge (Liberalisation of the Gas Market – Access to the Gas Transmission Network) and the other the overall work of the Energy Agency, elaboration of the models and methods it employs, and its future work (Regulatory Framework in Completion of the Internal Energy Markets).

4.7 ENERGY AGENCY'S WORK IN THE LEGISLATIVE AREA

The Energy Agency has taken part in the preparation of numerous by-laws by submitting opinions and proposals. It is collaborating intensively in the updating of the Ordinance on the Conditions and Procedure for Granting or Revoking a Licence to Engage in Energy Activities. It drafts and issues the Code of Rules for Setting Prices for Electricity Network Use and the Criteria of Efficient Costs and the Code of Rules on the Data that Energy Undertakings are Required to Report to the Energy Agency. Furthermore, it gives its assent to particular documents issued by the network operators (e.g. network access criteria) and prepares proposals to the Government.

4.8 PUBLIC RELATIONS

In 2001 the Energy Agency paid great attention to public information about the process of introducing the energy market and its own work. A public relations strategy was drawn up and a communications task plan prepared on the basis of it.

The Energy Agency works actively with the media in informing the general public. It has organised several press conferences and interviews with journalists, issued press releases and replied to questions by the media.

There were several presentations of the process of opening the market and the Energy Agency's role to specialist audiences in various professional associations, institutions, symposia and consultations or conferences on energy.

The Energy Agency's associates presented technical papers at various conferences (CIGRE, WEC), a number of articles on the opening of the electricity market and the duties of the regulator were published in technical journals. The Energy Agency has written many explanations, opinions and replies to technical questions. Its work and the operation of the energy market are presented on its website: www.agen-rs.si in both Slovenian and English. There is a contact column on the website to send in questions regarding the Energy Agency's work.

APPENDIX: Energy websites in Slovenia

Internet address	Name of organisation/undertaking
ELECTRICITY UNDERTAKINGS	
http://www.eles.si	Elektro Slovenija, d.o.o., (electricity transmission system operator company
http://www.trgel.si	TRGEL, d.o.o., (electricity trading company)
http://www.borzen.si	Borzen d.o.o. (electricity market operator)
http://www.hse.si	HSE d.o.o (power plant holding)
http://www.savske-el.si	Savske elektrarne Ljubljana, d.o.o, (hpp company)
http://www.seng.si	Soške elektrarne Nova Gorica, d.o.o. (hpp company)
http://www.dem.si	Dravske elektrarne, d.o.o., Maribor (hpp company)
http://www.nek.si	Nuklearna elektrarna, d.o.o., Krško (npp company)
http://www.te-sostanj.si	Javno podjetje Termoelektrarna Šoštanj, d.o.o. (tpp company)
http://www.elektro-ljubljana.si	Elektro Ljubljana, d.d. (electricity distribution company)
http://www.genus.si/elektro	Elektro Ljubljana – PE Novo mesto (electricity distribution company branch)
http://www.rlv.si	Premogovnik Velenje, d.d., Velenje (coal mine company)
http://www.elektro-maribor.si	Elektro Maribor , d.d. (electricity distribution company)
INSTITUTES, PROFESSIONAL ASSOCIATIONS, MINISTRIES AND UNIVERSITY FACULTIES	
http://www.sigov.si/mop	Ministrstvo za okolje, prostor in energijo (MOP) (Ministry of the Environment, Spatial Planning and Energy)
http://www.sigov.si/mop/podrocja/uradzaenergetiko.htm	MOP – Urad za energetiko (Office of Energy, deals with energy supply, particularly electricity and gas)
http://www.gov.si/aure	MOP – Agencija za učinkovito rabo energije (Agency for Efficient Energy Use)
http://www2.gov.si/mg/mgslo.nsf	Ministrstvo za gospodarstvo (Ministry of the Economy)
http://www.eimv.si	Elektroinštitut Milan Vidmar (Institute of Electrical Engineering and Electrical Industry)
http://www.ibe.si	IBE, d.d. (consultancy, design and engineering)
http://www.ijs.si	Inštitut Jožef Stefan (institute)
http://www.ezs-zveza.si	Elektrotehniška zveza Slovenije (electrical engineering association)
http://www.ljudmila.org/sef	Slovenski e-forum (society for energy economics and ecology)
http://www.cigre-drustvo.si	Slovenski nacionalni komite SLOKO CIGRÉ (Slovenian National Committee)
http://www.fe.uni-lj.si	Fakulteta za elektrotehniko, Ljubljana (electrical engineering faculty)
http://www.feri.uni-mb.si	Fakulteta za elektrotehniko, računalništvo in informatiko, Maribor (electrical engineering, computer and information sciences faculty)
GAS AND LIQUID FUEL SUPPLY ENTERPRISES	
http://www.geoplin.si	Geoplin, d.o.o., (gas company)
http://www.omvistrabenz.si	OMV Istrabenz, d.o.o., Holdinška družba Istrabenz, d.d., (oil and gas company)
http://www.petrol.si	Petrol (oil and gas company)
http://www.plinarna-maribor.si	Plinarna Maribor (energy production, distribution, trading and services company)
http://www.adriaplin.si	Adriaplin, d.o.o., Ljubljana (gas distribution company)
http://www2.siol.net/ext/energetika/index1.htm	Energetika Ravne, d.o.o. (energy production and distribution company)
http://www.energetika-ce.si	Energetika Celje, d.o.o. (gas distribution and heat supply company)
http://www.holdingmestaljubljane.si/predstavitev.htm	Javno podjetje Energetika Ljubljana, d.o.o. (purchase, production and distribution of heat on the hot water and steam grids and gas distribution company)
http://www.mestni-plinovodi.si	Mestni plinovodi Koper d.o.o. (gas distribution company)
http://www.kp-velenje.si	Komunalno podjetje Velenje, d.o.o. (gas supply company)

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