Republic of Croatia

Croatian Energy Regulatory Agency

Annual Report for the Year 2007

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Dear Reader,

You are reading the Report on the work of the Croatian Energy Regulatory Agency for 2007 with remarks relevant for the development of the energy market and public services in the energy sector, the analysis of the energy sector and the realization of HERA's budget for 2007.

The process of energy sector restructuring in the Republic of Croatia has been continued by adoption of new legislation from the energy sector, determination of new development plans of energy undertakings with priority projects which will provide technical preconditions for the organization of the energy market and by determination of prices of energy and services for regulated energy activities.

Following the adoption of the Act on the Amendments to the Act on the Regulation of Energy Activities, the new Statute of HERA has been adopted, providing the new organizational framework for the work of our Agency.

In line with the provisions of the Act on the Amendments to the Act of the Regulation of Energy Activities, the Croatian Parliament has adopted the Decision on the Appointment of the President and Members of HERA's Managing Council in a way that the current President and Members have been reappointed with mandates of one to five years, in order to ensure further change of one Member of the Managing Council every year.

Of the most relevant events in 2007 in the electricity sector we could point out to the adoption of secondary legislation regulating energy activities carried out as public service and secondary legislation regulating the electricity market in the Republic of Croatia.

Further, in the gas and oil sector, progress has been made by adoption of the Gas Market Act fully harmonized with the EU directives, as well as by the adoption of secondary legislation providing framework for regulated energy activities carried out as public service and the preparation of secondary legislation regulating natural gas market in the Republic of Croatia.

Last but not least, in order to improve its function of the independent regulatory body, HERA has increased its staff in the course of 2007 and has continued with professional education of its staff.

Yours sincerely,

President of the Managing Council
Tomo Galić, B.Sc.En.

Report on the Work of the Agency in the Year 2007

1 REPORT ON THE WORK OF THE AGENCY IN THE YEAR 2007

1.1 Croatian Energy Regulatory Agency in general

Pursuant to the Act on the Regulation of Energy Activities (Official Gazette *"Narodne novine",* No. 177/04 and 76/07), the Croatian Energy Regulatory Agency (hereinafter: the Agency) is obliged to submit a report on its operations to the Parliament of Croatia once a year, especially regarding:

- observations relevant for the development of energy market and public services in the energy sector;
- analysis of the energy sector;
- results of follow-ups on fulfillment of obligations of the energy operators pursuant to Article 10 paragraph 2 of the Act on the Regulation of Energy Activities;
- realization of the Agency's budget for the previous year.

Furthermore, pursuant to Article 10 of the Act on the Regulation of Energy Activities, the Agency is obliged to publish annual reports on results of follow-up from Article 10 paragraph 2 of the Act on the Regulation of Energy Activities, e.g. on follow-up of cross border capacities and managing congestions, separation of accounting system of the energy operators in order to prevent subsidizing between productions, transparency level of market competition, etc.

After acceptance of the Report, the Agency is obliged to publish this Report in the Agency's Gazette or on the Agency's website in Croatian language written in Latin letters and translated into English language.

The Agency has been founded in 2004 pursuant to the Act on the Regulation of Energy Activities as an autonomous, independent and non-profitable public institution with the purpose of establishing and implementation of regulation of energy activities.

The Act on Amendments to the Act on the Regulation of Energy Activities has been enacted in 2007 (Official Gazette *"Narodne novine"*, No. 76/07), as well as the Statute of the Croatian Energy Regulatory Agency (Official Gazette *"Narodne novine"*, No. 99/07), which stipulated conditions for establishing the function of an independent regulatory authority within the field of regulation of energy activities, as well as conditions for unambiguous and harmonized operations of the Agency during reform of energy sector, which is currently still in progress.

Enactment of the Act on Amendments to the Act on the Regulation of Energy Activities has set up a new organizational framework for operation and activities of the Agency and conditions for development of the Agency into an independent and professional authority have been provided, which is a prerequisite for fulfillment of the monitoring task over performance of regulated energy activities and development of the energy market, protection of energy buyers, as well as other tasks which the Agency is obliged to fulfill pursuant to the energy acts in the electricity, thermal energy, gas, oil and oil derivatives sector.

The most important guidelines of the new Act on Amendments to the Act on the Regulation of Energy Activities are as follows:

- drawing a line between activities with public authority and other activities of the Agency;
- transparent arrangement of rights, obligations and responsibilities, as well as activities of the President of the Managing Council and of the Managing Council of the Agency while exercising public authorities, each within the scope of its authority, as well as arrangement of rights, obligations and responsibilities of expert managers responsible for expert operations within the Agency;
- introduction of direct responsibilities for management and operations of the Agency, the

Managing Council of the Agency and expert departments of the Agency, so that the management may be reduced by one level;
- development of expert, organizational and personnel structure of the Agency;
- provision of competencies of the expert managers and expert operations in the Agency through selection of managers by public tenders;
- provision of increase in efficiency of the Agency's operations as an autonomous and independent regulatory authority;
- provision of continuous, high-quality functioning of the Managing Council of the Agency through gradual replacement and employment of members of the Managing Council, as well as providing opportunities for the members of the Managing Council not to perform their duties as the only activity, which allows for impartiality while performing activities of public authorities;
- provision of election and appointment of the members of the Managing Council from broader area of technical and social sciences with longer working experience which contributes to provision of expertise and impartiality of the members of the Managing Council during execution of public authorities and reputation of the Agency;
- decisive determination of the material rights of all members of the Managing Council, which are to be determined by the Government of the Republic of Croatia;
- Statute of the Agency is to be enacted pursuant to prior consent of the Government of the Republic of Croatia.

Pursuant to transitional and final provisions of the Act on Amendments to the Act on the Regulation of Energy Activities, the Parliament of Croatia has rendered a Decision on acquitting of a duty of the president, deputy president and members of the Managing Council of Croatian Energy Regulatory Agency (Official Gazette *"Narodne novine"*, No. 105/07) and a Decision on appointing the president and members of the Managing Council of Croatian Energy Regulatory Agency (Official Gazette *"Narodne novine"*, No. 105/07), by which Tomo Galić had been appointed as the president of the Managing Council for a period of five years, Darko Pavlović had been appointed as a member of the Managing Council for a period of four years, Dubravka Štefanec had been appointed as a member of the Managing Council for a period of three years, Dr. Sc. Eraldo Banovac had been appointed as a member of the Managing Councile for a period of two years and Dr. Sc. Milan Puharić had been appointed as a member of the Managing Council for a period of one year, all starting as of October 01, 2007.

New organizational framework for operations and activities of the Agency has been elaborated on in the Statute of the Agency. The Statute allows efficient undertaking of expert operations and fulfillment of all tasks with public authorities which are within the scope of responsibility of the Agency pursuant to the law, while providing application of transparency, objectivity and impartiality principles to the activities of the Agency.

The Agency has a Managing Council and expert services.

The Agency is run by the president of the Managing Council. The President of the Managing Council represents and acts on behalf of the Agency in all procedures before courts, administrative and other state authorities, as well as legal persons with public authorities, undertakes all legal actions in the name and on behalf of the Agency, enacts all acts required for operation and activities of the Agency. The President of the Managing Council organizes, manages and is responsible for expert operations and activities of the Agency and is responsible for legality of operations of the Agency.

Expert services perform expert, administrative and technical operations as required by the Agency.

Pursuant to the provisions of the Statute of the Agency, the Agency has enacted new general acts by the end of 2007, such as: the Ordinance on Organization and Systematization of Work Places, Work Regulations, the Ordinance on Payrolls and Other Material Rights of the Employees, as well as other general acts required for the operations of the Agency.

Main organization units of the expert services are as follows:

- Electricity Division;
- Gas and Oil Division;
- Thermal Energy Division
- Legal Affairs and Consumer Protection Division
- Support Services Division.

Expert managers of expert services are the managers of main organizational units of the Agency who lead the expert operations of the Agency, each within their scope of operations. Division managers are appointed by the President of the Managing Council based on the public tenders for a period of four years with possibility of re-election. Division managers answer for their work to the President of the Managing Council.

The new organizational scheme of the Agency is represented on the Figure 1.1.1.

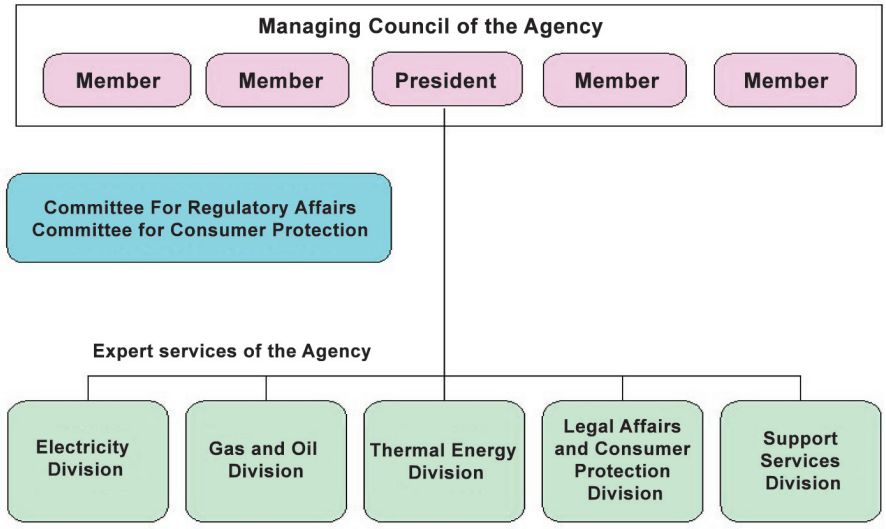


Figure 1.1.1 Organizational scheme of the Agency

Pursuant to the provisions of the Ordinance on Organization and Systematization of Work Places and Work Regulations, a new organization of the Agency's operations has been implemented and all employees had concluded new contracts of employment. Pursuant to realized public tender in December 2007, four Division managers have been appointed for the period of four years, except for the Manager of Gas and Oil Division.

The number of Agency's employees has been increased by three in 2007, one of the employees terminated his contract of employment with the Agency and by the end of 2007 there were 37 employees in the Agency, employed for an indefinite period of time.

Rights and obligations arising from employment of directors and employees of the Agency are regulated in contracts of employment, general acts of the Agency, as well as general work regulations.

1.1.1 Financing of the Agency

Pursuant to the Decision of the Government of the Republic of Croatia on the Amount of Fees for Carrying Out the Regulation of Energy Activities (Official Gazette *"Narodne novine"*, No. 73/05), means for financing the Agency are ensured from the following sources:

- The fee in the amount of 0.06% of the total annual income from sales of goods and/or services realized in the previous year by energy operators involved in energy activities based on the license for carrying out energy activities pursuant to licenses for carrying out energy activities;

- The fees (one-time payments) for the work of Agency in accordance with the Review of Fees for the Work of the Agency, which is a part of the aforementioned Decision of the Government of the Republic of Croatia (fees for issuing the licenses for carrying out the activities, issuing the opinions and consents, for settlement of complaints and objections, etc.).

1.1.2 Responsibility for operations and supervision over operations of the Agency

Pursuant to provisions of Article 7 of the Act on the Regulation of Energy Activities, the Agency answers for its operations to the Parliament of Croatia.

Legality of the Agency's operations and general acts is supervised by the Ministry of Economy, Labor and Entrepreneurship.

Finance operations of the Agency are supervised by competent main authority of the public administration, i.e. a legal person having public authorities.

1.1.3 Activities of the Agency

Legislative framework for performance of the activities within the competence of the Agency is defined by the following regulations:

1. The Act on the Regulation of Energy Activities (Official Gazette *"Narodne novine"*, No. 177/04 and 76/07);
2. The Energy Act (Official Gazette *"Narodne novine"*, No. 68/01, 177/04 and 76/07);
3. The Electricity Market Act (Official Gazette *"Narodne novine"*, No. 177/04 and 76/07);
4. The Act on Gas Market (Official Gazette *"Narodne novine"*, No. 40/07);
5. The Law on Production, Distribution and Provision of Thermal Energy (Official Gazette *"Narodne novine"*, No. 42/05);
6. The Act on Oil and Oil Derivatives (Official Gazette *"Narodne novine"*, No. 57/06);
7. The Act on Ratification of Energy Community Treaty (Official Gazette *"Narodne novine"* – International Treaties, No. 6/06 and 9/06);
8. The General Administrative Procedure Act (Official Gazette *"Narodne novine"* No. 53/91 and 103/96);
9. The Ordinance on Licenses for Carrying Out the Energy Activities (Official Gazette *"Narodne novine"* No. 118/07);
10. The Decision on the Amounts of Compensations for Carrying out Energy Regulatory Activities (Official Gazette *"Narodne novine"* No. 73/05);
11. The Directive on the Validity Period for Licenses for Carrying Out Energy Activities (Official Gazette *"Narodne novine"* No. 116/02 and 71/05);
12. Other delegated regulations adopted pursuant to the Energy Law and other acts that regulate carrying out the relative energy activities.

The activities of the Agency are provided in Article 9, 10 and 11 of the Act on the Regulation of Energy Activities and relate to the following activities in particular:

- Issuing Licenses for Carrying Out Energy Activities;
- Enacting regulations within competence of the Agency (tariff systems without the amount of tariff items, the Ordinance on Electric Power Network/System and Increased Load Fee, tariff system for oil transport through oil pipelines, etc.);
- issuing opinions or consents regarding rules and regulations within energy sector;
- customer protection;
- rendering decisions on granting the status of eligible producer status;
- performing monitoring operations (over implementation of tariff systems and all prescribed fees, over energy operators and quality of the energy operator services);
- settling disputes regarding carrying out the regulated energy activities;

- follow-up on cross border capacities and congestion settling;
- collaboration with the ministry and respective inspectorates;
- submitting requests for instituting administrative dispute proceedings;
- other operations.

1.2 President of the Managing Council of the Agency

The President of the Managing Council reaches decisions from Article 9 paragraph 1 of the Law on Regulation of the Energy Activities during performing of the activities of the Agency pursuant to public authorities, settles disputes regarding carrying out the regulated energy activities from Article 9 paragraph 5 of the Law on Regulation of the Energy Activities and renders decisions regarding objections from Article 12 paragraph 2 of the aforementioned Law.

1.3 Managing Council of the Agency

The Managing Council performs the following activities:

- reaches decisions regarding performing all regulatory operations from Article 10 and 11 of the Law on Regulation of the Energy Activities and provides opinions and proposals on relative issues within the scope of operations of the Agency to the Government of the Republic of Croatia;
- introduces programs of operation and development of the Agency pursuant to proposals of the President of the Managing Council and supervises their implementation.

35 meeting of the Managing Council of the Agency were held during 2007, during which total of 213 agenda items had been discussed.

1.4 Issuing licenses for carrying out the energy activities

One of more important activities of the Agency is issuing licenses for carrying out energy activities, which the Agency issues upon request of a legal or a natural person, in the way and in accordance with the procedure prescribed by the Energy Law and delegated regulations. The license is issued to a legal or a natural person that complies with technical and financial qualification conditions, as well as professional competence prescribed by the Ordinance on the Conditions for Carrying Out Energy Activities for carrying out a certain energy activity.

It is prescribed by the Energy Law that for 25 of 27 energy activities in total it is required to obtain a license for carrying out energy activities.

A new Ordinance on Licenses for Carrying out Energy Activities (Official Gazette *"Narodne novine"* No. 118/07) has been enacted, by which the procedure of issuing licenses for carrying out energy activities had been simplified and standardized, documentation to be enclosed with the application simplified and the procedures for renewal, transfer and expiry of the license for carrying out energy activities had been prescribed.

The Agency issued 67 licenses in total during 2007 for energy activities as follows:

- electricity production – five licenses
  (Adria Wind Power d.o.o., Varaždinska 61 from Sesvete, Valalta d.o.o., Cesta Valalta-Lim bb from Rovinj, EKO d.o.o., Martićeva 8/III from Zagreb, Vjetroelektrana Trtar-Krtolin d.o.o., Bože Peričića 30 from Šibenik and Hidro-Watt d.o.o., Ožujska 21 from Zagreb);
- gas supply – 23 licenses
  (Radnik d.d., Ulica kralja Tomislava from Križevci, Komunalac Vrbovec d.o.o., Kolodvorska 29 from Vrbovec, Energo d.o.o., Dolac 14/1 from Rijeka, Humkom d.o.o., Lastine 1 from Hum na Sutli, Ivkom d.d., Vladimira Nazora 96/b from Ivanac, Zagorski metalac d.o.o., Celine 2 from Zabok, Međimurje-plin d.o.o., Mihovljanska 70 from Čakovec,

Hep-plin d.o.o., Cara Hadrijana 7 from Osijek, Papuk d.o.o., Vladimira Nazora 14 from Orahovica, Gradska plinara Zagreb d.o.o., Radnička cesta 1 from Zagreb, Moslavina plin d.o.o., Trg kralja Tomislava 10 from Kutina, Montcogim-plinara d.o.o., Trg Ante Starčevića 2 from Sveta Nedjelja, Zelinske komunalije d.o.o., Katarine Krizmanić 1 from Sv. Ivan Zelina, Gradska plinara Krapina d.o.o., Frana Galovića 5 from Krapina, Brod-plin d.o.o., Tome Skalice 4 from Slavonski Brod, Plin-projekt d.o.o., Gajeva 89 from Nova Gradiška, Plinara d.o.o., Industrijska 17 from Pula, Termoplin d.d., Vjekoslava Špinčića 78 from Varaždin, Darkom d.o.o., J.Kozarca 19 from Daruvar, Komus d.o.o.- in bankruptcy, Kolodvorska cesta 14 from Donja Stubica, Komunalac d.o.o., Gavirnica 18 from Pakrac, Plinara Istočne Slavonije d.o.o., Ohridska 17 from Vinkovci i Zelenjak d.o.o., Trg Antuna Mihanovića 1 from Klanjac);

- thermal energy production – one license
  (Brod-plin d.o.o., Tome Skalice 4 from Slavonski Brod);
- thermal energy distribution - one license
  (Brod-plin d.o.o., Tome Skalice 4 from Slavonski Brod);
- thermal energy supply - one license
  (Brod-plin d.o.o., Tome Skalice 4 from Slavonski Brod);
- biodiesel production - one license
  (Vitrex d.o.o., Zbora narodne garde 3 from Virovitica);
- Transportation of oil, oil derivatives and bio diesel by road transportation – 22 licenses
  (legal persons – Visokogradnja d.o.o., Trg Josipa Godlara 2 from Slavonski Brod, Dostava d.o.o., Biškupije 138 from Medulin, Marin Transport d.o.o., Jože Gabrovšeka 10 from Rijeka, CH AUTO d.o.o., Blage Zadre 17/D from Sesvete i Adria oil d.o.o., Spinčići 38 from Kastve,
  natural persons – T.I.P. autoprijevoznički obrt, Put kroz Meterize 21b from Šibenik, Autoprijevoznik Niko Marić, D. Rakovica 15, Podcrkavlje Bukovlje from Slavonski Brod, Jurić Company, Rtić III/8, Dolac from Primošten, Čulić Transporti, Radmilovićeva 8 from Split, Autoprijevoznik Ivan Leščan, Kralja Tomislava 7 from Đurđevac, Premium Petrol owned by Zvonimir Jurišić, Požeška cesta 1a from Slavonski Brod, Jandro Grgić, Galdovačka 339 from Sisak, Transport Vuletić prijevozničko-trgovački i ugostiteljski obrt, Davorina Trstenjaka 4 from Sisak, ADR-TRANSPORTI JURAIĆ owned by Mijo Juraić, Zorkovac L. 7 from Ozalj, Beni-obrt za trgovinu ugostiteljstvo i prijevoz, 85. ulica 58 from Blato, Tonći Barišić, Barišići 50 from Solin, Cvitkušić-obrt za prijevoz tekućih tereta, Posavska 10 from Sesvetski Kraljevac, Jurica Janeš-prijevoznički obrt, I. G. Kovačića 195 from Ravna Gora, Marko Šutić-obrt za prijevoz, Ribarska 21 from Trogir, Autoprijevoz „AG BENZ“, Radoševa Glavica 12 from Ploče, Autoprijevoznički obrt „Đajić“, Bože Starca Jurićeva 46 from Rijeka and „Autoprijevoznički obrt“ Mara Daskijević, Trg žrtava fašizma 14 from Zagreb);
- wholesale trade in oil derivatives – one license
  (ZRAČNA LUKA ZAGREB TRGOVINA d.o.o., Pleso bb from Zagreb);
- storage of oil and oil derivatives – one licence
  (MODIBIT d.o.o., Karlovačka cesta 124 from Ozalj);
- Trading, mediation and representation at the energy market – 10 licenses
  (HSE Adria d.o.o., Miramarska 24 from Zagreb, Megaplan d.o.o., Šenoina 9 from Zagreb, Palmir inženjering i trgovina d.o.o., Mladice 14a from Zagreb, Vitrex d.o.o., Zbora narodne garde 3 from Virovitica, HEP-Trgovina d.o.o., Ulica grada Vukovara 37 from Zagreb, E.T.C. d.o.o. Braće Stipčića 41 from Rijeka, VERBUND-Austria Power Trading, Ulica kneza Branimira 29/III from Zagreb, ELNA KABEL d.o.o., Selska cesta 217/1a from Zagreb, TLM Tvornica Lakih Metala d.d., Ul. Narodnog Preporoda 12 from Šibenik and RE Energija d.o.o., Hektorovićeva 2 from Zagreb);
- Wholesale and retail trade in liquefied petroleum gas (LPG) – one license
  (MODIBIT d.o.o., Karlovačka cesta 124 from Ozalj).

There had not been any complaints to any of the decisions of the Agency.

Number of the licenses issued during 2007 is presented by the type of energy activity in the following table:

Table1.4.1 Overview of licenses for carrying out energy activities, issued in 2007

Energy activity	Licenses issued (No.)
Electricity production	5
Gas supply	23
Thermal energy production	1
Thermal energy distribution	1
Thermal energy supply	1
Biodiesel production	1
Transportation of oil, oil derivatives and biodiesel by road transportation	22
Wholesale trade in oil derivatives	1
Storage of oil and oil derivatives	1
Trading, mediation and representation at the energy market	10
Wholesale and retail trade in liquefied petroleum gas (LPG)	1
TOTAL	**67**

During 2007 the Agency reached one decision on expiry of a licence pursuant to the request of energy operator Enersys d.o.o. from Dubrovnik for carrying out energy activity of electricity production.

On December 31, 2007 there had been a total of **349** licenses entered into Consolidated Registry of Licenses kept by the Agency. Table 1.4.2 presents the number of licenses by energy activity type. A list of licenses and energy operators by energy activities has been published on the website of the Agency (http://www.hera.hr/hrvatski/html/dozvole.html).

1.5 Issuing decisions for acquiring the status of eligible electricity producer

The Ordinance on Acquiring the Status of Eligible Electricity Producer (Official Gazette *"Narodne novine"* No. 67/07) prescribes conditions for granting status of eligible electricity producer which might be granted to a project holder or producer who simultaneously produces electricity and thermal energy in a single production unit, uses waste or renewable energy sources for the production of electricity in economically appropriate way in compliance with environmental protection.

The Agency issues a decision on acquiring status of an eligible producer, as well as a preliminary decision on acquiring the status of eligible electricity producer.

During 2007 the Agency has received five requests for issuing a preliminary decision on acquiring the status of eligible electricity producer and five requests for issuing a decision on acquiring the status of eligible electricity producer.

The following rulings had been issued during 2007:

1. Preliminary decision on acquiring the status of eligible electricity producer to company Valalta d.o.o., Rovinj;
2. Decision on acquiring the status of eligible electricity producer to company Adria Wind Power d.o.o., Sesvete;
3. Decision on acquiring the status of eligible electricity producer to company Vjetroelektrana Trtar-Krtolin d.o.o., Šibenik.

Table 1.4.2 Overview of the licenses for carrying out energy activities on December 31, 2007

Energy Activity	Issued licenses-standing on December 31, 2007 (number)
Electricity production	8
Transmission of electricity	1
Distribution of electricity	1
Electricity supply	4
Organization of the electricity market	1
Natural gas supply	1
Storage of natural gas	1
Gas transportation	1
Gas distribution	39
Natural gas supply	23
Production of oil derivatives	1
Production of biodiesel	1
Oil transportation through oil pipelines and other non-mentioned means of transportation	2
Oil derivatives transportation through product pipelines and other non-mentioned means of transportation	1
Transportation of oil, oil derivatives and biofuels by road transportation	140
Wholesale trade in oil derivatives	18
Storage of oil and oil derivatives	17
Thermal energy production	17
Thermal energy distribution	12
Thermal energy supply	18
Trading, mediation and representation at the energy market	31
Transportation and storage of liquefied natural gas (LNG)	0
Wholesale and retail trade in liquefied petroleum gas (LPG)	11
Wholesale trade in liquefied natural gas (LNG)	0
TOTAL	**349**

1.6 Adoption of regulations within the competence of the Agency

Pursuant to provisions of Article 28 of the Energy Law, the Agency establishes tariff systems without the amounts of tariff items for energy activities for which it is prescribed by aforementioned act that the energy price is to be determined by implementation of a tariff system. Most of the tariff systems without the amounts of tariff items had been established by the Agency in 2006 and during 2007 the Agency established the following tariff systems without the amount of tariff items:

1. Tariff system for Distribution of Natural Gas without the Amounts of Tariff Items (Official Gazette *"Narodne novine"* No. 34/07);
2. Tariff system for Distribution of Natural Gas without the Amounts of Tariff Items with Exception of Eligible Customers (Official Gazette *"Narodne novine"* No. 34/07);
3. Tariff System for Oil Transportation Through Oil Pipelines (Official Gazette *"Narodne novine"* No. 39/07);
4. Amendments to Tariff System for Distribution of Natural Gas without the Amounts of

Tariff Items (Official Gazette *"Narodne novine"* No. 47/07);
5. Amendments to Tariff System for Distribution of Natural Gas without the Amounts of Tariff Items with Exception of Eligible Customers (Official Gazette *"Narodne novine"* No. 47/07);
6. Amendments to Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amounts of Tariff Items (Official Gazette *"Narodne novine"* No. 55/07);
7. Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amounts of Tariff Items (consolidated text) (Official Gazette *"Narodne novine"* No. 65/07).

Furthermore, pursuant to provisions of Article 11 paragraph 3 of the Act on the Regulation of Energy Activities, the Agency has passed a Decision on the Amount of Tariff Items for Transportation of Oil through Oil Pipelines (Official Gazette *"Narodne novine"* No. 39/07), as well as the following decisions:

1. Decision on Exemption from Article 15 paragraph 5 of the Law on Gas Market (Official Gazette *"Narodne novine"* No. 40/07) for the propose of calling for tender for construction of distribution system from RMS Kršan to entrepreneur zone PMRS Pićan – South and gas distribution;
2. Decision on Cancellation of the Ordinance on Data which the Energy Producers are Obliged to Submit to the Council for Regulation of Energy Activities (Official Gazette *"Narodne novine"* No. 97/03);
3. Decision on the Amount of Fee for Usage of Transportation Network for Transit;
4. Decision on Approving of ITC Treaty Enforcement for 2008-2009.

1.7 Providing opinions

The Act on Regulation of Energy Activities as well as the energy acts that regulate carrying out relative energy activities prescribe that the Agency should provide opinions and provisions for the energy sector. The Agency has in the course of 2007 actively observed drafts and proposals of regulations in energy sector and has contributed by giving its analyses, opinions and suggestions to the proposers of legal acts and secondary legislation to common harmonization of the regulations in the energy sector.

In the course of 2007 the Agency gave the following opinions on regulations in energy sector:

1. Opinion on the Proposal for Fee for Organization of Electricity Market;
2. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy of the energy producer ENERGO d.o.o. from Rijeka;
3. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy of the energy producer TERMOPLIN d.d. from Varaždin;
4. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy of the energy producer VIRKOM d.o.o. from Virovitica;
5. Opinion on the Proposal for Change in the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy of the energy producer GKP ČAKOM d.o.o. from Čakovec;
6. Opinion on the Working Draft of the Proposal of Negotiating Position of the Republic of Croatia regarding Chapter 15 - Energy;
7. Opinion on the Proposal for the Act on Amendments to the Energy Law;

8. Opinion on the Proposal for the Act on Amendments to the Electricity Market Act;
9. Opinion on the Proposal for the Act on Amendments to the Act on the Regulation of Energy Activities;
10. Opinion on the Proposal of the Ordinance on Granting Status of Eligible Producer of Electricity;
11. Opinions on the Proposal of the Ordinance on Use of Renewable Energy Sources and Cogeneration;
12. Opinion on the Proposal for the Consumer Protection Act;
13. Opinion on the Proposal for Price of gas supply to the Gas Supplier for Suppliers of Tariff Customers;
14. Opinion on the Proposal of the Memorandum of Understanding Concerning Social Issues within the Context of the Energy Community;
15. Opinion on the National Program of Consumer Protection for 2007-2008;
16. Opinion on the Draft of the Act on Fund for Financing the Decommissioning of the Krško Nuclear Power Plant and the Disposal of KNPP Radioactive Waste and Spent Nuclear Fuel.;
17. Opinion on the Proposal of the Decision on the Fee for Organization of the Electricity Market;
18. Opinion Concerning Activities „Replacement of Equipment in Control Centres of HEP-OPS d.o.o.“;
19. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator TERMOPLIN d.d. from Varaždin;
20. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator VIRKOM d.o.o. from Virovitica;
21. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator HEP-TOPLINARSTVO d.o.o. from Zagreb;
22. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator HVIDRA d.o.o. from Split;
23. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator TOPLANA d.o.o. from Karlovac;
24. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator TOPLINA d.o.o. from Slavonskog Brod;
25. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator VINKOVAČKI VODOVOD I KANALIZACIJA d.o.o. from Vinkovci;
26. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator ENERGO d.o.o. from Rijeka;
27. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy without the Amount of Tariff Items of the energy operator TEHNOSTAN d.o.o. from Vukovar;
28. Opinion on the Proposal of the Ordinance on Licenses for Carrying Out Energy Activities;
29. Opinion on the Proposal of the Decision on the Material Rights of the Members of the Managing Council of the Croatian Energy Regulatory Agency;

30. Opinion on the Proposal of the Conclusion on Approval of the Program of Use of Liquefied Petroleum Gas on the Islands (LPG) and the Strategy of Use of Liquefied Petroleum Gas (LPG) on the Islands;
31. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Distribution of Natural Gas without the Amount of Tariff Items of the energy operator ENERGO d.o.o. from Rijeka;
32. Opinion on Proposal for Setting the Amount of Tariff Items in Tariff System for Supply of Natural Gas with the Exception of Eligible Customers without the Amount of Tariff Items of the energy operator ENERGO d.o.o. from Rijeka;
33. Opinion on the Proposal for Setting the Amount of Tariff Items in Tariff System for Services of Production, Distribution and Supply of Thermal Energy of the energy operator BROD-PLIN d.o.o. from Slavonski Brod;
34. Opinion on the Proposal of the Amount of Tariff Items for Transportation of Natural Gas through Transport System of Gas Pipelines for 2008.

1.8 Providing consents

General Conditions for Electricity Supply (Official Gazette *"Narodne novine"* No. 14/06) and other delegated regulations prescribing carrying out respective energy activities prescribe that the Agency shall give consents to energy operators within energy sector regarding way of performing of the energy activities. The Agency issues the following consents to the energy operators:

1. Consent for HEP-Operator distribucijskog sustava d.o.o. to issue license to the company Sava d.o.o. for connection of Health centre Dr. Andrija Štampar to power station and installations of the company Sava d.o.o. and to issue license for Health centre Dr. Andrija Štampar to use electricity over accounting metering point of the company Sava d.o.o.;
2. Consent for HEP-Operator distribucijskog sustava d.o.o. to issue license to the company Poljoprivredno prehrambeni kompleks d.o.o. for connection of the company Tele 2 d.o.o. to its power station and installations and to issue license to the company Tele 2 d.o.o. to use electricity over accounting metering point of the company Poljoprivredno prehrambeni kompleks d.o.o, as required by the GSM base station of the Company Tele 2 d.o.o.;
3. Issuing the preliminary consent for listing of power-transmission line DV 2x400 kV Ernestinovo - Pecs into Three-year Plan for Construction and Development of Transmission Network 2008-2010 of HEP-Operator prijenosnog sustava d.o.o.

1.9 Customer protection

The Agency is active within the field of customer protection in several ways, as follows:

- through monitoring the energy operators, surveillance of the quality of services of the energy operators and through collecting and processing data regarding activities of the energy operators within the field of customer protection, pursuant to provisions of the Energy Law and the acts that regulate carrying out respective energy activities, as well as through cooperation with the ministries and competent inspectorates, pursuant to special acts;
- through Customer Protection Council whose members are also representatives of customers associations, which provides recommendations and opinions on measures for customer protection during implementation of energy activities regulation system, monitors issues regarding customer protection, valid regulations and their effect on customer

protection, gives its opinion on legal acts and secondary legislation related to customer protection and takes the initiative for amendments of the regulations within the field of customer protection;
- through solving respective complaints and objections of the customers, based on public authorities pursuant to the Act on the Regulation of Energy Activities.

Customers may raise the protection of their rights before Agency through complaints, objections, petitions and other statements regarding activities of the energy operators within the electricity, thermal energy, natural gas and oil sector.

Complaints and objections are processed in the Department for Legal Affairs and Customer Protection Division, as well as in the relevant expert technical Department. The Agency gains therefore a direct insight into operations of the energy operators and implementation of energy and other regulations by energy operators within the field of customer protection.

A decision of the Agency in settling a dispute brought before the Agency is final, but the unsatisfied party may initiate administrative proceedings by filing a complaint to the Administrative Court of the Republic of Croatia.

1.9.1 Customers' appeals

Pursuant to the provisions of Article 9 paragraph 5 of the Act on the Regulation of Energy Activities, the Agency settles disputes regarding carrying out regulated energy activities, particularly related to:

- refusal of connection to transmission network/transportation system;
- determination of the connection fee and use of transmission network/transportation system.

Besides the above-mentioned, the Agency settles disputes regarding:

- refusal of access to the distribution network and regarding conditions of access to distribution network.

Energy buyers submit appeals to the Agency regarding decisions of the energy operators related to carrying out regulated energy activities, i.e. those energy activities which are carried out as public services (electricity production for tariff customers, electricity transmission, electricity distribution, electricity market organization, supplying tariff customers with electricity, natural gas storage, supplying tariff customers with natural gas and thermal energy distribution), as well as regarding carrying out market activities.

The most common appeals of the buyers in 2007 were as follows:

- Field of electricity:
  - connection conditions
  - refusal of the application for issuing a prior connection approval ,
  - non-fulfillment of the obligations from the contract on connection referring to the connection to the network and
  - determination of a fee for connection and use of the energy network;
- Field of natural gas:
  - conditions of access to the natural gas distribution network and
  - disruptions in natural gas supply;
- Field of thermal energy:
  - application of tariff system,
  - service quality,
  - change in connection power,
  - refusal of consent for disconnection from thermal energy system to a tariff customer on a joint thermal energy metering point.

1.9.2 Customers' complaints

Customers complaints about operation and decisions of the energy operators in 2007 may be sorted into three main groups, based on the content of the complaint and the way they are processed by the Agency.

- The first group of complaints refers to the complaints regarding activities of the energy operators while performing energy activities (e.g. complaints regarding quality of electricity supply, i.e. complaints regarding voltage quality, reliability of supply and quality of services for networks users at the point of takeover of the electricity, quality of supply of thermal energy and gas, etc.);
- The second group of complaints refers to the complaints regarding activities of the energy operators, i.e. that part of the activities which is not within the scope of competence of the Agency, but is within the scope of municipal or commercial courts (e.g. complaints regarding settlement of accounts for electricity consumption, damages to the customers caused by force majeure, etc.);
- The third group of complaints refers to the complaints regarding activities of the energy operators from article 12 of the Act on the Regulation of Energy Activities and relate to the following:
  - activities of the energy operators regarding issues from Article 10 of the Act on the Regulation of Energy Activities (e.g. complaints regarding deadlines within which the connections are to be performed or repairs made, etc.) and
  - decision on the methodologies from Article 11 of the Act on the Regulation of Energy Activities (e.g. complaints regarding application of the tariff system, dividing of the customers into categories, etc.).

1.9.3 Petitions and other statements of customers

During 2007 the customers addressed the Agency with the requests for issuing an approval s for connection to energy objects and installations of another customer, as well as use of electricity over metering points of another customer, requests for opinions on energy regulations, requests for interpretation of energy acts and other regulations, requests for settling their contractual relationships with energy operators, etc.

Furthermore, the energy buyers have on several occasions initiated surveillance over activities of the energy operators and informed the Agency of registered irregularities in activities of the energy operators.

The Agency settled the petitions and other statements of the buyers in accordance with its authorities from the Act on the Regulation of Energy Activities and if it was not authorized for the settlement, it referred the subject matter to competent authority or instructed the energy buyers on how to exercise their rights.

1.9.4 Case statistics

In 2007, the Agency received 163 cases in total, topics of which are presented in the table 1.9.1.

Table 1.9.1 Cases according to topics

Energy field	Number	Share
Electricity field	116	71%
Natural gas field	9	6%
Thermal energy field	38	23%
TOTAL	**163**	**100%**

Structure of the submitted cases is presented in the Figure 1.9.1.

The most of submitted cases fall within the electricity field with a 71% share, than the thermal energy field with a 23% share and in the end the area of the natural gas with a 6% share .

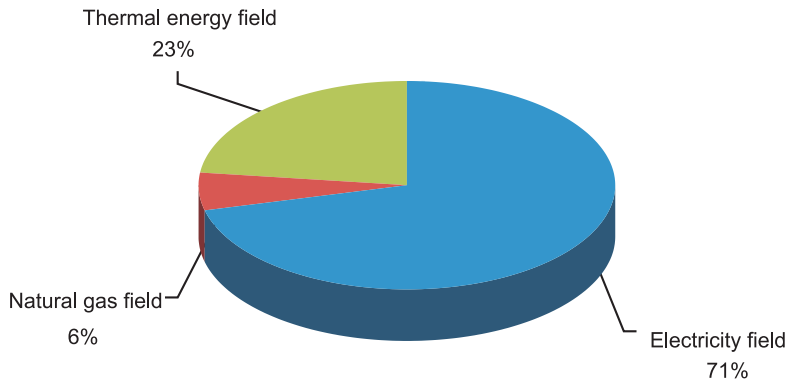


Figure 1.9.1 Cases sorted according to fields

1.9.4.1 Cases from the electricity field

Cases from the electricity field per cases categories are represented in the table 1.9.2.

Table 1.9.2 Groups of cases from the electricity field

Description	Number	Share
Complaints and objections	74	64%
Opinion, explanation, instruction of the Agency required	28	24%
As notice to the Agency	7	6%
Request for consent/authorization by the Agency	5	4%
Report, questionnaire, data delivery by the Agency required	1	1%
Report, questionnaire, data submitted to the Agency	1	1%
TOTAL	**116**	**100%**

Electricity customers and/or electricity grid users submitted 74 complaints/objections to the Agency in 2007, which are represented in groups in the table 1.9.3.

During 2007 the Agency has pursuant to Article 66, paragraph 4 of the General Administrative Procedure Act (Official Gazette *"Narodne novine",* No. 53/91 and 103/96) submitted 13 complaints in total to HEP-Operator distribucijskog sustava d.o.o. (hereinafter: HEP-ODS) for competent processing, while HEP-Operator prijenosnog sustava d.o.o. (hereinafter: HEP-OPS) was given one complaint for competent processing.

Shares of respective categories of complaints and objections are represented in the Figure 1.9.2. It is evident that most of cases refer to complaints regarding settlement of accounts and electricity use (42%), complaints regarding electricity network connection (41%).

Table 1.9.3 Categories of complaints and objections within the electricity field in 2007

No.	Description	No.	Share
1	**Complaint regarding settlement of accounts and use of electricity**	31	42%
1.1.	Complaints against registered unauthorized use of electricity – exceeding of power	15	20%
1.2.	Complaints regarding registered unauthorized use of electricity - energy	3	4%
1.3.	Complaints against settlement of accounts for electricity	13	18%
2	**Complaints or objections for other reasons**	5	7%
3	**Objections to quality of electricity supply - voltage quality**	4	5%
4	**Complaints related to connection**	30	41%
4.1.	Complaints against refusal of request for issuing a prior connection approval during procedure of local permit issuing	2	3%
4.2.	Complaints regarding conditions from issued prior connection approval	12	16%
4.3.	Complaints against refusal of request for issuing a prior connection approval	6	8%
4.4.	Complaints against non-fulfillment of provisions of contract on network connection	4	5%
4.5.	Complaints against connection fee	4	5%
4.6.	Complaints against conditions from issued prior connection approval	2	3%
5	**Complaints and objections to disconnection**	4	5%
5.1.	Complaints against disconnection from electricity network	2	3%
5.2.	Complaints against stopping electricity supply	2	3%
	TOTAL	**74**	**100%**

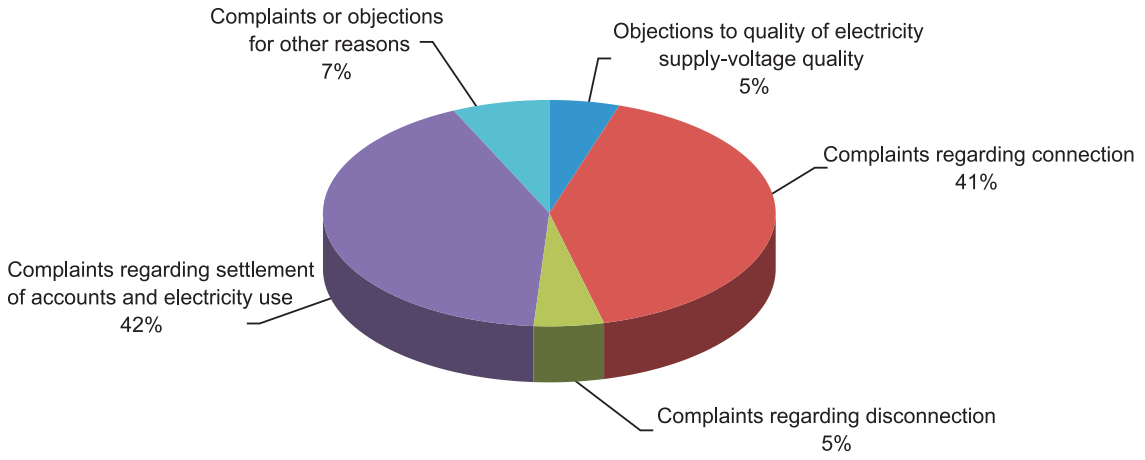


Figure 1.9.2 Shares of complaints and objections per respective categories within the electricity field in 2007

1.9.4.2 Cases from the natural gas field

Cases from the natural gas field per cases categories are presented in table 1.9.4.

Share of certain case category in total number of submitted cases within the natural gas field is presented in the Figure 1.9.3. In the natural gas field most cases are related to the requests for opinion of the Agency, having share of 45%, after these follow cases related to settlements of natural gas consumption, interior house installations, connection to gas network, supply stoppages and so on, having shares of 11% each .

Table 1.9.4 Categories of cases from the natural gas field

Description	Number	Share
Settlement of natural gas transportation	0	0%
Settlement of natural gas consumption	1	11%
Interior house installations - gas	1	11%
Connection to gas network	1	11%
Supply interruptions	1	11%
Other – natural gas	1	11%
Request for opinion of the Agency	4	44%
TOTAL	**9**	**100%**

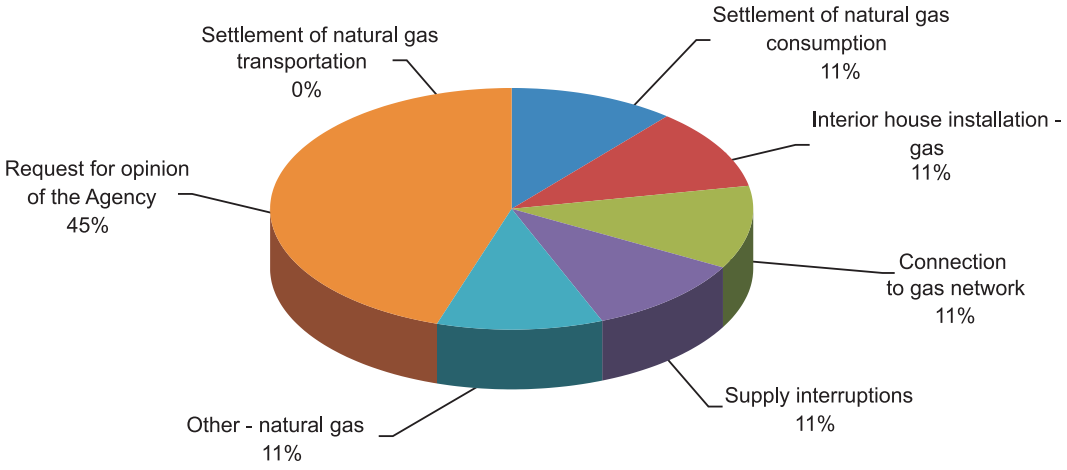


Figure 1.9.3 Cases from the natural gas field sorted by categories

1.9.4.3 Cases from the thermal energy field

Cases from the thermal energy field sorted by categories are presented in the table 1.9.5.

Table 1.9.5 Types of cases from the heat energy field

Description	Number	Share
Requests for disconnection from the thermal energy system	1	3%
Tariff system application	13	34%
Request for building-in a thermal energy meter	2	5%
Settlement of thermal energy consumption	4	11%
Requests of the energy operators and buyers for opinion of the Agency	16	42%
Change in connected load	2	5%
TOTAL	**38**	**100%**

Share of respective case category in total number of submitted cases within the thermal energy field is represented in the Figure 1.9.4. It is evident that the most requests of the energy operators and buyers refer to the opinion of the Agency, having a share of 42% and the complaints related to tariff system application, having a share of 34%.

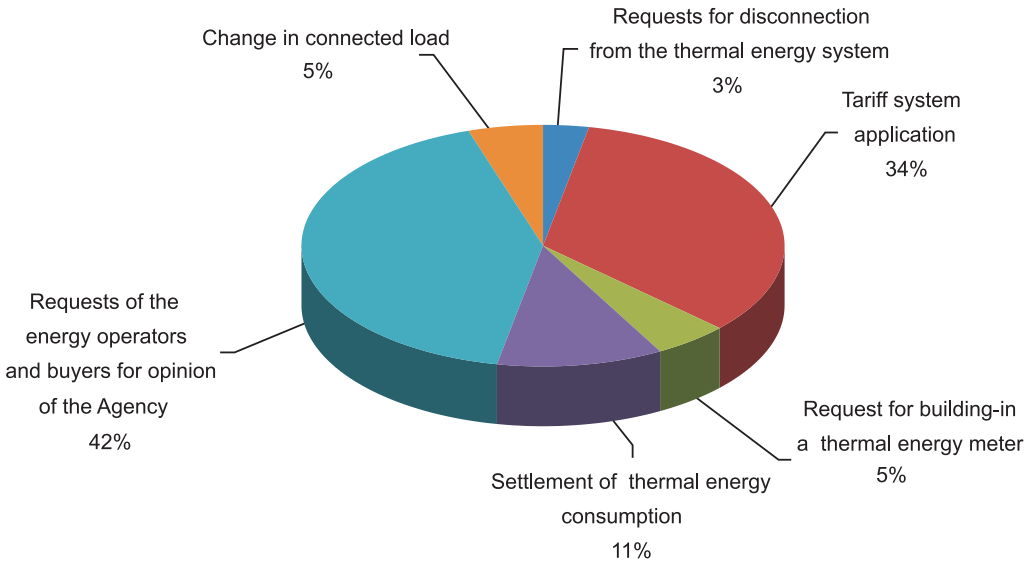


Figure 1.9.4 Cases from thermal energy field sorted by the categories

1.10 Cooperation of the Agency with other institutions and international activities

1.10.1 Cooperation of the Agency with governmental institutions

In the course of 2007 the Agency achieved significant cooperation with the Ministry of Economy, Labor and Entrepreneurship (hereinafter: the Ministry) as the proposer and the enactor of regulations in the energy sector and the authority which may perform administrative surveillance over implementations of acts and delegated regulations enacted pursuant to the Energy Law.

The Agency also cooperated with the Ministry in the issues of energy consumer protection, especially through the Customer Protection Council at the aforementioned Ministry, in whose activities a representative of the Agency took part.

Within its scope of obligations, the Agency also cooperated with competent inspectorates, especially the State Inspectorate and continued cooperation with the Croatian Competition Agency in order to solve all issues regarding carrying out the energy activities on the market which are not regulated by the Act on the Regulation of Energy Activities and which refer to prevention, limiting and disruption of market competition.

During 2007 there had not been any disputes which referred to prevention, limiting and disruption of market competition and onto which the Competition Act should have been applied (Official Gazette *"Narodne novine",* No. 122/03).

1.10.2 International activities and cooperation

The Agency has in performed a whole series of activities in the international field in the course of 2007 and has continued the cooperation with regulatory bodies of the European countries and United States of America. Besides that, the Agency participated in the activities of international associations of regulators: ERGEG (*European Regulators Group for Electricity and Gas*), CEER (*Council of European Energy Regulators*), Mediterranean Working Group on Electricity and Natural Gas and ERRA (eng. *Energy Regulators Regional Association*), within which it contributed to preparing studies, reports and recommendations. For the purpose of fulfillment of the

obligations taken over by signing the Energy Community Treaty, the Agency has participated in activities of Athens Forum (field of electricity) and Maribor Forum (natural gas field).

In the course of 2007 the Agency held seminars, workshops and presentations at which the foreign representatives of regulatory authorities, universities and international organizations took part.

1.10.2.1 South East European Energy Community

The South East European Energy Community has been established by a Treaty signed in Athens in 2005.

For the purpose of realization of the objectives of the Energy Community Treaty, the Energy Community is advised by two forums, consisting of representatives of all interested parties, including industry, regulatory bodies, groups representing industry and the customers.

Conclusions of the forum are enacted by consensus and forwarded to the PHLG (*Permanent High Level Group*).

1.10.2.1.1 Forum on the electricity sector - Athens Forum

The Forum on the electricity sector adjourns in Athens. The Agency has actively participated in the activities of the Athens forum, from preparation of the studies and presentations for the forum over participation in the discussions to conclusion and decision elaboration.

Two forum sessions (10th and 11th) were held in Athens during 2007.

Main topics of the Athens Forum during 2007 were:

- Trial management of explicit coordinated auctions of cross-border transmission capacities, based on the flow of power, within SE European Region;
- Mechanism for balancing the energy in the SE European Region and possibilities of a trial management;
- ITC (*Inter TSO Compensation*) mechanism for cross-border trade in electricity which has entered into force in 2007 within the area of all members of ETSO (*European Transmission System Operators*);
- Surveillance of the electricity market in the SE European Region;
- Transparency of the electricity in the region;
- Obstacles in trade in electricity and compatibility of market regulations in the SE European Region;
- Mechanism for better use of the cross-border capacities in the SE European Region;
- Customer protection and especially protection of venerable customers;
- Follow-up on improvement on electricity market opening.

1.10.2.1.2 Forum on the gas sector - Maribor Forum

The Forum on gas sector gathers all participants in the Energy Community, including regulators and representatives of the industry and consumers. It deals with issues of supply, role of the Energy Community in diversification of the gas supply and regulation of new investments.

Two mini-forums took place in Vienna in 2007 and JGWG (*The Joint Gas Working Group*) worked on the organization of the first forum on the gas sector.

The first forum on gas sector was held on November 9, 2007 in Maribor (i.e. Rogaška Slatina) and the following topics had been discussed:

- results of a Gasification Study for the South East European Region;
- improvement of gas projects having regional importance;
- status of gas markets in the SE European Region;
- report on development of implementation of Gas Directive (2003/55/EC);
- implementation of new acquis communautaire in the Energy Community (Directive 2004/67 and Regulation 1775/2005);

- Focus group for the consumers - achieved results;
- presentation of the 3rd Package of Directives.

1.10.2.1.3 Energy Community Regulatory Board

The Representatives of the Managing Council and expert services of the Agency have participated in the Activities of the ECRB (*Energy Community Regulatory Board*) which performs the following tasks pursuant to Article 58 of the Energy Community Treaty:

- advises the Ministerial Council, the Permanent High Level Group on details of statutory, technical and regulatory rules;
- issues recommendations regarding cross-border disputes involving one or two regulators upon request of any of them;
- takes measures for which it is empowered by the Ministerial Council;
- adopts procedural acts.

Three meetings were held.

Four working groups operate within ECRB:

- WG-E (Electricity Working Group);
- WG-G (Gas Working Group);
- WG-C (Customer Working Group);
- SEE CAO IG (South East Europe Coordinated Auctions Office Implementation Group).

Working groups (WG-E, WG-G, WG-C) had been working on the topics defined on the forums for electricity and gas, with active participation of the Agency's representatives.

The Electricity Working Group deals with problems related to establishment of a unique electricity market in the SE European Region. Above all, these are problems related to access to information and their transparency, legal framework, assigning cross-border capacities in respective states, as well as insufficient coordination of transmission system operators and establishing a corresponding market model. Inexistence of a wholesale electricity market, as well as balancing markets in the region present additional difficulties.

Working group WG-E held five meetings in the course of 2007 and initiated several project, of which the most important are the opening of the electricity market on the level of wholesale trade, mutual approval of licenses for electricity trade on the Energy Community level, regional mechanisms of balancing in SE Europe and establishment of the Office for Coordinated Auctions for Cross-Border Transmission Capacities in the SE Europe.

Gas Working Group held four meetings in the course of 2007. Position paper on the SEE gas market and the regulation of new investments in the Energy Community must be pointed out between processed topics. Besides that, a regional gas initiative for Western Balkans Rings with an open discussion on the regulator's role had been initiated. Also, the possibility of initiating GRISE (Gas Regional Initiative for South East Europe) has been brought forward, within which the regulators, transportation system operators and other interested parties would cooperate regarding opening the market, trade simplification, harmonization of trade rules and stimulation of cooperation between transportation system operators. The initiative has been approved by ECRB.

Customer Working Group has been established with a primary objective of protection of socially vulnerable customers in household category, and two meetings were held in the course of 2007. In the course of 2007, WG-C had developed Guidelines for Good Governance in protection of socially vulnerable customers in household category. ECRB adopted the aforementioned Guidelines in July 2007. A recommendation of necessity of establishment of support mechanisms for socially vulnerable households arises from the Guidelines, regardless of price determination regimes, i.e. tariff systems. The Guidelines also represent a basis for preparation of Regional Action Plan, which should provide the customers with such protection that does not affect the competition.

1.10.2.1.4 Implementation Group for Establishment of SEE Coordinated Auction Office for Cross-Border Transfer Capacities

For the purpose of harmonization of the regime of assigning of cross-border transmission line capacity in the SEE Region, a conclusion on necessity of establishment of a special Implementation Group for Establishment of SEE Coordinated Auction Office for Cross-Border Transfer Capacities had been made on the 10th Athens Forum in April 2007, and consists of the representatives of the European Commission, regulators, transmission system operators and if so required, of market operators, vendors and other interested parties.

The aim of the Implementation Group is to provide support to introduction of the coordinated auction mechanisms, as well as preparation and implementation of an action plan for establishment of the Office, taking into consideration documents and decisions of the relevant authorities pursuant to the Energy Community Treaty and requirements which arise from the Regulation 1228/2003 and corresponding recommendations regarding congestions.

The European Commission proposed Croatian Energy Regulatory Agency as the head of the Implementation Group. The Forum unanimously agreed on the proposal of the European Commission and asked the Implementation Group to start its activities.

A founding meeting of the Implementation Group took place in Zagreb on September 19, 2007, after which the Group stated with the preparation of an action plan. Holders of this task were Croatian Energy Regulatory Agency and Energy Community Secretariat in Vienna.

The action plan defines tasks regarding establishment and management of Coordinated Auction Office and all steps required for implementation of that plan are represented as deadlines with dates for fulfillment of respective parts of the plan.

After completion of trial coordination auction management and based on the results of participants' discussions, the transmission system operators from the SEE Region shall establish a Coordinated Auction Office for Cross-Border Transfer Capacities. Prior to the establishment of the Office, it is required to achieve an understanding between the participants (transmission system operators) which shall cover all aspects of the activities of the Office (method of calculation of cross-border transfer capacities, products to be offered, auction rules, distribution of the income from auctions), as well as definition of the region, through which also interconnection lines as auction subjects are defined.

The establishment of the Coordinated Auction Office for Cross-Border Transfer Capacities in SE Europe is foreseen by 2010.

1.10.2.2 Participation in activities of ERGEG and CEER

ERGEG had been established by the Decision of the European Commission on November 11, 2003 with a purpose of providing advice and expert assistance to the European Commission in creating a unique European energy market, placing emphasis on preparation of implementation measures within the field of electricity and gas.

Working program of ERGEG contains development of the energy politics, detailed technical recommendations regarding regulations and rules, supervision and reporting on recommendation fulfillment, efficiency and competence status on the European energy markets.

Main topics ERGEG dealt with in the course of 2007 include:

- advising the European Commission regarding preparation of so-called 3rd Package of Regulations regarding liberalization of European energy market;
- problem of separation of regulated energy activities from market activities (unbundling);
- follow-up and reporting on implementation of valid European legislation within the energy sector;
- preparation on implementation acts for implementation of the existing European legislation within the energy sector;
- sustainability and reliability of energy supply;
- regional markets in the EU and SE Europe.

Establishment of an integrated European electricity market in one stage has been a too optimistic assumption due to different levels of electricity market openness in different countries of the European Union. Therefore, ERGEG started an initiative for regional electricity markets in 2006, which divided EU member countries into seven regions pursuant to Regulation EC 1228/2003/EC of the European Parliament and Council of June 26, 2003 regarding access to cross-border electricity trade:

- CW – Central and Western Europe (Belgium, France, Germany, Luxemburg and the Netherlands);
- NE – Northern Europe (Denmark, Finland, Germany, Norway, Poland and Sweden);
- GBI – France, UK and Ireland (France, Great Britain, Ireland and Northern Ireland);
- CSE – Central and Eastern Europe (Austria, France, Germany, Greece, Italy and Slovenia);
- SWE – South/Western Europe (France, Portugal and Spain);
- CEE – Central/ Eastern Europe (Austria, Czech Republic, Germany, Hungary, Slovakia and Slovenia);
- BC – Baltic counties (Estonia, Latvia and Lithuania);

with the purpose of future integration of their electricity markets. Each of the seven regions has its own implementation process, i.e. its implementation group consisting of regulator, transmission system operator, EU member country, the European Commission and all other interested parties. Each of the regions has similar objectives, but various approaches and progress levels and therefore, the whole process is recorded in special ERGEG's documents.

The idea of forming the 8th region which would unite countries of SE Europe, some of which are not members of the EU, seemed to be a logical continuance of that activity. It is believed that this is the way of creating better conditions for electricity trade among members of EU, but also in the region.

European Regulators' Group for electricity and gas (ERGEG) and *Council of European Energy Regulators* (CEER) had in 2007 worked intensely on the development of GRI (Gas Regional Initiative), i.e. providing conditions for integration of regional gas markets. There are three regional markets:

- NW – North-West (Norway, Belgium, Denmark, France, Germany, Ireland, Northern Ireland, Netherlands, Sweden, Great Britain);
- S – South (France, Portugal, Spain);
- SEE – South-East (Austria, Bulgaria, Czech Republic, Greece, Hungary, Italy, Poland, Slovakia, Slovenia, Rumania);

each having a respective action plan.

Objectives of these plans are market transparency, development of gas junction points, mutual operability and access to infrastructure capacities.

Process of integration of regional gas markets before the European Commission is supervised by ERGEG.

ERGEG held five meetings in 2007, during which the representatives of the Agency were present as observers.

The Representatives of the Agency also took part in several workshops organised by CEER during 2007.

1.10.2.3 Participation in activities of ERRA

Main objectives of ERRA are as follows:

- to improve national energy regulation in member countries;
- to foster development of stable energy regulators with autonomy and authority, as well as to improve cooperation among energy regulators;

- to increase communication and exchange of information and to increase access to energy regulatory information and experience around the world, as well as promotion training opportunities.

In the course of 2007, the representatives of the Agency participated in ERRA's regular annual meeting and conference, participated actively in activities of ERRA's Tariff/Pricing Committee and in the activities of ERRA's Legal Working Group.

In the course of 2007, several meetings of the aforementioned ERRA's boards and Working Group had been held as follows:

- three meetings of Tariff/Pricing Committee in Belgrade, Istanbul and Tallinn ;
- three meetings of the Board for Licenses and Competition in Belgrade, Istanbul and Zagreb;
- two meetings of Legal Working Group in Istanbul and Alma Ata.

The representatives of the Agency participated in several workshops, seminars and courses organized by ERRA during 2007, where various issues and problems regarding energy sector regulation, organization and function of the energy market, tariff system and energy pricing, informing and publicity of activities of the regulatory body etc., had been discussed.

1.10.2.4 Cooperation with USAID

Within the cooperation with USAID (United States Agency for International Development), the workshops on development of tariff systems for production, distribution, transmission and supply of electricity held in the Agency must especially be pointed out.

An expert workshop took place in Zagreb from June 26-29, 2007, within the Partnership Program of Cooperation with representatives of the NYPSC (New York Public Service Commission). Current problems of regulations in electricity and gas activities had been discussed. The Representatives of the Agency participated as lecturers with their presentations in the workshops and they also exchanged knowledge and experience with NYPSC.

Besides that, USAID organized two visits of expert consultants to the Agency regarding topics of accountancy monitoring of energy operators, as well as access to data required for regulation implementation.

1.10.2.5 Participation in activities of MEDREG

MEDREG has been established in May 2006 as a working group. Nowadays, it operates as a non-profit association, founded in November 2007 in Rome, being supported by the European Commission. The Association gathers regulatory authorities from Albania, Algiers, Bosnia and Herzegovina, Cyprus, Monte Negro, Egypt, France, Greece, Israel, Italy, Jordan, Croatia, Malta, Morocco, Palestinian Authority, Portugal, Spain, Slovenia, Tunisia and Turkey.

Main objective of MEDREG is an establishment of a stable and harmonized regulatory framework on the energy market of the European Union and Mediterranean countries (exchange of information, analyses and comparison of existing energy acts and regulations, development of common regulatory frameworks, including criteria for cross-border trade in electricity and gas, promotion of integration of regional European and Mediterranean electricity and gas markets, harmonized, transparent and non-discriminatory market rules, exchange of knowledge, expertise, specialized expert courses, cooperation with similar international associations, etc.).

For this purpose special working groups representing working authorities, focused on specific areas with an objective of analyzing institutional, technical and market aspects with the aim of achieving concrete results, had been established for the purpose of ad hoc cases.

The representatives of the Agency participated in the course of 2007 in both sessions of MEDREG's General Assembly and several meetings of special working groups.

1.10.2.6 Negotiations on accession to the European Union

The representatives of the Agency participated in the activities of negotiating teams for the accession of Croatia to the European Union for Chapter 15 – Energy, Chapter 21 – Trans-European Networks and Chapter 28 – Consumer Protection, within the analysis of compliance of the national acts and regulations with acquis communautaire, which is undertaken both by the candidate country for the membership in the European Union and the European Commission.

1.10.2.7 Other activities

Mutual visits and contacts with the regulatory authorities of France, Austria, Macedonia, Bosnia and Herzegovina and Slovenia had taken place within the scope of international activities.

The Agency also held a series of round tables, workshops and working meetings with a purpose of preparing a delegated regulations package with regard to electricity market, tariff systems, sustainable energy sources and cogeneration, etc.

1.11 Agency's advisory bodies

Pursuant to Article 39 of the Statute of the Agency, it is prescribed that the Agency shall find advisory and expert authorities (councils), which shall participate in particular activities and fields of Agency's activities. These are:

- Council for Regulatory Affairs and
- Council for Consumer Protection.

As a member of Agency's advisory body may be appointed a natural person who may help the Agency in forming a professional opinion through its public activities and reputation or professional assistance.

The advisory bodies are advisory and professional authorities which make recommendations and give opinions on issues within the scope of their competence and they adjourn mainly upon invitation of the president of the Managing Council, however, at least twice a year.

In 2007 the Managing Council issued a Rulebook on Amendments to the Ordinance on Establishment and Work of Councils the Croatian Energy Regulatory Agency. Furthermore, the number of members of Council for Consumer Protection has been increased and the Managing Council appointed Eduard Lorencin, Terezija Benčić and Renato Berglesa as members of the Council.

1.11.1 Council for Regulatory Affairs

The Council for Regulatory Affairs makes recommendations and provides opinions on issues which are directly related to regulatory affairs of the Agency, such as issues of establishment of a tariff system without the amount of tariff items, providing opinions on the amount of tariff items, enactment of regulations in energy sector, etc.

Three meetings of the Council were held in the course of 2007, on which the following has been discussed:

1. Proposal of a Tariff System for Natural Gas Distribution Without the Amount of Tariff Items;
2. Proposal of a Tariff System for Natural Gas Distribution Without the Amount of Tariff Items with the Exception of Eligible Customers;
3. Proposal of a Tariff System for Oil and Oil Derivatives Transportation Through Product Pipelines
4. Proposal of Amendments to Tariff System for Services of Production, Distribution and Supply of Thermal Energy Without the Amounts of Tariff Items;
5. Proposal of Amendments to Tariff System for Services of Production, Distribution and Supply of Thernal Energy Without the Amounts of Tariff Items (consolidated text).

1.11.2 Council for Consumer Protection

The Council for Consumer Protection makes recommendations and provides opinions on measures of consumer protection during implementation of energy activity regulation system, follows up on problem area of consumer protection, valid regulations and their effect on the consumer protection, gives opinion on legal acts and secondary legislation related to issues of consumer protection and gives initiatives for regulation amendments.

In compliance to the above-mentioned, the Council for Consumer Protection held two meetings during 2007 and discussed the following issues:

1. Proposal of a Tariff System for Natural Gas Distribution Without the Amount of Tariff Items;
2. Proposal of a Tariff System for Natural Gas Distribution Without the Amount of Tariff Items with the Exception of Eligible Customers;
3. Proposal of Amendments to Tariff System for Services of Production, Distribution and Supply of Thermal Energy Without the Amounts of Tariff Items;
4. Proposal of Amendments to Tariff System for Services of Production, Distribution and Supply of Thermal Energy Without the Amounts of Tariff Items (consolidated text).

1.12 Financial reports of the Agency for 2007

Financial reports of the Agency for 2007 had been drawn up pursuant to the Regulation on Accountancy of Non-Profit Organizations (Official Gazette *"Narodne novine"*, No. 112/93) and the Ordinance of Accountancy and Accountancy Plan of Non-Profit Organizations (Official Gazette *"Narodne novine"*, No. 20/94 and 40/94).

Pursuant to report of an authorized auditor, financial reports of the Agency represent realistic and objective financial standing and operational results as per December 31, 2007.

1.12.1 Profit and loss statement for the period from January 1 to December 31, 2007

- in HRK -

No.	Position	2006	2007
1	2	4	4
A.	**REVENUES**	**18.244.914**	**27.434.400**
1.	**Revenues from the budget**		
2.	**Revenues from contributions**	**17.430.890**	**25.842.524**
3.	**Revenues from membership fees and other charges**		
4.	**Revenues from transfer**		
5.	**Revenues from activities**	**562.900**	**1.377.897**
6.	**Other revenues**	**251.124**	**213.979**
B.	**EXPENSES**	**13.709.397**	**14.710.821**
1.	**Material expenses**	**5.618.067**	**4.513.055**
1.1.	Material	237.134	170.786
1.2.	Energy	161.072	188.239
1.3.	Services	5.219.861	4.154.030
1.4.	Other expenses		
2.	**Labor costs**	**6.287.648**	**8.564.686**
2.1.	Salaries and compensations	6.187.797	8.435.228
2.2.	Other costs	99.851	129.458
3.	**Non-material costs**	**618.323**	**856.317**
4.	**Transfers**		
5.	**Investment expenses**	**750.233**	**149.238**
6.	**Other expenses**	**435.126**	**627.525**
C.	**REVENUE SURPLUS**	**4.535.517**	**12.723.579**
D.	**REVENUE DEFICIT**		

1.12.2 Balance sheet as per December 31, 2007

- in HRK -

No.	Position	Status 12/31/ 2006	Status 12/31/2007
1	2	4	
	ASSETS		
A.	**LONG-TERM ASSETS**	**1.955.006**	**1.561.420**
1.	**Intangible assets**		
2.	**Tangible assets**	**1.955.006**	**1.561.420**
2.1.	Equipment and machinery	2.572.931	2.680.243
2.2.	Other tangible assets	548.761	580.895
2.3.	Tangible assets value adjustment	1.166.686	1.699.718
3.	**Financial assets**		
4.	**Receivables**		
B.	**SHORT-TERM ASSETS**	**22.344.919**	**34.921.850**
1.	**Inventories**		
2.	**Receivables**	**2.573.547**	**3.198.301**
2.1.	Receivables from the customers and for advance payments	2.538.902	3.164.189
2.2.	Receivables from the employees	13.018	5.251
2.3.	Receivables from the states and other institutions	21.627	28.861
2.4.	Other receivables		
3.	**Financial assets**		
4.	**Cash at bank and in hand**	**19.771.372**	**31.723.549**
C.	**PREPAYMENTS**	**117.230**	**114.424**
D.	**TOTAL ASSETS**	**24.417.155**	**36.597.694**
E.	**OFF-BALANCE SHEET ITEMS**	**2.335.296**	**1.663.510**
	LIABILITIES		
A.	**LONG-TERM LIABILITIES**	**1.342.718**	**1.193.264**
1.	**Long-term liabilities**		
2.	**Short-term liabilities**	**1.342.718**	**1.193.264**
2.1.	Payables related to advance payments	257.115	117.097
2.2.	Payables to suppliers	406.784	260.737
2.3.	Payables to employees	350.464	372.112
2.4.	Payables related to taxes, contributions and other	328.355	443.318
B.	**DEFERRED INCOME**		
C.	**FINANCING SOURCES**	**23.074.437**	**35.404.430**
1.	**Financing sources from the founder**	**18.269.295**	**22.411.226**
2.	**Financing sources from own activities**		
3.	**Other sources of financing**	**269.625**	**269.625**
4.	**Fund balance**	**4.535.517**	**12.723.579**
D.	**TOTAL LIABILITIES**	**24.417.155**	**36.597.694**
E.	**OFF-BALANCE SHEET ITEMS**	**2.335.296**	**1.663.510**

Development of the Market and Public Services in Energy Sector

2 DEVELOPMENT OF THE MARKET AND PUBLIC SERVICES IN ENERGY SECTOR

2.1 Electricity

2.1.1 Legislative framework

Secondary legislation which regulates activities of the electricity market in Croatia entered into force in January 2007:

- **Electricity Market Rules** (Official Gazette *"Narodne novine"*, No. 135/06) regulating mutual relationships between the participants of the electricity market;
- **Rules on Balancing the Electric Power System** (Official Gazette *"Narodne novine"*, No. 133/06) which regulate activities of operators responsible for deviations, providers of a service of electric energy system balancing, their relationships with transmission system operator, market operator and ways of settlement of accounts for electric power balancing;
- **Methodology on providing balancing energy services in the electric power system** (Official Gazette *"Narodne novine"*, No. 133/06) which aims at provision of contracting electric power balancing service between transmission system operator and balancing service provider, establishing the framework for reference price determination and determination of price for electric power balancing for subjects responsible for deviations;
- **Rules on Allocation and Use of Cross-Border Transfer Capacity** which determine ways and conditions for granting and using cross-border capacities.

2.1.1.1 Electricity Market Rules

These Rules regulate relationships in the following segments of the electricity market:

- procedures by which the Croatian Operator of the Energy Market (hereinafter: HROTE) organizes the electricity market;
- mutual relationships between HROTE and electricity market participants;
- mutual relationships between HROTE, HEP–OPS and HEP–ODS.

This regulation sets preconditions for operation of the electricity market.

2.1.1.2 Rules on Balancing the Electric Power System

Rules on Balancing the Electric Power System define the following important elements in the process of balancing consumption and production in the electric energy system:

- subjects responsible for imbalances (SOZO);
- providers of service of electric power system balancing;
- relationship of SOZO and provider of service of electric power system balancing with HEP-OPS and HROTE;
- settlement of accounts and payment of balancing energy.

2.1.1.3 Methodology on providing balancing energy services in the electric power system

The purpose of Methodology on providing balancing energy services in the electric power system is:

- providing balancing service between the transmission system operator and balancing service provider;
- establishment of the framework for determining reference balancing energy price;
- determining the balancing energy price for the balancing responsible parties.

2.1.1.4 Rules on Allocation and Use of Cross-Border Transfer Capacity

Rules on Allocation and Use of Cross-Border Transfer Capacity on interconnection lines of the electric power system of the Republic of Croatia with electric power systems of neighboring countries regulate ways and conditions of use of cross-border transfer capacity.

This regulation is of outmost importance for establishment of an international electricity market and therefore, the European Commission has provided special instructions regarding this particular topic.

2.1.2 Monitoring of unbundling the energy activities and follow-up on transparency, objectivity and impartiality

HEP Group is an energy company completely owned by the state, which deals with production, transmission, distribution and supply of electricity, among other activities.

Hrvatska elektroprivreda d.d. (HEP d.d.) is the mother company of HEP Group, the founder and a sole owner of founded companies. It unifies the management of dependant companies within HEP Group and is the owner of all assets, which are contractually transferred to management of dependant companies or daughter companies.

Legal, accounting and functional unbundling of HEP–OPS and HEP–ODS as companies carrying out regulated activities from other activities within HEP Group has been carried out.

Besides that, it is important to mention that of March 1, 2007 division HEP Trade has been unbundled from HEP d.d. and a company HEP-Trgovina d.o.o. has been founded, which purchases electricity for buyers from HEP-ODS and HEP-Opskrba.

Independence, transparency and impartiality of the operations of HEP-OPS are guaranteed through monitoring of its business activities, which is performed by the Agency. HEP-OPS is obliged to ask for consent of the Agency for respective activities and submit reports on its operations to the Agency.

The Electricity Market Act prescribes in Article 14 that the operator of a transmission system and the operator of a distribution system shall prepare a program which regulates conditions, rules, organization and methodology for the purpose of fulfillment of transparency, objectivity and impartiality criteria with an objective of monitoring from Articles 11, 12 and 13 of the Electricity Market Act.

Transmission system operator and the distribution system operator are obliged to submit an annual report on implemented program to the Agency and to publish it on their websites.

Pursuant to aforementioned legal obligations, HEP-OPS has established a Commission for Follow-up and Monitoring of the Program for Provision and Implementation of Transparency, Objectivity and Impartiality Criteria of operations of HEP-Operator prijenosnog sustava d.o.o. The Commission adopted the annual Report on Program Implementation during the period between June 2006 and June 2007, which has been submitted to the Agency and published on its website (www.hep.hr/ops/onama). The aforementioned report presents activities which allow for fulfillment of the set objectives.

Pursuant to legal obligations, HEP-ODS has also established Commission for Follow-up and Monitoring of the Program for Provision and Implementation of Transparency, Objectivity and Impartiality Criteria of operations of HEP-ODS. The monitoring of the Program shall be applied as of January 2008. Since the beginning of June 2007, HEP-ODS has its site on the website

www.hep.hr/ods/, where notifications for the buyers of electricity are regularly published (tariff systems, electricity price, instructions on consumption calculation, planned works, advice on rational electricity consumption). All legal acts and secondary legislation and internal regulations of HEP d.d. may be found on that page, which relate to the electricity buyers, as well as annual reports of HEP–ODS with all information and business indicators for the prior year.

2.1.3 Opening the electricity market

Pursuant to the provisions of the Electricity Market Act, as of July 1, 2007, all buyers except buyers from the category of residential customer have been granted a status of eligible customers, whereas small customers (legal entities with less than 50 employees and annual income of up to 70 million HRK) may opt not to make use of that right. Pursuant to data on electricity sales in 2007, the status of eligibility could have been used by the customers who have approx. 212.000 metering points in total and represent approx. 59% of electricity consumption in the Republic of Croatia.

Pursuant to data submitted by HROTE, in the course of 2007, 14 companies registered for carrying out energy activities in the Republic of Croatia concluded agreements with HROTE, which allow them carrying out the activities on the electricity market. 12 agreements had been concluded for trade activities (but not for end customers) and 3 agreements for supply of (end) customers.

Supply of tariff customers is performed by the company pursuant to the Electricity Market Act and the remaining two companies, together with aforementioned vendors, had become participants on the electricity market.

Pursuant to data submitted by HROTE, in the course of 2007, 19 customers in the Republic of Croatia used the status of eligible customer. Their total electricity consumption in 2007 amounted to 912,722 MWh, i.e. approx. 6% of total consumption in the Republic of Croatia.

In general, it may be noted regarding conditions on the electricity market in the Republic of Croatia that there are only two companies that may supply the eligible customers, one of which has not properly been activated. The reason lies in HEP's low priced supply of electricity in comparison with prices on the wholesale markets in the region.

Pursuant to data supplied by HEP–Trgovina d.o.o., the average price for purchasing of electricity on the wholesale market in 2007 amounted to 56,6 €/MWh.

Therefore, there has not been any interest of the new suppliers to enter the market in the Republic of Croatia. However, it is realistic to expect changes in the future.

On the other hand, as far as the situation on electricity trade field is concerned, it may be noted that the market has been very dynamic.

2.1.4 Activities of restructuring the energy sector

Fundamental energy acts, together with secondary legislation regulate the Croatian electricity market model. Its structure is represented on the Figure 2.1.1.

HROTE carries out the activity or electricity market organization as a public service, under surveillance of the Agency.

HROTE started its activities on April 4, 2005 and in the course of 2007, the unbundling procedure of HROTE from Hrvatska elektroprivreda d.d. into an independent company owned by the Republic of Croatia had been completed.

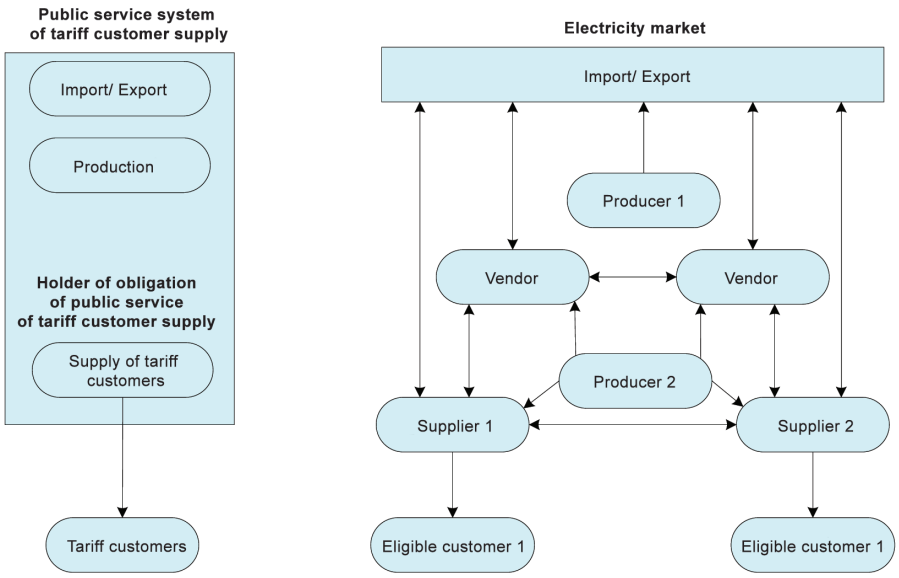


Figure 2.1.1 Electricity market model in the Republic of Croatia

2.1.5 Follow-up on Rules on Allocation and Use of Cross-Border Transfer Capacity

Pursuant to the Act on the Regulation of Energy Activities, the Agency in particular monitors implementation of rules on control and distribution of capacities of interconnection lines, in cooperation with regulatory bodies of neighboring countries with which there is an energy system connection.

Way and conditions of control and distribution of capacities of cross-border interconnection lines in the Republic of Croatia are regulated by Rules on Allocation and Use of Cross-Border Transfer Capacity (hereinafter: Rules on Allocation), which had been adopted by HEP-OPS by the end of 2006 and which are in force as of January 1, 2007. The Rules on Allocation had been published of the website of HEP-OPS.

Pursuant to the Rules of Allocation, transfer capacity is allocated on periodic allocation, auction and bilateral allocation.

The available capacity is allocated for the period of one year, six months and three months at a periodical allocation.

Each participant who imports electricity for tariff and eligible customers in the Republic of Croatia may participate in the periodical allocation. In case of congestion at import at the periodical allocation, precedence is given to the holder of a public supply service.

Any participant that exports electricity produced in the Republic of Croatia, except for eligible subsidized production, may participate at periodical allocation for export. In case of congestion at export, precedence is given to the participants who export electricity produced in eligible power plants.

Transfer capacities uncommitted at the periodical allocation shall be allocated at the next periodical allocation, at a monthly auction or bilateral allocation. Transfer capacity uncommitted after a monthly auction may be allocated at a daily auction or bilateral allocation. Transfer capacities that remain uncommitted after a daily auction shall be allocated at a bilateral allocation.

The available transfer capacity is offered with an allocation period of one month and one day at an auction. In case there is no congestion at the interconnection lines, the capacity is allocated in the required amount to the auction participants without charge. If there is a congestion at the interconnection lines, the capacities are allocated based on the criteria of marginal offered price for requested capacity.

Transfer capacity is offered at a bilateral allocation for the period of a part of a month, one day and part of a day. In case of congestion at bilateral allocation and inability to organize an auction, the priority at capacity allocation for import is given to the holder of public supply service and participants importing for eligible customers. The precedence at import is given to the participants that export the electricity produced in the Republic of Croatia.

Pursuant to Rules of Allocations, a secondary market for allocated capacities has not been foreseen. An allocated capacity is not transferable and may be used only by the participant it was allocated to, only in case when a tariff customer changes its status into eligible customer.

Total sum of average winter and summer values of cross-border capacity - NTC (Net Transfer Capacity) is represented in the table 2.1.1. The below-mentioned average amounts of total NTCs are presented per respective border. Winter values refer to January, February, March, October, November and December, whereas summer values refer to April, May, June, July August and September. International codes of respective countries are HR (Croatia), SI (Slovenia), HU (Hungary), BA (Bosnia and Herzegovina) and RS (Serbia).

Table 2.1.1 Total sum of average summer and winter values of NTC [MW]

Winter values				Summer values			
HR	→	HU	950,00	HR	→	HU	795,83
HR	←	HU	266,67	HR	←	HU	233,33
HR	→	SI	933,33	HR	→	SI	950,00
HR	←	SI	891,67	HR	←	SI	900,00
HR	→	RS	266,67	HR	→	RS	150,17
HR	←	RS	316,67	HR	←	RS	203,33
HR	→	BA	668,33	HR	→	BA	573,33
HR	←	BA	473,33	HR	←	BA	461,67

Source: HEP-OPS

At the annual level in the course of 2007 there has not been a periodical annual allocation of cross-border capacities of interconnection lines pursuant to the Rules of Allocation, due to the fact that the Rules on Allocation did not enter into force at the time of annual allocation.

Cross-border capacities at periodical allocations during 2007 for the period of six months and three months had been allocated pursuant to the Rules of Allocation.

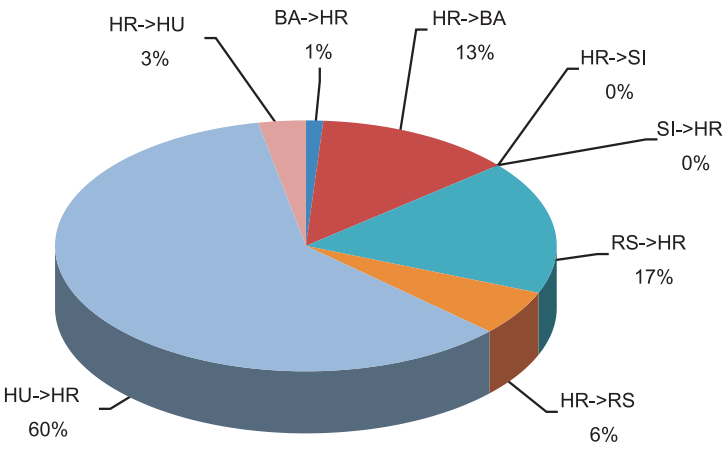
HEP-OPS started with auctions for monthly allocation of cross-border capacities in March 2007.

Total realized income from monthly auctions for cross-border capacities of interconnection lines of HEP-OPS amounted to approx. HRK 65,000,000, of which 60% had been realized at Croatian-Hungarian border in direction of Croatia. The significant part of the income had also been realized at the Croatian-Serbian border from direction of Serbia (17%) and at the border between Croatia and Bosnia and Herzegovina in direction of Bosnia and Herzegovina (13%). Figure 2.1.2 represents structure of income of HEP-OPS from monthly auctions.

2.1.6 Electricity transit and ITC Agreement

By June 1, 2007, when the mechanisms of mutual compensation of transfer systems, so-called ITC-mechanisms had been implemented, HEP-OPS charged a fee for transit of electricity through the Republic of Croatia, after which an ITC Agreement for 2008-2009 entered into force. Income from electricity fee transit till the implementation of ITC mechanisms during 2007 (period January-May 2007), income pursuant to ITC mechanisms in the period June-November 2007,

foreseen income pursuant to ITC mechanisms in 2007 and total income from fees for transit and income from ITC mechanisms in 2007 are presented in the table 2.1.2.



Source: HEP-OPS

Figure 2.1.2 Structure of income of HEP-OPS from monthly auctions for cross-border transfer capacities at borders in the course of 2007

Table 2.1.2 Income from a fee for electricity transit through the Republic of Croatia and income from ITC mechanism in 2007

Type of income	Amount [HRK]
Income from charging a transit fee (January-May 2007)	**33.916.371,65**
Income from ITC mechanisms (June-November 2007)	31.114.703,64
Income from ITC in December 2007 (estimate)	1.980.818,53
Total income from ITC mechanisms in 2007 (June-December 2007)	**33.095.522,17**
ITC + charging of transit fees	**67.011.893,82**

Source: HEP-OPS

2.2 Gas

2.2.1 Legislative framework

The organization of gas sector of the Republic of Croatia is based on the Energy Law (Official Gazette *"Narodne novine"*, No. 68/01, 177/04 and 76/07), the Act on Gas Market (Official Gazette *"Narodne novine"*, No. 40/07) and the Act on the Regulation of Energy Activities (Official Gazette *"Narodne novine"*, No. 177/04 and 76/07).

In the course of 2007, the Act on the Gas market, Tariff System for Natural Gas Distribution without the Amount of Tariff Items (Official Gazette *"Narodne novine"*, No. 34/07 and 47/07), Tariff System for Supply of Natural Gas with the Exception of Eligible Customers without the Amount of Tariff Items (Official Gazette *"Narodne novine"*, No. 34/07 and 47/07) and a Decision on the Price for Supply of Gas to a Gas Distributor for Eligible Customer Supplier (Official Gazette *"Narodne novine"*, No. 77/07) had been adopted and these are described in more details hereinafter. Furthermore, amendments to the Tariff System for Natural Gas Transportation without the Amount of Tariff Items (Official Gazette *"Narodne novine"*, No. 03/07) had been enacted. In

the course of 2007, it was started with preparation of several pieces of secondary legislation which arise from the provisions of the Act on the Gas Market, such as General Conditions of Natural Gas Supply, Provision on Reliability of Natural Gas Supply, Ordinance on Organisation of Natural Gas Market, Network Rules of the Transportation System, Network Rules of the Distribution System, etc.

2.2.1.1 The Act on the Gas Market

The Act on the Gas Market brings significant changes on the natural gas market in the Republic of Croatia. Implementation of the provisions of the Act on the Gas Market is expected to fulfill the following goals:

- unbundling gas activities of production, transportation, management of a terminal for liquefied natural gas (hereinafter: LNG), gas storage, distribution and supply of gas;
- establishment of operators of transportation system, operator of LNG terminal, operator of gas storage system and operator of distribution system with clearly defined obligations and responsibilities;
- setting clear rules regarding accepted obligations of provision of public services;
- establishing mutual cooperation for providing all services on the gas market in an transparent, objective and impartial way;
- determination of conditions, deadlines and dynamics of opening the gas market;
- defining conditions of construction of new objects;
- providing efficient connection of national system with the European system.

The fundamental objective of the Act on the Gas Market is creating normative preconditions for reliable, efficient and economic gas supply. Therefore, it is foreseen by the Act on the Gas Market that the gas market must be organized based on the rights of third sides to access the network of production gas pipelines, transportation system, distribution system, gas storage system, including access to operative accumulation and LNG, equally for all participants on the market which are entitled to access. The Act on the Gas Market foresees the liberalization of the market in such way that the gas market is opened gradually, pursuant to situation on the inland market, as well as economic and social conditions in the Republic of Croatia.

The Act on the Gas Market prescribes establishment of a new system of implemental secondary legislation which would put end to the process of regulation harmonization on the gas market with acquis communautaire of the European Union. This refers to the following delegated acts:

- General conditions of natural gas supply;
- Regulation on Reliability of Natural Gas Supply;
- Ordinance on Organization of Natural Gas Market;
- Network rules for the transportation system, i.e. the distribution system;
- Rules on use of gas storage system, i.e. rules on use of LNG terminals;
- Decision on the Price of Gas Supply for Gas Suppliers of Distributors to Tariff Customers;
- Ordinance on a Fee for Gas Network Connection and Increase of Connected Load;
- Tariff Systems for Regulated Prices in the Gas Sector.

2.2.1.2 Tariff System for Natural Gas Distribution without the Amounts of Tariff Items and Tariff System for Natural Gas System without the Amounts of Tariff Items with the Exception of Eligible Customers

Tariff System for Natural Gas Distribution without the Amounts of Tariff Items and Tariff System for Natural Gas System without the Amounts of Tariff Items with the Exception of Eligible Customers have been adopted for the first time in the Republic of Croatia and are based on the provisions of the Energy Act and the Act on the Regulation of Energy Activities. Properties of the new tariff systems are as follows, among other things:

- the method of approved business costs is used as a regulation method. Allowed income of the distributor or supplier, for which a calculation method is defined by tariff systems, also includes depreciation of regulated means and income from regulated means, besides operative costs and in case of natural gas supply, costs of gas supply as well;
- the users of distribution gas pipelines, i.e. tariff customers in case of a tariff system for natural gas supply are divided into residential and entrepreneur tariff groups. Residential tariff group consists of one tariff model, whereas entrepreneur tariff group consists of two tariff models, depending on total annual consumption of natural gas. Two tariff items have been foreseen for each of the tariff models, unit price of distributed/delivered quantity of natural gas which is charged in HRK/Sm3 and a fixed monthly fee foreseen for covering realistic fixed costs, which is charged in HRK;
- distributor, i.e. supplier defines tariff items in such a way that the estimated total income, for which a calculation method is also defined by the tariff system, does not exceed the amount of approved income.

Price of distribution and supply with natural gas is determined in a transparent and impartial manner through implementation of tariff systems, whereas the tariff customers receive a higher reliability level and indirectly also a higher lever of service quality through increase of efficiency and transparency of distributor's, i.e. supplier's activities. Furthermore, the preconditions for gradual opening of the natural gas market and development of distribution system in the Republic of Croatia are provided for.

2.2.1.3 Decision on the Price for Gas Supply for a Gas Supplier of a Distributor to Tariff Customers

Decision on the Price for Gas Supply for a Gas Supplier of a Distributor to Tariff Customers defines a price for gas supply for a gas supplier of a distributor to tariff customers and it replaced Tariff System for Natural Gas Supply to Tariff Customers (Official Gazette *"Narodne novine"*, No. 99/02). Pursuant to the Provisions of the Decision, supply price is to be corrected proportionally in accordance with the difference of real lower calorific value of gas.

2.2.2 Opening the natural gas market

The Act on the Gas Market foresees the liberalization of the market in such way that the gas market is opened gradually, pursuant to situation on the inland market, as well as economic and social conditions in the Republic of Croatia. Namely, pursuant to the provisions of the Act on the Gas Market, the buyers of natural gas may be eligible or tariff customers, regardless of the system they are supplied by. An eligible customer may be defined as:

- the customer who uses gas for the production of electricity, regardless of the level of annual consumption and within the limit of gas quantity intended for such purpose;
- the buyer who uses gas for simultaneous production of electricity and thermal energy, regardless of the level of annual consumption and within the limit of gas quantity intended for such purpose;
- the end customer who has used up more than 25 mil. m3 of gas;
- the buyer who uses gas for carrying out production of crude cast iron, steel and ferroalloy, with a yearly production of at least 50,000 tons of crude steel.

Pursuant to transitional and final provisions of the Act on the Gas Market, it is defined that the status of an eligible customer as of August 1, 2007 is granted to the customers that do not belong to the residential category and as of August 1, 2008, all households shall be granted status of eligible customer.

The share of natural gas consumption by the buyers who were granted eligible status by December 31, 2007 in total consumption of natural gas amounts to 79,5% which represents a

declarative openness of the natural gas market in the Republic of Croatia. The level of market openness is represented in the table 2.2.1.

Table 2.2.1 Openness of the gas market in the Republic of Croatia

Country	Eligibility criteria/ threshold	Level of declarative openness [%]	Level of realistic openness [%]		Unbundling gas transportation from other activities	Unbundling gas distribution from other activities
			entrepreneurship	households		
Republic of Croatia	As of 08/2007: all buyers except for households As of 08/2008: all buyers	79,5	0	0	Ownership	In process of accountancy and legal unbundling

Source: HERA

2.3 Oil and oil derivatives

2.3.1 Legislative framework

The oil and oil derivatives market, i.e. corresponding energy activities are regulated by the Energy Act, the Act on the Regulation of Energy Activities and the Act on Oil and Oil Derivatives Market.

In the course of 2007, several corresponding pieces of secondary legislation had been prepared and adopted, the most important of which are described hereinafter.

2.3.1.1 Ordinance on Determination of Prices of Oil Derivatives

The Ordinance of Determination of Prices of Oil Derivatives (Official Gazette *"Narodne novine"*, No. 3/07) prescribes the way of determination of the highest price of oil derivatives. Amendments in accordance with the prior Ordinance on Determination of Prices of Oil Derivatives (Official Gazette *"Narodne novine"*, No. 75/06) refer to the following:

- determination of accounting element X3 (the amount based on the costs of primary storage and manipulation which amounts to 215.89 HRK/t for motor fuels, i.e. 208.7 HRK/t for diesel fuels, gas oil (extra light fuel oil) and blue diesel instead of previously used amount of customs fee in HRK/t pursuant to the prescribed customs rate applied to import price of respective derivative;
- accounting element M (costs of transportation via main roads, manipulation and wholesale and retail trade-margin) that now amounts to 0.30 HRK/l for blue diesel, instead of 0.40 HRK/l that had been used so far.

2.3.1.2 Statute of the Croatian Compulsory Oil Stocks Agency

Statute of the Croatian Compulsory Oil Stocks Agency (Official Gazette *"Narodne novine"*, No. 6/07) regulates name and the headquarters, activities, internal organization, operation and business criteria, authorizations and manner of reaching of decisions, presentation, representation, general acts, confidentiality of data, publicity of the operations, financing and other issues relevant for the operation of Croatian Compulsory Oil Stock Agency (hereinafter: HANDA).

Fundamental activities of HANDA are as follows:

- Collection of fee for compulsory stocks of oil and oil derivatives;
- Purchase and sales of oil and oil derivatives in order to establish and maintain stocks;
- Organization, supervision and management of compulsory stocks of oil and oil derivatives;
- Spending specified-purpose funds for establishment and storage of compulsory stocks of oil and oil derivatives;
- Prescribing conditions for storage of compulsory stocks of oil and oil derivatives.

2.3.1.3 Decision on Amount of the Fee for Financing HANDA's Activities and Compulsory Stocks of Oil and Oil Derivatives for 2007

The fee for financing HANDA's activities and compulsory stocks of oil and oil derivatives for 2007 is prescribed by the Decision on Amount of the Fee for Financing HANDA's Activities and Compulsory Stocks of Oil and Oil Derivatives for 2007 (Official Gazette *"Narodne novine"*, No. 8/07), amounting to HRK 150.00 per ton of oil derivatives.

2.3.1.4 Tariff System for Transportation of Oil through Oil Pipelines

Tariff System for Transportation of Oil through Oil Pipelines (Official Gazette *"Narodne novine"*, No. 39/07) is established by the Agency and it prescribes:

- manners and criteria for establishment of tariffs for oil transportation;
- methodology properties;
- categories of the users of service of oil transportation through oil pipelines;
- data, documents and other papers used for determining costs of oil transportation through oil pipelines, total income of energy operator for oil transportation through oil pipelines and tariff for oil transportation through oil pipelines.

Tariff System for Transportation of Oil through Oil Pipelines establishes methodology of calculation of upper amounts of tariffs for oil transportation through oil pipelines, in order to provide for covering total costs of business of oil transporter, providing investments for development of transportation system of oil pipelines, providing contributions to the assets, i.e. investments into transportation system of oil pipelines, providing reliability of transportation system and environmental protection.

2.3.1.5 Decision on Percentage of Biofuel in Total Quantities of Fuel in 2007 and Quantities of Biofuel Which Are to Be Placed on the Inland Market in 2007

Decision on Percentage of Biofuel in Total Quantities of Fuel in 2007 and Quantities of Biofuel which Are to Be Placed on the Inland Market in 2007 (Official Gazette *"Narodne novine"*, No. 43/07) prescribes that a percentage of biofuel in total quantities of energy fuel consumption in 2007 shall amount to 0.9%, which equals to 22,000 tons of biodiesel or any other biofuel in equivalent quantities calculated in accordance with energy value prescribed by the Regulation on Biofuel Quality (Official Gazette *"Narodne novine"*, No. 141/05).

2.3.1.6 Regulation on Special Tax Rate for Oil Derivatives

Regulation on special tax rate for oil derivatives (Official Gazette *"Narodne novine"*, No. 44/07) prescribes special tax rates to be paid for certain oil derivatives.

2.3.1.7 Decision on the Amount of Tariffs for Oil Transportation through Oil Pipelines

Decision on the Amount of Tariffs for Oil Transportation through Oil Pipelines (Official Gazette *"Narodne novine"*, No. 57/07) prescribes the amount of tariffs for oil transportation through oil pipelines of Jadranski naftovod d.d. Zagreb.

2.3.1.8 Decision on Quantity and Structure of Compulsory Stocks of Oil and Oil Derivatives in 2007

Decision on Quantity and Structure of Compulsory Stocks of Oil and Oil Derivatives in 2007 (Official Gazette *"Narodne novine"*, No. 58/07) prescribes quantity and structure of compulsory stocks of oil and oil derivatives in 2007 based on realized consumption of oil derivatives in the preceding year.

2.3.1.9 Ordinance on Data which the Energy Operators Are Obliged to Submit to the Ministry

Ordinance on Data which the Energy Operators Are Obliged to Submit to the Ministry (Official Gazette *"Narodne novine"*, No. 87/07) prescribes the content, ways and deadlines for submitting the data which the energy operators, performing import services and/or production of oil and/or oil derivatives and/or biofuels, wholesale trade and/or retail trade in oil derivatives and/or biofuels, are obliged to submit to the Ministry for the purpose of energy planning and reporting.

2.3.1.10 Ordinance on Liquefied Petroleum Gas

Ordinance of Liquefied Petroleum Gas (Official Gazette *"Narodne novine"*, No. 117/07) prescribes conditions and measures of protection against fire and technical explosion during construction of buildings and plants, as well as storing, holding and transfer of liquefied petroleum gas.

2.3.1.11 Program of Follow-up on Quality of Liquid Petroleum Fuels in 2008

Program on Follow-up on Quality of Liquid Petroleum Fuels in 2008 (Official Gazette *"Narodne novine"*, No. 120/07) refers to fuels which are placed on the inland market or are used for own purposes and it prescribes:

- sampling method for liquid petroleum fuels especially for gas stations and storages;
- number and frequency of sampling;
- locations of sampling, depending on quantity of liquid petroleum fuels placed on the inland market by the supplier or used for own purposes;
- laboratory analysis of liquid petroleum fuel samples.

2.3.1.12 Decision on Determination of Annual Quantities of Liquid Petroleum Fuels which May Be Placed on the Inland Market, but Do Not Fulfill Limit Values and Other Properties of Liquid Petroleum Fuel Quality

Decision on Determination of Annual Quantities of Liquid Petroleum Fuels which May Be Placed on the Inland Market, but Do Not Fulfill Limit Values and Other Properties of Liquid Petroleum Fuel Quality (Official Gazette *"Narodne novine"*, No. 133/07) determines quantities of respective liquid petroleum fuels which may be placed on the market in the Republic of Croatia during 2007, which however deviate from prescribed limit values of quality.

2.3.1.13 Decision on the Amount of Fee for Financing HANDA's Operations and Compulsory Stocks of Oil and Oil Derivatives in 2008

Decision on the Amount of Fee for Financing HANDA's Operations and Compulsory Stocks of Oil and Oil Derivatives in 2008 (Official Gazette *"Narodne novine"*, No. 133/07) prescribes amounts of fees of HRK 150.00 per ton for motor fuels, aviation fuels, i.e. HRK 190.00 per ton for diesel fuels, gas fuels, i.e. HRK 80.00 per ton for fuel oil (light, medium and heavy) and jet engine fuel.

2.4 Thermal energy

2.4.1 Legislative framework

Organizing energy activities of production, distribution and supply of thermal energy in Croatian legal system began in 2001 by enacting of the Energy Act (Official Gazette *"Narodne novine"*, No. 68/01) that has foreseen enactment of a special act regarding thermal energy production, distribution and supply activities.

The process was continued through implementation of the Act on Amendments to the Utility Service Act (Official Gazette *"Narodne novine"*, No. 82/04) which prescribes the exclusion of utility service of thermal energy supply as soon as the act enters into force which shall separately be regulated.

Therefore, when the Act on Production, Distribution and Supply of Thermal Energy (Official Gazette *"Narodne novine"*, No. 42/05) entered into force as of April 2005, instead of excluded utility service of thermal energy supply, energy activities of production, distribution and supply of thermal energy had been defined and a legal framework for comprehensive and organized management of thermal energy sectors in compliance with relevant acts of the European Union had been set up.

The Act on Production, Distribution and Supply of Thermal Energy prescribes, among other things, conditions and ways of carrying out the energy activities of production, distribution and supply of thermal energy, rights and obligations of the operators who perform the above mentioned activities, rights and obligations of the thermal energy buyers, provision of means for carrying out these activities, financing construction of objects and plants for production and distribution of thermal energy, surveillance over implementation of the Act and penalties for perpetrators of offences determined by the Act.

The activity of legal organization of the energy activities of production, distribution and supply of thermal energy has been continued through intensive work on the secondary legislation prescribed by this Act, as well as other acts from the package of energy acts.

In the course of 2006, the Agency established a Tariff System for Energy Activities of Production, Distribution and Supply of Thermal Energy Without The Amount of Tariff Items (Official Gazette *"Narodne novine"*, No. 57/06 and 116/06). The Government of the Republic of Croatia enacted General Conditions for Thermal Energy Supply (Official Gazette *"Narodne novine"*, No. 129/06) – which define energy and technical conditions as well as economic relationships between the distributor, the supplier and the buyer of thermal energy.

Valid methods of cost calculation for supplied thermal energy valid till 2006 were supposed to stay in force until new amounts of tariff items had been established by the energy operator or the Agency, pursuant to the provisions of Tariff System for Energy Activities of Production, Distribution and Supply of Thermal Energy Without The Amount of Tariff Items and in accordance with the procedure prescribed by the Energy Act, submit these to the Ministry that forwards a proposal, together with the opinion of the Agency or energy subject, to the Government of the Republic of Croatia, which finally decides on, i.e. adopts corresponding tariff items.

Namely, energy operators to whose activities a corresponding Tariff system is applied were obliged to submit a proposal for determination of the amount of tariff items to the Ministry which asks for an opinion of the Agency. In the second half of 2006, the Ministry asked for an opinion of the Agency regarding several energy operators who submitted corresponding proposals for determination of the amount of tariff items. However, without knowing the actual supplied quantities of thermal energy due to non-existence of metering points, it was impossible to check up on justifiability and soundness of proposed amounts of tariff items proposed by the energy operators.

In the course of 2007, the Tariff System for Energy Activities of Production, Distribution and Supply of Thermal Energy Without The Amount of Tariff Items (Official Gazette *"Narodne novi-*

ne", No. 57/06) had been amended several times. Certain number of energy operators had been given opportunity in this way to use the amounts of monthly tariff items expressed per square meter of heated area by October 2008, i.e. to keep forms of tariff items which do not depend of supplied quantities of thermal energy.

In the course of 2007, it was started with preparations of the Ordinance of Allocation and Settlement of Costs for Supplied Thermal Energy, which is to be enacted by the minister, pursuant to Article 24 of the Act on Production, Distribution and Supply of Thermal Energy.

Furthermore, it was also started with the preparations of the Ordinance on Conditions of Grating the Status of Eligible Producer of Thermal Energy, pursuant to Article 9 of the Act on Production, Distribution and Supply of Thermal Energy.

2.5 Renewable energy sources and cogeneration

2.5.1 Legislative framework

A package of secondary legislation regulating issues of renewable energy sources and cogeneration had been enacted during 2007. The following pieces of secondary legislation had been enacted:

- **Regulation on Minimal Share of Electricity Produced from Renewable Energy Sources and Cogeneration, Production of Which Is Stimulated** (Official Gazette *"Narodne novine"*, No. 33/07) prescribing objectives of the Republic of Croatia regarding production of electricity in plants using renewable energy sources and cogenerative plants;
- **Regulation on Fees For Encouraging Production of Electricity from Renewable Energy Sources and Cogeneration** (Official Gazette *"Narodne novine"*, No. 33/07) prescribing methods of use, amount, settlement, collecting, allocating and paying the fee for encouraging production of electricity in plants using renewable energy sources and cogenerative plants;
- **Ordinance on Use of Renewable Energy Sources and Cogeneration** (Official Gazette *"Narodne novine"*, No 67/07) prescribing conditions and potentials of use of renewable energy sources and cogenerative plants and regulating other issues important for use of renewable energy sources and cogeneration;
- **Ordinance on Granting the Status of Eligible Electricity Producer** (Official Gazette *"Narodne novine"*, No. 67/07) prescribing conditions for granting the status of eligible electricity producer that may be granted to a project holder or a producer who simultaneously produces electricity and thermal energy in a single plant, uses waste or renewable energy sources for electricity production in an economic way and in compliance with environmental protection;
- **Tariff system for Electricity Production from Renewable Energy Sources and Cogeneration** (Official Gazette *"Narodne novine"*, No. 33/07) prescribing rights of eligible electricity producers to a stimulating electricity price that the market operator pays for supplied electricity produced in the plants using renewable energy sources and cogenerative plants. The system also prescribes tariff items and amount of tariff items for electricity produced in plants using renewable energy sources and cogenerative plants, depending on source type, power and other elements of the supplied electricity, as well as methods and conditions of implementation of these elements.

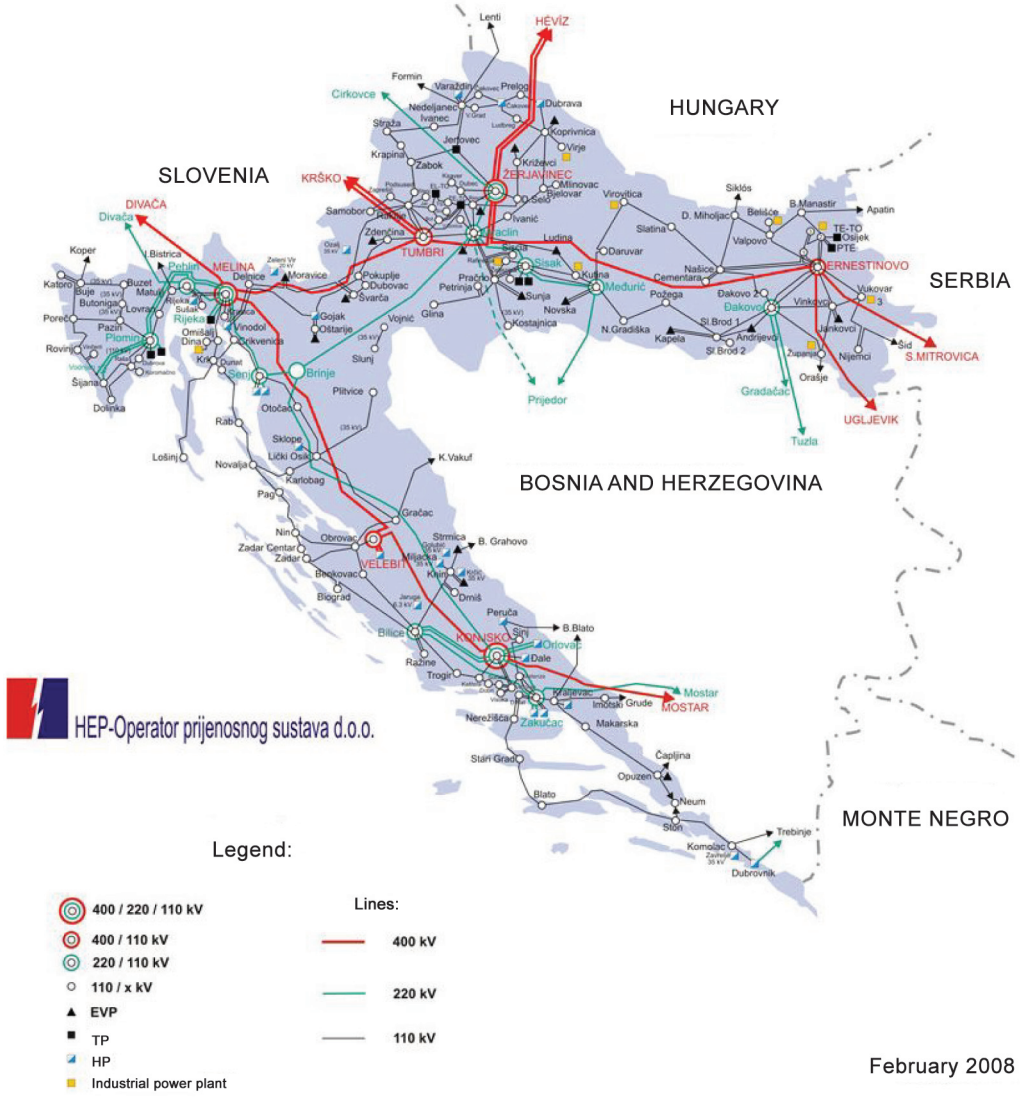
The Analysis of the Energy Sector

3 THE ANALYSIS OF THE ENERGY SECTOR

3.1 Electricity

3.1.1 Transmission network

There is one operator of the transmission network, HEP-OPS. The company is in charge of the reliability of electricity system, i.e. it is responsible for continuity and reliability of electricity supply, as well as coordination of production, transmission and distribution systems. Electric power network and production objects that are within the scope of responsibility of HEP-OPS are represented in the Figure 3.1.1.



Source: website of HEP-OPS, published in February 2008

Figure 3.1.1 Scheme of transmission network and production objects within the Croatian electric power system

Basic data on transmission network are represented in the table 3.1.1.

Table 3.1.1 Basic data on transmission network in 2007

Data type/voltage levels	400 kV	220 kV	110 kV	TOTAL
Line length [km]	1.159	1.232	4.847	7.238
Transformer substations [pcs.]	5	6	106	117
Installed power [MVA]	4.100	2.100	4.861	11.061

Source: Report of HEP-OPS for 2007

Overview of significant capital investments in transmission network which had been completed in 2007 is presented in the table 3.1.2.

Table 3.1.2 Overview of significant capital investments in transmission network which had been completed in 2007

Name of the object	Type of construction
TS 110/20(10) kV SISCIA, with connecting PTL DV 2x110 kV to line Mraclin – Pračno	New TS and PTL
TS 110/20(10) kV DRNIŠ, with connecting PTL 2x110 kV to line Bilice – Knin	New TS and PTL
TS 110/20(10) kV VINČENT, with connecting PTL DV 2x110 kV na to line Šijana – Rovinj	New TS and PTL
RP 110 kV PODSUSED	Reconstruction of RP
TS 110/35/20(10) kV ŠVARČA	Expansion of TS
TS 110/35 kV RESNIK	Reconstruction of distributors
TS 110/35/10(20) kV RAŠA	Reconstruction of TS

Source: HEP-OPS

In the course of 2007, HEP-OPS successfully completed its fundamental task of taking continuous care of maintaining technical conditions for safe and reliable operation of the Croatian electric power system for the purpose of providing high-quality supply of buyers with electricity in the Republic of Croatia.

Total consumption of electricity at transmission level in 2007 amounted to 17.630 GWh, which represents an increase of 2,57% in comparison with the preceding year. Table 3.1.3 represents an overview of peak loads within last four years.

Table 3.1.3 Peak loads of electric power system within last four years

Year	Peak load (MWh/h)	Date	Hours
2004	2.793	23. XII.	18
2005	2.900	2. III.	20
2006	3.036	25. I.	20
2007	3.098	17. XII.	18

Source: Reports of HEP-OPS

Pursuant to the Act on the Regulation of Energy Activities, the Agency especially monitors deadlines within which the operator of transmission system or the operator of distribution system execute repairs and connections, as well as objective, transparent and impartial conditions

and tariffs for connection of new producers of electricity, paying special attention to costs and benefits of renewable energy sources, distributed production and cogeneration.

A list of applied for and issued prior connection approvals of HEP-OPS to the buyers of electricity in 2007 is presented in the table 3.1.4.

Table 3.1.4 List of applied for and issued prior connection approvals of HEP-OPS to the buyers of electricity in 2007

No.	Name of the consumer and required power	Required power [MW]	Approved power [MW]	Note
1.	HŽ - Infrastruktura	10	0	In progress
2.	TLM TVP d.o.o. Šibenik	15	15	
3.	CMC Sisak d.o.o.	70	70	
4.	DINA - Petrokemija	7,5	7,5	

Source: HEP-OPS

Data regarding balancing costs in 2007 may not be represented since there are no signed contracts of HEP-OPS with suppliers of balancing services (suppliers and large buyers).

Income from fees for balancing electric power had been noted in December 2007, amounting to HRK 12,520.83 that has been received from HROTE for wind power plant (VE) Trtar-Krtolin.

3.1.2 Distribution network

HEP-ODS is the only operator of distribution system in the Republic of Croatia. Territorial organization of 21 distribution areas of HEP-ODS is presented in the figure 3.1.2.

Source: HEP-ODS

Figure 3.1.2 Distribution areas of HEP ODS

Tables 3.1.5, 3.1.6 and 3.1.7 present basic properties of HEP-ODS' distribution network

Table 3.1.5 Line lengths per voltage levels in 2007

Voltage level	Length [km]
Lines 110 kV	150
Lines 35, 30 kV	4.724
Lines 20 kV	5.570
Lines 10 kV	28.752
Network 0,4 kV	61.056
Household connections	29.365
TOTAL	**129.618**

Source: Report of HEP-ODS for 2007

Table 3.1.6 Transformer substations per voltage levels in 2007

Voltage level	Own	Joint	Total
Substations 110/ 30 i 110/35 kV	0	54	**54**
Substations 110/10(20) kV	7	35	**42**
Substations 35(30)/10(20) kV	335	27	**362**
Substations 20/0.4 kV	3.001	251	**3.252**
Substations 10/0.4 kV	20.448	2.313	**22.761**
TOTAL	**23.791**	**2.680**	**26.471**

Source: Report of HEP-ODS for 2007

Table 3.1.7 Transformers per voltage levels in 2007

Voltage level	Installed power [MVA]	Number
Transformers 110 kV	2.106	72
Transformers 30 and 35 kV	4.349,2	691
Transformers 20 kV	866,13	3.529
Transformers 10 kV	6.784,89	22.298
TOTAL	**14.106**	**26.590**

Source: Report of HEP-ODS for 2007

Pursuant to data submitted by HEP-ODS, there had been 35,469 prior connections issued in 2007 and total approved peak power amounted to 1,305.252 MW. As far as connection approvals issued in 2007 are concerned, 32,532 approvals were issued to new buyers, 1,932 referred to construction sites and 527 to temporary connections.

3.1.3 Electricity balance of the Republic of Croatia

Table 3.1.8 presents main elements of electricity balance of the Republic of Croatia for 2007, but also for preceding three years. Data on generation in thermal power plants and hydro power plants on the territory of the Republic of Croatia and nuclear power plant Krško (in the part for

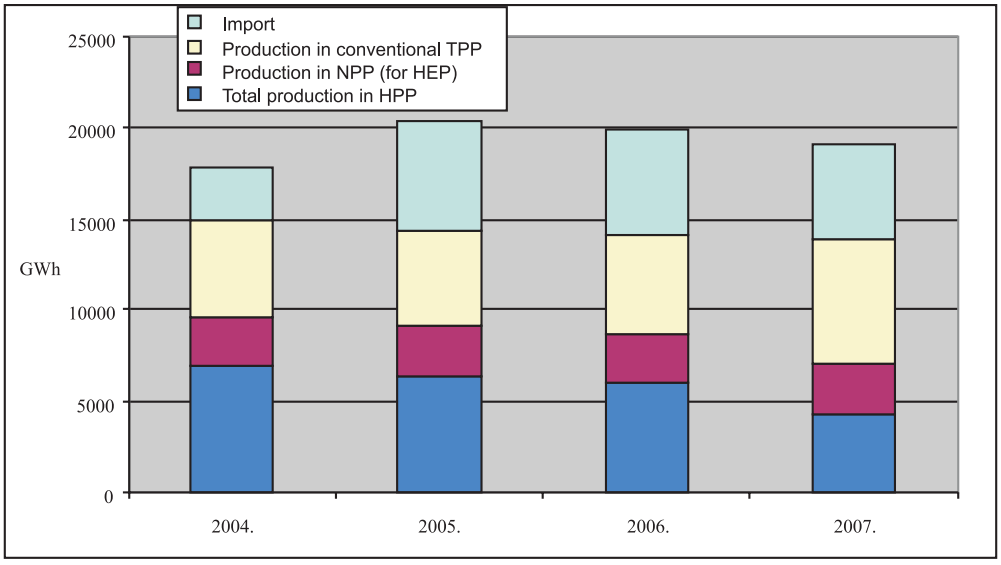
HEP d.d.) are represented, as well as data regarding import and export of electricity and total electricity consumption (with losses) in the Republic of Croatia.

Table 3.1.8 Electricity balance of the Republic of Croatia [GWh]

	2004	2005	2006	2007	Change [%] (2007/2006)
Generation in run-of-river hydro power plants	1.722,9	1.511,4	1.466,3	1.365,3	-6,89
Production in accumulating hydro power plants	5.198,6	4.806,6	4.541,2	2.934,9	-35,37
Production in small hydro power plants	79,1	70,0	62,5	56,9	-8,96
Total production in hydro power plants	**7.000,7**	**6.388,0**	**6.070,0**	**4.357,1**	**-28,22**
- Total generation in hydro power plants in transmission network	6.728,9	6.186,2	5.793,7	4.135,9	-28,61
- Total generation in hydro power plants in distribution network	271,8	201,8	276,3	221,2	-19,94
Generation in conventional thermal power plants	5.388,5	5.150,3	5.435,8	6.845,5	25,93
Generation in nuclear power plants (for HEP)	2.605,9	2.806,5	2.644,5	2.713,9	2,62
Generation in DE	0,0	0,0	0,0	0.0	-
Total generation in thermal power plants	**7.994,4**	**7.956,8**	**8.080,3**	**9.559,3**	**18,30**
- Total generation in thermal power plants in transmission network	7.902,1	7.834,5	8.011,0	9.471,7	18,23
- Total generation in thermal power plants in distribution network	92,3	122,3	69,3	87,6	26,41
TOTAL GENERATION	**14.995,1**	**14.344,8**	**14.150,3**	**13.916,4**	**-1,65**
Generation from thermal power plants outside of Croatia	0,0	0,0	0,0	0,0	-
Import	2.732,7	5.995,6	5.729,0	5.163,9	-9,86
TOTAL PURCHASING	**17.727,8**	**20.340,4**	**19.879,3**	**19.080,3**	**-4,02**
- Total purchasing in transmission network	17.363,7	19.946,3	19.533,7	18.771,5	-3,90
Total purchasing in distribution network	364,1	394,1	345,6	308,8	-10,65
Delivery to distribution	14.265,3	14.884,9	15.475,9	15.891,0	2,68
- Delivery to distribution from transmission network	13.901,2	14.490,8	15.130,3	15.582,2	2,99
- Delivery to distribution from distribution network	364,1	394,1	345,6	308,8	-10,65
Delivery to direct customers	1.063,3	1.057,5	947,4	919,7	-2,92
Pumping in Velebit Pump Storage Power Plant	132,6	149,5	177,1	231,8	30,89
Other consumption on transmission network	47,1	54,6	43,9	40,0	-8,88
Transmission losses	586,7	560,4	544,0	547,1	0,57
TOTAL CONSUMPTION	**16.095,0**	**16.706,9**	**17.188,4**	**17.629,6**	**2,57**
- Total consumption on transmission network	15.730,9	16.312,8	16.842,8	17.629,6	4,67
- Total consumption on distribution network	14.265,3	14.884,9	15.475,9	15.891,0	2,68
Export	1632,8	3633,5	2.690,9	1.450,7	-46,09
TOTAL CONSUMPTION AND EXPORT	**17.727,8**	**20.340,4**	**19.879,3**	**19.080,3**	**-4,02**
Transmission consumption	**15.144,2**	**15.752,4**	**16.298,8**	**16.773,7**	**2,91**
Transmission losses (%)	**3,73**	**3,44**	**3,23**	**3,10**	

Source: Annual report of HEP-OPS for 2007

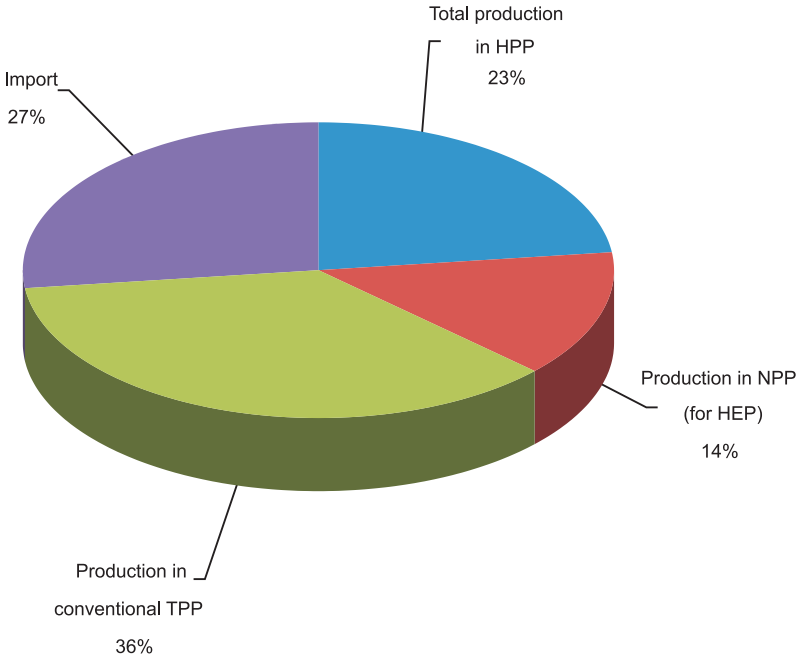
Supply of electricity for the Republic of Croatia in the period 2004-2007 is presented in the Figure 3.1.3



Source: Annual report of HEP-OPS for 2007

Figure 3.1.3 Supply of electricity for the Republic of Croatia in the period 2004-2007

Percentage structure of the supply is represented in the Figure 3.1.4



Source: Annual report of HEP-OPS for 2007

Figure 3.1.4 Shares in supply of electricity for the Republic of Croatia in 2007

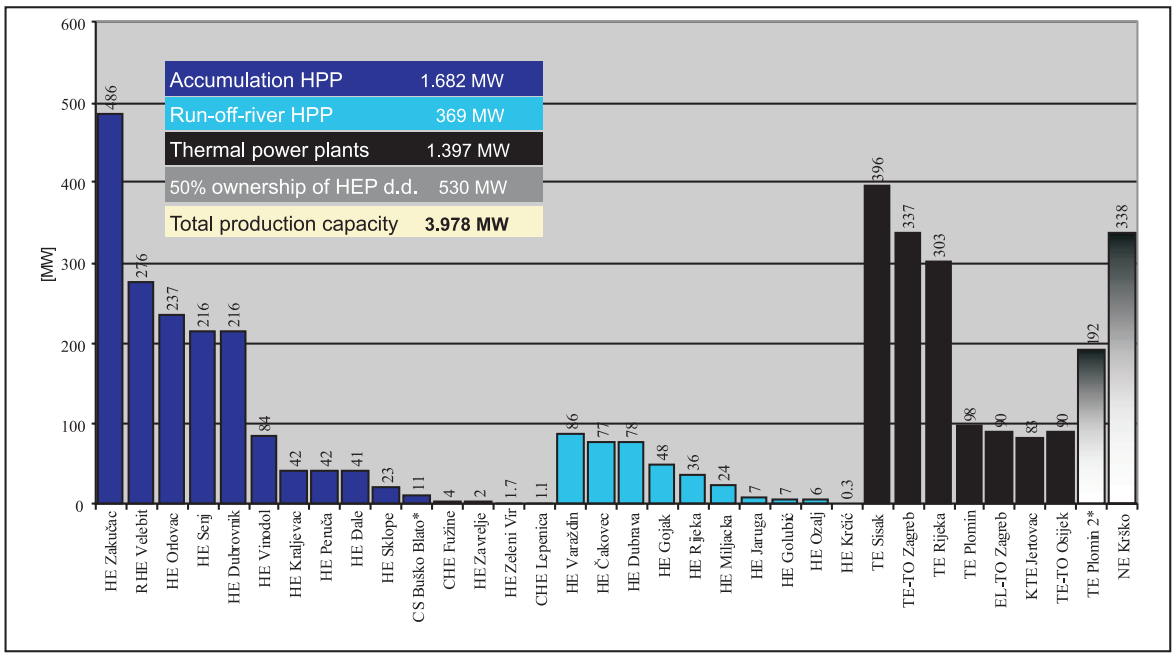
3.1.4 Electricity generation

Existing capacities for electricity generation to fulfill needs of the consumers in the Republic of Croatia include hydro power plants, thermal power plants (fuel oil, natural gas and coal), nuclear power plant Krško (50% of the generation), industrial power plants, small hydro power plants, wind power plants, solar power plants and other power plants.

Power plants of HEP Proizvodnja d.o.o. are represented in the Figure 3.1.5.

Figure 3.1.5 Areal distribution of power plants of HEP Proizvodnja d.o.o.

Available installed powers (power at the power plant's threshold) at generation locations of HEP-Proizvodnja d.o.o. are presented in the Figure 3.1.6.



Source: Annual report of HEP-OPS for 2007

Figure 3.1.6 Available powers of generation locations of HEP-Proizvodnja d.o.o.

Average age of hydro power plants exceeds 35 years, whereas the newest hydro plant has been put into operation in 1989. Average age of thermal power plants exceeds 30 years, whereas the newest thermal power plant has been put into operation in 2003. Planned construction of thermal power plants in the Republic of Croatia is presented in the table 3.1.9.

Table 3.1.9 Planned construction of new power plants by 2010

Location	Type/fuel	Power		Note
		[MWe]	[MWt]	
HE Lešće	Hydro	42	-	Under construction; Start-up in 2009
Cogenerative TPP Zagreb blok L	Cogeneration/natural gas	100	80	Under construction; Start-up by the end of 2008
TPP Sisak blok C	Natural gas	230	50	Awaiting approval; Start-up by the end of 2011
Wind power plants (different locations)	Wind power plant	360	-	In different phases of preparation and construction; the aforementioned power is expected by the end of 2010

Source: HEP-Proizvodnja d.o.o. and HEP-Operator prijenosnog sustava d.o.o.

Several potential locations for thermal and hydro power plants are being reconsidered regarding plans for construction of other new generation capacities.

3.1.5 Electricity sales

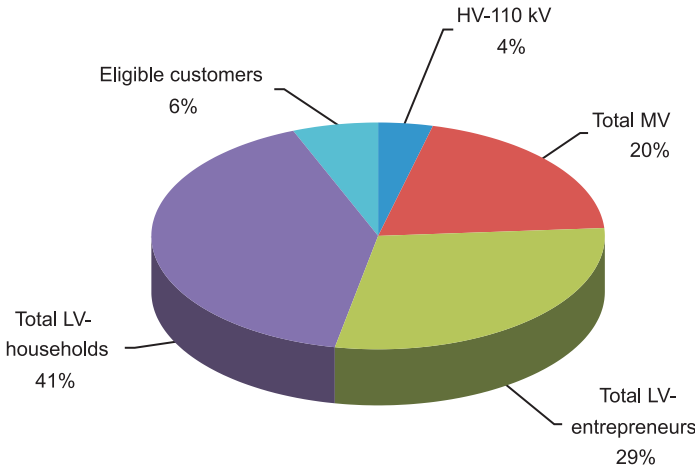
Data on number of metering points, sales, average sales per one metering point and share of respective consumption category in total sales of electricity are presented in the table 3.1.10.

Table 3.1.10 Number of metering points and sales, average sales and share of electricity sales per categories in 2007

Category	Number of metering points	Sales [kWh]	Sales per metering point [kWh]	Share in total sales [%]
HV-110 kV	**40**	**624.696.455**	**15.617.411**	**4**
MV- 35 kV	120	428.404.055	3.570.034	3
MV- 10 kV	1.895	2.563.251.545	1.352.639	17
Total MV	**2.015**	**2.991.655.600**	**1.484.693**	**20**
Total high and medium voltage	**2.055**	**3.616.352.055**	**1.759.782**	**24**
LV - entrepreneurship (blue)	57.255	322.519.060	5.633	2
LV - entrepreneurship (white)	119.267	1.359.768.642	11.401	9
LV - entrepreneurship (red)	13.601	2.302.994.919	169.325	15
LV - entrepreneurship (orange)	247	226.724	918	0
LV - public lightning	19.843	417.296.799	21.030	3
Total LV- entrepreneurship	**210.213**	**4.402.806.144**	**20.944**	**29**
LV - households (blue)	805.475	1.750.456.315	2.173	12
LV - households (white)	1.220.057	4.459.168.651	3.655	29
LV - households (black)	3.225	8.852.151	2.745	0
LV - households (orange)	178	261.593	1.470	0
Total LV - households	**2.028.935**	**6.218.738.710**	**3.065**	**41**
Total low voltage	**2.258.991**	**10.621.544.854**	**4.702**	**70**
Total tariff customers	**2.261.046**	**14.237.896.909**	**6.297**	**94**
Eligible customers		**919.722.760**		**6**
TOTAL		**15.157.619.669**		**100**

Source: Annual report of HEP-ODS for 2007

Percentage structure of electricity sales to eligible (6%) and tariff customers (94%) is presented in the Figure 3.1.7.



Source: Annual report of HEP-ODS for 2007

Figure 3.1.7 Shares of respective consumption categories in total electricity sales

Purchase and sales of electricity for HEP-ODS and corresponding losses in the distribution in the period 2000-2007 are presented in the table 3.1.11.

Table 3.1.11 Purchase, sales and distribution losses of electricity for the period 2000-2007

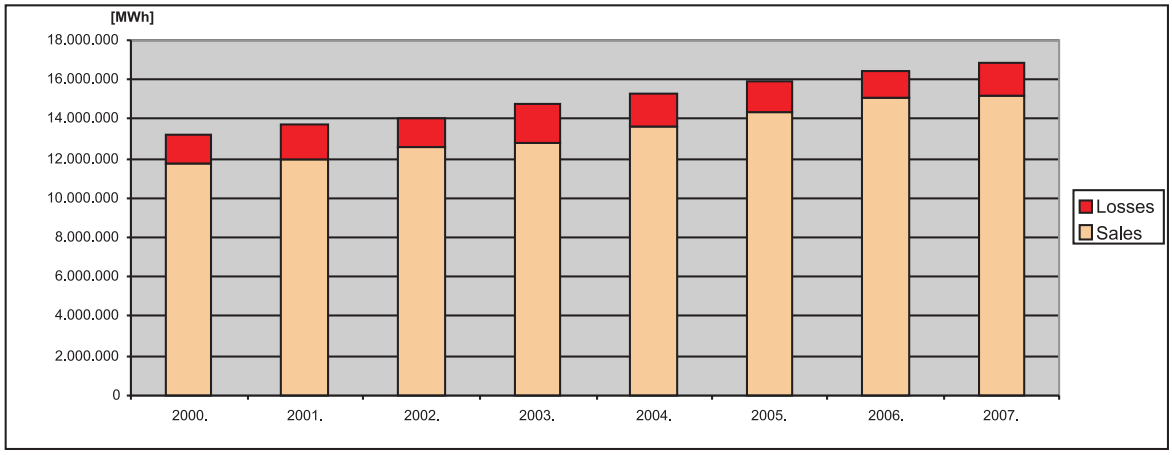
	2000	2001	2002	2003	2004	2005	2006	2007
Purchase [MWh]	13.134.517	13.733.749	14.022.105	14.716.967	15.283.422	15.942.418	16.423.360	16.810.707
Sales [MWh]	11.711.508	11.901.006	12.615.248	12.853.301	13.630.932	14.371.921	15.058.532	15.157.620
Losses [MWh]	1.423.009	1.832.743	1.406.857	1.883.666	1.652.490	1.570.497	1.364.827	1.653.087
Losses i [%]	10,83	13,34	10,03	12,80	10,81	9,85	8,31	9,83

Source: HEP-ODS' reports

Average annual growth in electricity purchase in the period 2000-2007 amounted to 3.59%, whereas average annual growth in electricity sales in the same period amounted to 3.75%.

Losses in 2007 amounted to 9.83%, which represents increase in comparison with 2006, when the losses amounted to 8.31%. Average losses during the period 2000-2007 amounted to 10.61%.

Presentation of purchasing, i.e. sum of electricity sales and corresponding losses in distribution in the period 2000-2007 is shown in the Figure 3.1.8.



Source: HEP-ODS' reports

Figure 3.1.8 Purchasing, i.e. sum of electricity sales and corresponding losses in distribution in the period 2000-2007[MWh]

3.1.6 Electricity consumption

The Statistical Office of the European Communities – Eurostat applies as of 2007 a new system of follow-up on average electricity prices, defined per consumption classes as represented in the tables 3.1.12. and 3.1.13.

Table 3.1.12 Consumption classes for households

Consumption class	Lowest consumption [kWh/g.]	Highest consumption [kWh/g.]
Da – very small households		< 1.000
Db – small households	1.000	< 2.500
Dc – medium households	2.500	< 5.000
Dd – large households	5.000	< 15.000
De – very large households	≥ 15.000	

Source: Eurostat

Table 3.1.13 Consumption classes for entrepreneurs

Consumption class	Lowest consumption [MWh/g.]	Highest consumption [MWh/g.]
Ia		< 20
Ib	20	< 500
Ic	500	< 2.000
Id	2.000	< 20.000
Ie	20.000	< 70.000
If	70.000	≤ 150.000

Source: Eurostat

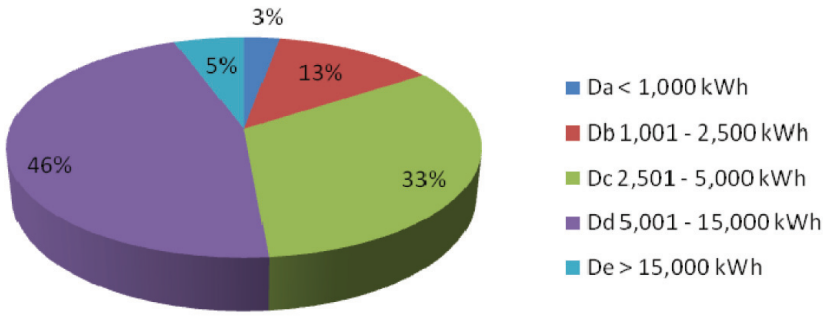
Table 3.1.14 presents indicative peak loads for entrepreneurship, as evaluated by the Agency.

Table 3.1.14 Indicative peak loads for entrepreneurship

Consumption class	Lower value [kW]	Upper value [kW]
Ia	5	20
Ib	10	350
Ic	200	1.500
Id	800	10.000
Ie	5.000	25.000
If	15.000	50.000

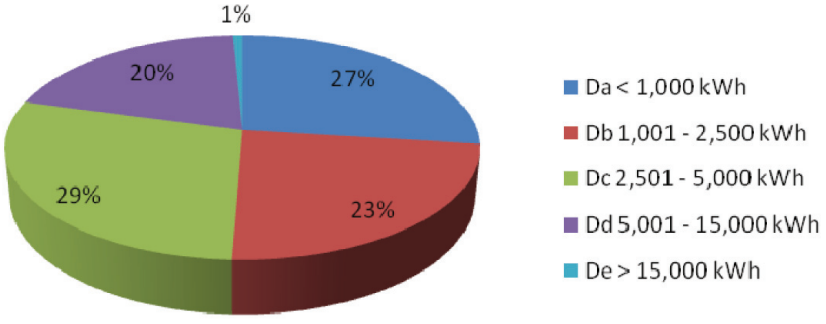
Source: Agency's estimate

Figures 3.1.9 to 3.1.14 present separation of eligible customers with regard to their consumption and number in accordance with consumption classes defined by the Eurostat's methodology.



Source: Eurostat

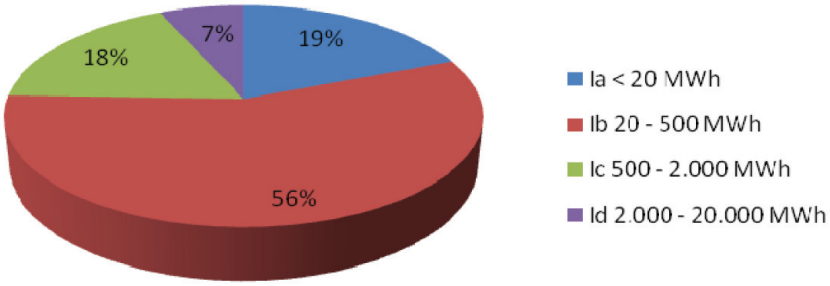
Figure 3.1.9 Electricity sold to the customers from household category per consumption classes in 2007



Source: Eurostat

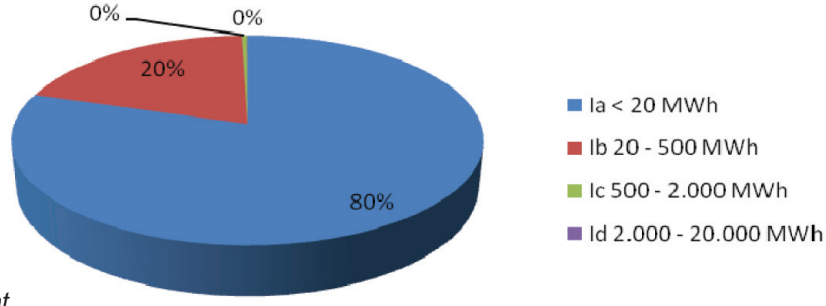
Figure 3.1.10 Number of buyers in household category per consumption classes in 2007

The greatest share of sold electricity is taken by classes Dd (large households) and Dc (medium households). As far as number of customers (number of metering points) is concerned, the greatest share is taken by class Dc (medium households), followed by the class Da (very small households).



Source: Eurostat

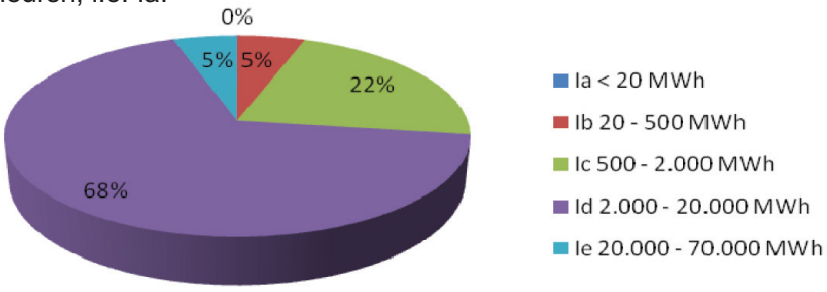
Figure 3.1.11 Electricity sold to entrepreneurship category using low voltage per consumption classes in 2007



Source: Eurostat

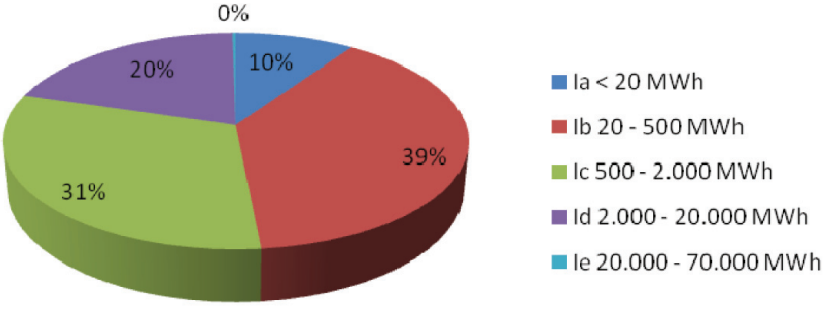
Figure 3.1.12 Number of customers from entrepreneurship category using low voltage per consumption classes in 2007

In the entrepreneuship category using low voltage the greatest share of electricity sold falls into consumption class Ib, whereas the greatest share of the customes falls into class of very small entrepreneursh, i.e. Ia.



Source: Eurostat

Figure 3.1.13 Electricity sold in entrepreneurship category using medium voltage per consumption classes in 2007



Source: Eurostat

Figure 3.1.14 Number of customers in entrepreneurship category using medium voltage per consumption classes in 2007

The most electricity is sold to the customers using medium voltage falling into consumption class Id, whereas the greatest number of customers (metering points) involves consumption classes Ib and Ic.

3.1.7 Electricity prices

3.1.7.1 Electricity prices for end customers in the Republic of Croatia

Average sales prices for end customers per tariff categories in 2007 are presented in the table 3.1.15.

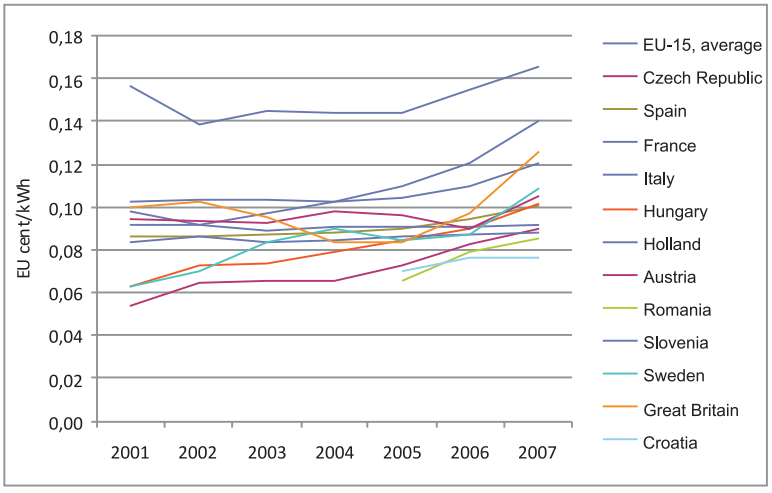
Table 3.1.15 Average sales price for end customers in 2007 [HRK/kWh]

Customer category	2005	2006	2007
Customers using high voltage	0,31	0,31	0,31
Customers using medium voltage	0,43	0,45	0,45
Total customers using high and medium voltage	0,41	0,43	0,43
Customers using LV – entrepreneurs, without public lighting	0,57	0,59	0,59
Customers using LV – public lighting	0,47	0,49	0,49
Customers using LV – entrepreneurs total	0,56	0,58	0,58
Customers using LV – households	0,56	0,58	0,58
Total customers using LV	0,56	0,58	0,58
Total tariff customers	0,52	0,54	0,54

Source: HEP-ODS

3.1.7.2 Electricity prices for end customers in the European countries

Figures 3.1.15 and 3.1.16 present a trend of increase in prices of electricity in the European Union for customers in household and entrepreneurship category. Data are not available for all years.



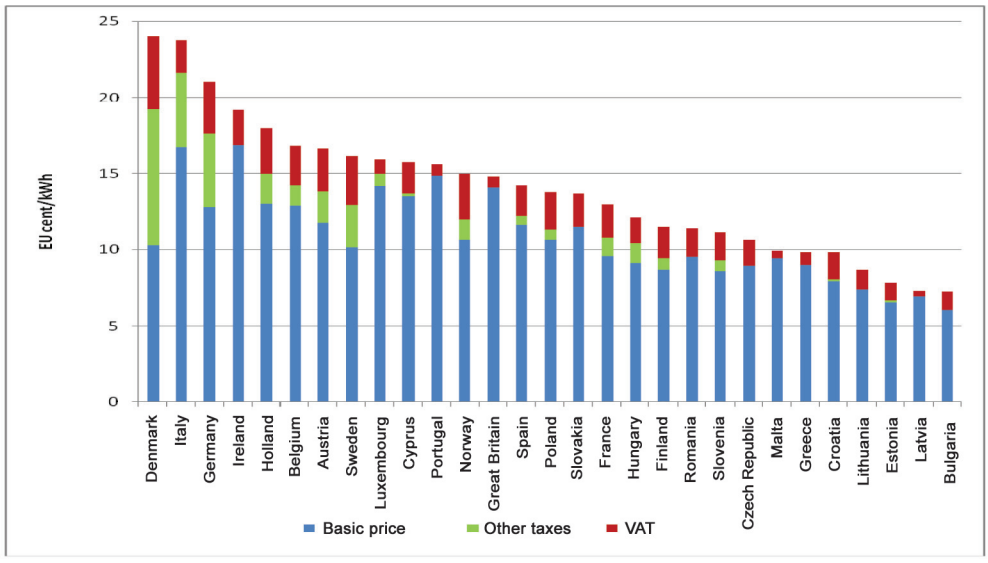
Source: Eurostat/Environment and Energy/Energy/Prices/Electricity prices – households (household category C2 has an annual consumption of 3,500 kWh, of which 1,300 kWh are used during night tariff)

Figure 3.1.15 Presentation of change in prices of electricity in the EU countries for the buyers from household category C2, from 2001 till 2007, taxes excluded

Source: Eurostat/Environment and Energy/Energy/Prices/Electricity prices – Industrial users (entrepreneurship category B2 has an annual consumption of 2,000 MWh and a peak load of 500 kW)

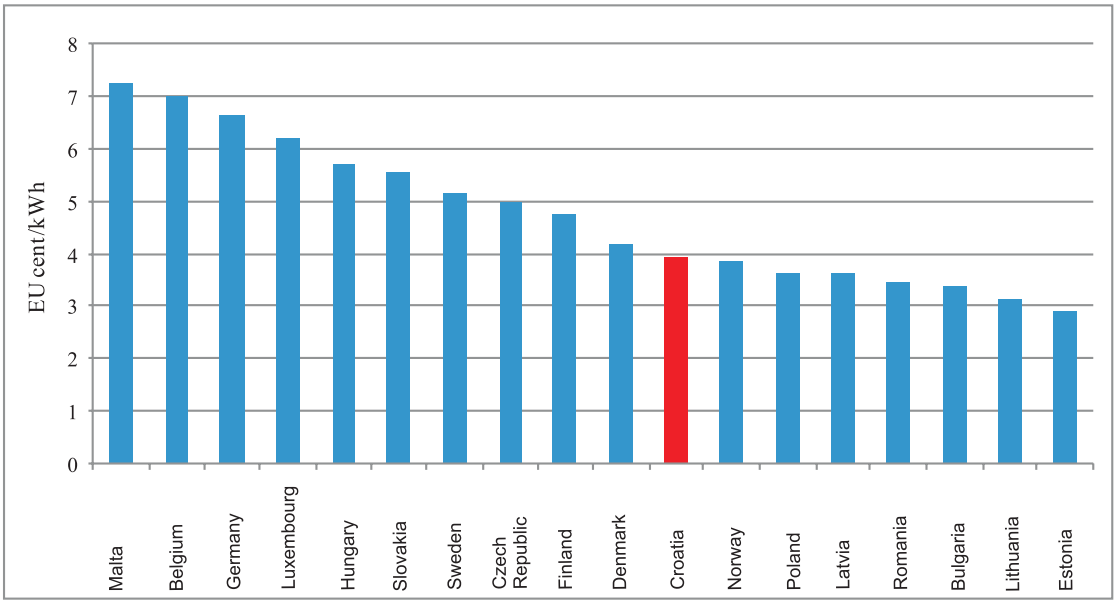
Figure 3.1.16 Presentation of change in prices of electricity in the EU countries for the buyers from entrepreneurship category B2, from 2001 till 2007, taxes excluded

Average electricity prices and fees for use of networks in the second half of 2007 in the EU countries and Croatia for households from **consumption class Dc** and entrepreneurship from the **class Ic** are presented in the Figures 3.1.17 to 3.1.22. Prices are stated with taxes and other fees and without them. Besides that, for a number of states, including Croatia, integral electricity prices is represented separated in two components - price that includes the price of generation and supply and the price of network use. It has to be pointed out that the consumption class Ic in Croatia includes not only customers using medium voltage, but also customers using low voltage with power meters (so-called tariff model red).



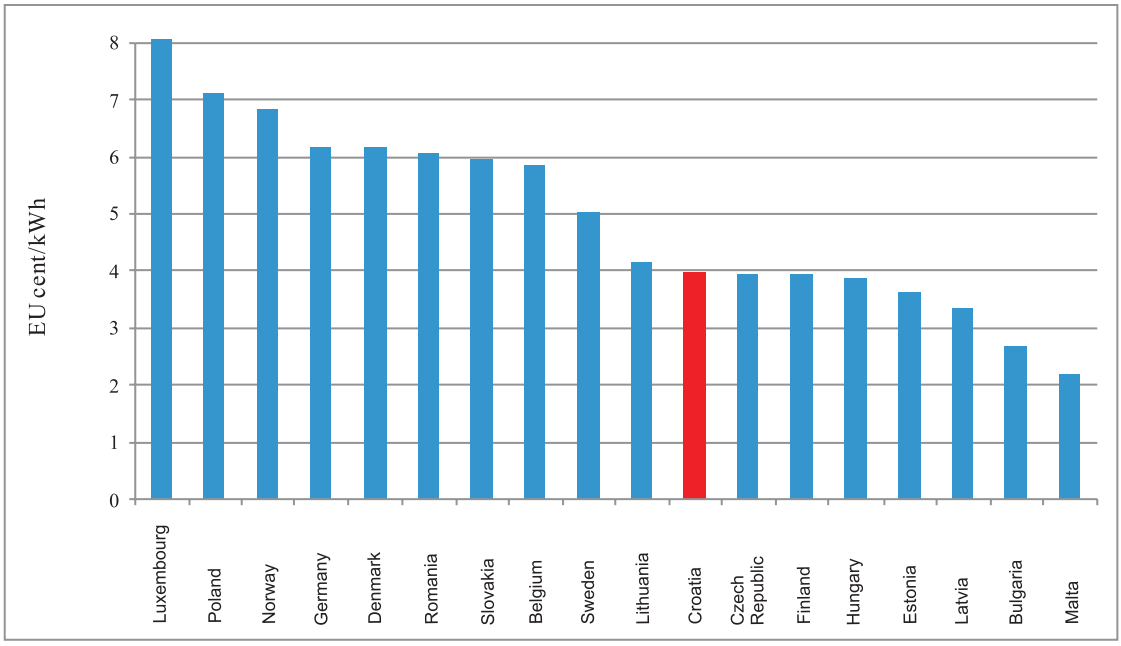
Source: Eurostat

Figure 3.1.17 Integral electricity price for households including taxes and fees in the 2nd half of 2007



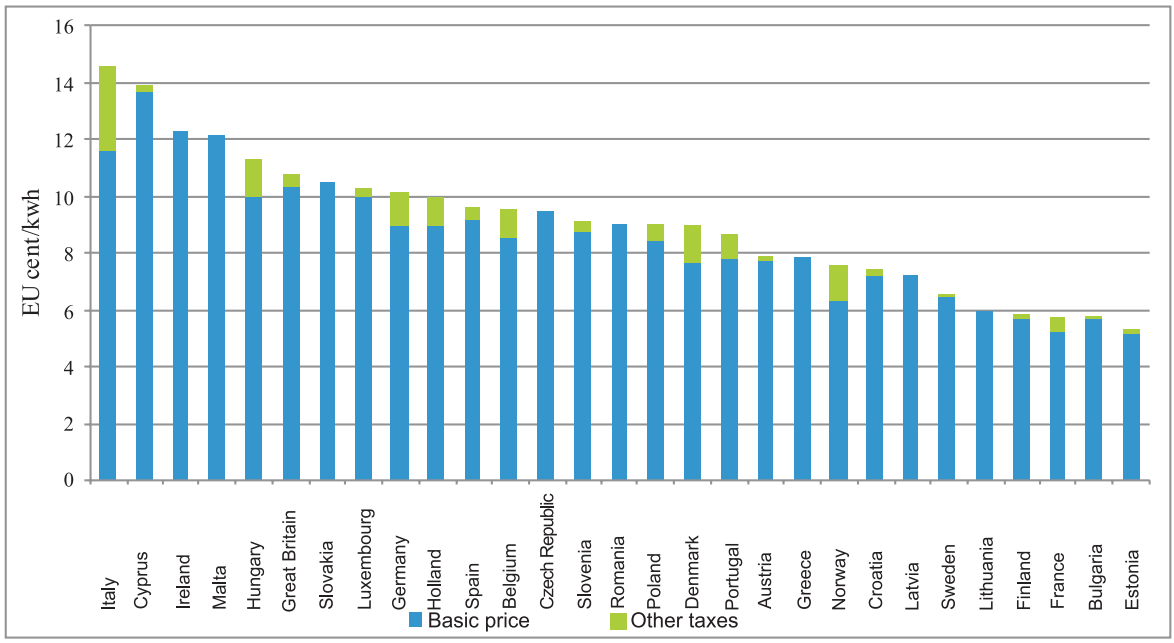
Source: Eurostat

Figure 3.1.18 Price of generation and supply (integral price decreased by price of network use) for households without taxes and fees for the 2nd half of 2007



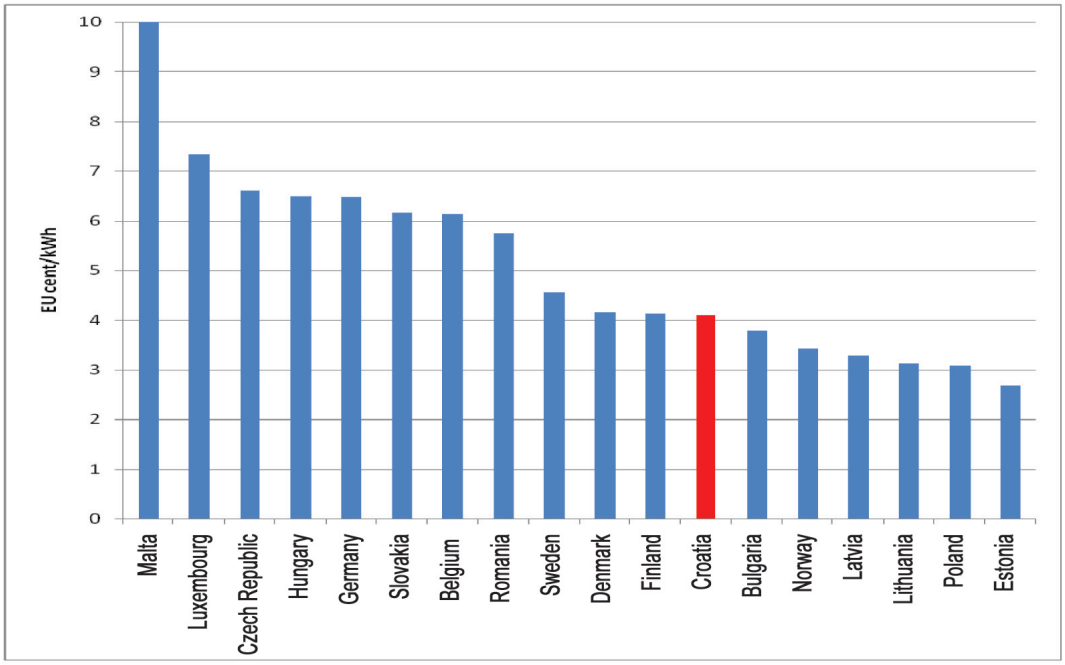
Source: Eurostat

Figure 3.1.19 Compensation for use of transmission and distribution network for households without taxes and fees for the 2nd half of 2007



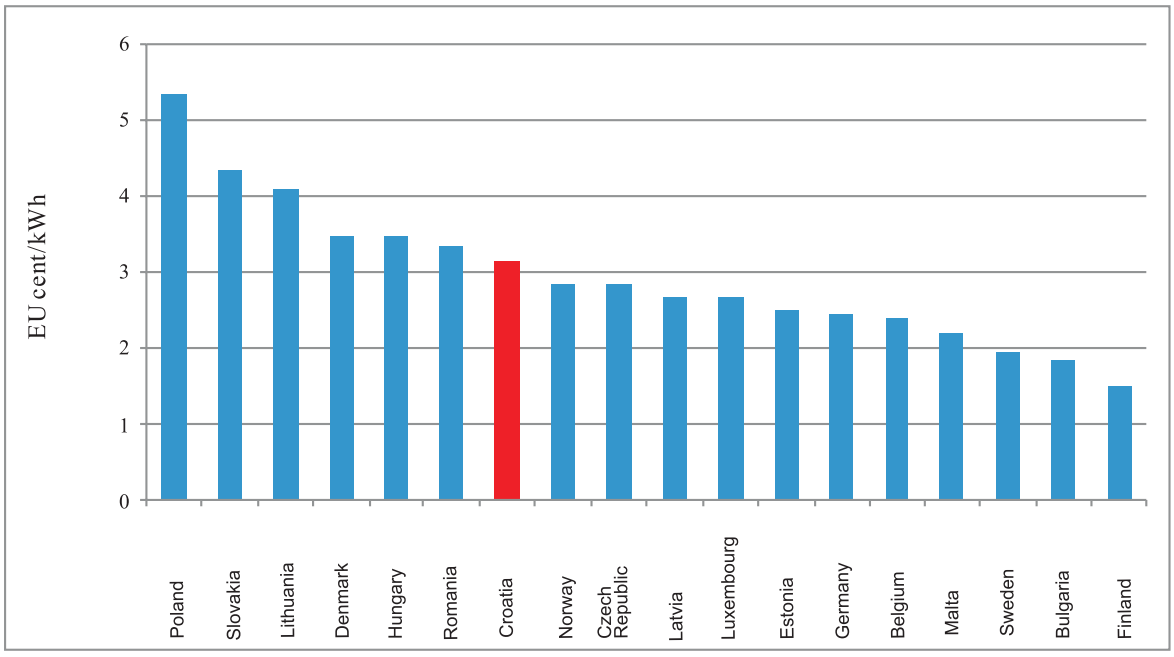
Source: Eurostat

Figure 3.1.20 Integral electricity price for entrepreneurship including taxes for the 2nd half of 2007



Source: Eurostat

Figure 3.1.21 Price of generation and supply (integral price decreased by price of network use) for entrepreneurship without taxes and fees for the 2nd half of 2007



Source: Eurostat

Figure 3.1.22 Compensation for use of transmission and distribution network for entrepreneurship without fees for the 2nd half of 2007

3.1.8 Quality of electricity supply

Quality of electricity is defined and investigated in regard to:

- reliability of power supply;
- voltage quality;
- quality of service for the network users at the point of electricity delivery/taking over.

Reliability is defined as ability of the network to provide continuous supply with electricity within defined period and is expressed by indicators of number and duration of supply interruptions.

Voltage quality is defined as continuity of physical voltage properties in comparison to standardized values (effective value, frequency, waveform, symmetry of phase voltage values, etc.).

Quality of service is defined as level of provided services prescribed by the General Conditions for Electricity Supply (Official Gazette *"Narodne novine"*, No. 14/06) (hereinafter: General Conditions) which the transmission system operator, the distribution system operator and the supplier are obliged to provide to the network users.

Regarding obligation of follow-up and reporting on the level of the system, Article 55 and 177 of the General Conditions prescribe that the transmission system operator and the distribution system operator are obliged to establish the following:

- system for collecting, processing and recording data on disruption and cut-offs in supply of electricity till January 1, 2007;
- follow-up on voltage quality till January 1, 2007;
- follow-up on quality of service till July 1, 2006.

3.1.8.1 Reliability of power supply

As far as HEP-OPS is concerned, it has to be pointed out that all demands for electricity of the Croatian electric power system are fulfilled without significant disturbances in the supply system.

All quality parameters of supplied electricity on transmission threshold had been maintained during the year in accordance with prescribed technical limits. There had not been any forbidden frequency deviations, as well as significant or longer deviations of the voltage from prescribed nominal values (pursuant to HRN IEC 60038:1998) at any of voltage levels in transmission network of the Croatian electric power system.

Total unsupplied energy due to unforeseeable failures is estimated at about 630 GWh.

The most significant unforeseeable failure that resulted in interruption of supply of electricity to the buyers occurred in January, when approximately 100 MWh of electricity had not been supplied to the customers in the Dalmatian region.

In February Samobor, Zaprešić, Rakitje and Stenjevac had been left without electricity due to bad weather and operation of distributor protection in TS 110/x kV Rakitje and approximately 35 MWh of electricity had not been supplied.

A fire that broke out in the Istrian region caused a failure in 110 kV network, which resulted in 60 MWh remaining unsupplied.

Other failures, mainly caused by bad weather conditions were either short-lasting or influenced narrower area, so that approx. 20 Mwh of electricity remained unsupplied.

The distribution system operator established in 2006 a system for follow-up on power supply interruptions in all distribution areas by manualy entering all congestions lasting longer than 3 minutes into program DISPO, up to the level of operation unit at HEP-ODS.

Indiciators of supply reliability are the indicator of average annual number of interruptions per buyer, SAIFI (System Average Interruption Frequency Index):

$$SAIFI = \frac{Total\ number\ of\ customers\ affected\ by\ interruptions}{Total\ number\ of\ customers}$$

and the indicator of average total annual interruption duration per customer, SAIDI (System Average Interruption Duration Index):

$$SAIDI = \frac{Total\ interruption\ duration}{Total\ number\ of\ customers}.$$

This program allows analysis of entered interruptions and their statistical processing based on which the indicators of power supply reliability had been provided. The manner of interruption entering had been adapted to the organizational structure of HEP-ODS. The results of the analysis are divided into three zones (A, B and C) which are determined by the number of customers connected to the HEP-ODS' network. Zone A includes a unit or unit office with a number of customers up to 15,000, zone B from 15,000 up to 30,000 customers and zone C refers to organizational units of HEP-ODS with more than 30,000 customers.

Planned interruptions had been caused by removal of consequences of the failure, regular maintenance, construction of objects and network, removal of consequences of a failure caused by force majeure and removal of consequences of a failure caused by third parties, construction of objects and networks of third parties and interruptions in the supply network.

Forceful interruptions had been caused by failures in the distribution network, failures caused by the third parties, force majeure and interruptions in the supply network.

Indicators of power supply reliability in 2007 are presented in the table 3.1.16.

Table 3.1.16 Indicators of power supply reliability in 2007

Zone	SAIFI			SAIDI (min)		
	Planned	Forceful	Total	Planned	Forceful	Total
A	3,29	5,69	8,98	511,63	590,24	1.101,87
B	2,77	4,46	7,23	329,67	363,70	693,38
C	1,64	2,37	4,01	272,93	206,87	479,80

Source: HEP-ODS, Report for the Agency for 2007

3.1.8.2 Service quality

General conditions for electricity supply determine quality of services as a part of total quality of electric power supply and through respective provisions define obligations of the system operator toward customers, producers and other participants of the regulated and market part of the energy sector for provision of services.

Besides the energy activity of distribution of electricity, HEP-ODS also carries out the activity of supplying tariff customers with electricity as a public service under regulated conditions. Therefore, the services that are provided by HEP-ODS relate not only to the supply, but to the distribution as well.

A standard service is a service that lies within the scope of responsibilities of ODS, whose customers, nature and circumstances of carrying out are prescribed by the law and secondary legislation and the costs of providing services are settled from the fee for network use and the connection fee.

Besides providing services to the customers and the producers, HEP-ODS may provide services to the other network users through cooperation with other network users. Such services are referred to as the auxiliary services.

All services that HEP-ODS provides to the network users, prescribed by the General Conditions and which are not financed from the fee for network use and the connection approval are non-standard services and are to be paid in accordance with specially adopted and confirmed price list for non-standard services.

Grid Code (Official Gazette *"Narodne novine"*, No. 36/06) contains rules on measuring which regulate performance of measurement services in the transmission and distribution network. In accordance with the regulation, measurement services that the system operators are in charge of had been determined as well.

HEP-ODS divides services in the distribution and electricity supply in the following categories:

1. Service quality during activities of electricity distribution;
2. Measurement services quality during activities of electricity distribution;
3. Service quality during activities of electricity supply;
4. Other attributable services;
5. Follow-up on business conduct quality.

HEP-ODS presented in its report for the Agency for 2007 types of services and their evaluations within the category of Service quality during activities of electricity supply:

A). Arranging contracts on electricity supply

Arranging contract in all distribution areas had been very good, i.e. there had not been any justified objections regarding contract closing procedure; up to or total of 5% of the submitted objections regarding supply fulfillment were justified objections.

In the course of 2007, HEP-ODS closed 65,012 contracts with the customers/users from the household category and 15,241 contracts within the entrepreneur category.

B). Settlement of accounts and issuing invoices

Pursuant to the established evaluation criteria, settlement of accounts and issuing invoices has been rated excellent in six distribution areas, whereas the same were rated acceptable in 14 distribution areas. Settlement of accounts and issuing invoices has been rated unacceptable in only one distribution area. Ratings of entrepreneur services had been not as good, whereas 13 distribution areas did not fulfill the requirements. Acceptable services had been provided in six areas and an excellent service in two areas.

HEP-ODS issued 31,013,042 invoices or advance invoices to the customers from household category and 2,019,034 invoices or advance invoices to the customers from the entrepreneurship category.

C). Regular collection procedure

Regular collection procedure in all distribution areas has been excellent, i.e. number of justified objections to collection procedure in comparison with number of paid invoices without a reminder was less or equal to 0,02 for the households, i.e. 0,01 for entrepreneurship category.

Number of paid invoices and advanced payments without warnings amounted in 2007 for HEP-ODS to 22,750,449. It amounted to 1,391,814 for the entrepreneurship category.

D). Responses to questions and objections of the customers

In 16 distribution areas has the responding to the questions and objections of the household customers been rated excellent pursuant to the established evaluation criteria, whereas the four distribution areas rated the service acceptable. The above-mentioned service for households did not fulfill criteria in only one distribution area. The rating of the service for entrepreneurship is not as good, since 19 distribution areas did not fulfill the criteria, whereas an acceptable and excellent service had been provided only in two respective areas. As the rating is considered acceptable in case of more than 90% of the questions and objections within the prescribed term or within 10 working days, the rating criteria must be revised due to complexity of the questions and objections of the customers from the entrepreneurship category; however the specialty of such communication requires more time than with the customers from the household category.

HEP-ODS had received 1,523,306 questions, requests and objections of the customers from the household category and 84,769 from the entrepreneurship category in 2007.

E). Non-standard service of settlement of accounts and issuing invoices

This service is also used for analysis of issuing extraordinary invoices, settlements of accounts in accordance with the contracts on self-reading, issuing copies of payment slips, verified copies of the invoices, etc. The service has been rated excellent in almost all areas, both by the entrepreneurs and households. Only in one household area has the service been rated acceptable and in two areas as not. As far as entrepreneurs are concerned, the service was not satisfactory in four areas. Number of justified customers' objection has been taken as a criterion in comparison with total number of non-standard settlement of accounts for the customers. For the households this number muss be less than 0.003, and for the entrepreneurship 0.002.

HEP-ODS has in 2007 made 449,980 different non-standard settlements of accounts for the customers from household category. For the customers from the entrepreneurship category this number has been significantly lower and amounted to 13,623.

F). Non-standard procedure of collection

In all distribution areas has the non-standard procedure of collection been excellent, i.e. the number of justified objections to collection procedure in comparison to number of paid invoices without warning has been lower or equal to 0.03 for households, i.e. 0.02 for entrepreneurship.

On the level of HEP-ODS, a total of 1,087,618 warnings for unpaid invoices for the customers from household category and 279,750 warnings for the customers from the entrepreneurship category had been sent out in 2007.

3.1.9 Activities of Complaint Commissions within Energy Undertakings

Statistics of the complaints processed by the Complaint Commission of HEP-ODS during 2007 are presented in the table 3.1.17.

Table 3.1.17 Statistics of the complaints processed by the Complaint Commission of HEP-ODS during 2007

Type of complaints	Total	Accepted	Rejected	In progress
Refusal of a request for issuing PEES	8	0	8	0
Refusal of conditions from PEES and/or connection fee	11	6	2	3
Refusal of the conditions from issued PEES	5	3	2	0
Other	1	1	0	0
TOTAL	**25**	**10**	**12**	**3**

Source: HEP-ODS, Report for the Agency for 2007

The Customer Complaint Committee of HEP-ODS had held 48 meetings and the results of their work are presented in the table 3.1.18. Of 146 complaints in total, processed by the Customer Complaint Committee, 53 had been adopted and 93 rejected.

Table 3.1.18 Analysis of operations of the Customer Complaint Commission of HEP-ODS

Distribution area	Meetings held	Complaints in total	Approved in total	Rejected in total
Elektra Zagreb	5	113	47	66
Elektra Zabok	2	1	0	1
Elektra Varaždin	1	1	0	1
Elektra Čakovec	0	0	0	0
Elektra Koprivnica	3	3	0	3
Elektra Bjelovar	2	0	0	0
Elektra Križ	0	0	0	0
Elektroslavonija Osijek	7	7	0	7
Elektra Vinkovci	4	0	0	0
Elektra Slavonski Brod	4	0	0	0
Elektroistra Pula	3	8	6	2
Elektroprimorje Rijeka	1	1	0	1
Elektrodalmacija Split	2	3	0	3
Elektra Zadar	2	0	0	0
Elektra Šibenik	2	5	0	5
Elektrojug Dubrovnik	0	0	0	0
Elektra Karlovac	3	3	0	3
Elektra Sisak	3	1	0	1
Elektrolika Gospić	1	0	0	0
Elektra Virovitica	3	0	0	0
Elektra Požega	0	0	0	0
TOTAL	**48**	**146**	**53**	**93**

Source: HEP-ODS, Report for the Agency for 2007

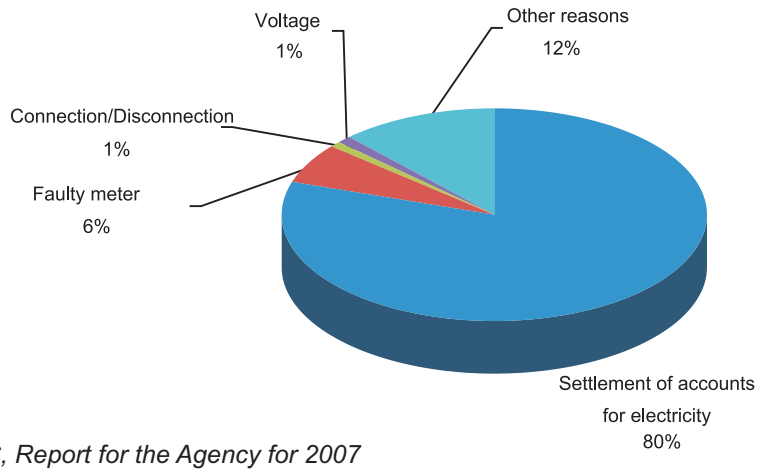
Type of complaints processed by the Customer Complaint Commission of HEP-ODS are presented in the table 3.1.19.

Table 3.1.19 Type of complaints submitted to the Customer Complaint Commission of HEP-ODS per distribution area

Distribution area	Basis for the customer's complaint														
	Settlement of accounts			Faulty meter			Connection/ disconnection			Voltage situation			Other		
	Total	Accepted	Refused	Total	Accepted	Refused	Total	Accepted	Refused	Total	Accepted	Refused	Total	Accepted	Refused
Elektra Zagreb	103	41	62	3	2	1	0	0	0	0	0	0	7	4	3
Elektra Zabok	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Varaždin	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Elektra Čakovec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Koprivnica	2	0	2	0	0	0	0	0	0	0	0	0	1	0	1
Elektra Bjelovar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Križ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektroslavonija Osijek	5	0	5	0	0	0	0	0	0	0	0	0	2	0	2
Elektra Vinkovci	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Slavonski Brod	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektroistra Pula	0	0	0	0	0	0	2	2	0	2	1	1	4	3	1
Elektroprimorje Rijeka	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Elektrodalmacija Split	0	0	0	2	0	2	0	0	0	0	0	0	1	0	1
Elektra Zadar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Šibenik	2	0	2	3	0	3	0	0	0	0	0	0	0	0	0
Elektrojug Dubrovnik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Karlovac	2	0	2	0	0	0	0	0	0	0	0	0	1	0	1
Elektra Sisak	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Elektrolika Gospić	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Virovitica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elektra Požega	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL:	**116**	**41**	**75**	**9**	**2**	**7**	**2**	**2**	**0**	**2**	**1**	**1**	**17**	**7**	**10**

Source: HEP-ODS, Report for the Agency for 2007

The highest number of complaints refers to the settlement of accounts for electricity (80%), than other reasons (12%), faulty meter (6%), voltage (1%) and connection/disconnection (1%). Percentage structure of the claims is presented in the Figure 3.1.23.



Source: HEP-ODS, Report for the Agency for 2007

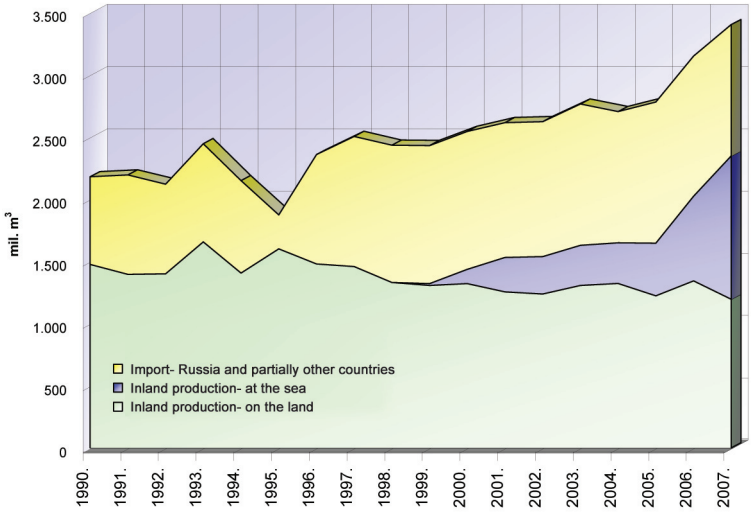
Figure 3.1.23 Shares of certain types of complaints of the customers processed by the Customer Complaint Commission

3.2 Gas

3.2.1 Natural gas market in the Republic of Croatia

3.2.1.1 Supply and consumption of natural gas

INA d.d. is the only natural gas supplier in the Republic of Croatia. Total amount of natural gas supplied to the Republic of Croatia in 2007 amounted to 3,410 mil. m^3. Natural gas for inland market is mainly supplied from the inland production at the Pannonian and the North Adriatic fields (69,1% in 2007) and partially from the import from Russia (30,9% in 2007). The structure of natural gas supply in the period from 1990 to 2007 is presented in the Figure 3.2.1.

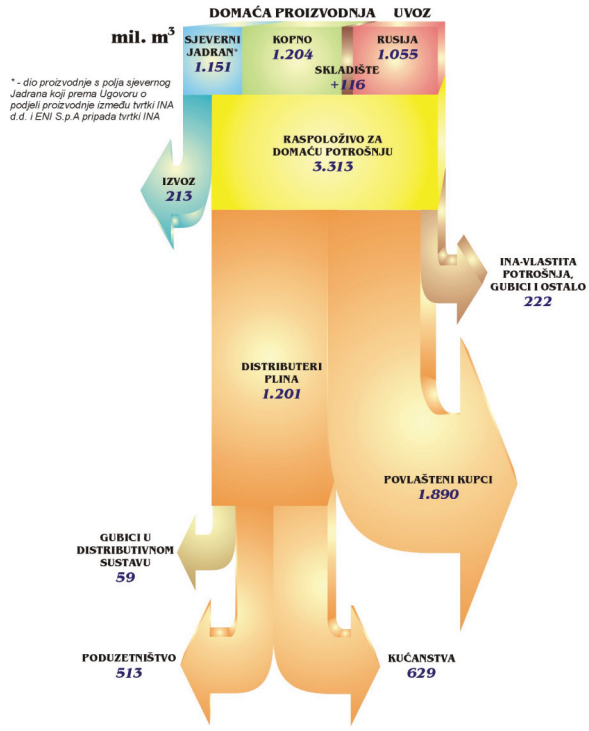


Source: HERA – according to data received from the energy operators

Figure 3.2.1 Structure of natural gas supply in the Republic of Croatia from 1990-2007

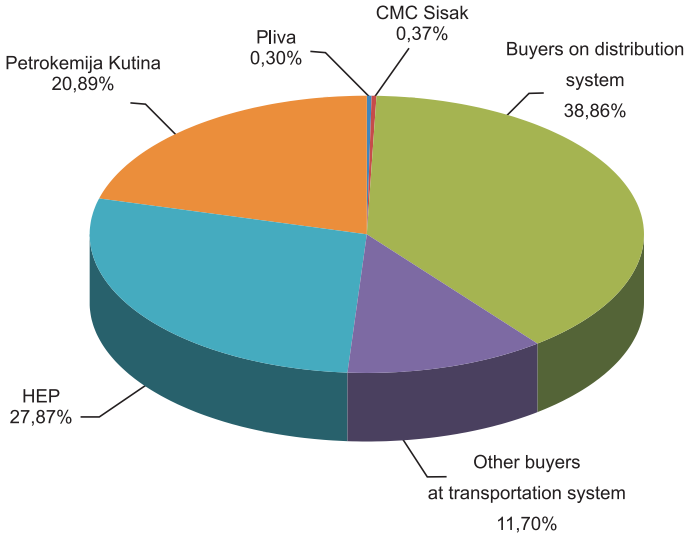
Total inland production of natural gas in 2007 amounted to 2,355 mil. m^3. 1,151 mil. m^3 had been produced at the North Adriatic gas fields (the share of production at North-Adriatic field which belongs to INA pursuant to the Contract on production dividing concluded between INA d.d. and ENI S.p.A.) and 1,204 mil. m^3 at the gas field in the Pannonian plain. 267 mil. m^3 had been stored in the underground natural gas storage (hereinafter: PSP Okoli) and 383 mil. m^3 had been taken out. Import of natural gas has been realized only from Russia and amounted to 1,055 mil. m^3, while at the same time 213 mil. m^3 had been exported to Italy. The natural gas balance of the Republic of Croatia is presented in the Figure 3.2.2.

INA d.d. supplies (production and import) 38 distributors of natural gas, 29 direct gas customers at the transportation system (including HEP-Proizvodnja d.d., Petrokemija d.d. Kutina, Pliva's cogenerative plant in Novi Marof and Valjaonica cijevi Sisak d.d.). Structure of natural gas consumption in 2007 is presented in the Figure 3.2.3 and it was as follows: gas distributors had been supplied with 1,201 mil. m^3, whereas the direct gas buyers at the transportation system had been supplied with 1,890 mil. m^3, of which 861 mil. m^3 had been supplied to HEP-Proizvodnja d.d., 646 mil. m^3 to Petrokemija d.d. Kutina, 9 mil. m^3 to Pliva's cogenerative plant in Novi Marof and 12 mil. m^3 to Valjaonica cijevi Sisak d.d..



Source: HERA – according to data received from the energy operators

Figure 3.2.2 Natural gas balance in the Republic of Croatia in 2007



Source: HERA – according to data received from the energy operators

Figure 3.2.3 Structure of natural gas consumption in the Republic of Croatia in 2007

3.2.1.2 Transportation and distribution systems and storage system

The company Plinacro d.o.o. is a gas transporter in the Republic of Croatia and it is owned by the state. The transporter manages the network of main and regional gas pipelines through which natural gas from inland production (Northern part of Continental Croatia and the North Adriatic) and from import (supply transportation line via Slovenia [Zabok–Rogatec]) and transports gas up to outgoing measuring and reduction stations where the gas is given over to the supplier at the distribution systems and the industrial buyers at the transportation system. The network of main and regional gas pipelines is presented in the Figure 3.2.4.

Gas transporter is entrusted with development, construction and modernisation of gas transportation system in the Republic of Croatia, pursuant to the Act on the Gas Market. Main gas

lines Pula–Karlovac, Zagreb East–Kutina and Slavonski Brod–Kutina had been completed and put into operation during 2006, completing the first phase of construction and modernization of the gas transportation system; also the new National Dispatching Centre, remote Croatian gas network control and management system has been put into operation, as well as link system with optical communication system.

Development of the transportation system has been continued and the second phase of investment in development and construction of gas transportation system in the Republic of Croatia has started in 2007. Its completion is foreseen for 2011. In the course of 2007, gas pipelines Zagreb East–Kutina, Slavonski Brod–Kutina, Lučko–Ivanja Reka, gas system in Baranja had been completed and therefore total of 480 km of new high pressure pipeline system and 10 new measuring and reduction stations (Pula, Labin, Kršan, Rijeka East, Rijeka West, Delnice, Nova Gradiška, Nova Kapela, Mece and Beli Manastir) had been put into operation and during the same year, all preparatory activities had been completed (provision of one part of required means through a credit from European Investment Bank, investment studies, design project, environmental studies) for realization of the aforementioned second phase of development and investment. Works on the construction of main gas pipeline Bosiljevo-Split has commenced in November 2007, since it is a key object of the second investment phase, in which EUR 443 mil. shall be invested, which means that the present annual capacity of approx 5 bil. m^3 should increase to over 10 bil. m^3 of natural gas. Furthermore, after construction of the gas pipeline Slavonski Brod–Donji Miholjac and through connection to the Hungarian transportation system, a new transportation line for gas import into the Republic of Croatia shall be provided. Besides planned production, in the course of 2007 it was started with the realization of Ionian-Adriatic gas pipeline, as well as of other developmental projects, which will allow for further diversification of not only transportation-transit supply lines, but also the sources of natural gas supply.

Source: HERA – according to the data received from Plinacro d.o.o.

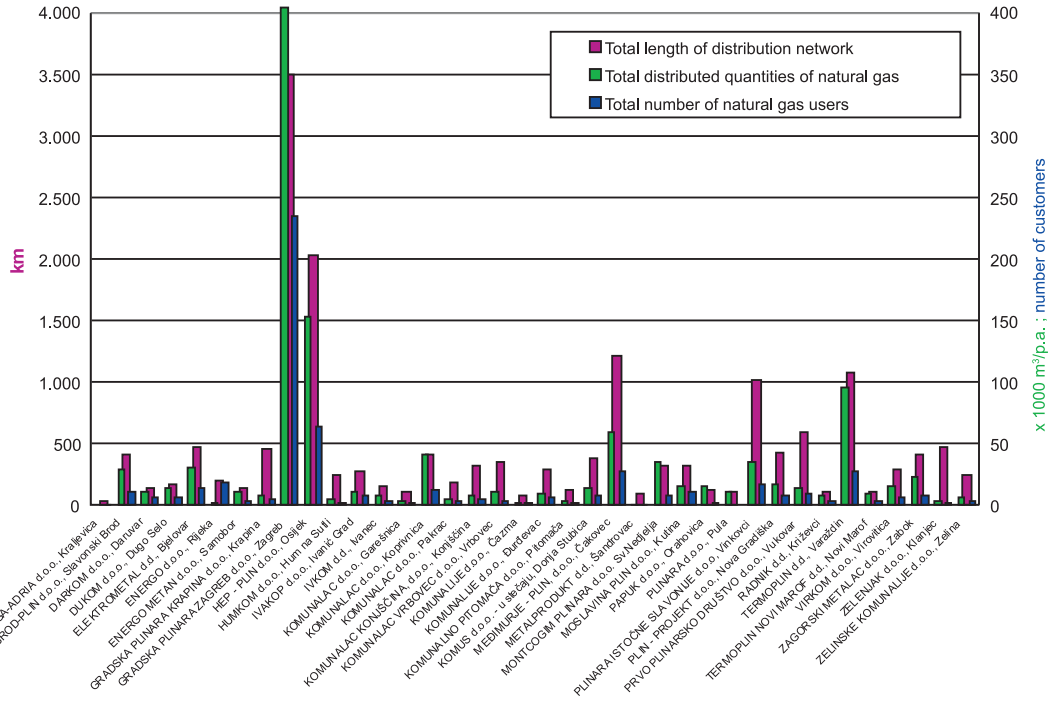
Figure 3.2.4 Present and planned gas transportation system of the Republic of Croatia

Total length of gas transportation system in the Republic of Croatia at the end of 2007 amounted to 2,085 km (426 km of 75 bar gas pipelines, 1,599 km of 50 bar gas pipelines and 60 km of 4-50 bar gas pipelines). There are 151 measuring and reduction stations within the gas transportation system and 245 measuring lines. According to data received from the company Plinacro d.o.o., total transported quantities of the natural gas in the Republic of Croatia during 2007 amounted to 3,360,183,448 m^3 and the incoming capacity of the transportation system amounted to 860,000 m^3/h.

PSP Okoli is used for storage of natural gas in the Republic of Croatia, which is owned by INA d.d. PSP Okoli represents partially exhausted gas field Okoli that has been developed into 17 injection production wells mounted on 5 drilling platforms, supervised by 6 control and measuring drills. The plant was put into operation in 1987. Operative volume of the storage amounts to 558 mil. m^3 and daily drawing capacity of 5,8 mil. m^3. Maximal allowed bed pressure amounts to 196 bar. Operation of the storage allows optimal production on the gas field, continuous import from Russia and regular supply of the buyers in the Republic of Croatia. In the course of 2007, 116 mil. m^3 of natural gas less than it was required were stored there before being drawn from the storage.

Gas distribution in the Republic of Croatia is performed by 38 companies (including two companies who supply not only natural, but also mixed gas and one company that distributes also city and vaporized gas.

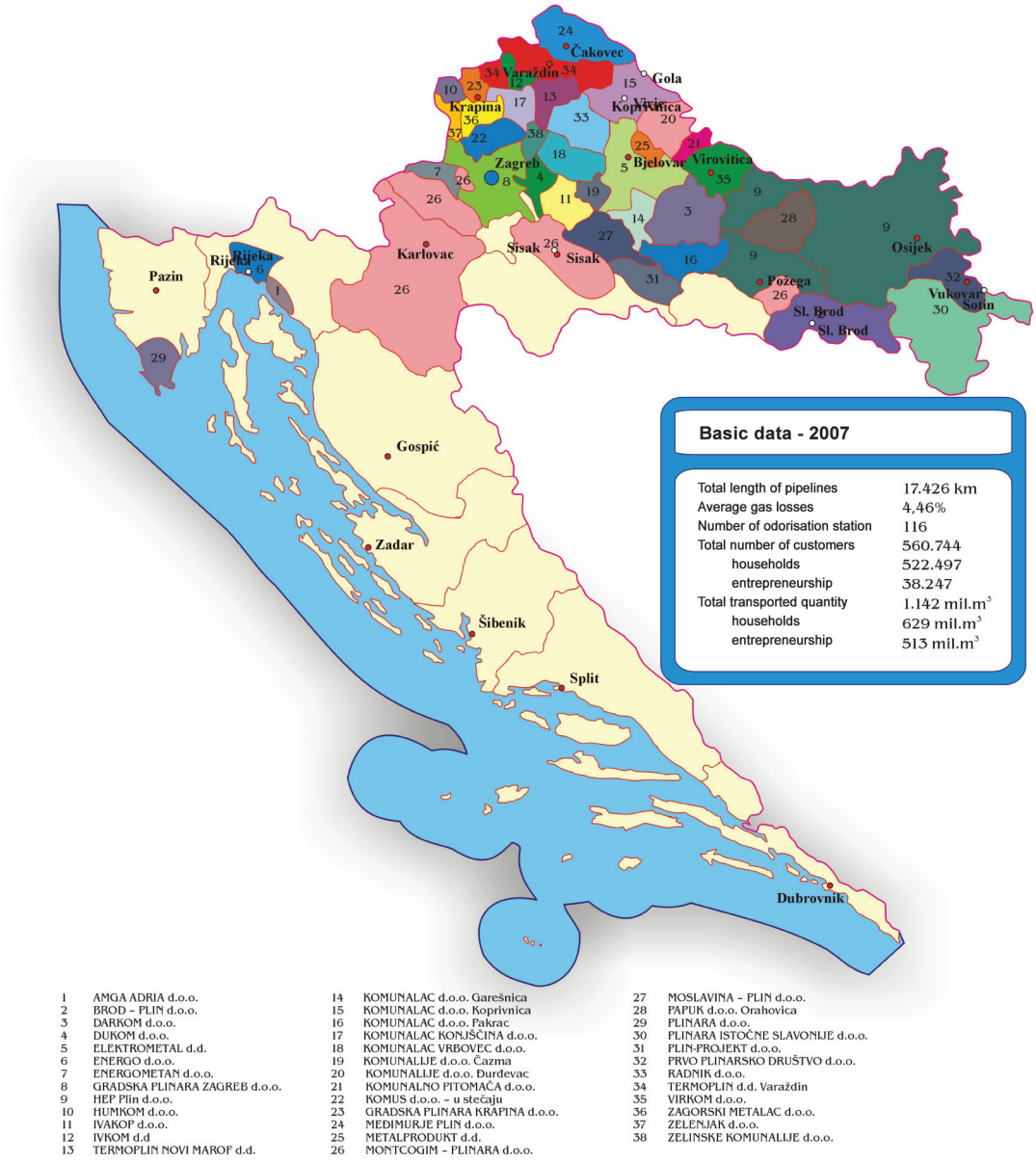
Total distributed quantities of natural gas in 2007 amounted to 1,142,494,236 m^3. Total length of the distribution network in the Republic of Croatia at the end on 2007 amounted to 17,425 km and average loss in the network to 4,46%. Total number of gas buyers that gas was distributed to in 2007 amounted to 560,760, of which 522,513 belonged to the household category (2,3% more in comparison with 2006) and 38,247 buyers come from entrepreneurship category (8,6% more in comparison with 2006). The biggest distributors are Gradska plinara Zagreb (234.406 buyers, 403,634 mil. m^3 supplied during 2007), HEP – Plin Osijek (63.826 buyers, 153,5 mil. m^3 supplied during 2007), Termoplin Varaždin (28.123 buyers, 95,2 mil. m^3 supplied during 2007) and Međimurje-plin Čakovec (26.991 buyers, 59,5 mil. m^3 supplied during 2007). Figure 3.2.5 presents comparison of distributed quantities, natural gas buyers and the length of distributive



Source: HERA – according to data received from the energy operators

Figure 3.2.5 Comparison of distributed quantities, natural gas buyers and length of distribution network

network per respective distributors in the Republic of Croatia during 2007, while geographical arrangement of the respective gas distributors (suppliers) in 2007 is represented on the Figure 3.2.6.



Source: HERA

Figure 3.2.6 Arrangement and basic data on gas distribution activity in the Republic of Croatia in 2007

3.2.1.3 Development plans for transportation and distribution system

Ministry of Economy, Labor and Entrepreneurship has in 2006 approved the Second Development and Investment Phase for Gas Transportation System in the Republic of Croatia from 2007 till 2011.

The most important objects in the second investment cycle are the objects in the gas transportation system of Lika and Dalmatia. Framework of this transportation system shall be the main gas pipelines Bosiljevo–Split and Split–Ploče.

Construction of gas pipelines from Vodnjan to Umag, 78 km long, is foreseen in Istria, together with construction of measurement and reduction station. Construction of gas pipelines

Kukuljanovo–Omišalj is foreseen at the area of County of Primorje-Gorski Kotar. According to proposal, the gas pipeline operated under 75 bar would be 15 km long. Construction of measurement and reduction stations Urinj i Omišalj is planed along that gas pipelines.

Construction of an international gas pipeline Rogatec–Zabok is foreseen in the Eastern Part of the Republic of Croatia, in the corridor of existing gas pipelines and significantly increased capacity along that transportation lines. The next significant project groups are projects from the main gas pipelines Slobodnica–Donji Miholjac and Slobodnica–Sotin. The main gas pipeline Slobodnica–Donji Miholjac shall have various purposes, since it shall significantly increase the reliability and natural gas supply to that part of the Republic of Croatia by connecting the transportation lines in Posavina and Podravina. Its construction shall provide the conditions for opening new supply line from Hungary by connection to the Hungarian gas transportation system through international gas pipeline Donji Miholjac–Dravaszerdahely, which shall allow for supply new, more significant quantities of natural gas for the Croatian market, as well as make transit to Bosnia and Herzegovina possible.

Besides the aforementioned connection to the Hungarian transportation system, the activities on the construction of Ionian-Adriatic gas pipeline had been started in 2007, which will allow for diversification of not only transportation and supply lines, but also sources of natural gas supply.

3.2.2 Natural gas prices

3.2.2.1 Natural gas prices for end customers in the Republic of Croatia

Pursuant to the Act on the Gas Market, which entered into force on April 30, 2007, the way of defining the gas buyers has changed in comparison with the prior Act on the Gas Market (Official Gazette *"Narodne novine"*, No. 68/01 and 87/05). Therefore, there are three buyer categories in accordance with the type (market position):

- energy operators for gas who buy gas - system operators: transportation system operator, distribution system operator, gas storage system operator, LNG terminal operator) who are entitled to buy gas for the purpose of compensation of losses and for system operation and balancing;
- wholesale buyers - buyers who purchase gas for further sale to the end customer, i.e. gas suppliers and distributors for tariff customers, gas supply to eligible customers);
- end customers - legal and natural persons who purchase gas for own supplies and may be divided into households and other customers (considering dynamics of acquiring of eligibility status).

Customers may also be divided according to the right to free selection of the supplier:

- tariff customers – customers who are not entitled to a free selection of gas supplier, but they buy gas under price which is determined by the tariff system;
- eligible customers – customers who may freely select their gas supplier. The Act on the Gas Market prescribes the ways and dynamics of opening the market. By enactment of the Act on the Gas market, the status of an eligible customer has been granted to the customers buying gas only for their own purposes and whose annual consumption is higher than twenty-five mil. of cubic meters (m^3) of gas and as of August 2007, all customers became eligible customers, except for customers belonging to the household category. As of August 2008 all household shall be granted status of eligible customers.

It is also important to mention that the Act on theGas Market allows the below mentioned customers from household category to retain status of the tariff customers, i.e. to remain entitled to gas supply by the supplier who is holder of a public service obligation of gas supply:

- customers from household category who had not chosen their supplier within six months, whose supplier ceased his activities or who had decided to change the supplier after opening the market;
- customers who purchase gas for the purpose of thermal energy production for tariff customers, limited to that quantity of gas required for performing public service of thermal energy production and
- customers that purchase gas for the purpose of performing public service obligation of electricity supply, limited to that quantity of gas required for performing public service of electricity supply.

Finally, according to protection, i.e. priority as far as supply reliability is concerned, the following customer groups may be distinguished:

- protected customers - customers entitled to supply with required amount of the gas in case of partial disruption of the gas supply and extremely low average temperatures;
- others.

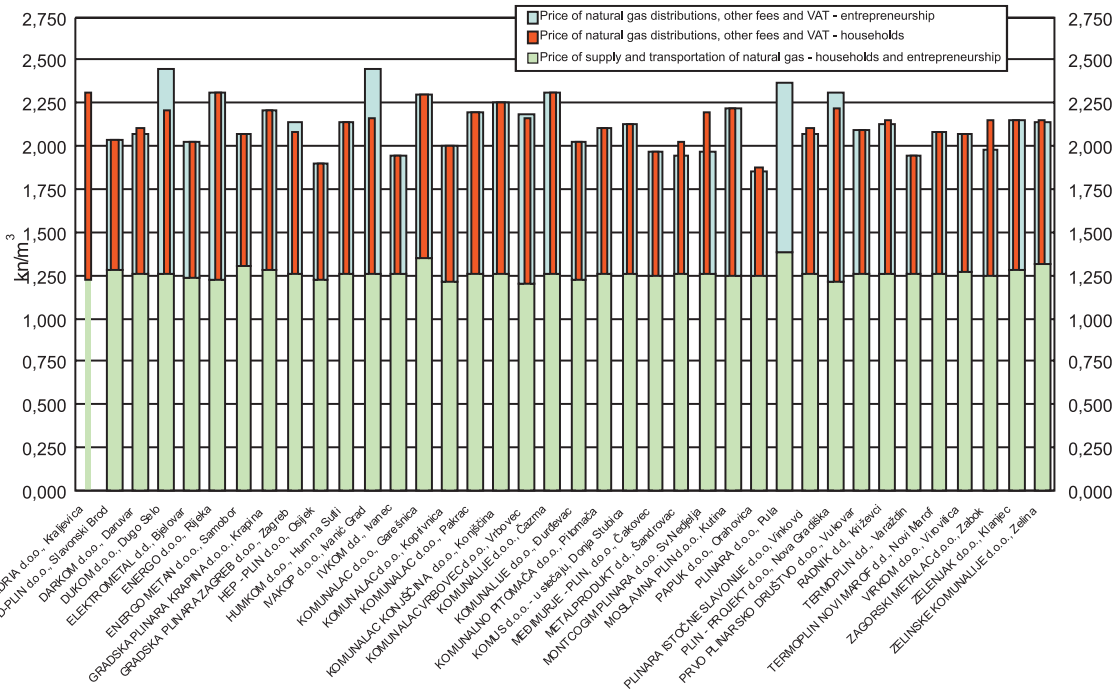
Price of natural gas supply is determined pursuant to Decision of Gas Supply to the Gas Supplier for Distributor to Tariff Customers, which is equal for all tariff customers and amounts to 1.07 HRK/m^3.

The fee for natural gas transportation is determined by the Tariff System for Natural Gas Transport without the Amounts of Tariff items (Official Gazette *"Narodne novine"*, No. 32/06 and 3/07). This Tariff System establishes three tariff items that refer to natural gas transportation in the months of peak, medium and basic load. The amount of tariff items is prescribed by the Government of the Republic of Croatia and it is equal for all users of transportation system. The price of natural gas transportation is calculated as the quotient of annual fee amount for use of transportation system and total of total transported gas quantity for each user in that year. Transportation price is not the same for all users, since it depends on the way the user is using transportation system during the year. Therefore, the transportation price for natural gas distributors in 2007 amounted to 0.152 HRKm^3 on the average. The average price for 29 buyers connected directly to the transportation system amounted to 0.114 HRKm^3.

Gas price for end-customers connected to the distribution system (households and entrepreneurship) till and during 2007 had been determined in the manner prescribed by the Utility Service Act (Official Gazette *"Narodne novine"*, No. 26/03, 82/04 and 172/04). In November 2007, pursuant to the opinion of the Agency, the first Decision on the Amount of Tariff Items for Natural Gas Distribution without the Amount of Tariff Items and Tariff System for Natural Gas Supply with the Exception of Eligible Customers Without the Amount of Tariff Items for the company Energo d.o.o., Rijeka had been rendered. By the end of 2007 proposals of the amount of tariff items for distribution and gas supply of most distributors and suppliers pursuant to tariff system had been received and it was immediately started with analysis and opinion forming process.

The average retail price of natural gas for tariff customers in 2007 ranged from 1.88 to 2.31 HRK/m^3 for household category and 1.84 to 2.53 HRK/m^3 for entrepreneurship category[1]. The average price (weighted according to the distributed quantity of natural gas) for household category amounted to 2.052 HRK/m^3, which represents an increase of 5,4% in comparison with 2006 and for the entrepreneurship category a 2.054 HRK/m^3, which represents increase of 2,4% in comparison with 2006. Figure 3.2.7 presents comparison of retail prices of natural gas of all distributors to households and entrepreneurship .

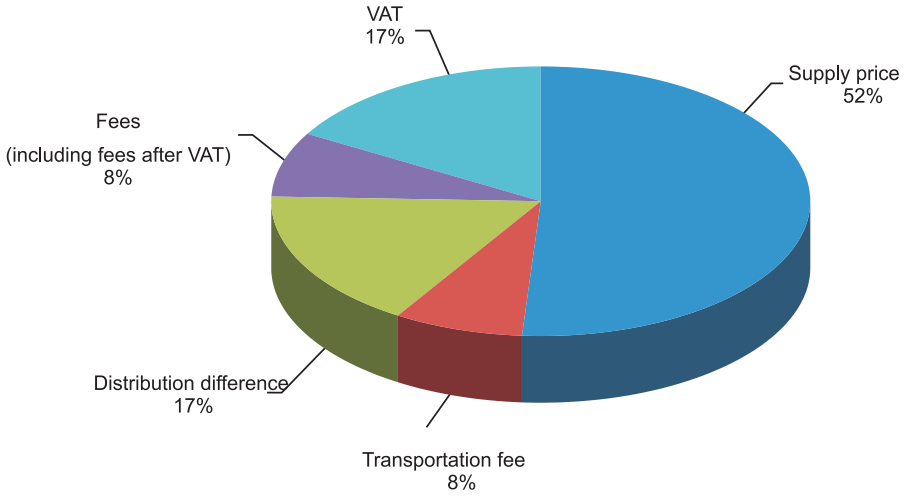
[1] VAT is included in the retail price.



Source: HERA – according to data received from the energy operators

Figure 3.2.7 Comparison of prices of natural gas for household and entrepreneurship categories by distributors

Structure of an average retail price of natural gas for households in the Republic of Croatia in 2007 is presented in the Figure 3.2.8.

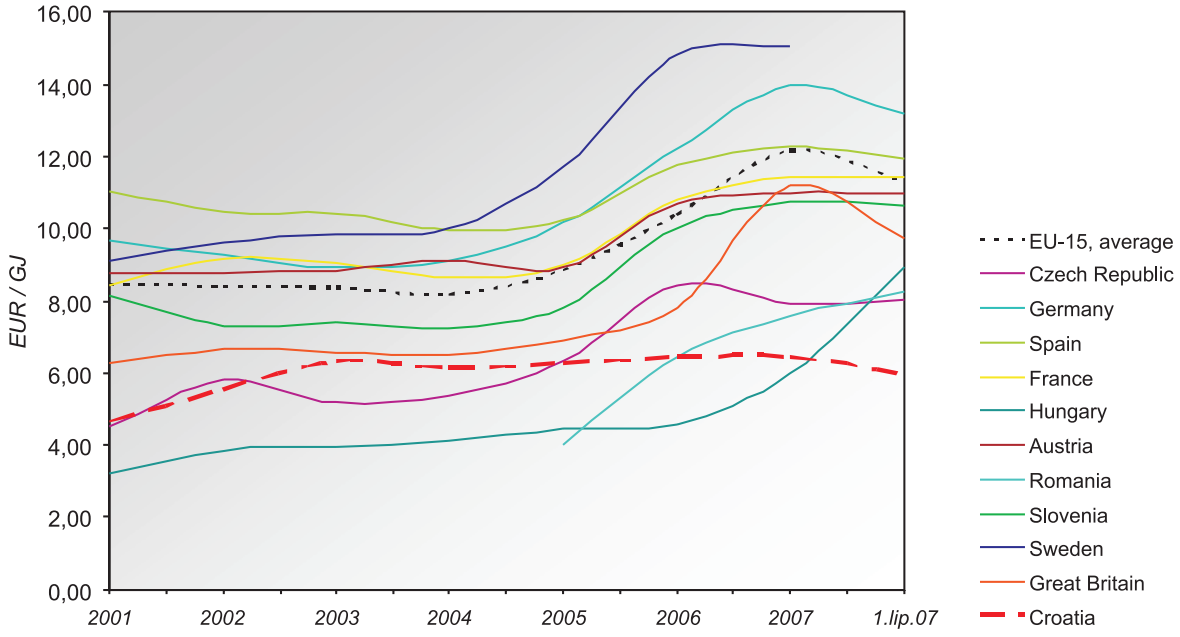


Source: HERA – according to data received from the energy operators

Figure 3.2.8 Structure of an average retail price of natural gas for households in the Republic of Croatia in 2007

3.2.2.2 Prices of natural gas for end customers in the European countries

Trend of retail prices of natural gas for household category D_3[2] in respective European countries from January 01, 2001 till January 01, 2007 is presented on the Figure 3.2.9. It is evident that the price of natural gas for households had been increasing from 2004 till 2007. Trend of price increase had been stopped in the first half of 2007 and in some countries, like in e.g. Great Britain is also came to reduction of price of natural gas for households. Hungary and Romania represent exceptions since it came to a significant increase of price of natural gas for households there. Retail (distribution) prices for households in the Republic of Croatia had been in slight increase up to the beginning of 2003 and since then, there had not been any significant correction prices (except for slight increase during 2004.).



Source: Eurostat/Environment and Energy/Energy/Energy Statistics: gas and electricity prices/Gas - domestic consumers - half-yearly prices - Old methodology until 2007; processed by HERA

Figure 3.2.9 Trend of European prices for household category D_3 from 2001 till June 01, 2007 (taxes excluded)

According to Eurostat's data, prices of natural gas EU-25 had increased by 17% for household category D_3 and 9% for industrial customers in category I_{3-1} in the period from January 01, 2006 till January, 01, 2007.

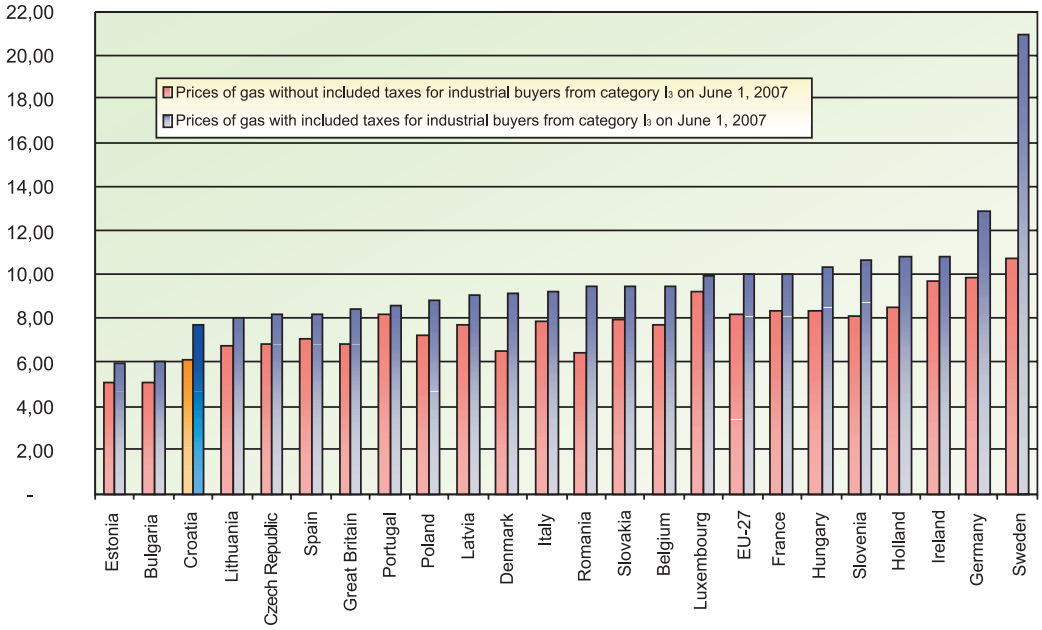
Figure 3.2.10 presents prices of natural gas for industrial customers of category I_3[3] in European countries on June 01, 2007.

It is evident that the share of taxes in total price of natural gas for the aforementioned category of customers significantly varies and it is at highest level in Sweden (48,9%), Romania (31,0%) and Denmark (29,2%), and at the lowest level in Portugal (4,8%), Luxembourg (7,2%) and Ireland (10,5%).

Total retail price of natural gas for industrial customers of category I_3 is at the highest level in Sweden (EUR 20.94) and Germany (EUR 12.84) and at the lowest level in Estonia (EUR 5.94), Bulgaria(EUR 6.02) and Croatia (EUR 7.7).

2 Pursuant to the old methodology of Eurostat, households had been divided into standard categories D_1, D_2, D_3, D_{3-b}, D_4, a and industrial customers into standard categories I_1, I_2, I_{3-1}, I_{3-2}, I_{4-1}, I_{4-2}, I_5. Standard category D_3 represents households with an annual consumption of natural gas of 83,70 GJ. The old methodology had been used in order to allow presentation of the trend of natural gas price movement, since the new methodology does not provide data for prior years, but only for 2007.

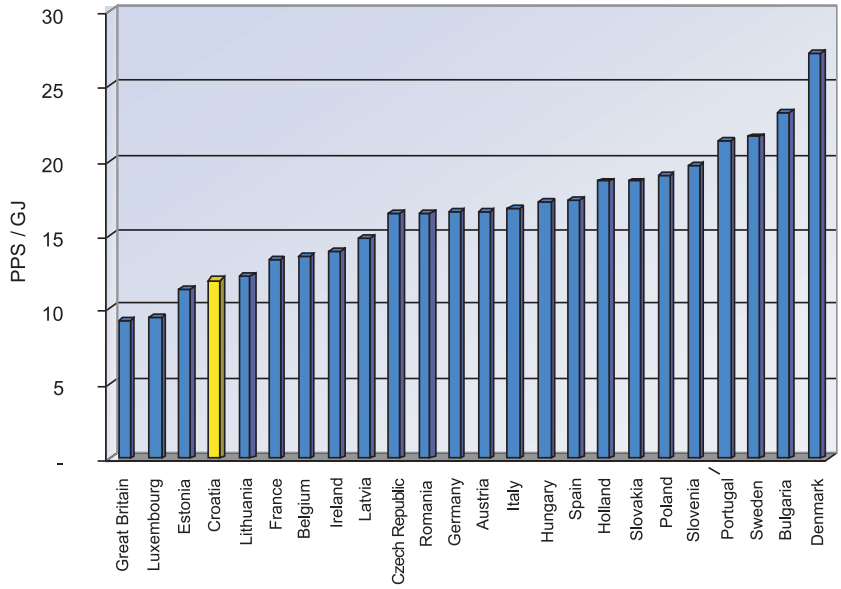
3 Pursuant to the new methodology of Eurostat, industrial customers are divided into standard categories I_1, I_2, I_3, I_4, I_5 and I_6. Standard category I_3 represents industrial customers with an annual consumption of natural gas of 10.000 up to 100.000 GJ (300.000 to 3.000.000 [m^3/p.a.]).



Source: Eurostat/Environment and Energy/Energy/Energy Statistics: gas and electricity prices/Gas - industrial consumers - half-yearly prices - New methodology from 2007 onwards; processed by HERA

Figure 3.2.10 Prices of natural gas for industrial customers in category I_3 on June 01, 2007 (with and without included taxes) [EUR]

Figure 3.2.11 presents comparison of European retail prices with included taxes for household category D_2[4] on June 1, 2007. The international unit PPS/GJ has been used as the price unit, used to eliminate the differences in prices of goods/services in respective countries. PPS (purchasing power standards) represent units that allow purchasing of the same quantities of goods/services in all countries.



Source: Eurostat/Environment and Energy/Energy/Energy Statistics: gas and electricity prices/Gas - domestic consumers - half-yearly prices - New methodology from 2007 onwards; processed by HERA

Figure 3.2.11 Comparison of natural gas price with regard to price of goods/services in European countries for the household category D_2 on June 01, 2007 (taxes included)

4 Pursuant to the new methodology of Eurostat, households are divided into standard categories D_1, D_2 i D_3 and industrial customers into standard categories I_1, I_2, I_3, I_4, I_5 i I_6. Standard category D_2 represents households with an annual natural gas consumption of 20 to 200 GJ (600 to 6.000 m³/p.a.).

The presented comparison shows that the price of natural gas for household category D_2 is at the highest level in Denmark, Sweden and Bulgaria and at the lowest level in Great Britain, Luxembourg, Estonia and Croatia, taking into consideration purchasing power and standards in the respective countries.

3.2.3 Gas supply quality

The quality of supply, which is reflected in quality of services related with gas supply and uninterrupted and continuous operation of all gas systems in the first place, is an important factor for gas activities that had not been monitored in the Republic of Croatia so far. As a consequence, energy operators had not followed up and kept records of parameters of gas supply quality. However, reformation of energy sector and enactment of appropriate legal regulation has provided for conditions for defining and monitoring gas supply quality. Thus the Energy Act defined public service as a service available at all times to all customers and energy subjects at regulated approach conditions and service use, respecting safety, regularity and quality of service, environmental protection, energy utilization efficiency and climate protection, which is provided by respecting criteria of operations publicity and supervision of legally prescribed authorities. Among others, energy activities of gas supply, natural gas storage, natural gas transportation, gas distribution, LNG terminal operation and supply of gas to tariff customers had been defined as public services.

The Act on the Gas Market defines obligations of the gas producer, as well as operators of transportation, distribution, storage and LNG systems with regard to gas supply quality, as well as the obligations of the gas supplier with regard to publishing and maintaining contracted quality of gas supply to the customers in accordance with the General Conditions of Natural Gas Supply. The Act on the Gas Market prescribes enactment of several implemental acts and the General Conditions of Natural Gas Supply within one year as of the date of enactment of the Act (April 2008). Since the General Conditions of Natural Gas Supply has not been enacted even by the end of 2007, there had been no legal preconditions for systematic monitoring gas quality and supply parameters.

In general, there are three main areas in which the quality may be regulated:

- quality of service (time required for connection of a new user, accuracy of metering and gas consumption settlement, speed of responding to the requests and complaint of the customers/users, etc.);
- continuity of supply (number of supply interruptions and their duration);
- quality of gas (calorific value, pressure and gas composition).

On the other side, there are four groups of regulatory instruments used for achieving satisfactory level of supply quality :

- publishing data on work of companies related to supply quality;
- setting up minimal supply quality standards;
- setting up models for penalizing companies in case of non-compliance with minimal quality standards, i.e. awarding in the opposite case;
- initiating signing of contracts with guaranteed special supply quality.

Since the General Conditions of Natural Gas Supply have not been enacted yet, the Republic of Croatia does not have a prescribed system for collecting, processing and saving data on problems and interruptions of gas supply, as well as system for monitoring quality of service and gas quality in the sector of gas supply. After setting up the aforementioned systems and indicators, after a certain period of time it shall be possible to set up minimal standards of supply quality and final implementation of the awarding and penalizing system for energy operators.

During compilation of the Annual Report for 2006, the Agency has processed data and presented an overview of complaints and objections of the buyers of natural gas. For the compila-

tion of this Report the Agency has collected additional data, which at this moment may be considered only informative and these include quality of supply monitored over several aspects:

- number of requests for connection to the gas network;
- average time for solving requests for connection to the gas network;
- number of complaints of customers/users;
- number of planned and unforeseen interruptions in gas supply;
- total duration of planned and unforeseen interruptions in gas supply.

All numbers were received from the transport system operator Plinacro d.o.o. and all other operators of distribution systems and gas supplier[5].

In the course of 2007 the operator of the transport system received 6 requests for connection to the transportation network and the average duration of request sorting amounted to 12 days. The operators of distribution systems received on the average[6] 783 requests for connection to the network, with average time of request solving of 16 days.

The operator of transportation system has received 4 complaints of the users, whereas the operators of distribution system received 16 complaints of the users on the average.

Quality and reliability of gas supply is among others defined as the ability of the network to provide reliability of transportation/distribution/supply of gas within a certain time period and is determined by the number and duration of supply interruptions. Therefore, data on number, as well as duration of planned and unforeseen interruptions in the gas supply during the year had been collected from the transportation and distribution system operators.

In the course of 2007, there had been 43 planned gas supply interruptions, which lasted 610 hours in total. There had not been any unforeseen supply interruptions. In the distribution networks there had been 444 hours of supply[7] on the average, with total average duration of all supply interruptions of 3,816 hours.

3.3 Oil and oil derivatives

3.3.1 Oil and oil derivatives market in the Republic of Croatia

For carrying out the energy activities at the oil and oil derivatives market it is required to obtain a license from the Agency. Exemption are acivities of retail trade in oil derivatives and retail trade in liquefied petroleum gas, for which no license is required. Besides that, for carrying out retail trade in oil derivatives, it is required to obtain an approval of the competent ministry.

Energy activities are as follows:

- Oil derivatives production;
- Transportation of oil through oil pipelines and other non-mentioned means of transportation from paragraph 21 of Article 15 of the Energy Act;
- Transportation of oil derivatives through product pipelines and other non-mentioned means of transportation from paragraph 21 of Article 15 of the Energy Act;
- Transportation of oil, oil derivatives and biofuel by road transportation;
- Wholesale trade in oil derivatives;
- Retail trade in oil derivatives;
- Storage of oil and oil derivatives;
- Wholesale trade in liquefied petroleum gas;
- Retail trade in liquefied petroleum gas.

5 Operators of distribution systems as legal persons include also gas supply activities besides gas distribution and pursuant to the Act on the Gas Market are not obliged to divide those two energy activities. One exception, i.e. operator of distribution system with more than 100,000 buyers connected to the distribution system is Gradska plinara Zagreb d.o.o., which did not undertake legal separation of energy activities related to gas distribution and gas supply by the end of 2007.

6 All average data presented in this chapter represent arithmetic averages.

7 Planned and unforeseen supply interruptions.

Oil transportation through oil pipelines is a regulated activity, whereas the other activities are carried out in accordance with the rules determined by market relationships.

3.3.1.1 Transportation of oil through oil pipelines

JANAF d.d. Zagreb is the only energy operator in the Republic of Croatia that performs energy activity of transportation of oil through oil pipelines.

Oil transportation system consists of :

- terminal Omišalj for receipt and discharge on the Island of Krk (including sea port, storage capacities for crude oil, pumping and measurement stations);
- oil pipelines, on the routes: Omišalj–Sisak, Sisak-Virje–Gola, Virje-Lendava, Sisak-Slavonski Brod, Slavonski Brod-Sotin, and submarine oil pump line Omišalj-Urinj that connects Terminal Omišalj and INA's Oil Refinery Rijeka;
- terminals for receipt and discharge in Sisak, Virje and Slavonski Brod (including storage capacities for crude oil, pumping and measurement stations).

Transportation system is presented in the Figure 3.3.1. The system is used for import of oil by tankers through terminal in Omišalj, i.e. oil pipeline system of the company JANAF d.d. to both INA's oil refineries in Rijeka and Sisak. Furthermore, transit of crude oil for the needs of refineries in Bosnia and Herzegovina, Serbia and Hungary. Also, it allows import of oil from the international oil pipeline Družba over connection in the town of Gola.

Designed capacity of the system amounts to 34 MTA and the installed capacity amounts to 20 MTA (millions of tons p.a.).

Source: HERA - according to data received from the energy operators

Figure 3.3.1 Transportation system of JANAF d.d.

Operation of the transportation system is prescribed by the Technical Conditions of Access to Transportation Capacities of JANAF (Gazette *"Glasilo VRED-a"* No. 3-4/03), in which the marginal properties of the oil that may be transported, procedures of receipt and discharge of oil in

Omišalj port, measurements of quantities and quality analyses, procedures at takeover of the oil by the customers, as well as the obligations of the transporters, i.e. users.

Prices of oil transportation service are regulated by the Tariff System for Oil Transportation through Oil Pipelines that prescribes methodology of calculation of the higher tariff amounts.

Fundamental principles of the tariff system are as follows:

- negotiated access of third parties;
- operational costs must be justified and return of investment term reasonable;
- operational costs must be impartial and transparent;
- settlement of all cost elements and incomes on which tariffs are based on is performed for each user category separately;
- total costs of operation per years of seasons are corrected by cumulative amount of inflation per years of seasons;
- total income is a calculated value based on the operation costs, as well as return rate, i.e. income on the assets, i.e. investment;
- tariffs for respective categories of users are settled as average tariffs for years of seasons which is taken into account at determination of tariffs;
- tariff is determined as an unique tariff for each category of users.

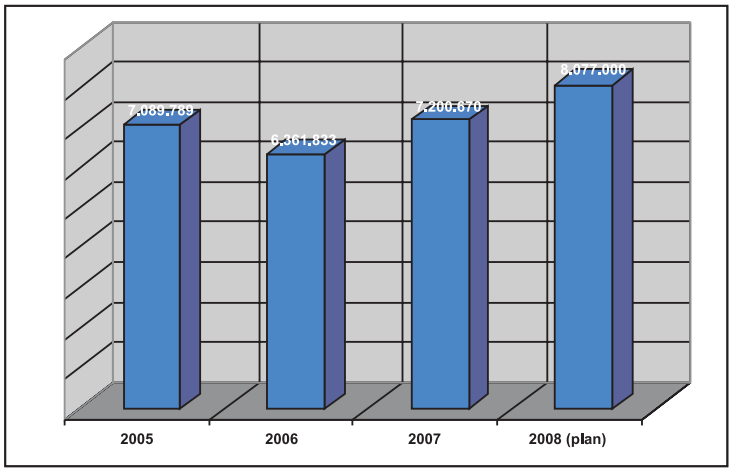
Prices of services for respective user categories are determined by the Decision on the Amounts of Tariffs for Transportation of Oil through Oil Pipeline.

The tariff for users of category R1, which use oil pipelines for oil transportation in up to 20 km of length amounts to HRK 19.96 per ton.

The tariff for users of category R2, which use oil pipelines for oil transportation in more than 20 km of length, shore and inland terminals, amounts to HRK 24.29 per ton per 100 km.

In the course of 2007, 76 tankers discharged oil at terminal in Omišalj and total of 7.2 mil. tons of crude oil had been transported through the transportation system, which is 12.5% more than in the year before.

Transported quantities of oil and number of tankers within the period between 2005 and 2007, as well as planned values for 2008 are presented in the Figures 3.3.2 and 3.3.3.

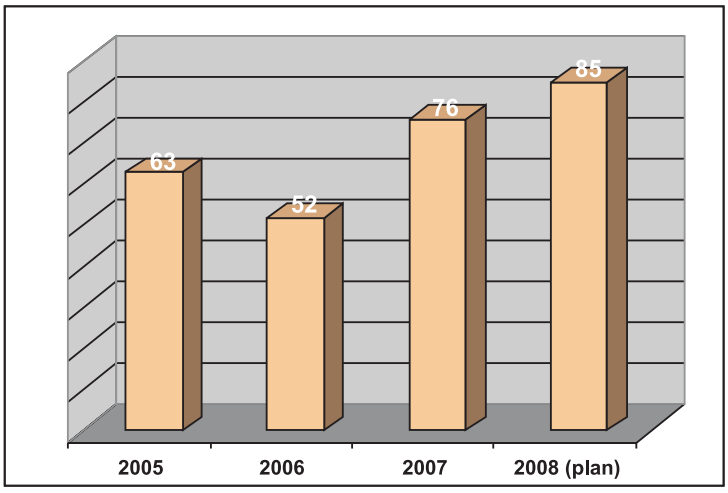


Source: HERA - according to data received from the energy operators

Figure 3.3.2 JANAF's transportation system - transported quantities [mt]

Among other activities of JANAF d.d. in 2007, cooperation within MIOG (Mediterranean Oil Industry Group) regarding regional cooperation in cases of oil spill incident must be mentioned, within which JANAF d.d. hosted an annual meeting of this organization joining regional oil com-

panies in November 2007. Also, an exercise in case of unexpected events during oil receipt has been demonstrated in Omišalj in cooperation with Port of Rijeka Authority and Desinsection Rijeka.



Source: HERA - according to data received from the energy operators

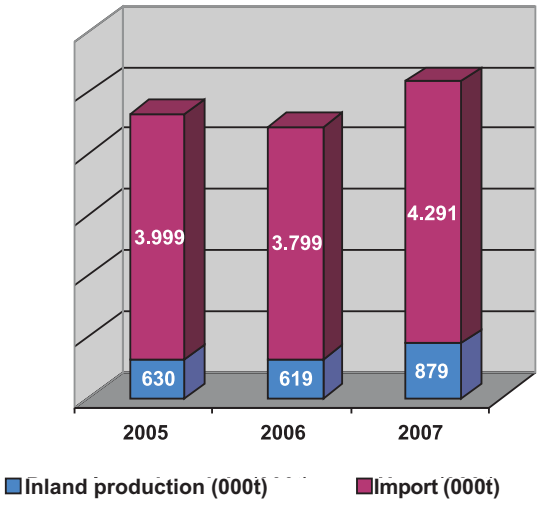
Figure 3.3.3 JANAF's transportation system – number of tankers with crude oil discharged at Omišalj port

3.3.1.2 Oil derivatives production

As defined by the Act on Oil and Oil Derivatives Market, oil derivatives are: motor fuels, aviation fuels, diesel fuels, gas fuels, heating oils, ship fuels, jet engine fuels, kerosene, bitumen, petroleum coke and liquefied petroleum gas (LPG).

INA Industrija nafte d.d., as the only producer and processor of oil has in 2007 produced 879,000 t of crude oil and condensates, which covered 17% of needs. It has to be pointed out that the production of crude oil is not considered to be an energy activity, but mining activity and as such it is regulated by a corresponding legal act.

INA d.d., the largest producer of oil derivatives in the Republic of Croatia has processed 5.3 mil. tons of crude oil in 2007, which represents an increase of 8% in comparison with 2006. Presentation of inland production and oil import in the period from 2005 till 2007 is presented in the figure 3.3.4



Source: HERA - according to data received from the energy operators

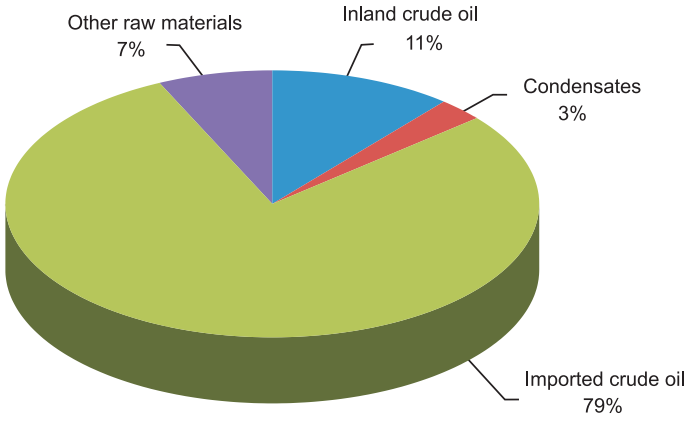
Figure 3.3.4 Crude oil - inland oil and import to the Republic of Croatia

Crude oil is being processed in two refineries of INA d.d., in Rijeka and Sisak.

Oil Refinery Rijeka processes up to 3,5 mil. of tons of oil per year. The advantage of a refinery is the fact that it owns a sea port for receipt and discharge of products, crude oil and oil derivatives. It is connected by a submarine oil pipeline with oil terminal JANAF d.d. in Omišalj on the Island of Krk and therefore it uses imported oil as a raw material. Production program includes liquefied petroleum gas, primary fuel, motor fuel, petroleum, aviation fuel, diesel fuels, fuel oils, ship oils, bitumen, liquid sulphur, base oils, motor and industrial lubricants, lubricating greases and paraffin.

Oil Refinery Sisak processes up to 2,2 mi. tons of oil per year. It uses the oil from inland oil fields which is transported either by the pipeline or via river port. Besides that, is uses imported oil transported via JANAF's oil pipeline as well. Production program includes liquefied petroleum gas, motor fuel, diesel fuels, primary fuel, jet engine fuels, petroleum for oil-wells, fuel oils, petroleum coke - green and calcified, as well as bitumen.

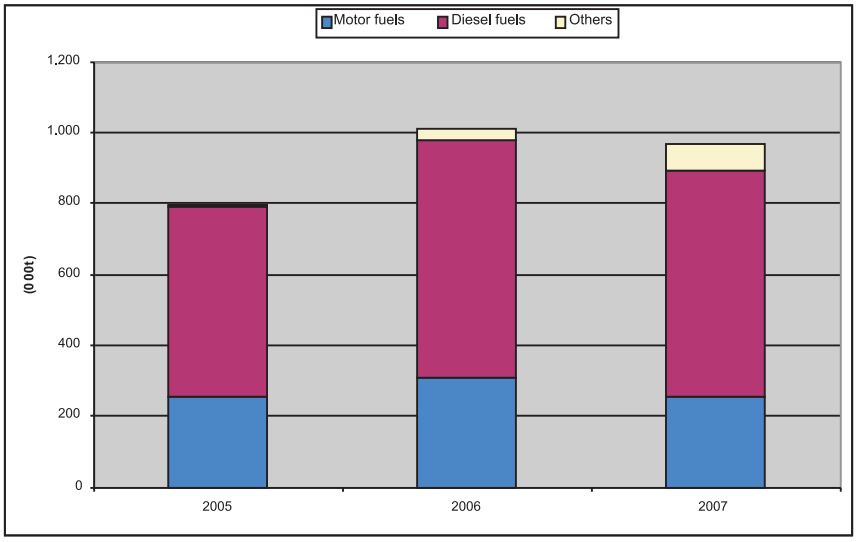
Figure 3.3.5 presents structure of processing in the refineries during 2007.



Source: HERA - according to data received from the energy operators

Figure 3.3.5 Processing in refineries in 2007

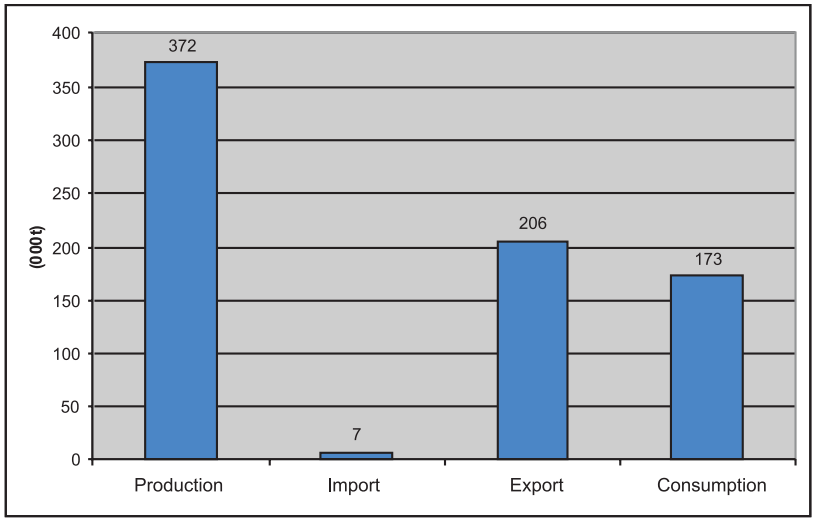
According to data received from the energy operators, 960,000 tons of oil derivatives in total had been imported to the Croatian market, which represents a reduction of 7.6% in comparison with 2006. Figure 3.3.6 presents import of oil derivatives in the period 2005-2007.



Source: HERA - according to data received from the energy operators

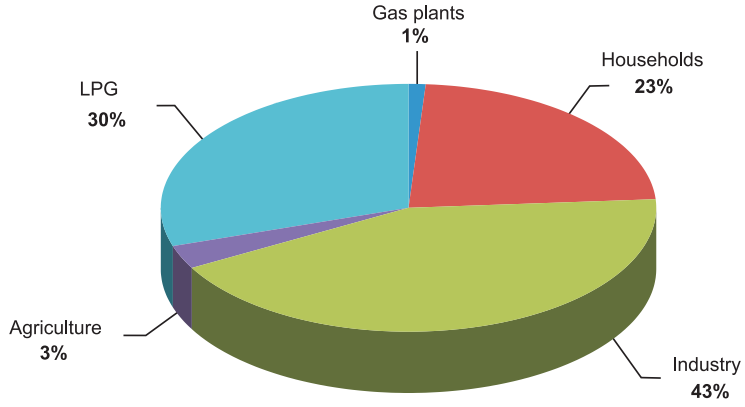
Figure 3.3.6 Import of oil derivatives to the Republic of Croatia

Trend of use of liquefied petroleum gas continued to increase in 2007, with consumption of 173,000 tons, which is 4.33% more than in the prior year. At the same time, use of liquefied petroleum gas as motor fuel in cars represents 30% of the total production (22% in 2006). Figure 3.3.7. presents production, import, export and consumption of liquefied petroleum gas in 2007. Figure 3.3.8 presents structure of inland consumption of liquefied petroleum gas in 2007.



Source: HERA - according to data received from the energy operators

Figure 3.3.7 Liquefied petroleum gas in 2007 - production, import, export and consumption



Source: HERA - according to data received from the energy operators

Figure 3.3.8 Liquified petroleum gas in 2007 – structure of inland production

3.4 Thermal energy

3.4.1 Description of thermal energy sector

Energy operators in the thermal energy sector in the Republic of Croatia provide services of heating, preparation of sanitary hot water and production and supply of sanitary hot water and technological steam for technical and other purposes for more than 150,000 users, mainly in the continental part of the Republic of Croatia. Households represent more than 95% of total number of thermal energy users from centralized thermal energy system.

Thermal energy supply from the centralized thermal energy systems is present in major Croatian towns and the thermal energy is produced either in cogeneration thermal plants for larger town parts or in heating plants for respective residential areas and it is distributed through hot water/warm water network to the objects in which the energy is distributed to the customers, i.e. thermal energy buyers.

Centralized energy systems with cogeneration thermal plants had been built only in Zagreb, Osijek and Sisak. Besides thermal energy intended for heating purposes, this units also produce technological steam for the industrial purpose.

2 to 2,5 TWh of thermal energy is distributed to the households through distribution network whose total length amounts to approx. 430 km.

As presented in the table 3.4.1, more than 11% of total number of households in the Republic of Croatia is connected to district heating and approx. 15% of total energy used for heating of houses and preparation of sanitary hot water comes from centralized heating systems.

Table 3.4.1 Share of households on centralized heating systems in major Croatian cities

	Zagreb	Osijek	Sisak	Karlovac	Vukovar	Vinkovci	Varaždin	Sl. Brod	Rijeka	Croatia
District heating system	39%	28%	22%	39%	35%	15%	18%	23%	19%	11%

Source: HERA

Basic technical data on district heating systems in major Croatian cities are given in the table 3.4.2.

Since production, distribution and supply of thermal energy had become energy activities pursuant to the Energy Act, all energy operators being active in the thermal energy sector are obliged to obtain a license for carrying out corresponding energy activities.

By the end of 2007, the Agency has issued 17 licenses for production, 12 licenses for distribution and 18 licenses for supply of thermal energy.

Companies that deal with production, distribution and supply of thermal energy are mainly owned by local self-government units or are owned by the state. Besides activities related to thermal energy, these companies mainly carry out the activity of gas distribution and other utility services.

Energy operator HEP Toplinarstvo d.o.o., Zagreb, carries out only activities related to thermal energy and it supplies more than 80% of customers which use heating from centralized heating systems in Zagreb, Osijek and Sisak, i.e. regional heating plants and heating units in Velika Gorica, Samobor, Zaprešić, energy operator Toplana d.o.o., Karlovac and energy operator Toplina d.o.o., Slavonski Brod.

Table 3.4.2 Basic data on important energy operators in the thermal energy sector in the Republic of Croatia

ENERGY OPERATOR		Number of customers	Network length	Total installed power	Supplied p.a.	Heated surface	Fuel ***
			km	MW_t	GWh/p.a.	m^2	
1	HEP Toplinarstvo d.o.o*	120,583	364.5	2,294	1,773.0	9,165,000	PP, ELLU, LU
	Zagreb	105,001	296.8	1,766	1,539.0	7,870,000	PP, ELLU, LU
	Osijek	11,603	51.4	336	182.0	1,096,000	PP, LU
	Sisak	3,979	16.3	192	52.0	199,000	PP, LU
2	Energo d.o.o Rijeka**	9,842	16.0	112	88.0	600,000	PP, LU, LUEL
3	Toplana d.o.o Karlovac	8,091	21.0	118	89.5	493,382	PP, LU, LUEL
4	Tehnostan d.o.o Vukovar	3,017	7.2	35	23.5	166,542	PP, LUS-II, LUEL
5	Termoplin d.d. Varaždin	2,907	2.1	41	27.3	170,000	0
6	Toplina d.o.o Slavonski Brod	1,939	4.8	39	30.9	150,000	LU, LUL
7	Hvidra d.o.o. Split	3,300	8.5	31	19.0	225,600	0
8	Brod-plin d.o.o. Slavonski brod	1,903	0.3	16	23.0	93,000	0
9	Vinkovački vod. i kanal. d.o.o.	1,698	1.6	17	11.3	88,958	PP, LU, LUEL
10	Virkom d.o.o. Virovitica	481	0.9	10	4.2	30,191	0
11	Čakom d.o.o. Čakovec**	145	0.3	3	1.4	11,430	0
12	Inas-Invest d.o.o.	18	-	-	4.5	27,470	-
13	Energoremont d.d. Karlovac	5	0.0	37	6.6	28,822	0
14	Dioki d.d.	4	0.0	49	7.5	0	0
15	Zračna luka Zagreb	2	2.0	12	1.2	0	0
	TOTAL	**153,935**	**429**	**2,815**	**2,003**	**11,223,541**	

** Besides heat energy, HEP Toplinarstvo had in 2007 also produced 620.000 t of technological steam*

*** Data from 2006*

**** PP natural gas, MP mixed gas, LU fuel oil, LUEL extra light fuel oil*

Table 3.4.3 presents data on ownership and activities of the energy operators who perform energy activities of production, distribution and supply of thermal energy.

3.4.2 Thermal energy prices

Tariff systems, i.e. tariff items which were in force during 2007 and applied by most energy operators in the Republic of Croatia had been set up pursuant to the provisions of the Utility Services Act. Pursuant to the provisions of this Act, the amount of tariff items, ways of settlement and payment terms had been regulated by the service provider and for each change in price or tariff system the supplier had to obtain a prior approval of the local self-government unit of the area he had been supplying with thermal energy. Consequences thereof are various prices and ways of settlement for supplied thermal energy, not only as far as energy operators are concerned, but also regarding towns in the Republic of Croatia.

Since the quantity of supplied thermal energy had not been measured by the most energy operators, the customers usually paid a certain monthly fixed amounts per square meter of residential area (HRK/m^2) and in some cases, even additional monthly amount for preparation of sanitary hot water, charged per square (HRK/m^2) or per member of the household (HRK/household. memb.).

Table 3.4.3 Ownership and the activities of the energy operators

Company/ Headquarters	Ownership	Activity
Energo d.o.o. Rijeka	Mixed, majority municipal	Production, distribution and supply of gas and thermal energy
Termoplin d.d. Varaždin	Corporation	Production, distribution and supply of gas and thermal energy
Brod-plin d.o.o. Slavonski Brod	Municipal	Production, distribution and supply of gas and thermal energy
Virkom d.o.o. Virovitica	Municipal	Production, distribution and supply of gas and thermal energy
Čakom d.o.o. Čakovec	Municipal	Various utility services and production, distribution an supply of thermal energy
Tehnostan d.o.o. Vukovar	Municipal	Production, distribution and supply of thermal energy, chimney sweeping craft, building maintenance
Vinkovački vodovod i kanalizacija d.o.o. Vinkovci	Municipal	Collection, treatment and distribution of water, drainage, construction of water and sewage network, supply of thermal energy, graveyard
Hvidra d.o.o Split	Private	Utility services, production, distribution and supply of thermal energy
Toplana d.o.o. Karlovac	Municipal	Production, distribution and supply of thermal energy
Toplina d.o.o. Slavonski Brod	Municipal	Production, distribution and supply of thermal energy
HEP Toplinarstvo d.o.o. Zagreb	State	Production, distribution and supply of thermal energy

Energy operator HEP Toplinarstvo d.o.o., Zagreb, as the largest energy operator, had implemented a replacement for such advance payment system with one or two items by the actually measured monthly consumption of thermal energy for respective building provided with metering units. Provision of metering units allowed implementation of two-component tariff system, so that the thermal energy price of this energy operator consists of the fee for fixed costs (HRK/MW) and the fee for energy costs (HRK/MWh), which depend of monthly consumption reading.

Besides energy operator HEP Toplinarstvo d.o.o., Zagreb, which implemented such tariff system for all customers, other energy subject had been charging supplied thermal energy in accordance with actually measured consumption of thermal energy only to bigger business customers.

Described ways of charging of costs for supplied thermal energy had to remain in force until the new amount of respective tariff items, determined pursuant to the valid Tariff System that has been prescribed by the Agency in May 2006, had been enacted by the Government of the Republic of Croatia pursuant to the Proposal of the competent Ministry. Namely, energy operators, to whose activities Tariff System is applied to, had to submit proposals for change of tariff items to the Ministry that obtains the opinion of the Agency.

In the second half of 2006, the Ministry requested opinion of the Agency for several energy operators regarding submitted proposals for change of the amount of tariff items. However, without knowing the actual supplied quantities of thermal energy due to non-existence of metering units, it was impossible to verify the amount of tariff items proposed by the energy operators.

During the second half of 2007, the most energy operators submitted their proposals for determination of the amount of tariff items to the Ministry. The Ministry has obtained the opinion of the Agency regarding submitted proposals and has forwarded proposed tariff item amounts to the Government of the Republic of Croatia for enactment.

The Government of the Republic of Croatia had on November 2, 2007, pursuant to Article 28 paragraph 2 of the Energy Act adopted Decision on the Amount of Tariff Items in Tariff System for Energy Activities of Thermal Energy Production, Distribution and Supply (Official Gazette *"Narodne novine"*, No. 115/07 and 127/07).

The aforementioned Decision of the Government of the Republic of Croatia confirmed in general valid prices of thermal energy which were determined for each aforementioned city by the local self-government, with the exception of the energy operator Brod-Plin d.o.o., Slavonski Brod, whom the proposed amount of tariff items had been approved.

After the aforementioned Decision had been adopted and entered into force pursuant to Article 28 paragraph 7 of the Energy Act, the Agency had consistently fulfilled its obligations and responsibilities prescribed by the valid acts, i.e. it had monitored consequent implementation of tariff system and tariff items from the aforementioned Decision.

Tables presented further in text give overview of tariff items prescribed by the Government of the Republic of Croatia in the aforementioned Decision. Table 3.4.4 presents tariff items that relate to the customers whose thermal energy consumption is metered and the table 3.4.5. tariff items for the customers who pay a fixed monthly amount regardless of the quantity of supplied energy.

Table 3.4.4 Tariff items of energy operators which are based on the metering of supplied quantities of thermal energy (VAT excluded)

Energy operator	Heating of premises			
	Energy		Power	
	households	economy	households	economy
	In accordance with consumption		Per month	
HEP Toplinarstvo				
Zagreb	113,03 HRK/MWh	197,41 HRK/MWh	8.242,42 HRK/MW	12.019,16 HRK/MW
Osijek	108,80 HRK/MWh	197,00 HRK/MWh	7.910,00 HRK/MW	12.016,00 HRK/MW
Sisak	127,16 HRK/MWh	222,08 HRK/MWh	9.272,72 HRK/MW	13.521,56 HRK/MW
Separate heating plants(Zagreb, Samobor, Zaprešić)	176,33 HRK/MWh	197,41 HRK/MWh	12.858,16 HRK/MW	12.019,16 HRK/MW
Brod-Plin d.o.o., Slavonski Brod	230,00 HRK/MWh	370,00 HRK/MWh	21.958,33 HRK/MW	34.800,83 HRK/MW
Energo d.o.o., Rijeka	319,29 HRK/MWh	406,98 HRK/MWh	1,13 HRK/m^2	1,9 HRK/m^2
Tehnostan d.o.o., Vukovar		320,00 HRK/MWh		33.010,00 HRK/MW
Toplana d.o.o., Karlovac		773,00 kn/MWh		

Table 3.4.5 Tariff items of energy operators for customers who do not have metering of supplied quantities of thermal energy (VAT excluded)

Energy operator	Heating of premises		Sanitary hot water
	Households	Economy	All users
	Per month		Per month/per consumption
Energo d.o.o., Rijeka	4,53 HRK/m^2	5,86 HRK/m^2	19,74 HRK/m^3
Toplina d.o.o., Slavonski Brod	2,04 HRK/m^3	3,23 HRK/m^3	17,46 HRK/m^3
Termoplin d.d., Varaždin	4,75 HRK/m^2	9,5 HRK/m^2	21,72 HRK/househ. memb.
Tehnostan d.o.o., Vukovar	5,20 HRK/m^2		20,85 HRK/m^3
Vinkovački vodovod i kanalizacija d.o.o., Vinkovci	5,09 HRK/m^2	6,76 HRK/m^3	Service not provided
Hvidra d.o.o., Split	2,37 HRK/m^2	3,08 HRK/m^2	Service not provided
Virkom d.o.o., Virovitica	0,9 + 2,51 HRK/m^2	2,2 + 5,02 HRK/m^2	Service not provided
Toplana d.o.o., Karlovac	4,55 HRK/m^2	16,45 kn/m^2 during heating season	Service not provided

3.4.3 Handling the complaints of thermal energy buyers

Energy operators received 495 complaints and objections of the buyers in the thermal energy sector, which in comparison with total number of 154,460 buyers represents 0.32%. Overview of buyers' complaints received by energy operators is presented in the table 3.4.6.

Table 3.4.6 Number of complaints of thermal energy buyers that the energy operators received during 2007

Energy operator	Tariff system imple-mentation	Service quality	Thermal energy quality	Quality of supply reliability	Request for disconnection from the ther-mal energy system	Change in connected power	Total of received complaints in 2007	Total of solved complaints in 2007
HEP Toplinarstvo d.o.o.	32	223	33	14	50	12	364	241
Zagreb	29	214	20	14	49	10	336	215
Osijek	-	3	11	-	-	2	16	16
Sisak	3	6	2	-	1	-	12	10
TOPLANA d.o.o.	-	-	6	-	28	-	34	28
TEHNOSTAN d.o.o.	-	-	-	-	1	-	1	-
HVIDRA d.o.o.	-	3	5	4	4	-	16	16
GKP ČAKOM d.o.o.							0	
VIRKOM d.o.o.							0	
ĐURO ĐAKOVIĆ Energetika	-						0	
TOPLINA d.o.o.							0	
VINKOVAČKI VODOVOD d.o.o.	-	-	9	-	2	-	11	11
DIOKI d.d.							0	
INAS INVEST.o.o.							0	
ENERGOREMONT d.o.o.							0	
ENERGO d.o.o.							0	
TERMODIN d.o.o.							0	
TERMOPLIN d.o.o.	2	-	1	-	66	-	69	69
TOTAL	**34**	**226**	**54**	**18**	**151**	**12**	**495**	**365**

The most common type of complaints and objections received by the energy operators refers to quality of thermal energy supply, amounting to 46% and requests for disconnection from the thermal energy system amounting to 31%.

3.5 Renewable energy sources and cogeneration

The Regulation on the Minimum Share of Electricity Produced from Renewable Energy Sources and Cogeneration whose production is stimulated prescribes objectives of the Republic of Croatia regarding production of electricity in power plants using renewable energy sources and cogeneration plants.

Value of minimal share of electricity produced from renewable energy sources and cogeneration, whose production is stimulated, in total electricity consumption has been set as an objective that has to be fulfilled. This Regulation does not apply to hydro plants of installed power higher than 10 MW and electricity produced in cogeneration plants in the category of public heating units producing electric and thermal energy for supplying customers and not for own purposes.

The objective set to be completed by December 31, 2010 is as follows:

- minimal share of electricity from renewable energy sources and cogeneration whose production is stimulated amounting to 5.8% of total electricity consumption;
- minimal share of electricity from cogeneration plants whose production is stimulated and which is delivered into transmission, i.e. distribution network, amounting to 2.0% of total electricity consumption.

Besides Regulation on the Minimum Share of Electricity Produced from Renewable Energy Sources and Cogeneration whose production is stimulated, in the course of 2007 a series of acts had been enacted within the same package (the Regulation on Incentive Fees for Promoting Electricity Production from Renewable Energy Sources and Cogeneration, the Ordinance on Use of Renewable Energy Sources and Cogeneration, the Ordinance on Acquiring the Status of Eligible Electricity Producer, the Tariff System for Production of Electricity from Renewable Energy Sources and Cogeneration) which regulate area of use of renewable energy sources and cogeneration for electricity production.

A system of stimulated electricity production from renewable energy sources and cogeneration had been set up in the Republic of Croatia in 2007. System is based on regulated buy-off of electricity which the eligible producers transfer to the electric power. Buy-off is performed by HROTE and the energy distributed to all suppliers. Relationships within system for stimulated electricity production from renewable energy sources and cogeneration are described in the figure 3.5.1.

On July 1, 2007 it was started with charging the fee to the customers, pursuant to the Regulation on Incentive Fees for Promoting Electricity Production from Renewable Energy Sources and Cogeneration.

Pursuant to the Directive, the fee for stimulation amounts to 0.0089 HRK/kWh in 2007, 0.0198 HRK/kWh in 2008, 0.0271 HRK/kWh in 2009 and 0.0350 HRK/kWh in 2010. VAT is not included in the fee for stimulation.

The invoice for electricity which is sent to the electricity buyers contains settlement of accounts for electricity consumption, as well as the fee for stimulation of electricity production from renewable energy sources and cogeneration, charged per kWh of used electricity.

However, despite the extraordinary interest for the stimulating system shown by investors, there is a relatively small number of plants in 2007 which concluded buy-off with HROTE and therefore the fee for 2008 had been kept at the same level as in 2007, i.e. it amounts to 0,0089 HRK/Wh pursuant to the Regulation on Amendments to Regulation on Incentive Fees for Promoting Electricity Production from Renewable Energy Sources and Cogeneration (Official Gazette *"Narodne novine"*, No. 133/07).

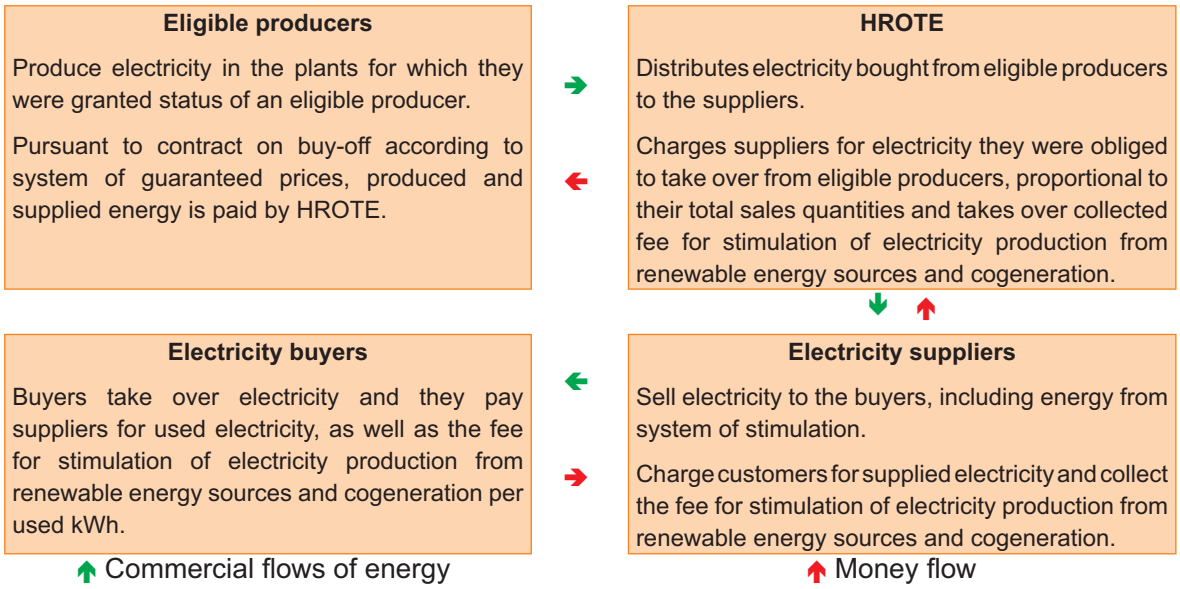


Figure 3.5.1 System of stimulation of production of electricity from renewable energy sources and cogeneration

The Ordinance on Use of Renewable Energy Sources and Cogeneration prescribes conditions and potentials of using renewable energy sources and cogeneration plants and prescribes other important issues regarding using renewable energy sources and cogeneration. The Registry of projects and plants for the use of renewable energy sources and cogeneration and of eligible producers is of outmost importance. The Registry is a unique database of projects (planned power plants) using renewable energy sources and cogeneration plants in the Republic of Croatia.

An excerpt from the Registry of projects and plants for the use of renewable energy sources and cogeneration and of eligible producers at the end of 2007 is presented in the table 3.5.1.

Table 3.5.1 Data from the Registry of projects and plants for the use of renewable energy sources and cogeneration and of eligible producers for 2007 (installed power in MW)

Designation	Description of plant sub-group	Prior approval		Final approval		Prior approval, existing projects		Entered constructed projects	
		Granted approval	Installed power	Granted approval	Installed power	Granted approval	Installed power	Granted approval	Installed power
1.a.1.	Solar power plants with installed capacity up to 10 kW			**1**	**0,00612**			**2**	**0,0139**
1.a.2.	Solar power plants of installed capacity over 10 kW up to 30 kW								
1.a.3.	Solar power plats of installed capacity over 30 kW up to 1 MW							**1**	**0,0361**
1.f.	Power plants of up to 1 MW using biogas from agricultural plantations (maize silage crops…) and organic remains and waste from agriculture and food-processing industry (maize silage, manure, abattoir waste, biofuel production waste…)	**2**	**2**	**1**	**1**				
2.b.	Wind power plants over 1 MW			**4**	**96**	**7**	**229,7**	**2**	**17,15**
2.c.2.	Power plants over 1 MW using biomass-solid biomass from wood-processing industry (bark, sawdust, chips…)	**1**	**13,46**						
4.a.	Cogeneration plants of installed electric power over 1 MW up to 35 MW, so-called medium-size cogeneration	**1**	**27**						
	TOTAL	**4**	**42,46**	**6**	**97,00612**	**7**	**229,7**	**5**	**17,2**

In the course of 2007, there had been 21 requests for connection approval submitted to HEP-OPS for connection of renewable energy sources, which were all wind power plants. Total requested connection power amounted to almost 1,080 MW, whereas 386 MW had been approved.

As far as the electricity production segment is concerned, corresponding delegated documents regulate all important issues and implemented measures and mechanisms of stimulation of use of renewable energy sources and cogeneration. What remains to be done, it to adequately determine conditions and to create a stimulating environment for use of renewable energy sources in the thermal energy sector.

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