

**ANNUAL REPORT ON ELECTRICITY AND NATURAL GAS MARKETS IN LITHUANIA  
PREPARED FOR THE EUROPEAN COMMISSION**

**Report prepared by:  
National Control Commission for Prices and Energy**

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## 1. FOREWORD

After long discussions, in spring of 2007 the Seimas of the Republic of Lithuania adopted the Law on Natural Gas which modified the natural gas market regulation principles, as the law obliged the National Control Commission for Prices and Energy (hereinafter - the NCCPE) to regulate natural gas supply prices for all customers, including eligible ones. When the law entered into force the NCCPE had new functions to fulfil: it was charged with launching tenders for gasification of new territories, drafting a new methodology for calculating new customer connection fees, establishing household customer connection fees, and drafting other secondary legislation. However, the wide public had the most sensitive reaction to the steep natural gas price rise caused by increased import prices. Since 1 January 2008 Lithuania pays the West European level prices for Russian gas. The Law on Natural Gas transposes all the requirements enforced in the Directive 2003/55/EC without any reservations, as well as the provision to open the gas market to all customers since 1 July 2007. Since this date the natural gas market in Lithuania has been fully liberalized and all the natural gas customers are eligible. Natural gas market structure did not change in 2007, as the country imports natural gas from a single supplier, the Russian Gazprom AAB.

Laws governing regulation principles in the electricity sector did not change throughout 2007. The year 2008 is the seventh year of the operating electricity market. Since 1 July 2007 all the customers became eligible and may choose their supplier and buy electricity at contractual prices. Like in 2007, 6 major national industrial companies are likely to use the electricity market advantages in 2008. They account for approximately 12% of total national electricity consumption. This is caused by the relatively cheaper-priced public supplier sold electricity versus market distribution grid prices offered by independent suppliers.

With the increasing imported natural gas prices, in autumn 2007, the NCCPE established higher electricity generation prices for 2008. Natural gas is used in thermal power plants electricity of which is purchased under the public service obligation. Due to increasing energy prices, technological losses and own needs in networks are also becoming more expensive, as thus the average end user electricity price mostly rose up to 7.95 EUR/MWh, or approximately 9.38 EUR/MWh including the Value Added Tax (VAT).

In 2007 we were more active in cooperating with the neighbouring countries to develop the Baltic Electricity Market. Workgroups to address urgent regional electricity market issues were formed.

For the present report the NCCPE used materials provided by companies operating in the gas and electricity sectors and the data presented by the Ministry of Economy. The report overviews the key gas and electricity market development stages and identifies the essential problems in these sectors. Chairman of the National Control Commission for Prices and Energy

Virgilijus Poderys

## **2. SUMMARY**

### **2.1. ORGANIZATIONAL STRUCTURE OF THE REGULATOR**

#### **Composition and Tasks of the Commission**

The National Control Commission for Prices and Energy (hereinafter - the NCCPE) was established in 1997 under the Law on Energy (1995) which stipulated that energy pricing had to be done by an independent authority.

In 2000, the Seimas formed a legal basis for the future liberal natural gas and electricity markets. The Seimas passed the Law on Electricity and the Law on Natural Gas. Under these laws the National Control Commission for Prices and Energy (the NCCPE) replaced the Price Commission which was responsible only for pricing policy, price setting and application, and became an economic energy regulatory commission with functions similar to many Western (and not only Western) regulator counterparts.

In 2000, new activity was assigned to the competence of the NCCPE, namely, licensing and control over the operation of licensed companies. The Law on Electricity and the Law on Natural Gas emphasise that all main activities in these sectors are subject to licences which, apart from being a permit for participation in the market, have become an instrument for controlling the quality of services, the reliability of supply, and compliance with environmental and other standards. The aforementioned laws provide that the NCCPE also settles disputes relating to the right of access to networks, imposes fines for various breaches of laws, and approves eligible customers. It is noteworthy that the NCCPE has not performed the latter function since 1 July 2007 as all electricity and natural gas consumers are eligible.

On 1 July 2002, a substantially updated Law on Energy entered into force clearly and plainly defining the functions and duties of the NCCPE, responsibilities of individual members, their appointment procedure, etc. Pursuant to the new edition of the Law on Energy, five members of the NCCPE are appointed by the President of the Republic, on the recommendation of the Prime Minister, for a period of five years, and the Regulations of the NCCPE are approved by the Government. This Law has established the new role of the NCCPE as the regulator of the liberalised energy market. The specific tasks of the NCCPE have been formulated in its Regulations approved by the Government. The most important task of the NCCPE is to supervise the electricity, natural gas, heating and water supply markets.

Two European Union (EU) directives – Electricity and Natural Gas Directives – foreseeing a rapid opening of the market, a more important role of energy regulators in market supervision, consumer protection etc., must have been implemented before 1 July 2004. The new edition of the Law on Electricity passed by the Seimas on 1 July 2004 is virtually in compliance with the provisions of the EU Electricity Directive relating to market opening and supervision. The additional functions

assigned to the NCCPE cover the supervision of activities of transmission and distribution network operators (how the rules for the allocation and regulation of transmission capacity of lines interconnecting separate systems are observed, how fast new customers are connected, how effectively accounts of different activities are unbundled, etc.), the market monitoring and supervision, as well as control over the reliability of supply and the quality of services.

In 2007 laws regulating activities of the NCCPE-regulated electricity sector were not amended.

A discussion on a new version of the Law on Natural Gas which started in the Seimas in 2004 was finalized in April 2007, when the Seimas adopted amendments to the Law on Natural Gas based on the Gas Directive 2003/55/EC and other provisions of the European Union law.

### **Functions of the NCCPE**

The basic legal act defining the functions of the NCCPE is the Law on Energy. Paragraph 5 of Article 17 of this Law provides that the NCCPE shall perform the following functions:

- 1) approve methodologies for setting state-regulated prices;
- 2) set state regulated price caps;
- 3) control the application of state regulated prices and tariffs;
- 4) approve fees for the connection of energy facilities (networks, systems and equipment);
- 5) have the right to unilateral introduction of state-regulated prices where energy enterprises fail to comply with the requirements for setting such prices;
- 6) when setting state regulated prices, evaluate the return on investment and the validity of operating expenditure;
- 7) approve the purchase price for electricity generated from renewable energy resources;
- 8) grant, suspend and revoke licences for transmission, distribution, storage and supply of energy, and control the licensed activities of energy enterprises;
- 9) adjust long-term asset depreciation (amortisation) norms for energy enterprises engaged in activities with regulated prices;
- 10) have the right to submit proposals to the Government, the Ministry of Economy and municipalities regarding the licensed activities of energy enterprises;
- 11) have the right to obligate energy enterprises to conclude contracts for transmission, distribution or supply of energy where energy enterprises unfoundedly refuse to provide services to a third party or to supply energy to customers;
- 12) perform functions provided for by other legal acts.

When the new version of the Law on Natural Gas came into force in 2007, the NCCPE was charged with natural gas supply regulation and the following new functions were ascribed to it:

1. draft and approve methodologies on connection tariffs and balancing services;
2. establish connection tariffs for household customers;



3. coordinate system balancing rules developed by gas companies;
4. establish rules for using a local common use system;
5. approve rules for unbundling of accounts of gas companies;
6. coordinate system use rules developed by a gas company;
7. establish investment exceptions and provide relevant information to the European Commission;
8. establish rules for selecting a supply undertaking;
9. coordinate gas company annual system plans, etc.

To implement the above law the NCCPE was charged with arranging new territory gasification tenders by the secondary legislation.

The functions of the NCCPE are further detailed in the Regulations of the National Control Commission for Prices and Energy approved by a Government Resolution. This legal act lists 21 function assigned to the NCCPE, but the list is not finite. It should be noted that in February 2007 the Government passed a resolution on amendments and supplements to the Regulations of the NCCPE. Pursuant to the aforementioned legal act the NCCPE shall, besides other functions, protect violated customer interests when hearing complaints as well as coordinate the NCCPE-drafted and the NCCPE-to-be-approved rules, regulations, methodologies with state institutions or agencies, the Association of Local Authorities of Lithuania as well as consumer protection and business associations.

In July 2008 the Government approved the draft law on amendments and supplements to certain articles of the Law on Energy and submitted it for the Seimas consideration. This draft law clarifies the NCCPE functions and status, and specifies that the NCCPE shall be the institution accountable to the Seimas, and provides for the NCCPE financing based on budget allocations and contributions made by energy undertakings under regulation contributions (up to 0.2% of revenue generated by licensed or state regulated activities), addresses social guarantee issues of the NCCPE Chairman and members. The draft law also entitles the NCCPE to fine energy enterprises up to 3 million Litas (approximately EUR 860.000) for failure to fulfil licensing terms. The above law should come into force on October 1, 2009.

### **Independence and Accountability**

The independence of the NCCPE is ensured by several conditions:

- the NCCPE is not bound with other institutions by any direct subordination relations;
- the Chairman and four members of the NCCPE are appointed by the President of the Republic, on the recommendation of the Prime Minister;
- the Chairman and members of the NCCPE are dismissed from office only upon the expiry of their term of office; upon their resignation; when the conviction against them becomes effective;

when they are discovered to have committed a grave breach of the requirements for their position, as well as on other grounds provided by law;

- the NCCPE is financed from the Lithuanian State budget through appropriations in a separate budget line.

The entirety of these legal provisions ensures institutional, personal and financial independence of the NCCPE.

The Law on Energy provides for two forms of accountability, i.e. personal and institutional. Paragraph 6 of Article 17 of the Law on Energy establishes that the NCCPE shall be responsible for its decisions. Decisions are adopted by a roll-call vote. They may be appealed against in accordance with the procedure established by law.

Institutional accountability of the NCCPE for its activities is reflected in its annual reports. The NCCPE prepares its annual reports within four months after the end of each calendar year. Reports are made public and submitted to the President of the Republic, the Seimas and the Government.

### **Sharing Competence with Other State Institutions**

The Law on Energy provides that State management of the energy sector in the Republic of Lithuania shall be carried out by the following institutions:

- 1) the Government or institutions authorised by it;
- 2) the Ministry of Economy;
- 3) the Ministry of Environment;
- 4) municipalities.

When carrying out State management of the energy sector, the Government develops and implements the State policy in the energy sector, submits the National Energy Strategy to the Seimas for approval, approves the plan and programmes for the implementation of the National Energy Strategy, has the right to regulate the principles of price setting when prices are subject to State regulation, and performs other functions provided by laws.

The Ministry of Economy implements the State policy in the energy sector, drafts and approves legal acts regulating the security of supply, installation, operation, technical safety and efficiency of energy facilities and equipment and other technical issues, and performs other functions.

The Ministry of Environment deals with the issues relating to environmental protection and construction.

A municipality, within its territory and within the competence established by laws, regulates heat supply to customers, grants authorisations for trade in liquefied petroleum gas in accordance with the procedure approved by the Ministry of Economy, and performs other functions within its competence.

The most important task of the NCCPE is to supervise the electricity, natural gas, heating and water supply markets.

The NCCPE holds, within its competence, preliminary extra-judicial hearings of complaints concerning acts or omissions by energy enterprises in supplying, distributing, transmitting or storing energy, refusal to grant them the right of access to networks and systems, connection, balancing of energy supply flows, as well as application of prices and tariffs.

Complaints lodged by natural persons concerning the application of unfair conditions in energy purchase-sale or service contracts are heard by the State Consumer Rights Protection Authority.

Complaints concerning the malfunctioning of energy facilities, equipment and metering devices, breaches of requirements for maintenance, energy quality, accounting of energy and payment for the consumed energy, accidents, the interruption, suspension or restriction of energy supply are heard by the State Energy Inspectorate.

## **2.2. MAJOR DEVELOPMENTS IN THE ELECTRICITY AND NATURAL GAS MARKETS**

### ***2.2.1. ELECTRICITY SECTOR***

#### **i) Wholesale market**

##### **a) Market integration (with other countries, on the national level)**

In 2007 there were no electricity company interconnections in Lithuania or on the international scale. However, periodic Baltic Regulator and Transmission System Operator meetings took place regarding the development of Common Baltic Electricity Market. Issues of balancing, inter-country electricity trade, compensation mechanism between transmission system operators were discussed there.

##### **b) Energy exchange development**

Under the joint Finnish, Baltic Transmission System Operator and Nord Pool Spot AS project the Baltic Electricity Market price setting is planned. This would mean that Scandinavian market territory would expand to the Baltic countries. The first project stage is setting the market price in the implicit auction concerning the Estlink line capacity up to the end of 2008.

**c) Conclusions** (lack of integration, the important role of ERGEG, the market power in many markets, the change towards less market transparency (energy exchange → OTC))

The Baltic Electricity Market is small for effective competition, thus inter-system connections are planned, LitPol with Poland and SwedLit with Sweden, and similar projects of the neighbouring countries should facilitate solving this problem.

ERGEG indirectly, i.e., through regional initiatives contributes to electricity market integration.

Lithuania has no companies abroad; however it may make influence to the neighbouring markets as the country exporting electricity (up to 2010 when Ignalina Nuclear Power Plant will be closed).

No transparency reduction in electricity trade was observed.

ii) Retail market

a) Full market opening

In the mid 2007 the electricity market was 100% opened as in other European Union countries. This means that all customers have become eligible and may choose their electricity supplier.

b) Supplier switching/Price dynamics

Last year as at the beginning of the electricity market opening the same market players used the right to switch the supplier. They have accounted for 12% of the total national efficiently supplied electricity quantity. This was caused by the relatively cheaper-priced public supplier sold electricity versus distribution grid market prices offered by independent suppliers.

With the increasing natural gas import prices the forecasted electricity generation prices in 2007 were rising, like in 2008. This fuel is used in thermal power plants which sell electricity under the public service obligation. Due to increasing energy prices, technological losses and own needs in networks are becoming more expensive, as well, thus the average end user electricity price mostly rose up to 7.95 EUR/MWh, or approximately 9.38 EUR/MWh including the Value Added Tax (VAT).

Table 1. Actual and Forecasted Prices for 2005 – 2008, EUR/MWh

Indicators	VST AB				Rytų Skirstomieji Tinklai AB			
	2005	2006	2007	2008	2005	2006	2007	2008
Electricity generation price	24.1	24.56	28.9	33.94	24.1	24.56	28.9	33.94
Electricity transmission service price	9.93	10.05	10.45	10.66	9.93	10.05	10.45	10.66
Electricity supply service price	0.58	0.55	0.55	0.58	0.61	0.61	0.61	0.61
Public electricity price for customers receiving electricity from high voltage networks	<b>34.67</b>	<b>35.16</b>	<b>39.9</b>	<b>45.18</b>	<b>34.7</b>	<b>35.22</b>	<b>39.96</b>	<b>45.21</b>
Electricity distribution service price over medium voltage networks	18.62	18.13	18.33	20.85	17.67	17.2	17.11	19.66
Public electricity price for customers receiving electricity from medium voltage networks	<b>53.29</b>	<b>53.29</b>	<b>58.23</b>	<b>66.03</b>	<b>52.36</b>	<b>52.42</b>	<b>57.07</b>	<b>64.87</b>
Electricity distribution service price over low voltage networks	23.46	26.36	26.18	26.33	20.42	20.68	23.75	19.23

Public electricity price for customers receiving electricity from low voltage networks	<b>76.75</b>	<b>79.65</b>	<b>84.41</b>	<b>92.36</b>	<b>72.78</b>	<b>73.1</b>	<b>80.82</b>	<b>84.1</b>
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c) Conclusions (lack of choice for end users, lack of incentives to switch suppliers, better customer information needed to ensure minimum level of competition).

Compared to the previous year in 2007 the number of independent suppliers changed insignificantly, i.e., there were 18 supply licenses issued and 6 undertakings engaged in licensed activities.

It is interesting to note that in 2007 Lithuanian electricity supply market also became interesting among international (foreign) companies. At the beginning of 2008 the NCCPE has already issued 4 independent supply licenses for international companies.

Customer decision to switch suppliers may be economically motivated, but as public suppliers sell electricity at prices lower than the market ones only customers connected to the transmission grid have switched suppliers. Abolition of end electricity prices would increase supplier switching numbers however would also raise electricity prices for customers. Beside this, without a sufficient number of market producers available competition is ineffective even on the scale of the Baltic States making abolition of end electricity prices for customers doubtful.

### iii) Infrastructure

#### a) Development in tariffs

In 2007 a binary tariff was introduced for all the voltage levels allowing to finally balance public tariffs with electricity distribution service tariffs. Thus prices were made consistent for providing distribution service to eligible and regulated (paying under the regulated public tariffs) customers.

Abolition of the end user electricity prices would reduce potential price differences between the regulated and market prices, however as mentioned above this may cause price rise, and this is especially doubtful as the market has a major producer accounting for approximately 70% of the electricity market

After the Minister of Economy approved the new version of the Public Service Obligation Rules, the Public Service Obligation Price Calculation Methodology was adjusted. Since 1 January 2008 financial funds to cover Public Service Obligation (hereinafter – PSO) costs shall be collected together with financial funds received for electricity transmission services provided. This means that sales proportions of electricity purchased under the PSO shall no longer be established. As earlier, the NCCPE shall establish PSO prices, however not as a quantity proportion and a price for this proportion but as a specific component in transmission services, among other components (earlier it was equal to zero), e.g., price for additional services (reserve power).

Payment shall be applicable not to suppliers and independent customers importing electricity but to all customers with installations connected to the transmission system, distribution network operators and undertakings and individuals having electricity generation permits and generating electricity and using it in their own territory for own company needs or supplying it for the needs of undertakings and individuals located within their territory. Under the Paragraph 1 of Article 45 of the Law on Electricity individuals receiving electricity via direct line shall also pay for PSO.

The above changes have simplified the PSO cost payment procedure and no longer restrict the supplier right to freely and directly trade with producers, and all customers/producers with electric installations connected to the transmission system and/or distribution network and individuals receiving electricity via direct line shall pay for PSO.

To further implement the National Energy Strategy goals and encourage thermal electricity generation, the NCCPE clarified the Regulation Rules of Electricity Purchasing Prices from Combined Heat and Power Plants (hereinafter – the Rules). Under them purchasing prices are calculated for electricity generated in thermal power plants supplying heat to urban district heat supply networks for the Minister of Economy-established supported quantities. These costs of purchasing electricity are included into PSO price calculations.

With respect to the previous year costs, the new version of the Rules establishes specific coefficients indicative of the electric capacity level category, clarifies the impact of fuel price fluctuation on the basic electricity price, clarifies application of a coefficient to assess the need for extra funding for newly built power plants, assesses the influence of consumption price index. This encourages appearance of new thermal energy generation installations through the efficient use of the existing thermal potential in Lithuania.

#### b) Investment / Art. 22

In 2007 investments into the transmission network amounted to EUR 44 million and investments into the distribution network were EUR 114 million. Similar values are planned for 2008.

The following interconnections are planned: 1.000 MW LitPol with Poland up to 2015 (EUR 238 million) and 700 – 1.000 MW SwedLit with Sweden (EUR 553 million).

In June 2007 a law was passed on construction of a new nuclear power plant, which was by the way amended in February 2008. The planned maximum capacity is 3.400 MW; the construction is to be completed in 2017.

No changes were observed relating to Article 22 regulating direct use of lines.

#### c) Allocation of capacity

Electricity transmission networks have sufficient transfer capacity, thus in 2007 no overloads in the electricity network were observed either in Lithuania or the Baltic States. However preparations for organizing an auction of the Estlink transmission line capacity distribution under the joint Nord

Pool Spot AS, Baltic and Finnish transmission system operator project took place. The project should be completed by the end of 2008.

d) Conclusions (lack of incentives to invest into overloaded interconnections and/or coordination troubles between interconnected member states due to common infrastructure investment support; the exception option reduces investments under the regulatory regime)

As mentioned above, there are no overload problems, however when building new interconnection lines with Poland and Sweden obstacles are faced usually related to the above projects. No exception application practice is available.

iv) Regulation/Unbundling

a) The national regulator's competence

Under the Law on Electricity the NCCPE must control the efficient unbundling of accounts to prevent cross-subsidizing of generation, transmission, distribution and supply activities.

Since 2002 electricity generation, transmission and supply activities are legally unbundled, i.e., via existing individual companies. Distribution and public supply activity costs are accounted for by doing individual bookkeeping accounts and accounting registers in distribution network companies. Costs of the market operator, two hydro power plants, and other activities are also individually accounted for in the transmission company.

b) Sanctions applicable by the national regulator

The NCCPE provides for detailed reporting requirements and liability for the failure to meet them. More details on the applicable sanctions are available in Clause 3.1.4.

It should also be mentioned that a document on application of sanctions is currently under drafting and prescribes fining officials and companies.

c) Transmission system operator (hereinafter – TSO) market role (TSO interaction with market locations (energy exchanges), transparency, producer dispatching all the time or only during overload management).

TSOs play a key role in the development of the electricity market. Knowledge of daily trade processes and electricity system data management place them in a special position. The above Nord Pool Spot AS and Baltic and Finnish TSO project demonstrates close cooperation. During the first stage of this project a market price shall be set at the connection line Estlink up to the end of 2008, and during the second stage electricity market price for the Baltic States shall be set, and the spot market Elbas up to 2010.

Transparency requirements established by law have been implemented. However, if needed issues may be clarified.

The Dispatch Centre operates round the clock fulfilling the national balancing function, with respect to electricity exchange, electricity flow limitations matched with other energy systems. As mentioned above, there are no overloads in Lithuania or on the Baltic States level.

d) Improving TSO and Distribution network operator (hereinafter - DNO) unbundling (improvements related to TSO market unbundling: network investments, supply security, progress since the legal DNO unbundling became obligatory).

As mentioned above TSO and DNO legal unbundling took place in 2002. Further unbundling process stopped due to the passed Law on Nuclear Power Plant establishing that the national investor company LEO LT shall consist of the transmission and distribution companies.

e) Conclusions (insufficient existing legal unbundling framework to fully eliminate the discriminatory access to and use of networks, to guarantee sufficient network investment level, etc.; the following is needed to strengthen unbundling provisions: unbundling shall be effective; sanctions are inadequate; there is a lack of competence on competition issues).

The existing insufficient legal unbundling system did not cause any observed network access and use problems, or sufficient investment level-ensuring ones.

Legal unbundling ensures operational transparency and effectiveness; however economic consequences of further transmission company splitting should also be taken into account. But unbundling distribution and supply services shall not be discussed. The existing sanctions are insufficient, however as mentioned above a new document is under drafting.

A lack of competence may be observed in the electricity market development stage.

v) Security of supply

a) Investment development (generation, transmission, distribution).

While preparations are made to decommission the second unit of Ignalina Nuclear Power Plant in 2010 there are plans to build a new 3200 MW nuclear power plant (NPP) up to 2017. For this purpose a shareholding company of the national investor, LEO LT is being established to include transmission and distribution companies, and foreign partners are negotiated with.

To avoid an isolated market in the Baltic States and increase supply security, connection lines with Poland and Sweden are planned.

The distribution sector has a higher low voltage need due to construction and real estate sector development in recent years.

b) Diversification of sources and supply

The use of renewable energy sources is encouraged by increasing prices to retain energy source diversity.

The supply diversification would be ensured upon implementing the above mentioned LitPol and SwedLit inter-system line projects.

c) Conclusions (the supply security level and generation and network investment incentive dependency, e.g., on the market system and conditions; in the European Union terms the supply security is not endangered, but local (regional) problems may emerge).



Upon decommissioning the second unit of Ignalina NPP in 2010 Lithuanian power system will become more dependent on natural gas imports. The electricity supply security level will be reduced by also increasing gas prices. Upon incorporating the national investor company a new NPP is to be build, however this will be done in 2017 under the most optimistic scenario.

The electricity transmission network is well developed, however Lithuania and the Baltic States altogether make an energy island as there are no connection lines with the West European and Scandinavian power systems while reducing the supply security.

The above reasons may cause the supply security problems not only on the local but also on the regional scale.

vi) General conclusions

a) Concerning the existing legal framework

No problems with the legal framework have been noticed so far.

b) Concerning the 3<sup>rd</sup> legislative package

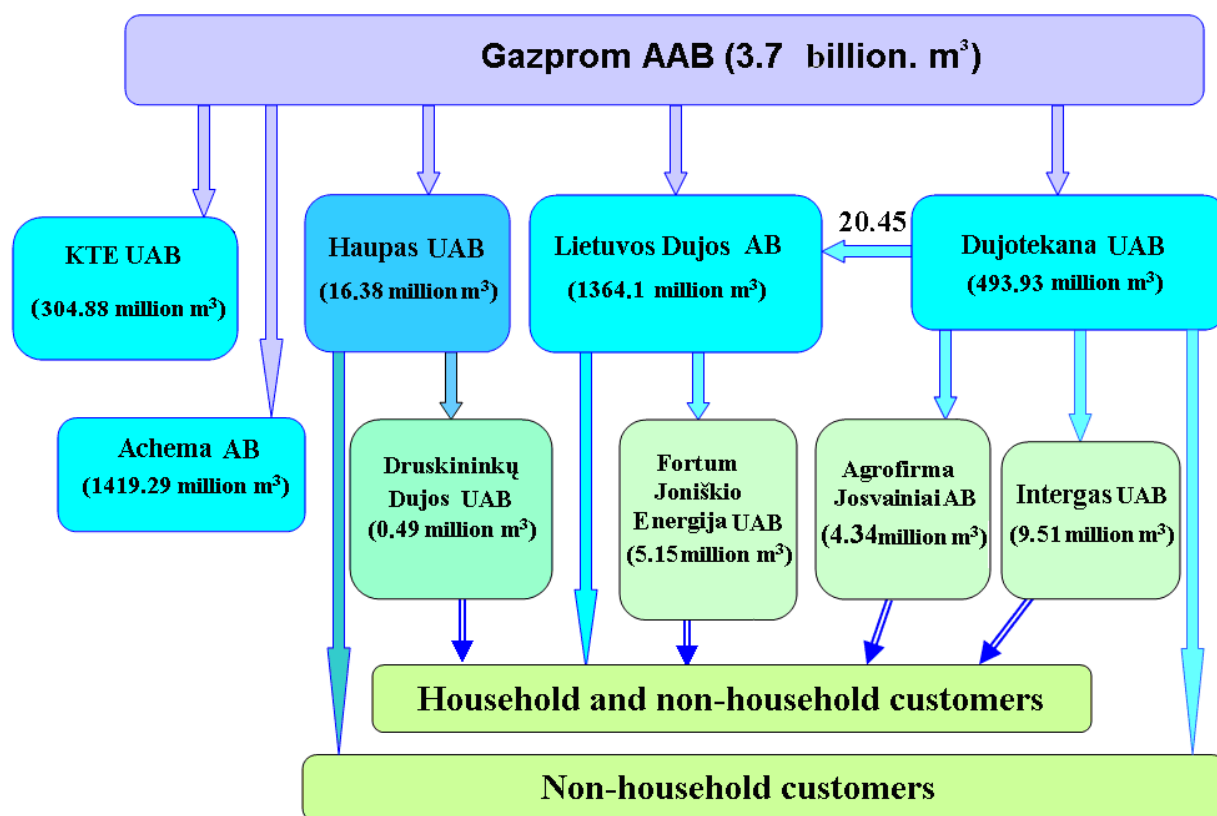
There may be potential incompliance of the national investor company LEO LT including a transmission (Lietuvos Energija AB) and two distribution network companies (VST AB and Rytų Skirstomieji Tinklai AB) with provisions of the 3<sup>rd</sup> legislative package on unbundling the transmission system.

### ***2.2.2. NATURAL GAS SECTOR***

#### **Market Structure**

In 2007, the natural gas market structure remained unchanged, as natural gas was imported to Lithuania from a single source, Russian Gazprom AAB. Lithuanian gas importers purchase natural gas under concluded long-term gas supply contracts. Lithuanian customers are supplied with gas by two main suppliers: Lietuvos Dujos AB and Dujotekana UAB. Achema AB and the combined heat and power plant Kauno Termofikacijos Elektrinė UAB (hereinafter referred to as “KTE UAB”) purchase natural gas for their own needs. Natural gas to Druskininkai region is supplied by Haupas UAB taking a very modest share of the gas supply market (Figure 1).

Figure 1. Natural Gas Market Structure in 2007



Lietuvos Dujos AB is the main natural gas supplier to household customers. In 2007 this company supplied 99.9% of natural gas used by households. In 2007 household customers (residents) were supplied with 187.4 million m<sup>3</sup> natural gas out of which 186.9 million were supplied by Lietuvos Dujos AB.

4777.4 million m<sup>3</sup> natural gas were transported using the natural gas transmission system, and 1215.6 thousand m<sup>3</sup> was a transit to the Kaliningrad Region of the Russian Federation. Compared to 2006, in 2007 transmission volumes increased by 18% mostly due to the increased gas quantity transmitted by Achema AB.

Natural gas distribution volumes changed insignificantly: they increased by 2.3% up to 1144.2 million m<sup>3</sup>, if compared to 2006.

### Natural gas prices

In 2007 one gas transmission company (Lietuvos Dujos AB) and six gas distribution companies were engaged in the NCCPE regulated natural gas activities. The dynamics of gas transmission, distribution price caps and average gas prices for household consumers in 2007 are provided in Table 2.

Table 2. Dynamics of Service Price Caps in 2007 and 2008 EUR/MWh

Service price caps	January 1, 2007	January 1, 2008	Change, %.
<b>Lietuvos Dujos AB</b>			
Gas transmission	0.97	1.06	8.7
Gas distribution	3.56	3.96	11.2
Average gas price for household customers	24.87	38.97	56.7
<b>Fortum Joniškio Energija UAB</b>			
Gas distribution	3.86	5.26	36.3
Average gas price for household customers	24.96		
<b>Agrofirma Josvainiai AB</b>			
Gas distribution	1.29	1.47	13.3
Average gas price for household customers	21.59		
<b>Druskininkų Dujos UAB</b>			
Gas distribution	28.72	39.11	36.2
Average gas price for household customers	55.64		
<b>Intergas UAB, Druskininkai Municipality</b>			
Gas distribution	1.78	1.84	3.4
<b>Intergas UAB, Mažeikiai Municipality</b>			
Gas distribution	–	16.48	–
<b>Achema AB</b>			
Gas distribution	–	0.32	–

Since 2006 Gazprom AAB started calculating natural gas prices for Lithuanian gas suppliers using a typical gas supply calculation formula applicable to European supply companies. Under this formula gas supply price shall be recalculated on a monthly basis subject to prices of heavy fuel oil with 1% sulphur content on global markets and the Euro/USD exchange rate, and since 2008 also subject to furnace fuel prices.

## 2.3. MAIN ISSUES ADDRESSED BY THE NCCPE

### 2.3.1. ELECTRICITY SECTOR

– Issues related to electricity market

Lithuanian electricity market so far is dominated by Ignalina NPP generating approximately 70% electricity, thus without any competition available in the generation or supply sectors the real opening of the electricity market accounts for 12% of the national electricity consumption.

– The elimination of public electricity tariffs and the setting of tariffs for the service of the supplier of the last resort might change the number of customers choosing another supplier, but this requires legislative amendments. Moreover, this may lead to increasing electricity prices for small, thus more vulnerable customers whose electricity consumption is usually less efficient. Whereas due to absence of competition and due to the market being too small even for the Baltic States there would

be no possibility to compensate for the prices increased as a result of the recalculation of costs. It should be noted that the price of electricity sold by the state enterprise Ignalina Nuclear Power Plant is one of the lowest in the region, while connection to Western and Scandinavian electricity systems may entail increased prices. Therefore, the current situation is relatively favourable to customers because they usually expect lower electricity prices. Yet, the problem of transparency and economic incentive persists.

- To expand Lithuanian domestic electricity market and develop the regional Baltic States market, periodic meetings of regulators in these and other countries, transmission system operators and other institutions discussed the issues of the compensation mechanism between transmission system operators, price setting of balancing energy, terms of electricity network use, formation of common policy regarding non-European countries, and other relevant ones.

- Issues related to retail/customer protection, by clearly naming which powers are statutory and which customer services are provided on voluntary basis.

- No retail market customer protection problems were faced concerning the valid public electricity tariffs for end users, which are lower than market electricity tariffs or if purchased from independent suppliers. All the provided services or electricity trade terms are regulated by relevant legislation and a special publication was drafted, a Memo for customers wishing to take part in the electricity market.

- Issues related to the wholesale market

All the customers connected to the transmission system are purchasing electricity against contractual prices. There were no complaints received from them or more significant problems captured.

- Issues related to infrastructure (Art. 22, tariff methodology; how the regulator encourages new investments – new investment incentives – special regulation procedure except Art. 22)

There were no cases concerning direct electricity lines.

Electricity price calculation methodologies did not change.

The set electricity tariffs include depreciation costs and normative profits under the revalued assets or asset market value allowing companies to do all the required investments.

- Issues related to sanctions – general description (the level, scope, procedure); comparison with other national sanction levels and procedures: is the level legally justified; Art. 12 of the Electricity Rules; cases concerning the transmission system operator's incompliance compared to the application of sanctions.

A new document is drafted on applying sanctions against companies, as well, based on their revenue. Earlier such provision was not available.

- Reports on transparency

As every year the annual report of the NCCPE is published describing the most important activities and the news. The report is presented during a public event and placed on the website.

- Market interconnection projects

The Regional Initiative Workgroup meetings address urgent regional issues related to electricity market development, i.e., the development of the Common Baltic Electricity Market, and trade and pricing issues with foreign countries are also coordinated.

- Others, e.g., energy efficiency

To diversify electricity generation balance and encourage the use of renewable energy sources the NCCPE passed a resolution to increase purchase prices for power plants using bio fuel. There are plans to increase prices for wind and hydroelectric power plans, as well.

- As previously mentioned the NCCPE role in pricing policy-making and price setting is to encourage support for electricity generated using renewable energy sources. This is done by increasing such electricity purchasing prices.

To further implement the National Energy Strategy goals and encourage thermal electricity generation the NCCPE clarified the Regulation Rules of Electricity Purchasing Prices from Combined Heat and Power Plants (hereinafter – the Rules). Electricity purchasing prices are calculated under them for electricity generated in thermal power plants supplying heat to urban district heat supply networks in the supported quantities established by the Minister of Economy. These costs of purchasing electricity are included into PSO price calculations.

With respect to the previous year costs the new version of the Rules establishes specific coefficients indicative of the capacity level category, clarifies the impact of fuel price fluctuation on the basic electricity price, clarifies application of a coefficient to assess the need for extra funding for newly built power plants, and assesses the influence of consumption price index. This encourages appearance of new thermal energy generation installations through the efficient use of the existing thermal potential in Lithuania

- The Ministry of Economy shall establish the procedure for electricity generation using renewable and waste energy sources and incentives to such electricity together with planned power plant capacities. The NCCPE shall make a decision based on the volumes established in the procedure. This procedure also defines the non-core activities, e.g. for a biomass power plant where biomass and biogas is below 70% of the fuel balance, for another power plant type, where renewable and waste energy sources account for less than 90% of the fuel balance, etc.

- As mentioned above rules are under updating and resolutions are under passing to encourage electricity purchasing from thermal power plants.

### 2.3.2. NATURAL GAS SECTOR

When the new version of the Law on Natural Gas was adopted by the Seimas of the Republic of Lithuania (*Official Gazette*, 2000, No. 89 – 2743; 2007, No. 43 – 1626) (hereinafter – the Law on Natural Gas), the need arose to correct the Natural Gas Price Cap Calculation Methodology approved by the NCCPE in 2005 and adjust the natural gas price regulation principles with the requirements of the Law on Natural Gas.

The draft Methodology developed and provided for public consultations by the NCCPE suggested making only a few most needed changes:

1. Provide for regulating the gas supply service price for all customers. To implement the above provision the Methodology establishes the Profit Calculation Rules of Gas Supply Activities, Supply Price Caps and Adjustment Rules;
2. Add new price differentiation requirements prescribed by the Law on Natural Gas and Regulation No. 1775/2005 of the European Parliament and of the Council of 28 September, 2005;
3. Establish the Gas Purchasing Price Calculation Rules for Household Customers. For such customers gas price would be fixed for one year, and in case of a difference between prices thus calculated and actual gas purchasing ones it shall be taken into account when recalculating gas purchasing prices for the subsequent year;
4. Modify duration of the regulation time period (5 years to replace 3 years) and price caps adjustment terms (once a year to replace once per six months);
5. Provide that specific price differentiation principles shall be established in the gas transmission, distribution and supply price differentiation methodologies to be drafted by gas companies and submitted to the NCCPE. However as earlier the NCCPE must check if prices calculated by gas companies under their drafted specific price calculation methodologies do not exceed price caps or discriminate customers.

Though there were few amendments to the Methodology they were in major focus. Most discussions were predominantly provoked by the natural gas supplier margin regulation established in the Methodology. In 2007 gas suppliers applied the 12 – 15% profit margin. The draft Methodology established the maximum gas sale margin not exceeding the sum of: the annual interest rate for the Government five year bond auctions having taken place within the last five years, and the coefficient which is subject to heavy fuel oil and gas import price difference. At the end of 2007 this maximum calculated for the gas supply price cap amounted to 6.5%.

### 3. DESCRIPTION AND REGULATION OF THE ELECTRICITY MARKET

#### 3.1. REGULATORY ISSUES

##### 3.1.1. OVERVIEW

The year 2008 is the seventh year of the operating electricity market. Since 1 July 2007 all the customers became eligible and may choose their supplier and buy electricity against contractual prices. As in 2007, 6 major national industrial enterprises are likely to use the electricity market advantages in 2008. They account for approximately 12% of total national electricity consumption. This is caused by the relatively cheaper-priced public supplier sold electricity versus distribution grid market prices offered by independent suppliers. The situation may change upon eliminating public electricity prices, however this may cause higher electricity prices for many customers as there is no competition in the domestic or even Baltic States market due to a low number of competitive producers. Connections with the Western and Scandinavian electricity systems would increase the level of competition.

Table 3 presents the dynamics of the real and declared degree of the electricity market opening since the beginning of the market operations.

Table 3. Degree of Market Opening

Indicator	2002	2003	Up to July 1, 2004	Since July 1, 2004	2005	2006	Since July 1, 2007
Electricity consumption by eligible customers as a share of total customer consumption, %	20	23	25	74	74	74	100
Electricity consumption by eligible customers that have chosen independent suppliers as a share of total customer consumption, %	17	17	15	15	15	13	12

Compared to the last year the proportions of supplier-purchased electricity remained almost the same because of lower prices maintained by public suppliers. The situation did not change irrespective of the fact that a binary electricity tariff structure began applying since 2005 and that electricity prices increased for many consumers (Table 4).

Table 4. Supplier Market Share by Purchased Electricity in 2007

Suppliers	Volume, MWh	%
Independent suppliers	1,122.9	11
VST AB	4,213.7	42
Rytų Skirstomieji Tinklai AB	4,515.4	46
Visagino Energija VĮ	65.4	1
In total	9,917.4	100

### **3.1.2. MANAGEMENT AND ALLOCATION OF INTERCONNECTION CAPACITY AND EQUIPMENT TO PREVENT CONGESTION**

The Lithuanian electricity system as well as the Baltic energy system does not experience any congestion because of sufficient transmission capacity of electricity networks. Intersystem electricity flows, interconnection capacities, generation, consumption, export/import, the influence of transmission network outages on transmission capacities between neighbouring countries may be followed on-line on the website of the Lithuanian transmission system operator [www.le.lt](http://www.le.lt).

The maximum possible capacity flows at cross-border points under a normal network scheme are presented in Table 5.

Table 5. Maximum Possible Capacity Flows at Cross-Border Points

Connection	Capacity, MW
Lithuania – Latvia	1,500
Latvia – Lithuania	1,300
Lithuania – Belarus	2,200
Belarus – Lithuania	1,400
Lithuania – Kaliningrad	680

For the purpose of calculating the transmission capacity of the transmission network, the transmission system operator is currently applying the Methodology for the Calculation of Interconnection Capacities. This Methodology allows assessing maximum flows, dynamic stability; emergency reserves and other network status parameters (see Table 6).

Table 6. Planning and Network Transmission Capacity Management Stages

Stage	Term	Parameters to be assessed
Pre-planned	Over a week in advance	Import/export Scheduled repairs
Planning	A week in advance	Work schedule of the hydro pumped storage power plant Work schedule of the hydro power plant Network status
	A day in advance	Revision of the work schedule of the hydro pumped storage power plant Revision of the work schedule of the hydro power plant Revision of the network status
Transmission capacity management	Operation day	Operation of power plants Activation of reserves Network status



The Baltic Regional Initiative Group analyses different variants of the inter-TSO compensation mechanism for the Baltic States and follows the information of the European Commission on these issues to be able to apply general principles.

With sufficient throughput of electricity networks, congestion management has not been recently integrated into wholesale markets.

Transmission system operators did not encounter any major problems in calculating and establishing interconnection capacity.

### **3.1.3. REGULATION OF TRANSMISSION AND DISTRIBUTION COMPANIES**

Lithuania has a single national transmission network company Lietuvos Energija AB. It functions as the owner of the electricity transmission grid (110-330 kV), system operator and market operator. As the transmission system operator, it works under the granted electricity transmission licence.

Distribution activities in Lithuania are mainly carried out by two distribution companies: Rytų Skirstomieji Tinklai AB and VST AB. Rytų Skirstomieji Tinklai AB is responsible for the maintenance, reliability and development of low and medium voltage electricity networks located in the eastern part of Lithuania, while VST AB - in the western and central part of Lithuania. Other distribution companies are small or industrial enterprises with internal networks directly connected to transmission networks within their territories. These enterprises own electricity distribution networks, i.e. low voltage (0.4 kV) and medium voltage (up to 110 kV) electricity networks. All these enterprises also perform the functions of the distribution network operator and public supplier. A public supplier is obliged to supply electricity upon request to all customers within its territory. The costs of these activities are accounted separately. Separate accounts are kept for each licensed activity.

Pursuant to the Law of the Republic of Lithuania on Electricity, the following activities are subject to licensing: electricity market operator, electricity transmission, electricity distribution, public and independent supply. The licensing rules are approved by the Government of the Republic of Lithuania. Licences are granted and control over these licensed activities is exerted by the NCCPE.

In 2007, licensed activities in Lithuania were carried out by one electricity transmission system, two regional and five local electricity distribution network operators indicated in Table 7. Bankruptcy proceedings were initiated against one local distribution network operator (Ekranas AB). The right to manage the electricity distribution grids of Ekranas AB was granted under an agreement to Prekybos Namai Giro UAB, thereby ensuring the continuity of the licensed activity and electricity supply to customers.

Table 7. Data about Network Operators

No	Company	Type of licence	Local or national network	Main shareholders
1.	Lietuvos Energija AB	Electricity transmission	National	LEO LT AB (State-owned – 61.7 % Private company – 38.3 %)
2.	Rytų Skirstomieji Tinklai AB	Electricity distribution and public supply	Regional	LEO LT AB (State-owned – 61.7 % Private company – 38.3 %)
3.	VST AB	Electricity distribution and public supply	Regional	LEO LT AB (State-owned – 61.7 % Private company – 38.3 %)
4.	Visagino Energija VĮ	Electricity distribution and public supply	Local	State-owned
5.	Achema AB	Electricity distribution and public supply	Local	Private company
6.	Akmenės Cementas AB	Electricity distribution and public supply	Local	Private company
7.	Prekybos Namai Giro UAB	Electricity distribution and public supply	Local	Private company
8.	Lifosa AB	Electricity distribution and public supply	Local	Private company

Note: \* – Data reflects the status of 25 July 2008

The Law on Electricity provides for two types of electricity supply license: a public electricity supplier (hereinafter - PES) and an independent electricity supplier (hereinafter – IES). A public electricity supplier shall be obliged to supply electricity to all customers in the territory served as established in the supplier's license, and to customers having not selected an independent supplier. An independent electricity supplier may supply electricity to all customers having selected and independent supplier. Under the Law on Electricity and since July 2007, all customers shall be entitled to conclude direct electricity supply contracts with freely chosen independent suppliers.

Compared to 2006, last year the number of licensed independent suppliers has increased by 3 ones. It should be noted that they are foreign companies. The number of other market players as natural monopoly companies has not changed.

The number of licensed independent suppliers is specified in Table 8.

Table 8. Number of Electricity Suppliers by Year

Supply licenses issued in 2007		Engaged in licensed activities in 2007		Engaged in licensed activities in 2006		Engaged in licensed activities in 2005		Engaged in licensed activities in 2004	
VET	NET	VET	NET	VET	NET	VET	NET	VET	NET
6	18	6	6	7	5	7	5	7	4

Line lengths by electricity network companies in 2007 are provided in Table 9.

Table 9. Line Lengths by Electricity Network Companies in 2007

No	Company	Overhead line length, km	Cable line length, km
1.	Transmission system operator (Lietuvos Energija AB)	6,640	21
2.	Distribution grid operators:	101,261	19,109
2.1.	Rytų Skirstomieji Tinklai AB	53,451	9,411
2.2.	VST AB	47,810	9,698

### Network Tariffs

Since 2002, Lithuania has applied the principle of price caps in setting prices for electricity transmission, distribution (50/50 price and revenue cap combination) services according to voltage levels. Pursuant to the Methodology for Setting Prices for Electricity Transmission and Distribution Services and their Price Caps, price caps are set for a three-year period, with annual adjustment of the initial revenue level for respective activities by the following four correction coefficients:

1. indexation (consumer price index and efficiency);
2. unpredicted changes (external factors);
3. impact of electricity volume;
4. correction (assessing revenue surplus/deficit depending on the applied price differentiation structure in order to ensure the necessary revenue of the company, provided the company gives valid reasons behind the failure to collect the target amount).

When setting price caps and the initial revenue level, an assessment is made of the justification of costs, activity results during the previous regulatory period, market development forecasts, changes in the legal environment, etc. When setting state regulated prices, necessary expenses must be planned for the extraction of energy resources, energy production, purchasing, transmission, distribution and supply, and provisions must be made for the development of the energy sector and energy efficiency, the use of indigenous and renewable energy resources and the implementation of public service obligations, and the profit rate must be set.

Taking into account the national micro- and macro-economic indicators and the methods applied in the international practice, efficiency coefficients are set for the abovementioned period of price caps. At the end of the financial year, corporate profit is corrected by 50% and 100%, where the average profit rate for the last two years increased by 2 and 6 percentage points respectively is exceeded, taking into consideration the coefficient of electricity supply reliability and service quality, as well as the use of investments to ensure the quality requirements.

Upon the approval of the price caps by the NCCPE, the specific prices and tariffs for transmission and distribution services shall be set and changed by service providers. The weighted

average of the prices and tariffs set by service providers shall not exceed the respective price caps any year of the regulatory period. The NCCPE shall publish the prices and tariffs set by the service provider within 30 calendar days from the receipt of the application of the service provider, subject to prior verification whether the prices and tariffs are non-discriminatory for customers. At the end of every year of the regulatory period, the NCCPE shall control whether the weighted average of the prices and tariffs set by the service provider has not exceeded the price caps. Should the NCCPE ascertain that the weighted average of the prices and tariffs set by the service provider exceeded the respective price cap during the previous year of the regulatory period, it shall have the right to obligate the service provider to set accordingly smaller prices and tariffs. Other state institutions fulfil the advisory function in the pricing process.

Pursuant to the forms set by methodologies for calculating electricity price caps, a transmission system operator and a distribution network operator are requested to provide the following information on a *quarterly* and *annual* basis:

1. calculation of prices for electricity transmission and distribution services and their price caps;
2. efficiency indicators;
3. electricity balances;
4. electricity tariffs applied by companies, consumption and revenue;
5. electricity sales of companies by consumer groups;
6. other data required for adequate supervision of the electricity market.

Pursuant to the Rules for Licensing Activities in the Electricity Sector, the following documents must be produced on a quarterly basis:

1. financial statements of the licensed economic-financial activities;
2. report of the market operator (free form);
3. report on supply reliability indicators.

On an *annual* basis, the following documents must be submitted in addition:

4. annual audit report on the costs of the licensed activities;
5. annual analysis of the use of the electricity network system;
6. report on the development prospects for the electricity network system;
7. annual report on complaint investigation.

According to the Monitoring Report on Supply Security in the Lithuanian Electricity Market, technical and economic data must be collected and summarised *annually*, before 31 July, by drawing conclusions on electricity supply reliability as well as internal and regional electricity market development prospects. Such information covers forecasts for the three forthcoming years and reflects the following data from various aspects and in different periods:

- electricity generation, transmission and distribution capacities, intersystem connections with the neighbouring energy systems;

- electricity capacity balances;
- electricity generation, consumption, exports and imports;
- market concentration;
- volumes of electricity purchases and sales;
- degree of market opening;
- market participants;
- dynamics of market prices;
- degree of eligible customer activity;
- forecasted volumes of electricity purchases, sales and exports;
- forecasted capacity balances;
- needs for new power capacities;
- planned development and renovation of electricity transmission and distribution networks, possible weak spots.

At the end of the year a contract was signed on the comparative analysis of European TSOs to be completed in 2008. The comparative analysis of DNOs in the Central and Eastern Europe (members of the Regional Energy Regulators Association) has also started.

Lithuania has only 2 main distribution network companies; therefore half of the consumer price index is applied to identify operational efficiency which is assessed by setting a price cap. As mentioned at the beginning of the present Chapter it is set for 3 years in line with the NCCPE-established methodologies, i.e., the regulation period shall be 3 years. The methodologies define the general setting principles concerning tariff structure development. When companies set specific prices and differentiate them by tariffs, the NCCPE inspects if average weighted values exceed a cap and customers are discriminated.

Investment stimulation is manifested by calculating depreciation and normative profits according to asset market value in setting a price cap.

As electricity networks have no overloads there are no revenues generated.

Other state institutions may provide comments and suggestions before approving various documents.

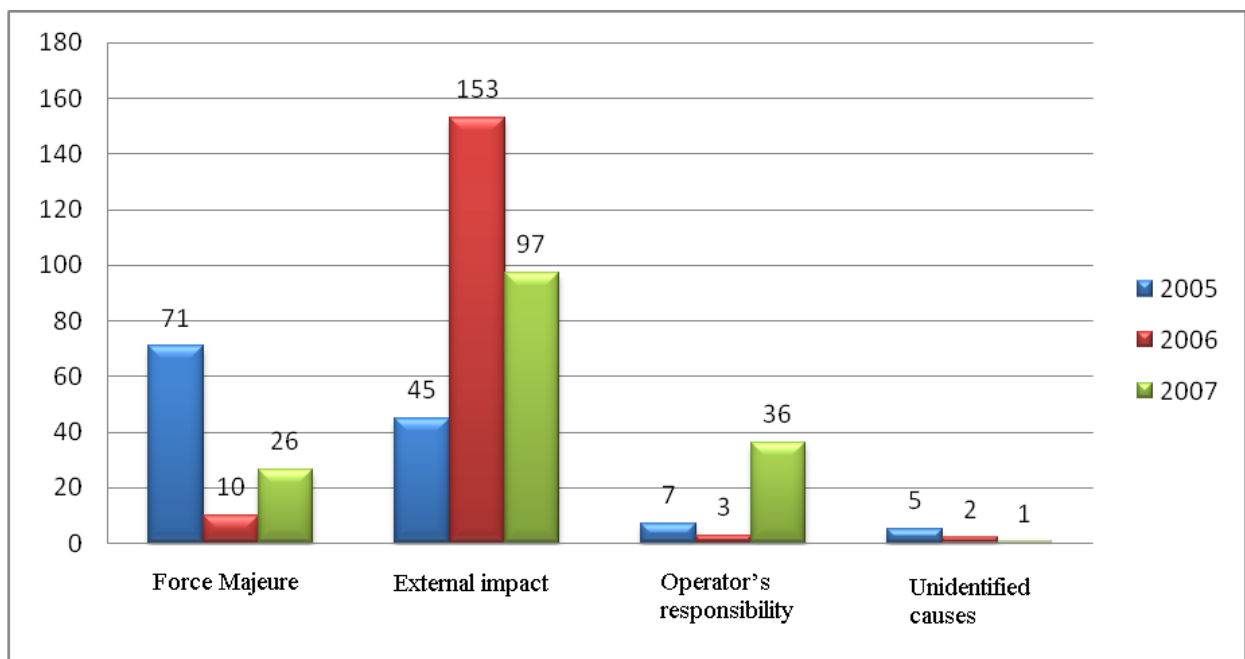
Under the law the NCCPE is obliged to control how licensed electricity companies satisfy Quality Requirements for Reliability of Electricity Supply and Electricity Transmission, Distribution and Supply Services (hereinafter – the Quality Requirements) approved by Order No. 4 – 265 of July 15, 2005, by the Minister of Economy, and monitor (perform monitoring) reliability of electricity supply and service quality. Under the approved Quality Requirements the minimum reliability of supply level for transmission and distribution operators shall be set on the basis of average data for 2005–2007. Since 2008, any change in any indicator, upon benchmarking it with the minimum level, shall be taken into account when calculating price caps for transmission and distribution services. Thus

providing reliable data on transmission interruptions, calculated and structured under uniform methods and principles is significant. For that reason, since 2004 the NCCPE annually inspects major electricity companies, analyzes and evaluates how they register data on reliability of electricity supply and service quality, calculate indicators and draft reports to the NCCPE. If violations are found out during inspections, companies are obliged to eliminate them within the NCCPE-specified time.

Reliability of electricity supply by a transmission network (the system operator Lietuvos Energija AB) is estimated by two indicators – END (the electricity quantity not delivered by the transmission network which shows the electricity quantity not supplied by transmission network due to interruptions within a reporting period) and AIT (the average interruption time which shows the average interruption duration within a reporting period).

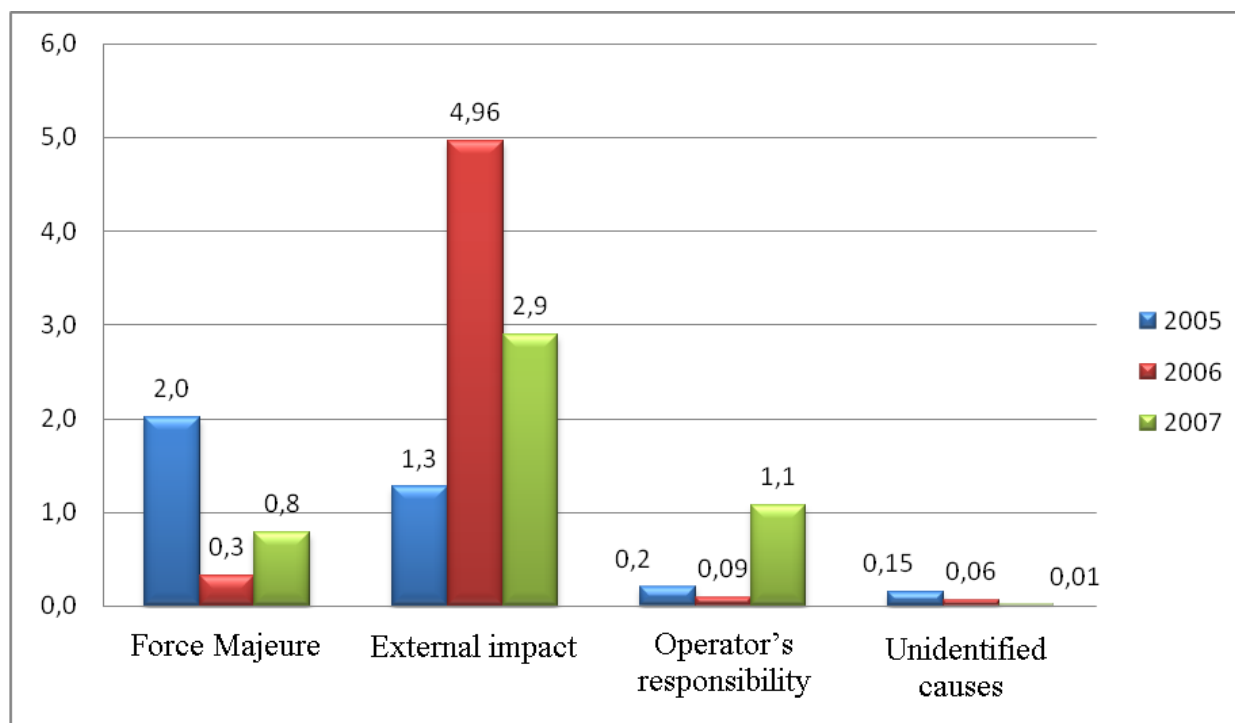
In 2007, the electricity quantity not delivered by the transmission network (END) reached 160.19 MWh, and the majority of interruptions happened because of an external impact, i.e., causes not attributed to the company responsibility. In 2006, the electricity quantity not delivered by the transmission network (END) reached 168 MWh in average. The main factor having caused the electricity transmission interruptions was an external impact, which reached 153 MWh. In 2005 electricity transmission interruptions were caused by Force Majeure which was out of the company control and in average amounted to 128 MWh (Figure 2).

Figure 2. Average Energy not Delivered (END)  
by the Transmission System Operator Lietuvos Energija AB in 2005 – 2007



In 2007 – 2006, the average interruption time (AIT) reached 4.76 and 5.4 minutes respectively, the majority of which happened because of an external impact. In 2005 the average interruption time was 3.63 minutes (Figure 3).

Figure 3. Average Interruption Time (AIT) of Lietuvos Energija AB in 2005 – 2007



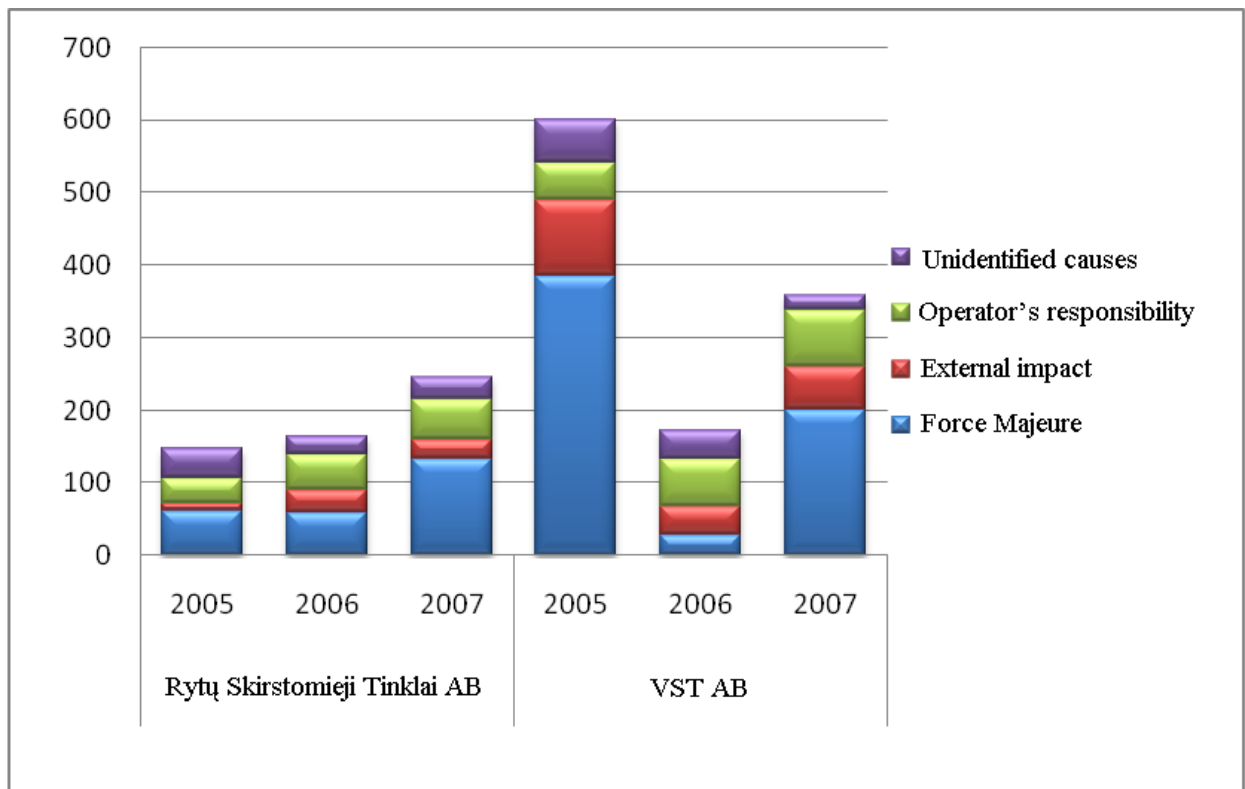
If compared the reliability of supply indicators of Lietuvos Energija AB in 2005 – 2007 with the available indicators of other countries (Ireland, the United Kingdom, France, Hungary) it may be stated that the Lithuanian transmission system operator ensures the reliable and effective electricity transmission, as these indicator values had no significant changes in 2005 to 2007 and are among the lowest (i.e., among the best) of the above European countries.

In terms of reliability of electricity supply by the distribution network, the key indices are as follows: system average interruption duration index (SAIDI) and frequency index (SAIFI, MAIFI) per customer. The NCCPE started a comparative analysis of these indices from various aspects in 2004, when it received the first comprehensive annual data about electricity interruptions differentiated by interruption causes and territory type (urban or non-urban).

The reliability of supply (transmission) and service quality analysis is done by comparing reliability of supply indicators of Rytų Skirstomieji Tinklai AB and VST AB.

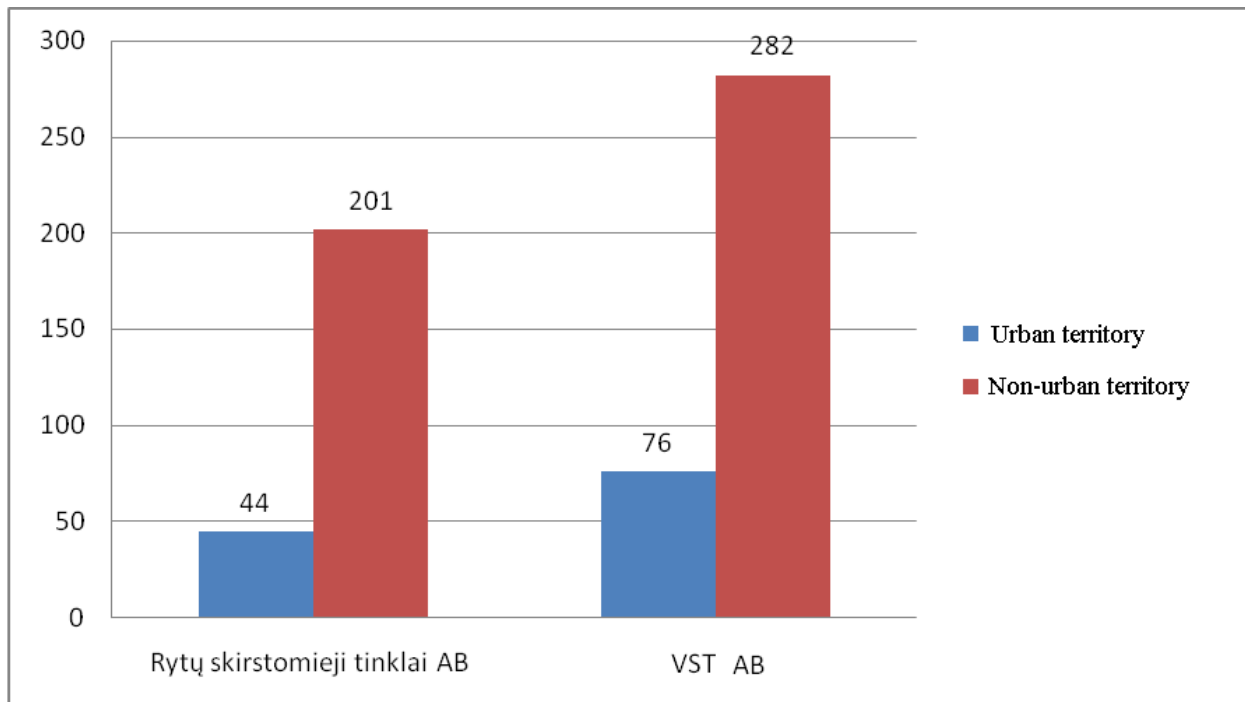
In 2007, the system average interruption duration index (SAIDI) of Rytų Skirstomieji Tinklai AB (Figure 4) was 246 minutes, and SAIDI of VST AB 358 minutes. SAIDI related to the operator's responsibility was 56 minutes (Rytų Skirstomieji Tinklai AB) and 77 minutes (VST AB). The system average interruption duration indexes (or failures), caused by reasons attributed to the third party impact and not to a distribution company responsibility, was 43 minutes.

Figure 4. System Average Interruption Duration Index (SAIDI) per User in 2005 – 2007



By territorial subdivision into urban and non-urban territories (Figure 5) the system average interruption duration index was 201 minutes in non-urban, and 44 minutes in urban territories (Rytų Skirstomieji Tinklai AB), and 282 minutes in non-urban, and 76 minutes in urban territories (VST AB).

Figure 5. System Average Interruption Duration Index (SAIDI) per User by Territory Type in 2007

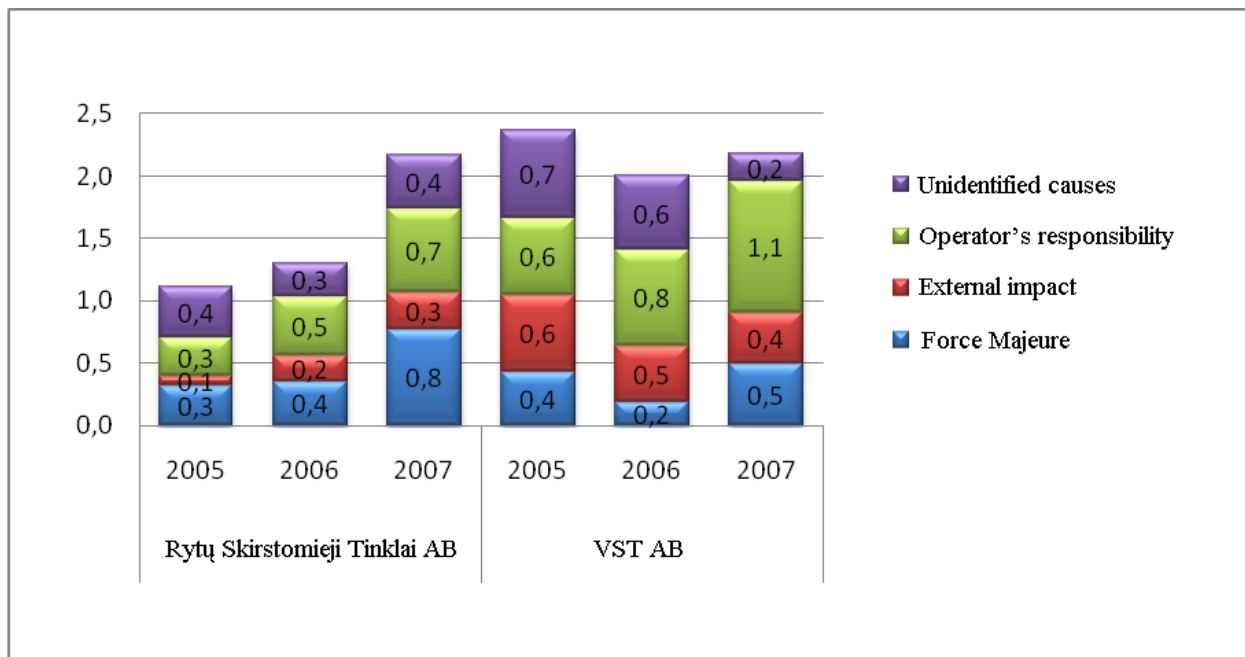




For the purpose of measuring the average frequency of unscheduled interruptions per customer, two indices are calculated: for sustained interruptions lasting 3 minutes and longer (SAIFI), and for momentary interruptions lasting longer than network automation switch-on, but shorter than 3 minutes (MAIFI).

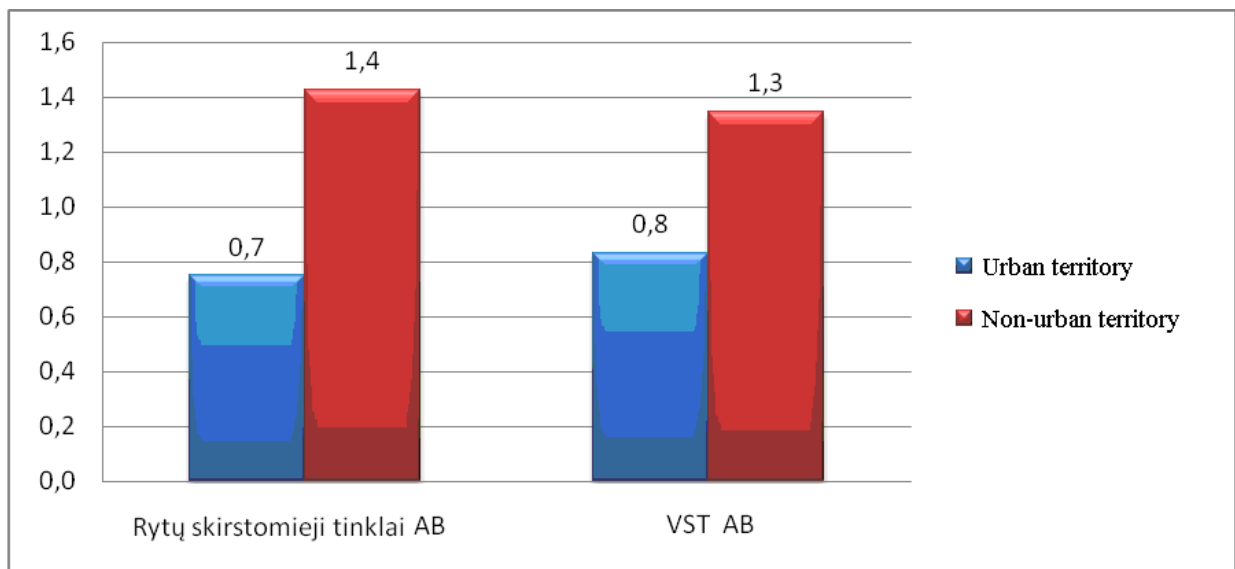
The SAIFI indicator specifies the system average frequency of the system interruptions i.e., the average number of electricity supply interruptions per reporting period per system user. Thus in 2007 the system average interruption frequency index of Rytų Skirstomieji Tinklai AB (Figure 6) was 2.17, and that of VST AB totalled – 2.18, of which 0.7 (Rytų Skirstomieji Tinklai AB) and 1.1 (VST AB) were attributed to the operator's responsibility. The system average interruption frequency index attributed to the external impact of Rytų Skirstomieji Tinklai AB was 1.3, and that of VST AB totalled 2.

Figure 6. System Average Interruption Frequency Index (SAIFI)  
per User (SAIFI) in 2005 – 2007



When analyzing the average frequency of unplanned long electricity supply interruptions by urban and non-urban territories (Figure 7) a similar trend has been noticed, i.e., that in non-urban territories the frequency of unplanned long electricity supply interruptions per user was significantly higher (by 1.4 times in the network of Rytų Skirstomieji Tinklai AB and by 1.3 times in the network of VST AB) compared to the frequency of interruptions per urban user (which was 0.7 for Rytų Skirstomieji Tinklai AB and 0.8 for VST AB).

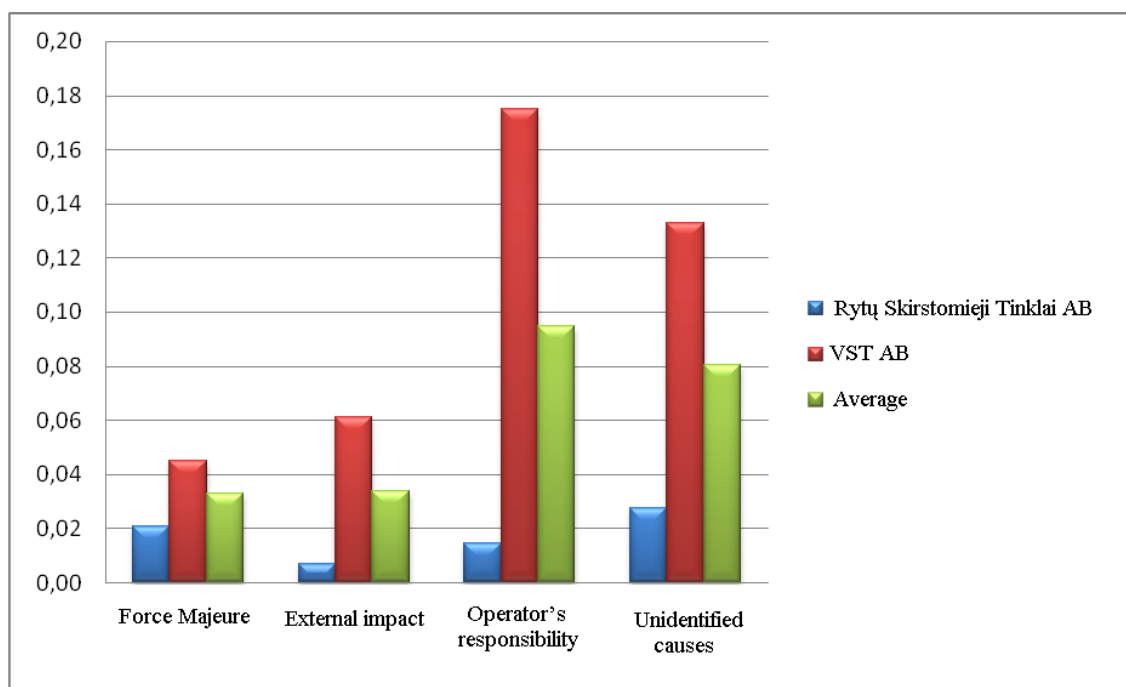
Figure 7. System Average Interruption Frequency Index per User (SAIFI)  
by Territory Type in 2007



Based on the provided data both distribution companies have significantly higher duration and frequency of supply interruptions in non-urban territories vs. urban ones, thus in future both companies should be more attentive to continuity of electricity supply in non-urban territories.

Short electricity interruptions happen when interruptions last longer than network automation switch-on, but shorter than 3 minutes (MAIFI). In 2007 the momentary average interruption frequency index was respectively 0.07 for Rytų Skirstomieji Tinklai AB and 0.4 for VST AB. Data presented in Figure 8 allows qualifying VST AB as much more attentive in recording such interruptions than Rytų Skirstomieji Tinklai AB.

Figure 8. Momentary Average Interruption Frequency Index per User (MAIFI)  
by Interruption Causes in 2007



The average duration of interruptions per customer due to scheduled grid works about which users are notified in the time and manner established by law or contract in the territory served by Rytų Skirstomieji Tinklai AB was 81 minutes and 62 minutes in that of VST AB.

The comparison of continuity of electricity supply indices for 2005-2006 (Table 10) shows that in 2007 the average duration of interruptions per customer occurring in the territory served by Rytų Skirstomieji Tinklai AB increased by 99 minutes (from 147 to 246 min). the average duration of interruptions per customer occurring in the territory served by VST AB increased by 185 minutes compared to 2006 (from 173 to 358 min).

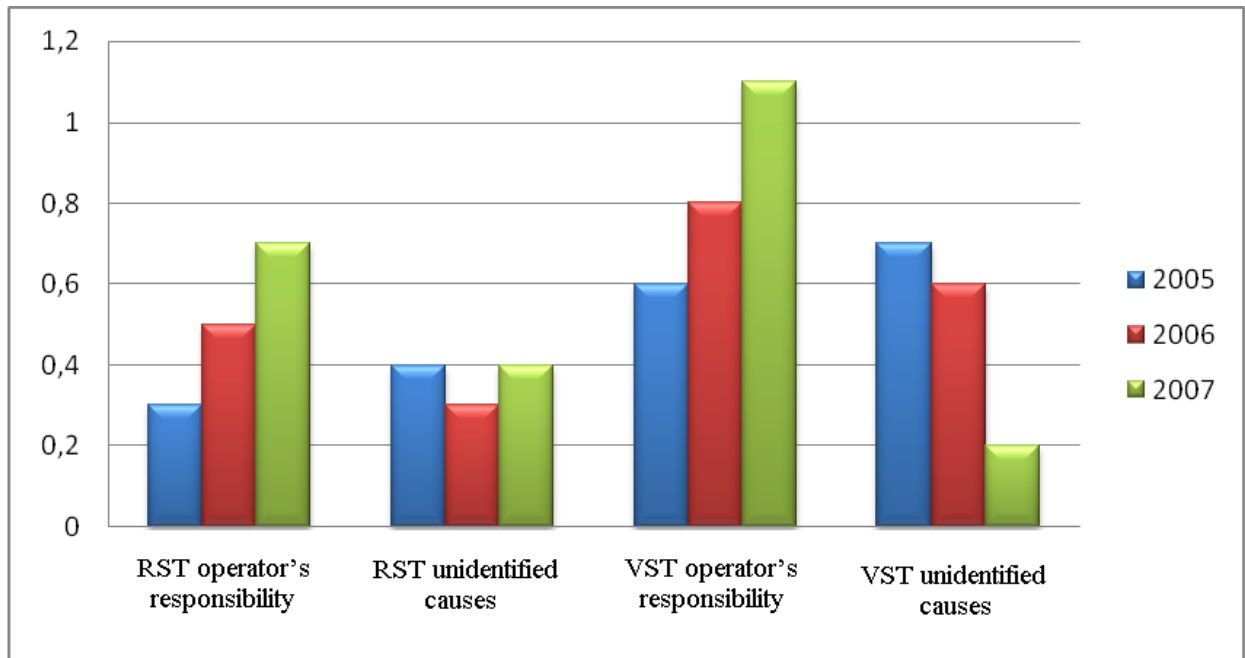
The average duration of interruptions due to Force Majeure increased by 71 minutes in Rytų Skirstomieji Tinklai AB and was dominating among interruption types by causes (54%) in 2007. Compared to 2006, the share of interruptions due to Force Majeure reasons for VST AB increased by 172 minutes, and in 2007 it accounted for 56% of total interruptions.

Table 10. Average Duration of Unplanned Long Interruptions per User (SAIDI) by Interruption Causes

The average duration of unplanned long (exceeding 3 min) interruptions per user SAIDI (min) by interruption causes						
	VST AB			Rytų Skirstomieji Tinklai AB		
	2005	2006	2007	2005	2006	2007
Force Majeure	385	28	200	61	59	132
External impact	105	40	59	11	32	27
Operator's responsibility	52	64	77	34	48	56
Unidentified causes	58	41	21	40	26	30
Total causes	600	173	358	147	165	246

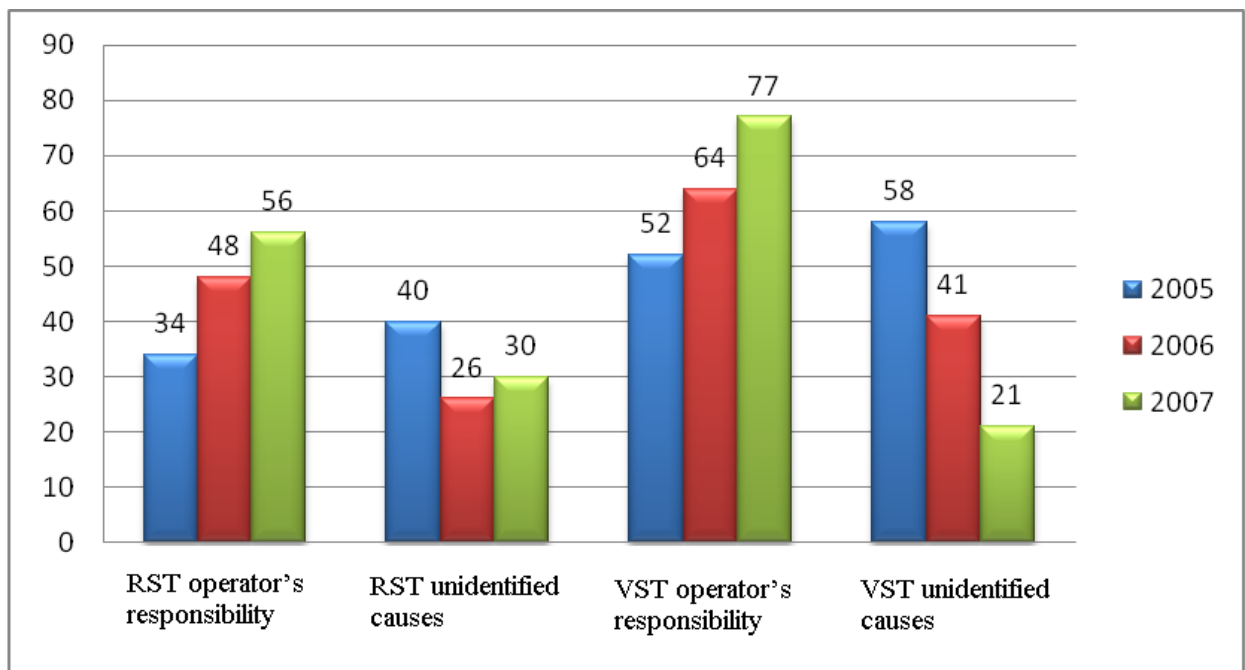
Figure 9 shows the dynamics of the system average interruption frequency index in 2005 – 2007. This index in the territory of VST AB changed very little and reached 2.18 in average in 2005 – 2007. In the territory of Rytų Skirstomieji Tinklai AB (RST AB) the system average interruption frequency index increased from 1.11 to 2.17, predominantly due to reasons attributed to the operator's responsibility and Force Majeure impact and reached 1.53 times.

Figure 9. System Average Interruption Frequency Index (SAIFI) in 2005 – 2007



However it should be noted that in 2005 – 2007 the share of the average duration of interruptions due to unidentified causes per customer reduced in both distribution companies, and the share of interruptions due to causes attributed to the operator's responsibility gradually increased. In Rytų Skirstomieji Tinklai AB the average duration of interruptions due to these causes increased by 22 minutes, and by 25 minutes in VST AB (Figure 10), while the share of interruptions due to unidentified causes has markedly decreased respectively: by 10 minutes in Rytų Skirstomieji Tinklai AB, and by 37 minutes in VST AB.

Figure 10. System Average Interruption Duration Index (SAIDI) in 2005 – 2007



The same trends are observed when analyzing the frequency of interruptions (SAIFI) dynamics in 2005 – 2007 (Figure 9). The frequency of interruptions caused by reasons attributed to the operator's responsibility continuously rose this year, and the frequency of interruptions due to unidentified causes reduced every year. Based on this data it may be concluded that both distribution companies took the NCCPE comments into account and gave more attention and effort to investigate causes of such interruptions.

To sum up the comparative analysis results of the continuity of supply indicators for 2005 – 2007 it may be stated that recently the values of the continuity of supply indicators continuously grew, i.e., became much worse (e.g., compared to 2006, in 2007 the average duration of interruptions per user in the territory of Rytų Skirstomieji Tinklai AB increased by 99 minutes, and as much as by 185 minutes in the one of VST AB), but on the other hand it should be emphasized that this was caused by objective reasons. First, as mentioned, since 2005 both distribution companies started registering and calculating this data by newly established uniform requirements. Second, due to the proactive NCCPE position, annual company inspections and company obligation to eliminate identified violations or shortcomings, if any, within the NCCPE prescribed time, the distribution grid operators gave much more attention and effort to record and investigate causes of electricity supply interruptions. Thus it should be concluded that the NCCPE-collected data on continuity of supply is now much closer to the realistic situation compared to the one in 2004. This NCCPE assumption is also proved by comparison of the 2007 continuity of supply indicators with data available for other countries (such as Ireland, the United Kingdom, Italy, France, Hungary). It should be noted that the general reliability indicator level of Lithuanian distribution operators for 2007 is similar to the one in the above European Union countries.

In addition it should be stressed that in 2007 the NCCPE finished collecting initial data for the electricity supply assessment and that in 2008 the NCCPE will calculate the average indicator values according to provisions of the Quality Requirements and establish the minimum levels of supply continuity. In future every indicator change will be compared with the NCCPE-established minimum level and annually taken into account setting the price caps for the transmission and distribution services, thus transmission and distribution companies will be encouraged to ensure proper levels of electricity supply continuity and service quality for all customers.

The quality of services is another equally important aspect of the performance assessment of companies for customers, including such issues as the connection of customer equipment to the company's grid, the investigation of customer complaints, customer notification of unscheduled interruptions, etc.

In 2007, the time needed to connect the equipment of a new customer from the date of payment of the connection fee (when only a branch line with a metering cabinet or panel has to be installed to connect the customer's equipment, and no project is required for these works) was similar in both the electricity distribution companies – about 11 working days.

Following the payment of debts, the average time for reconnecting the household customer after disconnection due to outstanding debts was similar as in 2006, namely 2 working days (Rytų Skirstomieji Tinklai AB) and 1 working day (VST AB), on the average. Other customers were reconnected within 1 and 0.4 working days respectively

The average duration of complaint investigation at Rytų Skirstomieji Tinklai AB was 16.85 calendar days for household customers (13 days in 2006) and 12.5 calendar days – for other customers (15.5 days in 2006). The average duration of complaint investigation at VST AB was 18.1 calendar days (10.5 days in 2006) and 13.8 calendar days (9 days in 2006) respectively.

With respect to the importance of the service quality for customers the NCCPE plans to focus more attention on analysis and monitoring of this data and indicators.

Currently Quality Requirements have been approved only for companies working in the electricity sector. It is worth noting that in order for the approved Quality Requirements to be effective, licensee responsibility for failure to satisfy the requirements needs to be established. The company having violated the established requirements should pay compensations to customers.

The Electricity Supply and Consumption Rules provide that when electricity supply to a customer is interrupted or limited or when electricity quality parameters at the point of the provision of electricity transmission or distribution services do not comply with those specified in the purchase and sales contract, the operator or supplier must compensate the customer for direct damages.

The operator or supplier is not obliged to compensate for any damages incurred by a customer where electricity supply is interrupted or limited or where electricity quality parameters do not comply with the contractual ones due to: natural disasters and fires, war, terrorist acts, Force Majeure, activities of a third person (theft of or damage to electrical equipment, strange objects thrown on overhead electricity lines, etc.), system pre-emergency automation actions (in cases of faults or accidents in other energy systems), actions of the State or conditions of the state of necessity, as well as where the one-time duration of a customer's disconnection does not exceed the maximum allowable duration of disconnection for the relevant category of electricity supply reliability, or where the respective automation or security systems interrupt electricity transmission and supply to the customer due to the customer's acts or omissions (when the customer concerned fails to comply with the requirements set out in contracts or legal acts or to introduce technical measures for loss reduction as provided for in legal acts or contracts), inappropriate maintenance of the customer's equipment or violations of the requirements set out in legal acts, as well as in other cases specified by legal acts or contracts.

A claim for damages must be filed within 10 calendar days after the damages are incurred. Such claim must, not later than within 30 calendar days from its receipt, be heard by a joint commission comprised of representatives of the operator or supplier and the customer. This

commission must investigate the reasons for electricity supply interruption or limitation and estimate the amount of the damages.

Where the parties concerned fail to agree, the amount of damages is established by the court. Damages incurred due to electricity supply interruption or limitation must be compensated within 30 calendar days from the establishment of their amount.

When changes are made to electricity prices and tariffs of the regulated network operators and public suppliers as well as the procedure for their application, a new procedure is published in the supplement *Informaciniai pranešimai* to the official gazette *Valstybės žinios*. The applicable electricity prices, tariffs and procedure for their application are placed on the websites of respective companies. Customers may also find information about planned changes to electricity prices, tariffs and procedure for their application, as well as make customer inquiries to companies. Furthermore, companies operating in the electricity sector are obliged by the Law on Electricity to notify household customers of the increase of prices and tariffs in writing or by other means at least one month prior to such increase.

The fees for connection to the existing electricity grids are set by the NCCPE. The rates of the fees are published when the NCCPE takes a decision on their approval. The rates of the applicable fees are also made available on the website of the respective company or by phoning the numbers given on the website of the company.

Companies must make public to market participants the following information:

- electricity tariffs for customers, their changes, new plans, etc.;
- commercial losses and technological costs;
- terms and procedures for the connection of new customers applied by the company based on existing legal acts (required documents, applications, etc.);
- terms and conditions of payment for electricity, rates of charges, etc.;
- various campaigns and discounts.

Customers may obtain relevant information not only in official and media publications and on websites, but also in all customer service departments, over information and general phone lines, as well as in information leaflets.

Prices for the electricity transportation service vary depending on the voltage of the grids supplying electricity to customers. Major industrial customers consuming about 24 GWh electricity per year with the maximum allowed capacity of 4,000 kW receive electricity from medium and high voltage electricity distribution grids, whereas households with the annual consumption of about 3,500 kWh and business customers with the annual consumption reaching 50 MWh and with the maximum allowed capacity of about 50 kW are usually supplied with electricity from low voltage electricity distribution grids. Respective average prices for electricity transportation are presented in Table 11.

Table 11. Average Prices for Electricity Transportation Services in 2007

Name	Ig	Ib	Dc
Average prices for electricity transportation services in the country, EUR/MWh	25.98	56.62	56.62

Municipal charges, costs of public service obligations or similar costs are not included in prices for electricity transportation services.

Table 12 shows electricity tariffs by regions served by two main distribution networks.

Table 12. Prices for Electricity Distribution Services Provided by Companies in Separate Regions

Indicators/Company	VST AB	Rytų Skirstomieji Tinklai AB
Price for electricity distribution through medium voltage electricity grids, EUR/MWh	16.1	15.38
Price for electricity distribution through low voltage electricity grids, EUR/MWh	29.5	32.00

### Balancing

The start of electricity auctions from the second quarter of 2002, and thus hourly trade between producers, opened up possibilities to meter hourly deviations of the actually purchased electricity amounts from the contractual ones. The market operator (a division of the transmission system operator) is responsible for making public the purchasing/selling price of balancing energy valid at the end of the trading period in accordance with the Rules for Trade in Electricity and/or the Rules for Trade in Electricity at Auction approved by the Minister of Economy, as well as for organising the settlement procedure for electricity traded in by the market operator.

Acting pursuant to the Law of the Republic of Lithuania on Electricity, the NCCPE approved, by its Resolution No 135 of 23 December 2002, the Procedure for the regulation of the balancing energy price. The amount of electricity set in electricity supply contracts (supply and consumption schedules) may be different from the actual consumption. Based on the information received from the transmission system operator about the results of the sales/purchase of regulating electricity at auction and in accordance with the aforementioned procedure, the market operator calculates the prices of balancing energy for suppliers (eligible customers holding supply licences) and producers.

The balancing energy market mechanism may be defined by the indicators described in Table 13.

Table 13. Characteristics of the Balancing Energy Market

No	Characteristic	Description
1.	Balancing interval	60 minutes
2.	Balancing region	Each separate generation or consumption site.
3.	Regional interaction	All market participants or persons purchasing and/or selling electricity under contracts or in other manner prescribed by the Rules for Trade in Electricity must become auction participants and



		<p>adhere to the auction contract upon signature. Such adherence does not impose any obligation to trade at auction, although it commits such market participants to provide information specified in the Rules to the market operator. A bid has a simple format: limited/unlimited price/amount bids, minimum amount – 5 MW, information about the dynamic characteristics of power plants not required.</p> <p>Foreign transmission system operators having regulatory agreements with the Lithuanian transmission system operator may also participate in balancing electricity trade auctions. Foreign transmission system operators participate in auctions under the same conditions and with the same rights as other participants of balancing electricity trade auctions.</p>
4.	Closing of session	<p>A regulating electricity auction session is closed not later than 2 hours prior to the beginning of regulation realisation or regulating bids may be corrected or recalled 2 hours prior to possible realisation of the bid.</p>
5.	Day trade options	<p>Market participants trading at hourly auctions are ensured conditions to purchase deficient electricity quantities and/or sell electricity surplus, i.e. including balancing energy, to other market participants under transparent competitive conditions.</p>
6.	Standard balancing prices	<p>The balancing price is calculated in accordance with the “pay as bid” principle. It is equal to the average weighted price of each uninterrupted trading hour corrected by coefficients 1.2 and 0.8 respectively in purchasing or selling electricity to the transmission system operator. Prices of up/down regulation bids should not be higher/lower than the price of balancing energy purchased/sold to the transmission system operator, as set at the end of the uninterrupted trading session.</p>
7.	Settlement process and schedule	<p>Until hourly trade for suppliers is introduced, the transmission system operator conducts trade in balancing energy with producers, accounting by the hour, and with suppliers, accounting by the calendar month. Settlement procedures and conditions for regulating and balancing electricity are set in respective agreements with the transmission system operator.</p>

Minor market participants and new participants entering the market are subject to the same conditions in the electricity market as other market participants.

When hourly trade in electricity is started with suppliers, the Rules for Trade in Electricity at Auction will enter into force ensuring the participation of both the sellers and purchasers in the momentary electricity market. This will more accurately reflect the laws of the market in the balancing energy market, at the same time fully implementing the requirements of the Electricity Directive.

After each transaction made during an uninterrupted trading session, the market operator calculates the average weighted price of each trading hour of that trading session as well as balancing electricity prices, and announces them through the auction information system. The transmission system operator notifies all participants of all realised regulating bids not later than within two hours after the trading hour at the regulating auction through the auction information system. The results of

the closed regulating electricity trade auction are registered in the auction information system which can be accessed by all participants in the regulating electricity trade auction. Each market participant with successful bids additionally receives information from the auction information system on the seller/purchaser from/to which electricity has been purchased/sold at the price set in the transaction.

#### ***3.1.4. UNBUNDLING OF ACTIVITIES***

The NCCPE ensures effective competition, non-discrimination of customers and suppliers and provision of services of the established quality to all customers on the electricity market. The NCCPE controls the effective unbundling of accounts with a view to avoiding cross-subsidies between generation, transmission, distribution and supply activities.

The Law on Electricity provides that a distribution network company which, in addition to distribution activities, is also engaged in the activities of the public supplier must unbundle these activities. Distribution and supply activities shall be considered as unbundled also in the case when the activities of the public supplier are carried out by the sales (electricity supply) division of a distribution network company, provided that the unbundling of economic transactions is ensured. Electricity companies shall record, group and aggregate their transactions related to transmission, distribution, supply or other non-electricity activities in separate accounts and ledgers.

Public suppliers supplying electricity not only to customers that are not eligible to choose a supplier but also to eligible customers shall register, group and aggregate information relating to customers not eligible to choose a supplier and eligible customers in separate accounts and ledgers.

The transmission system operator, distribution network operator and public suppliers fulfilling public service obligations shall keep separate accounts and ledgers specifying the revenue and costs related to these obligations.

The Rules for Licensing Activities in the Electricity Sector establish that a separate licence is issued to engage in each type of licensed activities in the electricity sector. A company must keep separate accounts for every licensed activity. The costs of the licensed activities of electricity companies must be audited and the auditor's report must be submitted to the NCCPE within four months after the end of the previous year.

The regulator checks the breakdown of costs by separate activities when setting price caps for their services. On-site visits are also undertaken to companies to check how these companies fulfil the requirements set in their licences.

Lithuania has one transmission system operator, Lietuvos Energija AB, and two main distribution network operators, Rytų Skirstomieji Tinklai AB and VST AB.

Pursuant to the Rules for Licensing Activities in the Electricity Sector, from 1 July 2007 at the latest, the distribution network operator, being part of a vertically integrated distribution undertaking serving at least 100,000 customers, must be independent in terms of its legal form, organisation and

decision making from other activities not relating to distribution. In 2007, there were five licensed distribution network operators serving less than 100,000 customers.

The ownership of one transmission system and two (or seven including local distribution networks) distribution network operators shown in Table 14 is legally unbundled and all these companies manage the assets related to respective electricity activities.

Lithuania does not have any transmission system or distribution network operators that would not manage assets related to their activities.

The principal shareholder in Lietuvos Energija AB is the State of Lithuania holding 96.5 % of shares in the company. The main manager of the state-owned shares is the Ministry of Economy. The remaining 3.5 % of shares in the company are owned by small shareholders.

The principal shareholder in Rytų Skirstomieji Tinklai AB is the State holding 71.35% of shares, E.ON Energie AG holds 20.28% of shares, and small shareholders hold 8.37% of shares. The main manager of state-owned shares is the Ministry of Economy.

The public company VST AB was privatised on 23 December 2003. The major shareholder in this company is a Lithuanian capital company, NDX Energija UAB. It owns 97.1% of shares in VST, and small shareholders own 2.9% of shares.

Visagino Energija VĮ is a state enterprise. The state-owned shares are managed by the Ministry of Economy. The other companies are private.

Lithuania has the only transmission system operator, Lietuvos Energija AB, thus having 100% of electricity network mileage. The ownership structure for 2007 is specified above, and that for the first six months in 2008 – in Table 8.

After the reorganisation in 2002 of the vertically integrated company Lietuvos Energija SPAB by founding four new legal entities, i.e. two distribution network companies and two power plants (Lithuanian Power Plant and Mažeikiai Power Plant), it has retained two hydro-power plants: Kaunas Hydro-Power Plant and Kruonis Pumped Storage Plant used for ensuring the national balance. Units of Kruonis PSP are also used as synchronic compensators. This is a significant tool in regulating voltage levels in the 330 kV voltage electricity network.

The transmission system operator is not engaged in supply activities, but there is a market operator functioning as a division in the company, which is responsible for the organisation of electricity trade, including auction. Two generation companies operate as subsidiaries, i.e. Kruonis Pumped Storage Plant and Kaunas Hydro-Power Plant. These plants ensure the balance of the electricity system, as well as electricity supply reliability. Separate accounts are kept for the costs of distribution services and public supply services.

The administrative premises of the transmission system operator and distribution network operators are located in the territories geographically separate from those of electricity producers. Rytų Skirstomieji Tinklai AB and VST AB are also public suppliers or suppliers of “last resort”; therefore,

branches of the companies performing these functions are situated nearby the branches of the companies engaged in the activities of the distribution network operator.

Problems or restrictions on the use or access to the power network have not been recorded.

Since 2002, the transmission system operator (TSO) and distribution network operators (DNO) have been functioning as completely separate legal entities. These companies have different names, trademarks, administrative buildings and websites:

- Lietuvos Energija AB (TSO) – [www.le.lt](http://www.le.lt);
- Rytų Skirstomieji Tinklai AB (DNO) – [www.rst.lt](http://www.rst.lt);
- VST AB (DNO) – [www.vst.lt](http://www.vst.lt).

Access to information about the activities of these companies, the energy sector, the electricity market, etc. is provided by the following means: website, leaflets, brochures, annual reports, multimedia presentations, documentaries/information films, events (organised or supported), press releases, informative articles, etc.

Companies place their annual reports, financial statements, economic and technical indicators on their websites.

The shares of Lietuvos Energija AB, Rytų Skirstomieji Tinklai AB and VST AB are traded on the National Stock Exchange of Lithuania; quarterly reports of these companies are made public in compliance with the stock exchange requirements.

In accordance with the procedure for profit and loss accounts for separate activities established by Lietuvos Energija AB, economic transactions related to the activities of the Transmission system operator are recorded, grouped and aggregated in separate accounts and ledgers. After the end of each financial year, audits of consolidated financial statements as well as revenue and costs broken down by licensed activities are conducted by independent auditors in regulated electricity network companies. Financial statements and auditor's reports are submitted to the NCCPE. A report according to separate activities is publicly released together with the company's annual report. Companies must publish their audited financial statements approved by independent audit companies.

Individual legal entities, Lietuvos Energija AB, the transmission system operator and VST AB or Rytų Skirstomieji Tinklai AB, the distribution system operators, have different auditors.

Pursuant to the methodologies for setting price caps and the licensing rules in the electricity sector, the NCCPE establishes forms of reports the electricity transmission and distribution operators are obliged to follow in submitting quarterly reports to the NCCPE on their costs, indicators of electricity supply quality and reliability, electricity balances, prices and other actual and target indicators. The costs of the electricity distribution service and the public supply service are unbundled in accordance with the cost unbundling Methodology approved by the NCCPE. Since transmission and distribution activities are legally unbundled, the NCCPE checks the principles of the unbundling of

costs of distribution and public supply services approved by distribution network companies and serving as the basis for calculating respective prices.

Pursuant to Article 34 of the Law on Electricity, generation, transmission, distribution and supply companies are subject to mandatory independent audit. These companies, whose activities are regulated in accordance with the procedure established by this Law, submit their financial statements and auditor's report to the NCCPE. Upon the regulator's commission audit companies may do audits using the forms established in the NCCPE-approved Energy Company Rules for Provision of Information.

The NCCPE sets detailed requirements for preparing accounts and imposes responsibility for any breach of such requirements. The NCCPE may impose penalties, suspend or revoke licences for violations relating to the licensed activities. When suspending a licence, the NCCPE must set a time period during which the undertaking concerned must eliminate its violations of the requirements for licensed activities. If violations are not eliminated by the established deadline, the licence may be revoked. Upon committing violations, the Manager of the company is held liable to administrative proceedings in accordance with the procedure laid down in the Code of Administrative Offences. The Code of Administrative Offences provides for liability for any breach of the procedure for the transmission, distribution, storage, supply or use of energy resources or energy, for failure to provide data on economic and financial activities and/or provision of knowingly inaccurate data by suppliers of energy resources or energy, as well as for any violation of or non-compliance with resolutions of the NCCPE or failure to comply with orders of the NCCPE, etc. It should be noted that legal entities are not held liable to administrative proceedings. Instead, responsible officials and natural persons are held liable for respective violations. Two main types of penalties are provided for in the Code of Administrative Offences, namely, a warning and a pecuniary penalty the amount of which depends on the nature of the violation.

Having discovered a violation relating to the licensed activity, the NCCPE drew up one report on the administrative offence for a person responsible for the gas company in 2007.

The NCCPE investigates cases of administrative offences provided for in the Code of Administrative Offences and imposes administrative sanctions.

Any violation of the procedure of the transmission, distribution, storage and supply of energy resources or energy, violation of the procedure of balancing the energy resource and energy supply system and connecting thereto, violation of regulated tariffs and/or prices, failure to renew compulsory insurance in due time, non-compliance with the energy activity transparency requirements set out by laws and other legal acts, default on obligations to provide mandatory services, engagement in energy activities without a licence for such activity or non-compliance with the requirements set in the licence, and refusal to grant the right of access to the energy resource or energy transmission or distribution system (networks) carry a warning or penalty on officials in the amount from EUR 145 to EUR 290.

Any unjustified interruption of the supply of energy resources or energy, violation of the supply security and/or energy quality requirements or the equipment installation, operation, safety and use procedures, engagement in energy activities without an authorisation for such activity or non-compliance with the requirements set in the authorisation, breach of energy metering, and submission of inaccurate energy meter readings carry a warning or penalty on individuals in the amount from EUR 29 to EUR 145, and a warning or penalty on officials in the amount from EUR 145 to EUR 290.

Failure to submit data to the NCCPE about the economic and financial activities of a company by suppliers of energy resources and energy in accordance with the established procedure carries a penalty on officials in the amount from EUR 145 to EUR 290.

Submission of knowingly inaccurate data by suppliers of energy resources and energy to the NCCPE carries a penalty on officials in the amount from EUR 290 to EUR 434.

Failure to submit data about their economic and financial activities by companies engaged in energy activities in accordance with the established procedure or submission of knowingly inaccurate data to state institutions carry a penalty on officials in the amount from EUR 145 to EUR 434.

Any violation of or non-compliance with resolutions of the NCCPE, as well as default on legitimate orders of the NCCPE relating to pricing in the energy sector carry a penalty on officials in the amount from EUR 58 to EUR 116.

The same actions committed by a person who has been penalised already for the abovementioned violations specified in Section 1 herein carry a penalty in the amount from EUR 145 to EUR 290.

Legislation and the regulator's powers are effective due to the functional company unbundling to ensure proper management and separation of functions. As mentioned above, transmission and distribution companies are legally unbundled, except the market operator's department and 2 hydro power plants (Kaunas HPP and Kruonis PSP), which operated as components of the electricity transmission system, thus electricity produced by these companies was predominantly used to compensate company technological costs, ensure the generation and use balance; and public suppliers ("last resort") units, which are individual distribution company departments. The final unbundling of these activities was postponed due to the establishment of the national investor aiming to build a new nuclear power plant and is to be done together with the hourly market introduction, but as mentioned above accounts are unbundled by individual activities.

When the initial revenue level for 3 years was approved in 2007, the transmission system operator's investment plan for 2008 – 2010 was approved altogether and respective funds planned and included in the transmission service price. As a separated legal entity it may freely dispose in the above funds to ensure the security of supply and meet the established continuity and quality requirements under the specified plan.

As mentioned above, due to the establishment of the national investor LEO LT AB aiming to build a new nuclear power plant the final legal unbundling was postponed, and it would be expedient to finalize it together with the introduction of the full hourly electricity market and having the effective competition available.

### **3.2. COMPETITION ISSUES**

#### **3.2.1. WHOLESALE MARKET**

Upon the reorganisation of the electricity sector, generation and supply activities are not regulated, except in the cases of a 25% share in the electricity sales market. The generation structure and wholesale market model given in previous reports did not see any changes.

Electricity consumption in 2007 was 9.3 TWh and peak load was 2.5 GW. The total installed capacity of Lithuanian power plants was 4.6 GW and electricity supplied to the grid was 12.2 TWh.

Last year the total transmission network import capacity was 3 GW (and 2.3 GW export capacity). The degree of network connection lines was 65%, and load flows amounted to 46%.

Customs procedures are not applicable to export and import of electricity to the European Union countries, i.e., they are applicable only to non-EU countries (Russia, Belarus). The transit volume coincides with export and an import volume, i.e., cash is used to pay for transit losses.

In 2007, Lithuania had 3 power plants with the capacity of at least 5% of the installed capacity: state enterprise Ignalina Nuclear Power Plant, power plant Lietuvos Elektrinė AB and Vilniaus Energija UAB. The share of the three largest power plants in 2007 accounted for 84% of the installed capacity.

According to the produced volumes there were four power plants with the share of more than 5 % in the production market: state enterprise Ignalina Nuclear Power Plant, power plant Lietuvos Elektrinė AB, Vilniaus Energija AB and Kaunas Thermo Power Plant. The share of the three largest production companies amounted to 86 %.

With the view of satisfying the national electricity needs, the basic electricity system load is ensured by Ignalina NPP. With the medium system load, electricity is supplied by Ignalina NPP and thermal power plants. During electricity consumption peaks, the system is supported, apart from Ignalina NPP and thermal power plants, by Kruonis PSP to ensure operational reserve.

In 2007, HHI (Herfindahl-Hirschman Index reflecting market concentration (maximum value – 10 000)) was 4,912 in terms of quantity (revised data in 2006 – 4,728) and 4,028 in terms of capacity (in 2006 – 3,950)

The reserve market is based on bilateral contracts between producers and the transmission system operator. Quantities of producers in providing reserves and HHI by individual types of reserves are shown in Table 14.

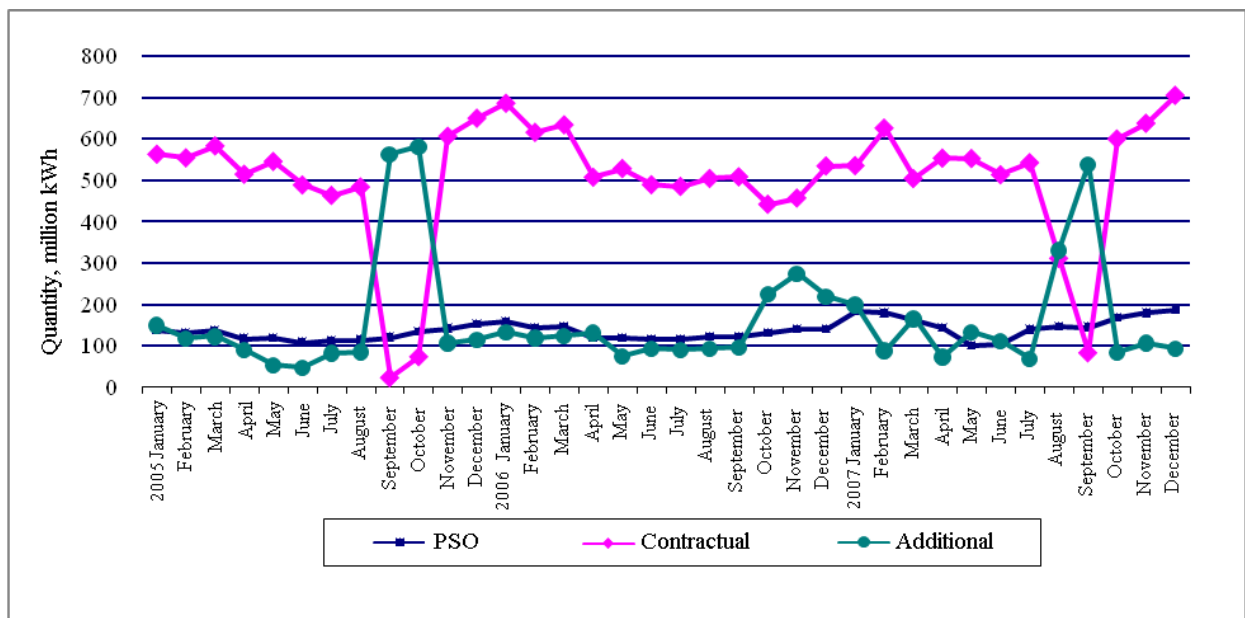
Table 14. Concentration of Companies Providing Capacity Reserve

Reserve by power plants	Quantities in 2006, MW/h.	Quantities in 2007, MW/h.
HHI of concentration of companies providing cold reserve	9,977.79	9,965.82
Cold reserve – in total	854.95	969.56
Lithuanian Power Plant	854	967.9
Mažeikiai Power Plant	0.5	0
Vilnius Power Plant	0.44	1.66
Kaunas Power Plant	0.01	0
From abroad	0	0
HHI of concentration of companies providing hot reserve	8,859.48	8,501.42
Hot reserve – in total	60.4	83.58
Lithuanian Power Plant	56.8	76.9
Mažeikiai Power Plant	0.8	0
Vilnius Power Plant	2.2	1.64
Kaunas Power Plant	0.6	0.31
From abroad	0	4.73
HHI of concentration of companies providing operational reserve	10,000	10,000
Operational reserve – in total	600	600
Kruonis Pumped Storage Plant	600	600

Note: \* – revised data of 2006

Three types of electricity are sold on the market, namely, contractual electricity, electricity under public service obligations (PSO) and additional electricity sold at auction. There are no long-term contracts between producers and suppliers. Figure 11 shows the dynamics of electricity purchased by market participants by type.

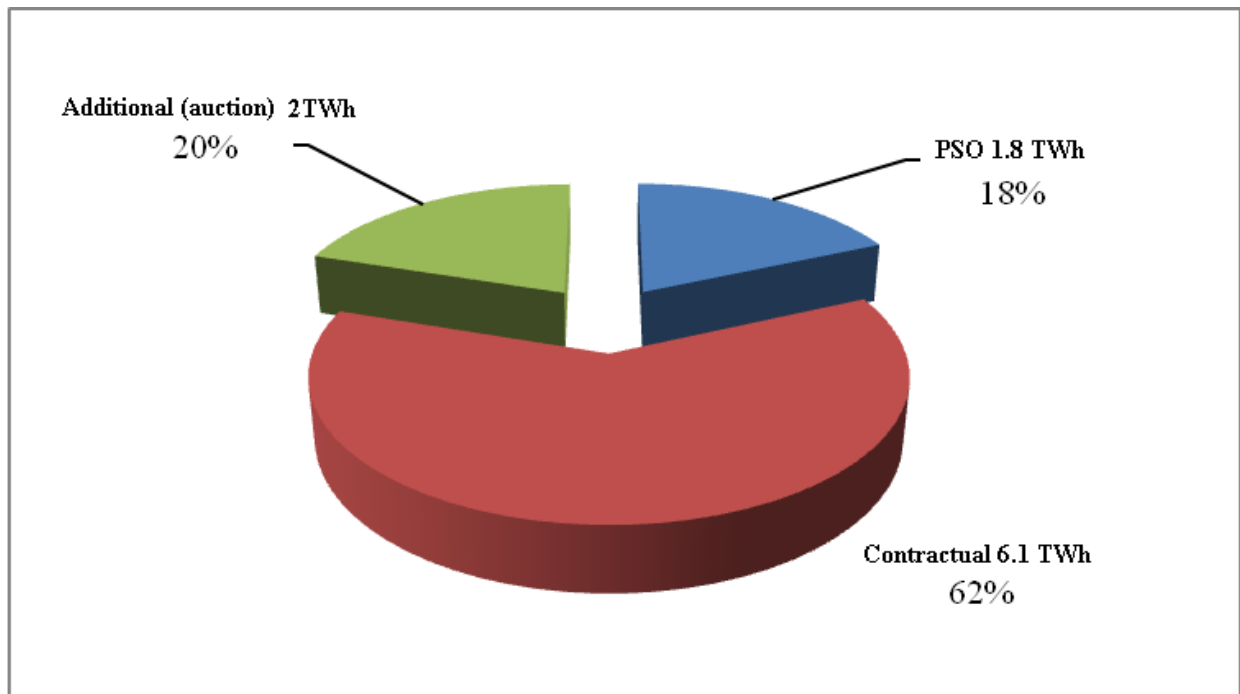
Figure 11. Dynamics of Electricity Purchased by Market Participants by Type in 2005-2007





Electricity sales to domestic electricity customers are shown in Figure 12.

Figure 12. Structure of Electricity Sold in 2007



As mentioned above, under the joint Finnish, Baltic transmission system operator and Nord Pool Spot AS project the Baltic electricity market price setting is planned. This would mean that Scandinavian market territory would expand to the Baltic countries. The first project stage is setting the market price in the implicit auction concerning the Estlink line capacity up to the end of 2008. The second stage would be the above market price for the regional Baltic electricity market up to 2010.

The participation of suppliers or purchasers in the wholesale market and the volumes of their purchases are indicated in Table 15.

Table 15. Volumes of Contractual Electricity Trade between Suppliers and Producers in 2007, MWh

Supplier	Producer			TOTAL:
	Ignalina NPP	Mažeikių Elektrinė AB	Other	
PS Rytų Skirstomieji Tinklai AB	2,755,068	0	0	2,755,068
PS VST AB	2,593,547	0	68	2,593,615
IS State enterprise Visagino Energija	40,584	0	0	40,584
IS Mažeikių Elektrinė AB	245,169	174,120	0	419,289
IS Achema AB	204,200	0	0	204,200
IS Akmenės Cementas UAB	82,382	0	0	82,382
IS Korelita UAB	31,953	0	0	31,953
IS Ekranas AB	2,920	0	0	2,920
TOTAL	5,955,823	174,120	68	6,130,011

Note: PS – Public Supplier, IS – Independent Supplier.

The Lithuanian transmission network is fairly well integrated with Belarus, Latvia and Kaliningrad Region, which allows electricity exports. There is no current connection with the neighbouring energy system of Poland. Hourly trade related to exports/imports was started in November 2003.

In 2007, foreign electricity sales by Lietuvos Energija AB amounted to 2.5 TWh. Compared with the previous year, electricity exports increased by 17%. In 2007, imports totalled 1.16 TWh, i.e. 32% less than in 2006. Electricity trade volumes between countries are presented in Table 16.

Table 16. Electricity Exports/Imports in 2007, million kWh

2007	Export to						Import from			
	Latvia	Belarus	Scandinavia	Russia	Estonia	Total:	Russia	Latvia	Estonia	Total:
Total:	507.5	554.4	345.5	802.0	310.4	2,519.8	1,054.1	77	32.5	1,163.6

Prices are contractual, and contracts are mainly concluded between transmission system operators.

In 2007, there were no mergers carried out between companies operating in the electricity sector in Lithuania; no energy companies were privatised either.

### **3.2.2. RETAIL MARKET**

The total consumption of end users amounted to 9.1 TWh. Electricity consumption by sectors is presented in Table 17.

Table 17. Electricity Consumption by Sectors in 2007

No.	Sector	Consumption, TWh
1.	Industry	2.6
2.	Services	0.6
3.	Household customers	2.5
4.	Other customers (transport, agriculture, etc.)	3.4
5.	Total	9.1

In 2007, in the electricity supply sector, 6 companies held licences of public suppliers, 18 companies were licensed as independent suppliers, whereas 8 companies were actually engaged in the activities of the independent supplier. The main public suppliers supplying energy upon request to all customers within their territory are Rytų Skirstomieji Tinklai AB and VST AB. Independent suppliers supplying energy to eligible customers are as follows: Ignalina Nuclear Power Plant, Mažeikių Nafta AB, Prekybos Namai Giro, Achema AB and Akmenės Cementas AB. In 2007, only 6 eligible customers chose independent suppliers. Korelita AB, Achema AB and Akmenės Cementas AB, having the status of eligible customer, were granted licences of the independent supplier and traded on the market as suppliers.

Public suppliers Rytų Skirstomieji Tinklai AB and VST AB have the major supply market share. In 2007, it accounted for 87% of electricity sold to domestic customers.

In 2007, an active independent supplier with the market share amounting up to 5% was Mažeikių Nafta AB. The share of three independent suppliers that purchased the largest amount of electricity accounted for nearly 10%.

Proposals of alternative suppliers are useful to customers due to lower electricity price. This should notably be more applicable to major customers with more even electricity use schedules, thus these customers benefit from the electricity market advantages since the very opening of the electricity market in 2002.

Only Lithuanian suppliers operate on the electricity supply market without any foreign capital undertakings being engaged in such activities, thus 3 licences of independent supplier were granted to foreign capital undertakings in the end of the year.

One of the largest electricity producers in Lithuania, Ignalina Nuclear Power Plant, also holds an independent supplier's licence. Another four producers also had licences of independent suppliers, among which the major one was Mažeikių Nafta AB.

Since the very opening of the electricity market in 2002, there was an annual increase from 13 to 20 in the number of independent suppliers having no connection with the transmission system operator and distribution network operator. However last year, comparing with 2006, the number of issued licences reduced to 18 and only 6 companies were active on the electricity market.

As soon as the electricity market was opened, 6 major industrial customers receiving electricity from electricity transmission grids changed their supplier and this number remained the same in 2007.

Eligible customers may choose and change their electricity supplier without any charge. Distribution network operators also perform the public supplier's functions and must supply electricity upon request to all customers who have not chosen an independent electricity supplier at the pre-set and announced public electricity price. The actions and duties of customers and suppliers when customers change their electricity supplier are defined in Article 28 of the Law on Electricity, *Independent Supply of Electricity*. Before concluding or withdrawing from the electricity supply contract with the independent supplier, an eligible customer located in the territory specified in the public supplier's licence must communicate a written notification thereof to the public supplier 30 calendar days in advance. The same applies to the independent supplier; before concluding or terminating the electricity supply contract with an eligible customer located in the territory specified in the public supplier's licence, the independent supplier must communicate a written notification thereof to the public supplier 30 calendar days in advance. When purchasing electricity from an independent supplier, eligible customers whose equipment is connected to the distribution network must pay the distribution network operator for electricity transportation through the transmission and distribution networks, for system services and for public service obligations. Eligible customers whose equipment

is connected to the transmission network must pay the transmission system operator for electricity transportation through the transmission network and for public service obligations in the electricity sector when purchasing electricity from an independent supplier.

In 2007 there was no single household customer to switch suppliers. The number of autoproducers has increased insignificantly, and their capacity and production was predominantly produced for own needs.

The data presented in the Table 18 below does not take into account the prices agreed under direct contracts with independent suppliers on the market.

Table 18. Electricity Prices by Components in 2007, EUR/MWh

Item/Customer group	Ig	Ib	Dc
Prices of transportation services (excluding fees)	25.98	56.62	56.62
including: price for transmission service	6.69	6.69	6.69
price for ancillary services	3.42	3.42	3.42
Fees included in the price of transportation services	–	–	–
Prices of electricity and supply service	29.48	29.48	21.14
Taxes (VAT – 18%)	9.99	15.50	14.02
Total (including all taxes)	65.45	101.60	91.78

Note: \* electricity price includes costs of PSO generated electricity amounting to approximately 20% of purchased energy and that the price of such energy was 57.11 EUR/MWh. Since 1 January 2008 this component has become the price for transmission service component and amounts to 10.77 EUR/MWh.

Table 18 provides prices calculated under regulated final or public prices for customers. These prices are applicable due to non-existent competition in the electricity market, as it is dominated by a single producer (Ignalina NPP) with the market share of about 70% (see Clause 2.3.1).

The above public prices are set by service suppliers (public suppliers) without exceeding these price caps set by the regulator for one year.

Paragraph 3 of Article 26 of the Law on Energy stipulates that the NCCPE shall hold preliminary extra-judicial hearings of complaints concerning acts or omissions of energy undertakings in supply, distribution, transmission, storing of energy, failure to grant them a right to use networks and systems, connection, balancing of energy supply flows, application of prices and tariffs.

Complaints not in compliance with the requirements of this procedure shall be considered under the Procedure of NCCPE Services to Citizens and other Entities.

In 2007 the NCCPE considered about 300 various types of residential complaints and requests. Quite many of them were ungrounded as customers complained without going deeper into or understanding relevant legal provisions (*the NCCPE would specify legislation regulating certain legal relations and explain their certain provisions to such customers*), or they complained to the NCCPE though under the legal requirements they should have first contacted their service provider regarding

problems faced *(to respond to such complaints and requests the NCCPE would specify legal requirements which regulate provider's rights and obligations with respect to customers)*.

Complaints based on specific legal provisions and circumstances on illegal company acts were analyzed by the NCCPE, which then provided violator companies with argument-based conclusions and respective obligations. Complaints received by the NCCPE concerning violations of accounting and payments for used electricity, and grounds of the block-house operation and maintenance fees were analyzed in cooperation with the State Energy Inspectorate, the National Consumer Rights Protection Board under the Ministry of Justice or respective municipal administration according to their competence. Official cooperation with other state and municipal institutions or agencies was an opportunity to fully and effectively resolve problems rose in customer complaints and had a positive impact on consumer rights protection.

In the electricity sector customers were complaining about application of electricity supply prices and tariffs, supply interruptions and supply renewal. There were many discussions on electricity tariffs applicable to farmers. Farmers have privatized warehouses and other buildings from collective farms and thus have inherited huge capacities and the average of only about 4% of which are used in harvest time, and the rest capacities are saved and not used. The problem has emerged where new buildings were built next to them and their owners addressed the distribution companies requesting connection to the electricity network. Upon doing analysis the distribution companies have found out that the network would have capacity to connect new customers, however if the existing customers suddenly switch on their all mechanisms and request the maximum power contractual capacity the network would fail. There was only one question to address, namely whether the network investment should be increased, or businesses encouraged to refuse the surplus capacities thus more effectively using the existing grid and reducing costs. Upon introduction of the binomial tariff customers have become interested to more effectively use capacities booked from the distribution grid.

For several years by now all non-household customers use a binomial tariff to pay for electricity, namely for the existing installed capacity and used KWh. Farmers had discounts applicable for a certain time. Farmers paid only for the used electricity KWh to give up surplus capacities during the transition period. However when distribution network companies announced that since 2008 farmer had to pay as all businesses, a major dissatisfaction rose though agricultural companies operating in the same market have used binomial tariff to pay for electricity for quite a long time. Both Rytų Skirstomieji Tinklai AB and VST AB agreed to give one more year of extra time for farmers to make preparations for more efficient use of electricity distribution networks.

### **3.2.3. MEASURES TO AVOID ABUSES OF DOMINANCE**

#### **Generation**

The Law on Electricity provides that prices of electricity and reserve capacity sold by producers and independent suppliers are not regulated, except in the cases where a producer or independent supplier has a share of over 25% in the market. The mechanism for regulating prices of electricity and reserve capacity sold by producers and independent suppliers having a market share of over 25%, as well as the mechanism for regulating the price of balancing electricity are determined by the NCCPE.

#### **Transparency**

Pursuant to the Rules for Trade in Electricity, the market operator must submit information about the amount of electricity consumed and/or supplied by each market participant by the hour during a trading day, as well as about imports, exports and regulating instructions given by the dispatch office of the transmission network operator during a trading day; establish the results of trade in balancing and regulating electricity and grant access for every market participant to relevant information; establish the results of every day of a month and issue respective references to all market participants necessary for invoices for balancing and regulating electricity.

The documents regulating transparent activities in the electricity generation sector were indicated in the previous reports to the European Commission

#### **Bidding**

Auction procedures are defined in the Rules for Trade in Electricity at Auction

#### **Market Supervision**

The regulator controls and publishes information relating to the situation on the electricity market in the Monitoring Report on Supply Security in the Lithuanian Electricity Market before 31 July of each year. Dominating producers and independent suppliers or such companies having a market share of over 25% are subject to regulation.

Pursuant to the Rules for Licensing Activities in the Electricity Sector, the market operator must conduct annual analyses of electricity transmission, the operation of the electricity distribution system, electricity supply to customers (electricity market) and provide the Ministry of Economy and the NCCPE with information about development prospects for the electricity transmission and distribution systems and the electricity market.

## **Supply**

### **Transparency**

Distribution network companies must, on a quarterly basis, submit electricity balances specifying amounts of contractual electricity purchased, amounts of electricity under public service obligations, amounts of additional electricity, amounts of electricity purchased from small hydro power plants, etc. Companies also submit other reports on amounts of electricity sold and tariffs, which are necessary not only for the Ministry of Economy, but also for the Department of Statistics.

The documents regulating transparent activities in the electricity generation sector were indicated in the previous reports to the European Commission.

### **Rules Governing the Structure of Contracts**

Relations between energy companies, as well as relations with customers of energy resources or energy are based on contracts. Energy supply, transmission and distribution contracts are public. Electricity is supplied, transmitted and distributed to regulated customers and natural persons under contracts concluded in accordance with the mandatory standard conditions. When carrying out State management of the energy sector, the Government or the institutions authorised by it shall approve the mandatory standard conditions of contracts for electricity transmission, distribution and supply to regulated customers and natural persons. Standard conditions of electricity purchase-sale contracts with household customers shall be approved by an institution authorised by the Government on the proposal of suppliers, upon agreement with the State Consumer Rights Protection Authority under the Ministry of Justice.

Contracts with household customers are concluded for an indefinite period, unless these contracts provide otherwise. Contracts also set out quality parameters, responsibility for their implementation and other conditions

Lithuania does not encounter any problems relating to long-term contracts. No restrictions or penalties in that regard have been set.

### **Provision of Information**

Pursuant to the Law on Electricity, the NCCPE has the right to request from generation, transmission, distribution and supply companies whose activities are regulated under the Law, as well as from the market operator the information necessary for proper supervision of the electricity market. Generation, transmission, distribution and supply companies as well as the market operator must provide the said information in accordance with the procedure established by legal acts.

With the current structure of the electricity sector, where one producer has a 70% share of the electricity supply market, the promotion of competition in the country so far is hardly possible. As

already mentioned, with the view of developing the regional Baltic electricity market, meetings were held with the neighbouring countries on development and pricing issues.

#### 4. PERFORMANCE AND REGULATION OF THE NATURAL GAS MARKET

##### 4.1. REGULATORY ISSUES

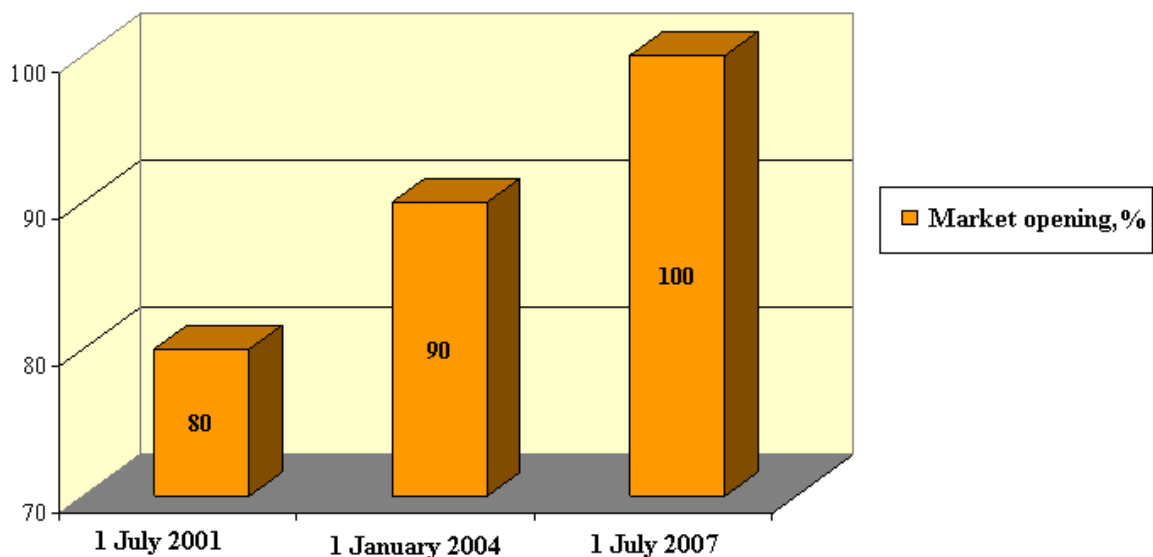
###### 4.1.1. MARKET LIBERALISATION

Pursuant to Article 23 of Directive No 2003/55/EC of the European Parliament and of the Council, all Member States must ensure that from 1 July 2007 the gas market must be opened to all customers

The Law on Natural Gas transposes all the requirements enforced in the Directive 2003/55/EC without any reservations, including the provision to open the gas market to all customers since July 1, 2007. Since this date the natural gas market in Lithuania has been fully liberalized and all the natural gas customers have become eligible since.

Figure 13 presents the Lithuanian natural gas market legal opening process since 2001

Figure 13. Lithuanian Natural Gas Market Legal Opening



As Lithuania imports natural gas from a single supplier, Gazprom AAB, distributing yearly natural gas purchasing quotas to gas suppliers operating in this country (Lietuvos Dujos AB and Dujotekana UAB), the “formal” market liberalization to implement the Directive requirements provides no realistic benefits for gas customers.

Replacing a supply company in Lithuania is free of charge. Customers may choose one of the two gas supply companies: Lietuvos Dujos AB and Dujotekana UAB. Gas sales prices of these companies differ, and though they purchase gas against a similar price, Dujotekana UAB had a higher



profit margin applicable to customers in 2007. Many eligible customers would like to switch the gas supplier and buy cheaper gas from Lietuvos Dujos AB, however their selection opportunities are limited because each of them has a limited gas quota allocated by the single possible gas seller, Gazprom AAB. In 2007 Lithuania had no customers having changed to another supply company.

#### ***4.1.2. MANAGEMENT AND ALLOCATION OF INTERCONNECTION CAPACITY AND MECHANISMS TO DEAL WITH CONGESTION***

The Lithuanian natural gas system is interconnected with the gas systems of Belarus, Latvia and the Russian Federation. In 2005, the transmission system operator Lietuvos Dujos AB increased the capacities of the transmission system at the Lithuanian-Latvian border, and in 2006 it almost tripled the capacities of the transmission system at the border between Lithuania and the Russian Federation. The capacities at the Lithuanian-Belarusian border ensure all the capacities needed for Lithuanian consumers as well as those required in the direction of transit to the Russian Federation (Kaliningrad Region) and Latvia. Table 19 shows gas import capacities through the interconnections with the neighbouring countries.

Table 19. Gas Import (Transit) Capacities at Cross-Border Points

Interconnection	Capacity, thous. m <sup>3</sup> /day
Lithuania – Latvia	5,200
Latvia – Lithuania	5,200
Belarus – Lithuania	27,200
Lithuania – Russian Federation (Kaliningrad Region)	6,720

Interconnections with the Russian Federation, the Republic of Belarus and the Republic of Latvia are regulated under contracts. The capacities of these interconnections are limited by setting marginal monthly congestions totalling to +/- 5% of the average daily consumption for the respective month. Lithuanian technical capacities of natural gas imports in 2007 amounted to 11.8\* billion m<sup>3</sup> per year ( \*- having peak system load during the year). The annual demand for natural gas by Lithuanian customers was 3.7 billion m<sup>3</sup>. The available technical capacities of the transmission system operator in 2007 were not used in full; therefore, no trade in capacities was carried out on the secondary market. The unused (free) capacity is offered on the market providing system users with the possibility of concluding contracts on interruptible capacities.

The general principles of the organisation of the natural gas sector and natural gas-related activities as well as relations with customers and system users in the country are regulated by the Law on Energy and the Law on Natural Gas. Paragraph 4 of Article 19 of the Law on Energy sets forth the requirement for a transmission system operator to provide information to customers within the

territory of its operation on the activities carried out, the prices of services and the services provided to gas consumers. The Law on Natural Gas provides that gas undertakings shall inform customers about efficient gas consumption, the services provided by the gas undertaking, the conditions of the provision of services, the prices of gas and services, the prices and terms for connection to the systems as well as the intended modifications to contractual conditions. Gas undertakings shall notify customers directly (in writing or by other means) at least one month prior to any intended modifications to contractual conditions and prices. The information of gas undertakings regarding the costs of regulated activities, system operation, modernisation and development, investments into system development, the structure of prices and tariffs, as well as conditions of the provision of services is public. ~~Article 13 of the said Law contains a provision prohibiting a transmission system operator from discrimination between system users and customers falling within different categories in favour of other customers or undertakings related to the transmission system operator.~~

The provision of information and transparency requirements are laid down in Article 6 of the Regulation and Part 3 of the Guidelines in the Annex to the Regulation, which provides for rules of publishing the technical information necessary for network users to gain effective access to the system. Pursuant to the provisions of the Regulation, the gas transmission system operator must publish the following information:

- a) the maximum technical of the system, thousand m<sup>3</sup>/day;
- b) the maximum (minimum) pressure, kg/cm<sup>2</sup>;
- c) the contracted and interruptible capacities, thousand m<sup>3</sup>/day;
- d) the available capacities, thousand m<sup>3</sup>/day;

Customers are notified and warned of limitations or interruptions of gas supply due to scheduled maintenance works as follows:

- eligible customers are notified in writing three months prior to any scheduled limitation or interruption, and the limitation shall be agreed upon within 10 days;
- regulated customers are notified of any scheduled limitation or interruption of gas supply due to indispensable maintenance works of the system through the mass media (press) one month in advance;
- additional notification in writing must be given to regulated non-household customers, and notices to household customers must be put up in hallways at least 48 hours in advance.

Customers must be notified of any changes in natural gas prices one month in advance.

On its website [www.dujos.lt](http://www.dujos.lt) Lietuvos Dujos AB publish the relevant points of the system with maximum monthly capacities specified in each of them (thous. nm<sup>3</sup>/day), and the contractual, interruptible and available capacities (thous. m<sup>3</sup>/day), maximum (minimum) pressure (kg/cm<sup>2</sup>). These relevant points are approved by the NCCPE. The system users and customers are timely notified on services provided, natural gas prices and quality, gas transmission and distribution prices.

Lietuvos Dujos AB has not concluded a gas transit contract under the Article 3 (1) of the Directive 91/296. The natural gas transit via the territory of Lithuania is affected only to Kaliningrad Region of the Russian Federation, i.e., by crossing the external European Union border. A long-term agreement between the Russian company Gazprom AAB and the Lithuanian company Lietuvos Dujos AB was signed in 1999 and is valid until the year 2015. The transmission terms laid down in the agreement are different from the ones provided for in the existing standard gas transmission contracts. The pricing principle set in the agreement differs from the internal market pricing principle: the natural gas transmission price in Lithuania is calculated on the basis of the “postage stamp“, meanwhile the assessment of transit is based on the principle applied on the international gas market, i.e. the price is calculated for the transportation of one thousand m<sup>3</sup> over a distance of 100 km. Under the transit agreement the transit capacities reserved for 2007-2015 amount to 1,050-1,270 million m<sup>3</sup> annually.

To more effectively use the available transmission system capacities the Natural Gas Price Caps Calculation Methodology provides that users may have a binomial gas transmission price set, consisting of the fixed and the variable components. The fixed component is calculated under the customer-booked (ordered) daily capacity. Gas companies set the fixed component payment coefficient which is no less than 0.7.

#### **4.1.3. REGULATION OF TRANSMISSION AND DISTRIBUTION COMPANIES**

##### **Natural gas transmission and distribution system operators**

Pursuant to the new version of the Law of the Republic of Lithuania on Natural Gas, natural gas transmission, distribution, storage, liquefaction and supply are considered to be licensed activities. Licensing rules are approved by the Government of the Republic of Lithuania. Licences are issued, suspended and revoked and licensed activities are controlled by the NCCPE. A new version of the Licensing Rules for Natural Gas Transmission, Distribution, Storage, Liquefaction and Supply in conformity with the requirements of the aforementioned Law was approved on 5 December 2007.

In 2007, Lithuania had one main natural gas transmission and distribution system operator and five local distribution system operators the total length of all natural gas systems is 9,480 km, including 1,846 km of the gas transmission system length, and 7,634 km of total distribution grid length.

Natural gas transmission and distribution system operators are listed in Table 20.

Table 20. Transmission and Distribution System Operators

No.	Company	Type of licence	Local or national network	Main shareholders
1.	Lietuvos dujos AB	Natural gas transmission and natural gas distribution	National	E.ON Ruhrgas International AG,

				Russian company Gazprom AAB, State
2.	Achema AB	Natural gas distribution	Local	Private company
3.	Druskininkų Dujos UAB	Natural gas distribution	Local	Private company
4.	Intergas UAB	Natural gas distribution	Local	Private company
5.	Joniškio Energija UAB	Natural gas distribution	Local	Private company
6.	Agrofirma Josvainiai AB	Natural gas distribution	Local	Private company

Only a licence holder has the right to install or develop the transmission and distribution systems within the territory specified in the operator's licence. Pursuant to the Law Amending the Law on Natural Gas, the right to install new transmission or distribution systems in the new territory where natural gas systems are being installed shall be vested in legal persons that have acquired this right by way of competition. System operators to whose systems new gas distribution systems are being connected must connect these systems. A decision to grant permission to install new systems is taken by the NCCPE. A decision of the NCCPE to grant permission to install new transmission or distribution systems is a pre-condition for the issue of a permit to build these objects in accordance with the procedure established by the Law on Construction. The Government or an institution authorised by it shall approve the rules for installing new systems in the new territory where natural gas systems are being installed.

The Law on Natural Gas provides that the NCCPE has the right to commit a gas undertaking which holds a gas supply licence to carry out committed supply in accordance with the procedure established by the Government. Committed supply may be carried out for household customers. The number of licensed natural gas supply undertakings is given in Table 21.

Table 21. Number of Natural Gas Suppliers

Number of granted supply licences	Performed licensed activities in 2006		Performed licensed activities in 2007	
14	7		8	
	Supply to household and non-household customers	Supply only to non-household customers	Supply to household and non-household customers	Supply only to non-household customers
	4	3	5	3

### **Network charges**

Pursuant to the Law on Natural Gas and the Methodology for Calculating Natural Gas Price Caps, the transmission and distribution price caps and the prices for household customers were adjusted in 2007. Following the Methodology for Calculating Natural Gas Price Caps approved by the NCCPE, the natural gas transmission and distribution price caps set by the NCCPE shall be fixed for a five-year period and adjusted once a year, depending on inflation, operational efficiency coefficients, changes in gas consumption volumes, as well as other factors which do not depend on the undertaking's operation. A gas undertaking shall present the project on specific gas transmission, distribution and supply prices to NCCPE prior to 30 days of its publication.

Gas transmission and distribution prices are applicable in accordance with the “postage stamp” principle irrespective of the transmission and distribution distance. When setting transportation price caps, gas transportation amounts and costs are calculated taking into consideration the actual transportation amounts and the actual costs of the gas undertaking during the last three years, as well as forecasts for the forthcoming five years. Once a quarter, gas undertakings submit monitoring data on their licensed activities required for setting and adjusting price caps, as well as controlling prices of gas undertakings. Such monitoring data includes: financial accounts on licensed activities, costs account, investment implementation statement, report on accounts of connected customers, gas supply and transportation reports, report on changes in the undertaking's long-term assets, and report on the service quality indicators.

The NCCPE sets economically sound annual basic costs for a five-year period, taking into account the actual and operational costs as well as forecasts of the gas undertaking. The costs of gas undertakings are the lowest costs necessary for gas transportation to the delivery point to customers and ensuring reliable and secure gas supply.

The principles of the differentiation of specific transportation prices for gas undertakings are given in the Methodology for calculating price caps. The Methodology provides that gas undertakings may differentiate prices by customer categories or groups, gas consumption amounts, gas pressure, capacity, duration, consumption purpose, reliability of gas supply, as well as on the basis of other objective criteria chosen by the gas undertakings that allow pursuing higher operational efficiency. It is not allowed to discriminate customers, apply cross-subsidy among customers and their groups while establishing and differentiating prices. Natural gas price differentiation methodologies developed by gas undertakings are submitted to the NCCPE. Should the NCCPE establish that the price differentiation principles set by gas undertakings discriminate customers, it points out such faults to the undertakings and the latter must correct them. Should undertakings fail to follow orders of the NCCPE, the NCCPE may unilaterally set gas prices.

In 2007, the NCCPE set new price caps for a five-year period for Intergas AB (within the territory of Mazeikiai municipality) and adjusted gas transmission and distribution prices for the largest gas transmission, distribution and supply company – Lietuvos Dujos AB. Transportation prices were also adjusted for Druskininku dujos UAB, Fortum Joniskio Energija AB, Josvainiai AB and Intergas AB (within the territory of Druskininkai municipality).

The natural gas transportation prices of the largest system operator Lietuvos dujos AB are given in Table 22.

Table 22. Average Network Charges Effective from 1 July 2008

Item	D3 83.7 GJ	I1 418.6 GJ	I4 – 1 418.6 TJ
Natural gas transportation price, EUR/MWh (excluding VAT)	8.95	8.95	4.319

### Indicators of Supply Continuity

Currently continuity of supply and service quality requirements has been approved only for companies working in the electricity sector. However, with respect to the requirements established in the Law on Natural Gas, the Ministry of Economy is drafting quality requirements for natural gas company-provided services. The draft document establishes how the NCCPE shall control that gas companies meet the prescribed service requirements and that upon establishing violations of these requirements the NCCPE may warn the company, fine it, suspend or even revoke a license issued to the company.

Every year the largest natural gas undertaking Lietuvos Dujos AB submits data to the NCCPE on gas supply interruptions. The average frequency of scheduled natural gas supply interruptions per customer in 2007 was 0.23053 (in 2006 - 0.22563; in 2005 - 0.2335), and the average duration of such scheduled interruptions was 2.6 minutes (in 2006 – 2.206 minutes, in 2005 – 2.066 minutes).

Data on unscheduled natural gas supply interruptions is presented in Table 23. The average frequency of unscheduled gas supply interruptions per customer in 2007 was 0.00448, and the average duration of such unscheduled interruptions was 0.35565 minutes per customer. The most frequent causes of unscheduled interruptions in natural gas supply include natural calamities and third party impact, such as irresponsible earthworks.

Data on unscheduled interruptions in natural gas supply by the largest system operator Lietuvos Dujos AB is presented in Table 23.

Table 23. Data on Unscheduled Interruptions in Natural Gas Supply by Lietuvos Dujos AB

Year	Number of unscheduled interruptions	Number of disconnected users	Duration of unscheduled interruptions(min)	Average frequency of unscheduled gas supply interruptions per customer	Average duration of unscheduled gas supply interruptions per customer (min)
------	-------------------------------------	------------------------------	--------------------------------------------	------------------------------------------------------------------------	-----------------------------------------------------------------------------

2005	537	2,742	74,780	0.00512	0.1395
2006	1,284	2,900	181,756	0.00536	0.33620
2007	539	2,427	192,039	0.00448	0.35565

### **Balancing**

The key requirements for the natural gas transmission system balancing are set forth in the Law on Natural Gas and the Rules for Natural Gas Transmission, Distribution, Storage and Supply approved by Resolution No 43 of the Minister of Economy of 5 February 2002 (*Official Gazette* No 15-598, 2002; No 58 – 2189, 2008).

The Law on Natural Gas provides that transmission or distribution system operators, upon agreement with the Commission, shall set system balancing rules. The system balancing conditions laid down in the balancing rules must be objective, transparent and non-discriminatory. The requirements of the system balancing rules are mandatory for customers and system users, except for household customers. The system balancing rules are published in the supplement *Informaciniai pranešimai* to the official gazette *Valstybės žinios*.

The Law on Natural Gas provides for new functions of the NCCPE. The NCCPE has been granted the right to establish rules for system balancing and access to the system if the rules drafted by system operators fail to conform to the requirements of the said Law and other legal acts. In addition, the NCCPE must draw up and approve a Methodology for calculating system balancing prices, and set prices for system balancing services. Currently the Ministry of Economy has ordered the study needed for drafting the methodology on system balancing.

Responsibility for the balanced operation of the gas transmission systems located and connected in the territory of Lithuania lies with the transmission system operator, Lietuvos Dujos AB. The company's orders on the balancing of gas flows are binding on all gas distribution, storage and supply undertakings, undertakings transporting gas by transit, as well as system users (customers). The gas undertaking in charge of balancing prepares gas flow balances on the basis of the contracts concluded and the gas amounts supplied to the gas system. System users are entitled to make certain corrections of the contractual gas transmission amounts at the point of acceptance or delivery. These amounts, however, may never exceed the maximum hourly amounts specified in respective gas transmission, distribution or storage contracts.

Lithuania applies a daily (24-hour) transmission system balancing interval. Daily balancing is acceptable to all participants of the gas market. The existing transmission technologies do not allow conducting full-scale balancing of the system on an hourly basis. The introduction of the hourly balancing of the transmission system is expected in the future, when the transmission system operator introduces a new IT system.

The transmission system operator balances the following transmission system:

- the total length of the gas transmission pipelines is 1,846 km;
- the diameter of the pipes of the gas transmission system is 100-1,200 mm;
- the permitted working gas pressure is 55 bar and 47 bar (84 km);
- 63 gas distribution stations (GDS) with the total throughput capacity of 2,517,700 m<sup>3</sup>/h;
- 4 gas metering stations (GMS) with the total throughput capacity of 1,645,000 m<sup>3</sup>/h.

When balancing the system, the transmission system operator must forecast the number of new customers and their planned consumption. Such forecasts are prepared on the basis of:

- available actual plans to connect new customers;
- statistical data on the connection of new customers for a few previous years;
- assessment of the national economical situation and planned increase/decrease in the number of newly connected customers in comparison with statistical data for the previous years.

The transmission system operator has established balancing tolerance margins. All contracts specify a continuous monthly gas supply level (the daily amount is equal to the monthly amount divided by the number of days in a month) and permitted daily deviation +/-5%. The system operator requires not exceeding the limit of 5% only in the cases of increased gas consumption (when temperature drops, etc.), whereas in other cases daily gas consumption below or above the one specified in the contract is tolerated.

The transmission/distribution system operator determines the amounts required for system balancing on the basis of the expected demand and capacities ordered by eligible customers, which are specified in the gas supply contract, as well as available supplies in the pipeline or gas storage. A gas undertaking may interrupt gas supply to system users with interruptible gas supply at any time. The price of gas used for own needs is the price of gas purchased from the Russian company Gazprom AAB.

System users are offered balancing incentives: system users with interruptible gas supply (to which gas supply may be interrupted by the system operator at any time) may enjoy a benefit in changing the contracted capacity (daily gas consumption).

### **Capacity distribution mechanism and overload management**

Small customers use gas without any restriction; no individual capacity fee is applied to these customers. Small customers with the annual consumption of up to 20,000 m<sup>3</sup> (accounting for 6.6% of the market) do not participate in the system balancing. 13.8% of customers participate passively, i.e. gas consumption limitations are specified in their contracts, but no specific balancing charges have been set. Other system users (79.6% of the market) actively participate in the system balancing process and therefore must pay charges for exceeding the established capacity.

Before the adoption of the new Law on Natural Gas, prices of the system balancing services were set calculating the transmission tariff. There is no separate balance or balance maintenance



charge. The transmission system operator has set the following charges for system users, which are applied if the established capacity is exceeded:

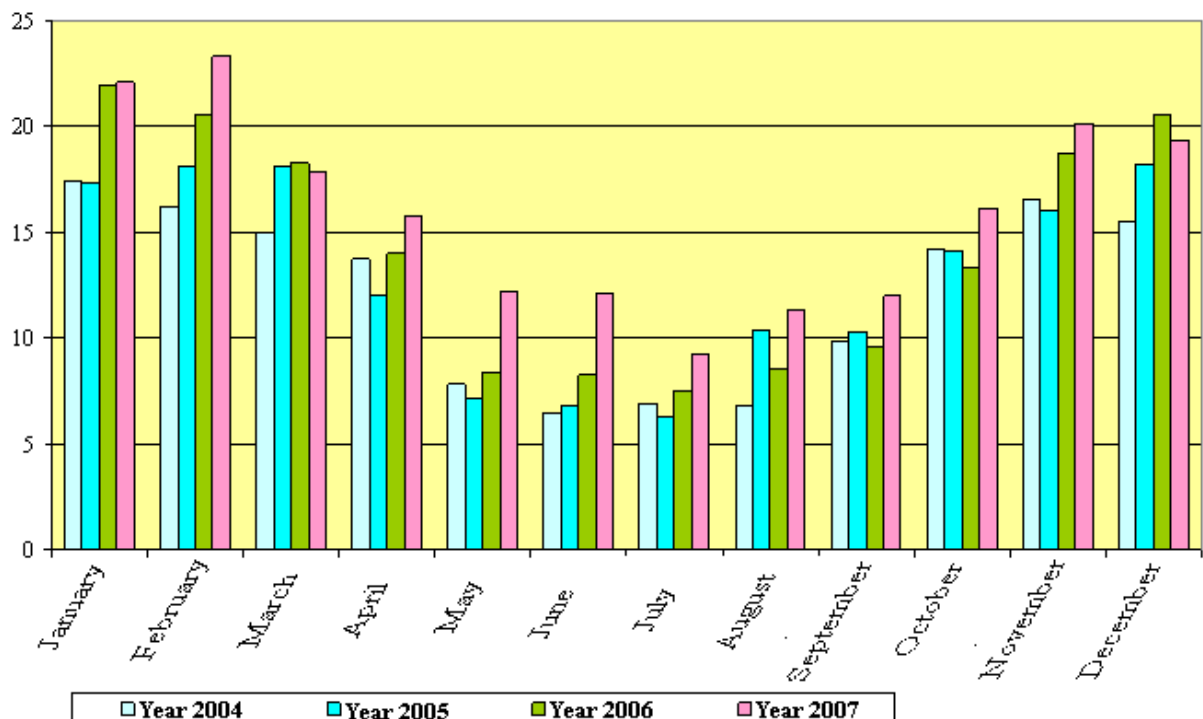
- charge for exceeding unapproved capacity;
- charge for exceeding approved capacity;
- charge for unused capacity.

The charge for exceeding unapproved capacity is paid when a system user exceeds daily gas consumption without agreement in advance with the system operator in accordance with the established procedure. The charge does not depend on the season of the year.

The charge for exceeding the approved capacity is paid when a system user exceeds daily gas consumption upon agreement in advance with the system operator in accordance with the established procedure.

A gas undertaking must have a 24-hour telephone line or any other means of communication that would enable immediate reception of information on gas supply interruptions, limitations, variations from the usage mode or emergency situations from gas transmission and distribution undertakings and its communication to customers. In the recent years, eligible customers have been regularly using the maximum contracted capacity during the cold season of the year (peak time). Figure 14 below shows the maximum daily natural gas consumption during a particular month.

Figure 14. Maximum Daily Gas Consumption per Month in 2004-2007(thous. m<sup>3</sup>/day)



Although the gas system does contain free capacities, there were tendencies towards increasing maximum system capacity.

The line-pack service is not provided to customers because the transmission system is not suitable for compressing and storing gas in the pipeline.

#### **4.1.4. UNBUNDLING OF ACTIVITIES**

The Law of the Republic of Lithuania on Natural Gas sets forth that transmission, liquefaction, storage, distribution and supply activities must be unbundled by establishing a subsidiary or a separate undertaking. Transmission, liquefaction, storage and distribution may be carried out by one gas undertaking. Other non-gas activities of such undertakings must be unbundled by establishing a subsidiary or a separate undertaking. Other non-gas activities of supply undertakings may be conducted by one gas undertaking.

Article 12 of the Law on Natural Gas also provides that an integrated gas undertaking supplying gas to less than 100,000 customers is not obliged to unbundle its activities and establish a subsidiary or a separate undertaking.

In 2007, five natural gas distribution undertakings engaged in gas distribution and supply activities and serving less than 100,000 customers operated in the gas sector. The gas transmission, distribution and supply company Lietuvos Dujos AB was the only one to have more than 100,000 customers.

In 2007 there were two supply undertakings in Lithuania engaged in a single type of activities - Haupas UAB supplied gas to customers of Druskininkai region, and Dujotekana UAB distributed gas in this region (Table 24).

Table 24. Unbundling of Natural Gas Companies in 2007

Activity	Number of gas companies	Legally unbundled	Legally not unbundled	Gas companies which may be covered by the rule of 100,000 customers
Transmission	1	0	1	0
Distribution	6	0	6	5
Supply	8	2*	6	5

\* a gas company engaged in a single type of activity – supply.

The largest Lithuanian natural gas transmission, distribution and supply company Lietuvos Dujos AB has not yet implemented legal unbundling. Since 2008 a functional unbundling of the system operator from supply units was performed. The accounts of the supply activity and transmission and distribution activities are unbundled, and separate balance sheets are drawn up. The Law Amending the Law on Natural Gas passed on 20 March 2007 provides that financial statements on transmission and distribution activities of undertakings must be made public

Separate contracts on gas transmission (distribution) and on gas purchase and sales are signed with system users (eligible customers).

Transmission and distribution system operators do not have separate names, logotypes or websites and are presented to customers as one integrated company Lietuvos Dujos AB ([www.dujos.lt](http://www.dujos.lt)). The shares of Lietuvos Dujos AB are traded on the National Stock Exchange of Lithuania; quarterly reports of the company are published in accordance with the stock exchange requirements. The major shareholders of Lietuvos Dujos AB are: E. ON Ruhrgas International AG with 38.9% of the shares, Gazprom AAB with 37.1% of the shares, and the State Property Fund with 17.7% of the shares in the company. 6.3% shares in the company are owned by various natural and legal persons

Financial statements of the company Lietuvos Dujos AB are audited. Pursuant to the Licensing Rules for Natural Gas Transmission, Distribution, Storage and Supply, audits of costs broken down by the company's licensed activities are conducted. The new Law on Natural Gas contains the requirement that financial statements of undertakings must be reviewed by an independent auditor.

Although the company's activities are not legally unbundled, the company keeps separate accounts for four activities (transmission, distribution, supply and secondary activity), drawing up four balance sheets and profit and loss statements. All costs of the company are divided among individual activities on the basis of pre-determined principles, and the costs of the network operator are not attributed to other activities.

Amendments to the Directive 2003/55/EC of the European Parliament and the Council Regulation of June 26, 2003 are under drafting to provide for unbundling of transmission operator activities, however the final decision on how it is going to be implemented in Lithuania has not been made yet. Lietuvos Dujos AB forecast that upon unbundling the transmission operator investments into this sector may reduce. Upon reducing investment into the transmission system development the technical transmission system maintenance quality may deteriorate over time.

Average number of employees in Lietuvos Dujos AB in 2007 is presented in Table 25.

Table 25. Average Number of Employees in Lietuvos Dujos AB in 2007

		Transmission	Distribution	Supply	Other activities	In total
Headcount	Persons	353	1,207	200	23	1,783
	%	19.8	67.7	11.2	1.3	100
	%	98.7			1.3	

The average number of employees in Lietuvos Dujos AB in 2007 totalled 1,783 of which 353 employees worked in the transmission sector, 1,207 – in the distribution sector, 200 engaged in supply activities.

## **Liability for Violations of Requirements for Licensed Activities**

The NCCPE may impose penalties, suspend or revoke licences for violations relating to the licensed activities. When suspending a licence, the NCCPE must set a time period during which the undertaking concerned must eliminate its violations of the requirements for licensed activities. If violations are not eliminated by the established deadline, the licence may be revoked.

Upon committing violations, persons responsible for the performance of licensed activities are held liable to administrative proceedings in accordance with the procedure laid down in the Code of Administrative Offences. The Code of Administrative Offences provides for liability for any breach of the procedure for the transmission, distribution, storage, supply or use of energy resources or energy, for failure to provide data on economic and financial activities and/or provision of knowingly inaccurate data by suppliers of energy resources or energy, as well as for any violation of or non-compliance with resolutions of the NCCPE or failure to comply with orders of the NCCPE, etc.

Having discovered a violation relating to the licensed activity, the NCCPE drew up one report on the administrative offence in 2007. It should be noted that legal entities are not held liable to administrative proceedings. Instead, responsible officials and natural persons are held liable for respective violations. Two main types of penalties are provided for in the Code of Administrative Offences, namely, a warning and a pecuniary penalty the amount of which depends on the nature of the violation.

## **4.2. COMPETITION ISSUES**

### ***4.2.1. DESCRIPTION OF THE WHOLESALE GAS MARKET***

A wholesale natural gas market practically does not exist in Lithuania. The share of trade in natural gas between gas undertakings represents 1.1% of the total gas consumption. Small volumes of gas are purchased by local gas distribution undertakings and sold to customers. In 2007, Intergas UAB and Agrofirma Josvainiai AB purchased gas from Dujotekana UAB, Fortum Joniškio Energija UAB – from Lietuvos Dujos AB, and Druskininkų Dujos UAB – from Haupas UAB. Natural gas suppliers traded in gas only under long-term contracts. No other types of contracts have been concluded by supply undertakings. Pursuant to the Law on Natural Gas, the NCCPE has the right of access to contracts concluded between gas undertakings and customers. Gas undertakings submit the main conditions of their gas purchase and sales contracts and annual activity reports to the NCCPE.

The annual natural gas consumption in Lithuania in 2007 totalled to 33.3 TWh (3,578 billion m<sup>3</sup>). The average calorific value of imported natural gas was 9.31 kWh/m<sup>3</sup>. The maximum daily consumption of natural gas was 0.164 TWh. Natural gas is not produced in Lithuania; the entire volume of gas is imported from Russia. In 2007 transmission of natural gas totalled to 45.48 TWh (4,885 billion m<sup>3</sup>). Out of them 11.3 TWh (1.216 billion m<sup>3</sup>) was transmitted to Kaliningrad Region by transit.

Two gas supply undertakings having over 5% of the gas supply market, namely, Lietuvos Dujos AB and Dujotekana UAB, supplied gas to Lithuanian customers. Gas quotas to the latter undertakings are allocated by a single external supplier Gazprom AAB.

The Lithuanian gas transmission network is not interconnected with the Western European natural gas system. The transmission system has a single connection with Latvia. However, natural gas from Latvia may be transported only in the event of interrupted gas supply through the Republic of Belarus.

To sum up, there is no competition on the gas supply market, either on an international or national level.

### ***4.2.2. DESCRIPTION OF THE RETAIL GAS MARKET***

In 2007, natural gas was supplied to customers by seven supply undertakings: Lietuvos Dujos AB, Dujotekana UAB, Haupas UAB, Fortum Joniškio Energija UAB, Druskininkų Dujos UAB, Agrofirma Josvainiai AB and Intergas UAB.

In 2007, the total sales of natural gas on the national gas supply market amounted to 17.26 TWh (1,853.96 m m<sup>3</sup>).

The total volume of natural gas sold by **Lietuvos Dujos AB** in 2007 amounted to 12.7 TWh (1,364 billion m<sup>3</sup>), of which 5.03 TWh (39,6 %) was sold to gas power plants, 1.07 TWh (8.4 %) – to

residents and small commercial sector (up to 300 MWh annually), 0.27 TWh (2.1 %)– to medium industrial and commercial sector (up to 10 GWh annually) and 6.29 TWh (49.5 %) – to large and very large industrial customers of the total amount. Furthermore, 47.95 GWh (5.15 m m<sup>3</sup>) was sold to other gas undertaking Fortum Joniškio Energija AB.

The amount supplied to Lithuania through the gas system managed and operated by the said company accounts for more than 99% of the total demand of Lithuanian customers for natural gas.

In 2007, **Dujotekana UAB** supplied 4.6 TWh (493.93 million m<sup>3</sup>) of natural gas, of which 4.28 TWh was sold in the retail market and the rest (0.32 TWh) to other gas undertakings: 190.39 GWh (20.45 million m<sup>3</sup>) to Lietuvos Dujos AB, 40.42 GWh (4.342 million m<sup>3</sup>) to Agrofirma Josvainiai AB and 88.57 GWh (9,513 million m<sup>3</sup>) – to Intergas UAB. 98 percent of the retail market (4.20 TWh) consists of gas power plants.

In 2007, **Haupas UAB** supplied 152.5 GWh (16.38 million m<sup>3</sup>) of natural gas to customers, of which 147.94 GWh (15.89 million m<sup>3</sup>) to gas power plants, the rest – 4.56 GWh (0, 49 million m<sup>3</sup>) – to household customers.

**Agrofirma Josvainiai AB** purchased 40.42 GWh (4.342 million m<sup>3</sup>) of natural gas from Dujotekana UAB and supplied it to household customers.

**Fortum Joniškio Energija UAB** purchased 47.95 GWh (5.15 million m<sup>3</sup>) of natural gas from Lietuvos Dujos AB, of which 28.58 GWh (3.07 million m<sup>3</sup>) were used for its own needs (heat generation) and 19.27 GWh (2.07 million m<sup>3</sup>) were sold to other customers. 99 percent (19.1 GWh) was sold to medium-sized industrial and commercial sector.

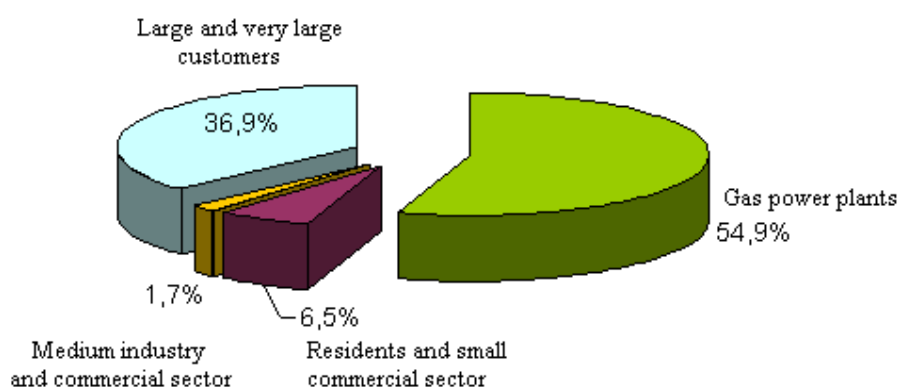
Intergas UAB started supply activities in IV quarter of 2007 and sold 85.98 GWh (9.23 million m<sup>3</sup>) of natural gas. The largest amount of gas (99.9 percent) was sold to gas power plants (85.93 GWh), the rest of natural gas – to small residential and commercial customers.

In 2007, the total amount of natural gas sold on the retail market:

- to gas power plants – 9.481 TWh;
- residents and the small commercial sector – 1.123 TWh;
- medium-sized industrial and commercial sector – 0.289 TWh;
- large and very large industrial customers – 6.37 TWh

Gas amounts sold on the retail market among separate customer groups are presented in Figure 15.

Figure 15 . Gas Amounts Sold on the Retail Market Among Separate Customer Groups



Two suppliers occupying over 5% of the gas supply market are dominant on both the retail and wholesale gas supply markets. These are Lietuvos Dujos AB and Dujotekana UAB. The remaining gas supply undertakings represent only 1.91% of the total gas sales (see Table 26).

Table 26. Gas Amounts Sold by Gas Companies on the Retail Market and their Market Share in 2007

Gas Company	Amount, million m <sup>3</sup>	Amount, GWh*	Market share, %
Lietuvos Dujos AB	1,358.95	12,651.8	73.30
Dujotekana AB	459.63	4,279.15	24.79
Other companies	35.38	329.39	1.91
In total:	1,853.96	17,260.34	100

\* 1 m<sup>3</sup> = 8004 Kcal

As from 1 July 2007, all natural gas consumers are eligible customers, i.e. consumers may choose their supplier. To purchase gas, customers must file an application with a gas supply undertaking two months prior to the beginning of a calendar year. A customer must file a prior written request, no later than 14 calendar days before the commencement of gas supply, to a supply undertaking to conclude a gas supply (sales and purchase) contract. Upon the evaluation of whether the requested gas quantity can be supplied, the supply undertaking shall, within 14 calendar days from the receipt of the request, notify the applicant of full or partial approval of the requested quantity or refusal to meet the request. Refusal to meet the customer's request must be objective, non-discriminatory and well-grounded. The NCCPE must also be informed of such refusal to meet the customer's request.

Table 27 shows the structure of natural gas prices for customers.

Table 27. Natural Gas Prices by Component from 1 July 2008, EUR/MWh

Item/Customer group	D3*	I1	I4 – 1
Network Charges	8.95	8.95	4.319
Levies	0	0	0
Gas (item) price	30.67**	30.67**	30.67**
Price of the gas supply service	1.775	1.775	1.467
In total	41.395	41.395	36.456
Taxes (VAT – 18%)	7.45	7.45	6.56
In total	48.845	48.845	43.016

\* – for household customers

\*\* – estimation of the gas price when the price of heavy fuel oil with the sulphur amount of 1% during 6 months was USD 525.88/t, diesel price – 932.47 USD/t.

In 2007 Lietuvos dujos AB received and investigated 67 complaints and applications of customers:

- a) due to prices and tariffs – 7;
- b) due to terms of agreements – 9;
- c) due to the connection to the network – 9;
- d) due to reliability and quality – 2;
- e) due to the access to use the system – 3;
- f) other – 37.

Because of the failure to pay the bills on time 232 customers out of them 215- household customers and 17 non-household customers) were disconnected in 2007.



## 5. SECURITY OF SUPPLY

### 5.1. ELECTRICITY SECTOR

#### Electricity Generating Capacities, Demand, Generation and Promotion of Generation

In 2007, the total installed electricity generating capacity (nuclear and non-nuclear) amounted to almost 5,000 MW (Table 28) and more than twice exceeded the domestic needs of Lithuania (Table 29).

The main source of electricity in the country is Ignalina Nuclear Power Plant, which generates cheaper electricity than thermal power plants using fossil fuel.

Table 29. Installed/Available Capacity of Lithuanian Power Plants as of 01 01 2008, MW

Power plants	Installed/Available Capacity
<b>Ignalina Nuclear Power Plant</b>	1,300 / 1,183
Lithuanian Power Plant	1,800 / 1,732
Mažeikiai Power Plant	160 / 148
Vilnius Power Plant	372 / 355
Kaunas Power Plant	170 / 161
Kauno Energija	8 / 7
Klaipėdos Energija	11 / 9
<b>Panevezys Thermal power plant</b>	35/33
<b>Thermal power plants, in total:</b>	2,556 / 2,445
Kaunas HPP	101 / 50
Kruonis PSP	900 / 380
Small hydro power plants	26
<b>Hydro power plants, in total:</b>	1,027/ 456
<b>Power plants of industrial enterprises and other power plants, including:</b>	146 / 143
biomass	19/18
wind	52
<b>Total:</b>	5,030/ 4,227

Table 29. Maximum Capacity Demand (Gross) in 2007, MW

Month	Maximum demand
January	1,908
February	1,922
March	1,791
April	1,652
May	1,680
June	1,539
July	1,472
August	1,544
September	1,555
October	1,710
November	1,968
December	1,969
Per year	1,969

Table 30. Capacity Balances of the Lithuanian Energy System at Peak Demand Times in 2008-2010, MW

Indices	2008	2009	2010
Available capacity of power plants (net)	4.6	4.6	3.3
Available reliable capacity of power plants (net)	3.1	3.1	2.2
Maximum system-demanded capacity under the maximum growth of demand (net)	2.0	2.1	2.1
Mandatory long-term reserve	1.0	1.0	0.4
<b>Capacity balance</b>	<b>0.1</b>	<b>0.1</b>	<b>- 0.3</b>

As data provided show in 2008 – 2009 Lithuania will have minor surplus generating energy capacity; however during the 2010 winter peak it may possibly experience a capacity deficit.

With respect to the planned decommissioning of Ignalina NPP and the obligation of Lithuania to the European Union to increase electricity generation from renewing energy sources, the 35 MW cogeneration plant in Panevėžys was commissioned in 2008, and there are plans to install additional about 100 MW electricity generation capacities using renewable energy sources, predominantly the wind energy.

Jointly with the neighbouring states there are plans to build a new nuclear power plant up to 2020. Therefore a law was adopted in 2007 (and a new version of it was passed at the beginning of 2008) and a national investor company LEO LT AB was incorporated (in April, 2008). The value of the new about 3 GW nuclear power plant may reach 6 billion EUR.

The Law of the Republic of Lithuania on Electricity stipulates that generation of electricity, expansion of electricity generating capacities, electricity export and import, as well as construction of direct lines are subject to authorisations. Authorisations for electricity undertakings and eligible customers to engage in non-licensed activities in the electricity sector are issued and revoked in accordance with the Rules for Issuing Authorisations for Activities in the Electricity Sector approved by Order No 380 of the Minister of Economy of the Republic of Lithuania of 18 December 2001 (as amended by Order No 4-145 of the Minister of Economy of the Republic of Lithuania of 8 April 2005).

Authorisation to generate electricity is mandatory for every undertaking which was engaged in electricity generation according to its registered Articles of Association or other equivalent documents adopted before the entry into force of the Law of the Republic of Lithuania on Electricity and wishes to continue this activity using its available technological facilities upon the entry into force of the new Law; or wishes to restart suspended electricity generation using its available technological facilities if the previous authorisation was revoked; or has built new technological electricity generating facilities in accordance with the authorisation to expand electricity generating capacities.

Authorisation to expand electricity generating capacities is mandatory for every undertaking wishing to construct a power plant in a new location and/or to increase its existing generating capacities by reconstructing (replacing) its current or constructing additional technological electricity generating facilities.

Only electricity suppliers and producers may apply for authorisations to export electricity, whereas authorisations to import electricity may be issued only to electricity suppliers and eligible customers.

Authorisations issued in 2007 were as follows: 22 authorisations for the expansion of electricity generating capacities (Table 31), 13 authorisations for electricity generation (Table 32), and 1 authorisation for electricity export. Authorisations for electricity import were not issued.

Table 31. Authorisations for the Expansion of Electricity Generating Capacities Issued in 2006-2007

Year	Authorisations granted for the expansion of electricity generating capacities		Electricity generating capacities, MW			
	No of authorisations	Capacity, MW	Using conventional energy resources, MW	Using renewable energy sources, MW		
				Wind, MW	Hydro, MW	Other, MW
2006	19	150.837	42.648	90.25	0.489	17.45
2007	22	56.878	4.248	36.78	0.42	15.43

Table 32. Authorisations for Electricity Generation Issued in 2006-2007

Year	Authorisations granted for electricity generation		Electricity generating capacities, MW			
	No of authorisations	Capacity, MW		No of authorisations		
				Wind, MW	Hydro, MW	
2006	20	258.26	234.8	20.45	1.51	1.5
2007	13	42.395	7.808	30.845	0.242	3.5

Electricity production by power resources is presented in Table 33 (by capacity see Tables 31 and 32).

Table 33. Electricity Supplied to the Network by Lithuanian Power Plants in 2007

<b>Power plants</b>	<b>Volume, GWh</b>
<b>Ignalina Nuclear Power Plant</b>	9074.8
Lithuanian Power Plant	866.8
Mažeikiai Power Plant	199.2
Vilnius Power Plant	575.5
Kaunas Energija	– 1.4
Kaunas HPP	623.3
Klaipėdos energija	20.1
Other power plants connected to DN	34.4
<b>Hydro power plants, in total:</b>	<b>2317.9</b>
Kaunas HPP	321.1
Kruonis PSP	537.5
<b>Power plants using renewable energy resources</b>	<b>172.2</b>
<b>Power plants using renewable energy resources, in total:</b>	<b>493.3</b>
<b>Power plants of industrial companies and other units</b>	<b>265.4</b>
<b>In total:</b>	<b>12151.4</b>

General criteria, conditions and requirements for the promotion of the generation and purchase of electricity generated from renewable energy sources in the Republic of Lithuania are laid down in the Procedure for Promoting the Generation and Purchase of Electricity Generated from Renewable Energy Sources approved by Resolution No 1474 of the Government of the Republic of Lithuania of 5 December 2001 (as amended by Resolution No 897 of the Government of the Republic of Lithuania of 18 September 2006). This Procedure is mandatory for natural and legal persons generating or planning to generate electricity in a power plant using renewable energy sources, as well as for persons connecting electricity facilities of producers to the electricity system and/or purchasing electricity generated by producers into distribution and transmission networks. The provisions of this Procedure promote electricity generation by wind, biomass and solar power plants, as well as small hydro power plants with the maximum capacity up to 10 MW. Since the costs of electricity generation from

renewable energy sources are higher than using conventional energy resources, such electricity is purchased at higher tariffs approved by the NCCPE. Electricity generated from bio fuel is purchased at the price of EURO CENTS 63.7-69.5/MWh (depending upon the start – up to 2008 or after 2008), from hydro-power – at the price of EURO CENTS 57.9/MWh and from wind power – at the price of EURO CENTS 86.9/MWh. Purchasing prices are guaranteed until 31 December 2020. Power plants are connected to the existing systems of energy undertakings in accordance with the procedure established by law at a 40% connection fee discount applied to producers.

### **Electricity Forecasts**

After the decommissioning of the second unit of Ignalina Nuclear Power Plant at the end of 2009, the current generating capacities, including small capacity co-generation plants that are planned to be constructed, will be sufficient to meet the national demand until 2013 in all cases of the growth in national economic needs and supply with systemic services necessary for the functioning of the system. Nevertheless, there is an urgent need to modernise the Lithuanian Power Plant and the existing co-generation plants with the lowest electricity generation cost during the heating season. Furthermore, with the increasing capacity demand and subject to economic feasibility, new co-generation plants able to generate electricity at a price that would be competitive on the open electricity market should be constructed in Lithuanian cities with well-developed district heating systems.

Lithuania will implement its commitments to the EU on the use of renewable energy sources for electricity generation by constructing wind power plants, small hydro-power plants and co-generation plants using biofuel. Pursuant to the Procedure for Promoting the Generation and Purchase of Electricity Generated from Renewable Energy Sources, the share of electricity generated from renewable energy sources in the total electricity consumption in the country should amount to 6.9% at the beginning of 2009, and to 7.7% at the beginning of 2009. At the beginning of 2008, the planned output of electricity from renewable energy sources should reach 862.6 GWh (of which 259.6 GWh – by wind power plants, 448 GWh – by hydro-power plants, and 153.5 GWh – by biomass power plants), and at the beginning of 2009 the output should amount to 995.2 GWh (of which 320.4 GWh – by wind power plants, 452 GWh – by hydro-power plants, and 219.5 GWh – by biomass power plants).

Forecasts for changes in the installed/available capacities of Lithuanian power plants for 2007–2009 are given in Table 34.

Table 34. Forecasts for Changes in the Installed/Available Capacities of Lithuanian Power Plants, MW

	2009	2010	2011
<b>Ignalina Nuclear Power Plant</b>	1300/1183	0/0	0/0
Lithuanian Power Plant	1800/1732	1500/1448	1500/1448
Mažeikiai Power Plant	160/148	160/148	160/148
Vilnius Power Plant	372/352	372/352	372/352
Kaunas Power Plant	170/161	170/161	170/161
Kauno Energija	8/7	8/7	8/7
Klaipėdos Energija	11/9	11/9	11/9
Panevėžio Energija	35/33	35/33	35/33
<b>Thermal power plants, in total:</b>	<b>2556/2442</b>	<b>2256/2158</b>	<b>2256/2158</b>
Kaunas HPP	100/50	100/90	100/90
Kruonis PSP	900/380	900/190	900/190
Small private hydro-power plants	29	29	30
<b>Hydro-power plants, in total:</b>	<b>1029/459</b>	<b>1029/309</b>	<b>1030/310</b>
<b>Power plants of industrial enterprises and other power plants, including:</b>	<b>200/197</b>	<b>257/253</b>	<b>328/324</b>
biomass	19	21	23
wind	91	131	200
<b>Total:</b>	<b>5085/4281</b>	<b>3542/2492</b>	<b>3614/2792</b>

The maximum capacity demand in 2006–2010 is given in Table 35.

Table 35. Forecasted Maximum Capacity Demand in 2006–2010, MW

Year	Maximum demand (net)
2006	1837
2007	1749
2008	2030
2009	2080
2010	2130

## Planned Development and Renovation of the Transmission System

Technical status of the main transmission system elements, the electricity transmission lines (ETL) and transformer substations (TS), has a major impact on operational reliability of the electrical system. Though Lithuania has a quite well developed 110 – 330 kV electricity transmission network, the bulk of electricity network was built more than 25 – 30 years ago, and operational service time has already reached or even exceeded the design service time. This is a major concern of the reliable electricity system operations. To ensure the reliable transmission network operations TS and ETL are regularly reconstructed by replacing the old equipment with the new one and by installing modern equipment security and control technologies, and new TS and ETL are installed.

In terms of reliability the weakest is the Western Lithuanian part of 330 kV transmission network. Klaipėda 330 kV TS is connected to the system only by two 330 kV inter-system lines Klaipėda – Sovetsk (Russia) and Klaipėda – Grobinia (Latvia). Telšiai 330 kV TS connected to the energy system only by one 330 kV branch line to the line Šiauliai – Jelgava (Latvia). To increase the 330 kV transmission network reliability the new 330 kV lines Klaipėda – Telšiai and Panevėžys – Mūša will be installed with a new 330 kV distribution station (switch-board) on the line Šiauliai – Jelgava (in Joniškis area) and Klaipėda and Telšiai TS will be expanded. Upon building the line Panevėžys – Mūša, the transit via Latvian energy system will be reduced, thus the dependency on the neighbouring countries, and Lithuanian energy system reliability will improve.

Another problematic 330 kV transmission network location is Vilnius 330 kV TS, which is now connected with two 330 kV lines Vilnius – Lithuanian Power Plant and Vilnius – Molodecno (Belarus). As the dominating part of the Vilnius – Molodecno is located in Belarus and for Belarus energy system it is too expensive to operate it they want to demount it. In this case Vilnius TS will be connected to the 330 kV transmission network only by one 330 kV line and Vilnius city supply security will reduce. There are plans to install a new 330 kV line Vilnius – *Neris*, with a branch line connecting to Naujoji Vilnia TS.

The development of the 110 kV transmission network is predominantly related to the development of major cities and construction of large-scale industrial sites. In the nearest future following new 110/10 kV TS will be installed (in some places the installation has started already) in Vilnius, Kaunas and other Lithuanian cities, and named *Nemunas*, *Šnypiškės*, *Vingis*, *Lazdėnai*, *Lypkiai*, etc. New 110 kV substations are also under installation to connect wind power plants to the transmission network.

To increase the 110 kV network throughput capacity and reliability the following new 110 kV overhead and cable lines are planned: Klaipėda – *Marios*, *Neris* – Baltupis, Kaunas – Eiguliai, Palanga – Kretinga, Panevėžys – Pasvalys, Ukmergė – Širvintos, as well as lines needed to connect the above mentioned new 110 kV TS.

The existing Lithuanian energy system is not connected to the neighboring Central European countries. To ensure electricity supply reliability, the operational system stability and energy source diversification on both Lithuanian and the Baltic region scale construction opportunities of a new electricity bridge between Poland and Lithuania are analyzed.

On July 31, 2008 a working group consisting of representatives of the Lithuanian energy company Lietuvos Energija AB and the Polish energy company PSE Operator (Poland) officially finalized updating of the feasibility study of the Lithuanian and Polish electric power system interconnection, *Report Summarizing a Study Assessing the Feasibility of the Project of Interconnection of Lithuanian and Polish Electric Power Systems*, and signed the final feasibility study document confirming the technical, legal and economical project justification, if minimum 75% of it is funded by the European Union. 154 km high voltage (400 kV) double-circuit power transmission line from Alytus to Elk (Poland) is planned to interconnect the energy systems. As estimated the project may be finalized in 2012 – 2018. EUR 237 million investment is needed to implement it – EUR 71 million in the territory of Poland and EUR 166 million in Lithuania. To ensure inter-system flows both Lithuanian and Polish domestic electric power systems need expansion. This needs extra investment, EUR 371 million in Poland and EUR 95 million in Lithuania. Upon implementing this project the Baltic energy ring infrastructure would be completed and connect Lithuanian, Latvian, Estonian, Finnish, Swedish, Norwegian, Danish and Polish energy systems, and facilitate ensuring the functional security and reliability of the Baltic electric power networks. The project has been prioritized on the European Union project list and has an appointed implementation coordinator, prof. Wladyslaw Mielczarski. A joint venture has been established in Poland to implement the energy system interconnection project. Vidmantas Jankauskas has been appointed to head it.

In 2006 Lithuanian and Swedish transmission system operators Lietuvos Energija AB and Svenska Kraftnät decided to continue the feasibility study of Lithuanian and Swedish energy system interconnection and in August signed an agreement on the Feasibility Study. A tender was announced to select a consultant for the Feasibility study and the contract was awarded to the successful bidder, the Swedish consulting company Sweco International AB. On 6 February 2007 Lietuvos Energija AB, Svenska Kraftnät (the contracting parties) and Sweco International AB (consultants) signed a contract on the Feasibility Study *Electric Power Interconnection between Lithuania and Sweden*.

The Stockholm meeting of February 5, 2008, approved the Feasibility Study outcomes and its final findings. The Study was done in two stages: the first stage included the initial feasibility assessment, as based on previous studies and other data the project was scoped, electric power interconnection capacity and costs identified, the best route selected, the financial and economic interconnection properties analyzed, the design task plans for the seabed study developed, and feasible Swedish–Lithuanian project funding assessed. The second stage featured a more detailed technical



analysis, drafting recommendations for selecting the electric power interconnection cable technology and connecting to Lithuanian and Swedish energy systems, and how the wind power plant park connected to the electric power interconnection would impact the connection and Lithuanian and Swedish energy systems.

There are plans to connect the Lithuanian and Swedish energy systems with a continuous current cable of approximately 350 km length and of 700 – 1000 MW capacity, laid on the Baltic seabed. Subject to the selected cable technology and capacity the investment would amount to approximately EUR 516 – 637 million. Completion of the Lithuanian-Swedish inter-system connection is planned in 2015.

Bilateral relations with the third countries did not change. Market integration issues are in the initial phase due to structural energy changes taking place in the third countries. There were no problems related to social and environmental electricity trading consequences, and no network use issues were captured.

## **5.2. NATURAL GAS SECTOR**

Gazprom AAB and Lithuanian gas supply undertakings have signed long-term gas sales and purchase agreements. The first long-term agreement for a six-year period was signed between Gazprom AAB and Lietuvos Dujos AB in 1999, and was later extended until 2015. According to this agreement, Lietuvos Dujos AB undertook obligations to transport, by transit, natural gas supplied by Gazprom AAB to Kaliningrad Region (Russian Federation). Dujotekana UAB, which started its activities in 2002, has also concluded a gas sales and purchase agreement with Gazprom AAB valid until 2013.

In 2007 technical import capacity was 0.3015 TWh/per day (11.8 billion m<sup>3</sup> per year), out of which imports via Belarus amounted to 0.253 TWh/per day, and imports via Latvia were 0.0485 TWh/per day. Import capacities reserved for transit were 0.0014 TWh/hour (1.22 billion m<sup>3</sup> per year), capacities reserved for Lithuanian customers under long-term contracts were 0.11 TWh/per day (3.89 billion m<sup>3</sup> per year), and unreserved (available) import capacities were 0.1579 TWh/per day (6.69 billion m<sup>3</sup> per year). In 2007 the stable natural gas supply to Lithuanian customers was ensured and customer needs were fully met.

Natural gas supply (import) and consumption and its forecasts are provided in Table 36.

Table 36. Natural Gas Supply (Import) and Consumption in 2007 and its Forecasts up to 2017

Measure unit	Year										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SUPPLY(IMPORT)											
million m <sup>3</sup>	3719,6	3620	3650	4550	4650	4650	4700	4700	5050	5050	5050
toe	2975,7	2896	2920	3640	3520	3720	3760	3760	4040	4040	4040
CONSUMPTION											
Million m <sup>3</sup>	3598,6	3570	3600	4500	4600	4600	4650	4650	5000	5000	5000
toe	2878,9	2856	2880	3600	3680	3680	3720	3720	4000	4000	4000

Gas supply reliability issues are regulated by the Law on Natural Gas and the Description of Measures Ensuring Natural Gas Supply Security, approved by the Order No. 163 of the Government of the Republic of Lithuania of February 26, 2008 (*Official Gazette*, No 27 – 966, 2008).

The Law on Natural Gas (Paragraph 3 of Article 24) provides for the Government the right to establish specific security ensuring measures obligatory for gas companies, customers and the NCCPE.

The Description of Measures Ensuring Natural Gas Supply Security is the legal text implementing the law and aiming to improve the gas supply security.

The key Government Resolution and Measure Description provisions are the following:

1. All customers shall be grouped into two categories: the ones with continuous gas supply and ones with interruptible gas supply. Gas reserves shall be formed and stored for the continuous gas supply customers. All household customers shall be attributed to this group. Non-household customers (except companies supplying energy to household customers, education and health care institutions and foodstuff production) shall choose the category to their discretion.

2. Supply companies shall be responsible for continuous gas supply to household customers. They shall form gas reserves for household customers, and the reserve formation costs shall be included into the gas supply price.

Non-household customers shall choose the reserve formation option: a) they may store natural gas in storages themselves; b) agree with a gas supply company on gas reserve formation; c) may replace gas reserves with other type of energy resources (e.g., furnace fuel); d) become interruptible supply customers and then in case of gas supply failure have gas supply disconnected immediately. Non-household customers shall cover the reserve formation costs.

3. A new requirement for gas supply companies shall be established: form gas reserves for household customers under the set schedule. Such gas reserves-forming schedule was approved by the

Government Resolution No.163 of February 26, 2008: 10 days since September 1, 2008, and afterwards 10 extra days shall be added each year until the 60 day level is reached.

Non-household customers using gas for energy generation when such energy is sold or used for meeting public or residential needs must have reserves satisfying a monthly need (type of reserves to be selected by companies). This is not an absolutely new provision, as it is applicable by virtue of the Law on Energy, however for equipment exceeding 5 MW capacities. The novelty now is that under the Law on Natural Gas this provision shall be applicable to all the above non-household customers irrespective of their equipment capacity.

4. Priorities applicable for interruption or limitation of gas supply to customers in case of a gas supply failure are specified with greater detail and clarity.

In case of a major gas supply failure gas supply shall be interrupted for customers under the prescribed priority.

Companies shall also regularly implement measures ensuring gas supply.

### **1. Natural gas storage**

Lietuvos Dujos AB as a gas supplier shall be responsible for the continuous gas supply for household customers buying gas from the company directly. To ensure the continuous gas supply for household customers, Lietuvos Dujos AB has concluded a contract with the Latvian gas storage system operator, Latvijas Gaze AB on natural gas reserve storage in Inčiukalnis underground gas storage facility. On January 11, 2008, 150 million m<sup>3</sup> gas was stored in Inčiukalnis underground gas storage facility, and on May 1, 2008 - 15.1 million m<sup>3</sup> gas. Currently the natural gas quantity collected and stored in the underground natural gas storage facility is slightly higher than needed to meet the household customer needs (9.4 million m<sup>3</sup> are needed for 10 day gas supply). Since 2009 gas reserves will be increased by adding extra 10 days each year until reaching the 60 day level. Lietuvos Dujos AB negotiate with non-household customers the gas volume which they need to be stored in Inčiukalnis underground gas storage facility.

Lithuanian Dujos AB as the Lithuanian transmission system operator implements measures to address gas shortage problems due to external supplier's fault. In case of a natural gas shortage due to the external supplier's fault or upon other technical difficulties gas shall be supplied from Inčiukalnis underground gas storage facility or Latvijas Gaze AB gas transmission system.

### **2. Technical network maintenance quality and degree**

When doing technical maintenance of the operated network, Lietuvos Dujos AB shall observe normative documents approved by the Minister of Economy of the Republic of Lithuania. The key indicator reflecting the maintenance level shall be breakdown-free operations. There were no breakdowns in gas supply networks in 2007.

## **2.1 Technical transmission system maintenance**

In 2007 investments into the transmission system modernization amounted to LTL 13.3 million, and LTL 10.7 million out of this number to reconstruct eight gas distribution stations, and LTL 1.1 million - for gas transmission system lines. 5 container-type gas distribution stations were procured, which shall replace worn-out stations in 2008. Inside pipeline diagnostics using special probes is planned to increase reliability and security of the gas transmission system lines. To adapt gas transmission system lines for this measure, the smart pig equipment of the controlled smart pig travelling was purchased for the transmission gas supply system Vilnius – Panevėžys – Ryga, and design works were done for the sending and receiving smart pig of the controlled device in the gas transmission system going to Kaliningrad.

In 2007, to increase the reliability of the operated transmission system, the technical design was done of repair works and hydraulic tests for the 74 km length section of the gas transmission system Panevėžys – Šiauliai. Its implementation will ensure gas transport reliability via 30 – 40 year old gas supply lines. Last year works were completed on a 25 km length section of this transmission system.

In the gas transmission system lines worn-out taps and tap unit linear weather strings were replaced. Taps of total 9 tap units have been repaired or replaced.

## **2.2 Technical distribution system maintenance**

In 2007 investment into the distribution system reconstruction amounted to LTL 11.1 million. Investments into the distribution grid modernization amounted to LTL 7.3 million out of this number, and investments into modernization of gas regulator stations amounted to LTL 1.7 million. 26 km of gas distribution lines were reconstructed by laying polyethylene pipes inside worn-out steel pipes. Worn-out technological equipment in gas regulator stations was replaced with new one.

To increase the reliability and security of gas distribution pipelines and their equipment this year, as every year, gas system underwent technical maintenance, i.e., gas line leakage and insulation testing with sensitive gas detectors, system inspection and technical check-up. Deficiencies identified during technical maintenance shall be eliminated by repair works which are included into the repair works programme. In 2007 the main works were repairs and replacement of pipeline insulation, anti-corrosion systems, gas line inlets, gas control units, closing fixtures and other unreliable installations.

The following measures shall be provided for to improve the transmission and distribution system reliability:

- In 2008 Janiūnai compressor station is to be commenced. The new compressor station will make transportation of extra gas quantities to customers possible and will increase the supply security and reliability upon decommissioning of Ignalina NPP. Transportation of higher natural gas transit volumes to Kaliningrad area will also be possible. Completion of the compressor station building works is planned in 2010 and the estimated investment amounts to LTL 229 million;

- Construction of Šakiai – Klaipėda gas transmission system was commenced. When it is completed the Western Lithuanian gas transmission systems will be interconnected into a circle system and gas supply stability and reliability in this Lithuanian area will be improved;
- Reconstruction of Rudamina gas distribution station is planned which is needed for circling Vilnius distribution gas lines and continuous natural gas supply in Vilnius City;
- Measures are planned to allow testing the status and reliability of the main national gas transmission systems by diagnostic probes without interrupting gas supply;
- Gas transmission systems which may not be prepared for testing with diagnostic probes will be repaired and undergo hydraulic tests;
- In one gas transmission systems section, impossible to retest or test with diagnostic probes, lower operating pressure will be kept, thus plans to install a pressure limitation unit;
- Measures are planned to improve physical corporate gas supply line security and reliability of information systems;
- The transmission and distribution system reconstruction programme is drafted and implemented;
- To improve the distribution system reliability gas line laying is planned to interconnect individual branch systems into a circle structure.

#### **Role of the Regulator and other Institutions with respect to:**

##### *- Requirements for the supplier of last resort:*

The supervision of security of supply is implemented by monitoring activities of undertakings, following supply and demand, as well as exercising supervision, by the NCCPE, of how undertakings comply with the requirements for the licensed activities. When supplying gas to customers, gas supply undertakings must follow the Rules for Natural Gas Transmission, Distribution, Storage and Supply regulating in detail the disconnection of natural gas supply, payment and other issues.

Pursuant to Article 16 of the Law on Natural Gas, assigned supply may be carried out for household customers and customers to those objects the energy generating capacity whereof is below 5 MW and which contain no reserve fuel stocks. The eligible customer may choose a supply undertaking other than the one carrying out assigned supply. The assigned supply undertaking must conclude contracts with system operators regarding gas transportation and bears responsibility for gas supply up to the systems of customers.

Pursuant to Article 5 of the Law on Energy, when carrying out State management of the energy sector, the Government or an institution authorised by it shall have the right to impose public service obligations on undertakings engaged in energy activities in the cases prescribed by law.

- *Incentives to increase gas import capacities:*

The current gas import capacities of the Lithuanian transmission system are sufficient and do not require any expansion in the short run. Consequently, no special incentives to increase import capacities are offered yet.

- *Requirements for access to natural gas storage facilities in order to ensure public services:*

Lithuania has no natural gas storage facilities.

## **Progress in Major International Infrastructure Projects**

With the view of examining possibilities to ensure the reliability of natural gas supply in the Baltic region, a study *Amber Project, Lithuanian-Polish Gas Interconnection* was prepared in 2002 with the participation of Danish, Lithuanian and Polish gas undertakings. This study covered the gas pipeline from the Lithuanian gas system to the Danish gas system. The symbolic title *Amber Project* has been maintained in the discussions on the possibility of connecting just the Lithuanian and Polish gas networks.

The revised National Energy Strategy provides for the preparation of a feasibility study, in cooperation with Poland, on the interconnection of the Polish and Lithuanian gas networks by 2011.

The communiqué signed on 2 March 2007 by the Prime Ministers of Lithuania and Poland on cooperation in the energy sector proposes, *inter alia*, to initiate a feasibility study on the interconnection of the Lithuanian and Polish natural gas systems.

A possibility to construct an underground natural gas storage facility has been under discussion for a few years already. The location of Vaškai was studied as a potential site, however geological research on the soil structure of Vaškai in 2004 revealed that this location was not suitable for the construction of a storage facility.

In 2004, the consortium consisting of the German company ESK, Dujotekana UAB and Geonafta UAB prepared a feasibility study on the construction of underground natural gas storage facilities in western Lithuania, where Syderiai, a location close to the gas main Šiauliai-Klaipėda, was found to be the most suitable soil structure exhibiting the highest porosity. The study was presented to the Ministry of Economy.

Additional geophysical-geological research, i.e. a three-dimensional seismic survey, is required to ascertain whether this structure is impermeable. The Ministry of Economy by the Letter No (30.7-63)-3-4059 as of 27 June 2008 filed an application to the EU Directorate-General for Energy and Transport regarding the allocation of funds ( LTL 15 million) to carry out the said research works.

## **6. PUBLIC SERVICE ISSUES**

### **6.1. ELECTRICITY SECTOR**

The Law on Electricity defines public interests in the electricity sector as any act or omission in the electricity sector, directly or indirectly related to public security and environmental protection, as well as to electricity generation from renewable energy sources at combined heat and power generation plants.

The list of public service obligations in the electricity sector, their suppliers and supply procedure are established by the Government or an institution authorised by it. Market participants include the costs of the provision of the said services into their operating costs.

The transmission system operator, distribution network operator and public suppliers fulfilling public service obligations shall keep separate accounts and ledgers specifying the revenue and costs related to these obligations.

The expansion of the existing electricity generating capacities or installation of new generating capacities in a new location shall be subject to authorisation for the expansion of electricity generating capacities. Authorisations are issued to all applicants guaranteeing that their activities will satisfy certain conditions, one of them being the requirement to comply with public interests.

The Ministry of Economy has approved the list of public service obligations in the electricity sector. Pursuant to the Order of the Minister of Economy, the following services are considered public service obligations in the electricity sector:

1. electricity generation:
  - 1.1. from renewable energy sources;
  - 1.2. in the co-generation mode at combined heat and power generation plants, where these plants supply heat to urban district heating systems;
  - 1.3. at specified power plants where electricity generation is necessary for ensuring reserves of the energy system;
2. ensuring nuclear operational security, waste storage and disposal;
3. connection of electricity generating facilities using wind, biomass, solar or hydro-power to transmission or distribution electricity networks.

The fulfilment of public service obligations specified in this list is regulated by the Rules for Imposing Public Service Obligations approved by the Ministry of Economy. At the end of 2006, they were revised by applying a more flexible taxation mechanism that would facilitate trading on the electricity market. The Rules will enter into force in 2008.

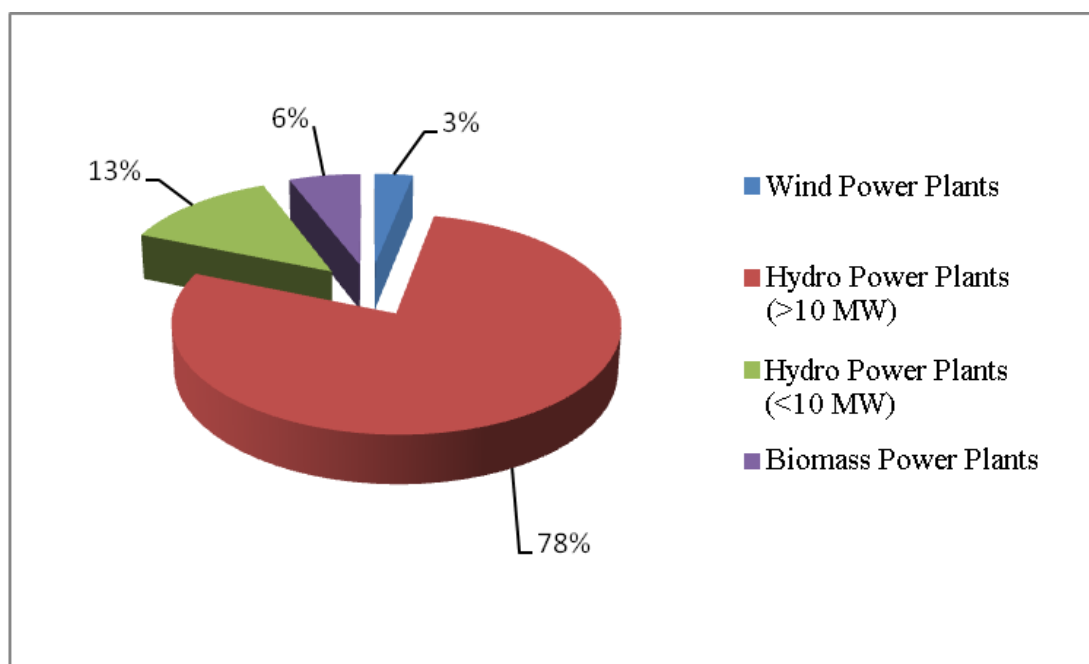
## Labelling of Primary Energy Sources

For the purpose of implementing Order No 4-346 of the Minister of Economy of the Republic of Lithuania of 7 October 2005 on the approval of the Rules for Issuing Guarantees of Origin of Electricity Generated from Renewable Energy Sources (*Official Gazette*, No 122-4375, 2005), Lietuvos Energija AB, as the transmission system operator, is responsible for the issue of guarantees of origin of electricity generated from renewable energy sources and for the administration of the database.

A guarantee of origin database was created before 31 December 2005. The following information is recorded, collected and stored on the website of Lietuvos Energija AB <http://www.le.lt> the list of persons who were issued guarantees of origin; data on the facilities owned by the participant; the total volume of electricity generated from renewable energy sources broken down by energy sources from which the electricity was generated. Information is updated at least on a monthly basis. Participants, i.e. producers and/or suppliers registered in the guarantee of origin database and given a code, have the right to view their data.

Electricity supply to the network by type of power plants is presented in the Tables below.

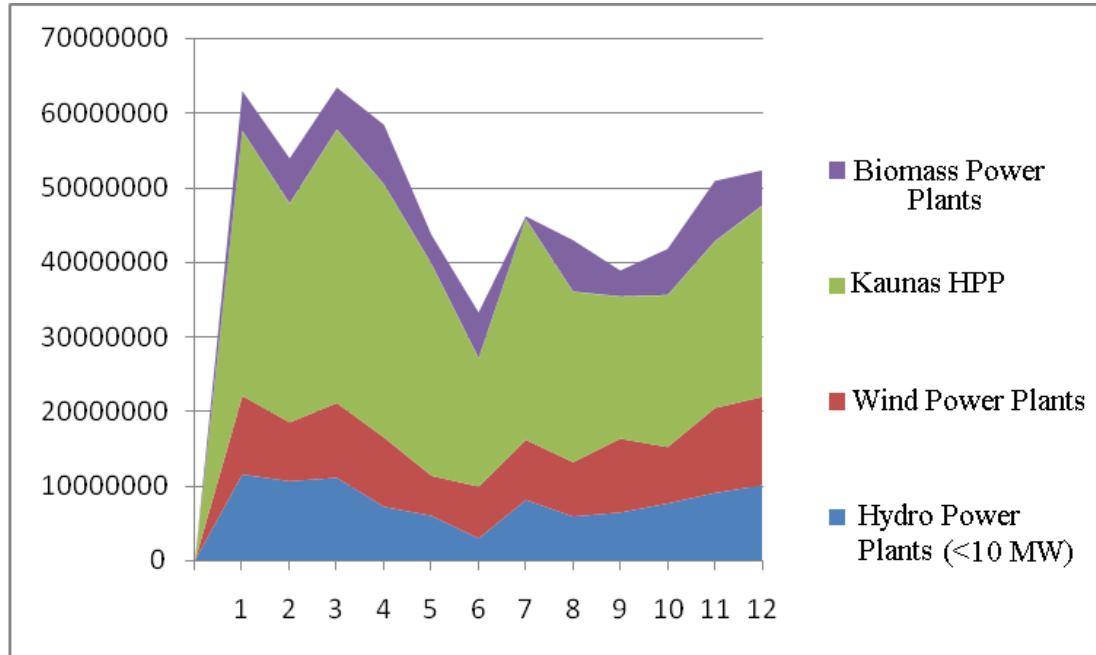
Figure 16. Electricity Supply to the Network by Type of Power Plants in 2007



Hydro power plants supply to the network 91% of all electricity generated from renewable energy sources. The major share, i.e. 78%, is produced and supplied by Kaunas Hydro Power Plant.



Figure 17. Electricity Produced from Renewable Energy Resources Supply to the Network by Month in 2007 kWh



The total output of electricity from renewable energy sources is mostly affected by hydro-power plants. Their production gets particularly intensive in April when tidal waters are used. In summer, due to very low water levels in rivers and water ponds, production volumes are considerably reduced in compliance with the environmental requirements and in some cases production is fully stopped. This seasonality factor is particularly relevant for hydro-power plants with the capacity up to 10 MW.

Figure 18. Electricity Supplied to the Network by Wind Power Plants in 2007 (MWh)

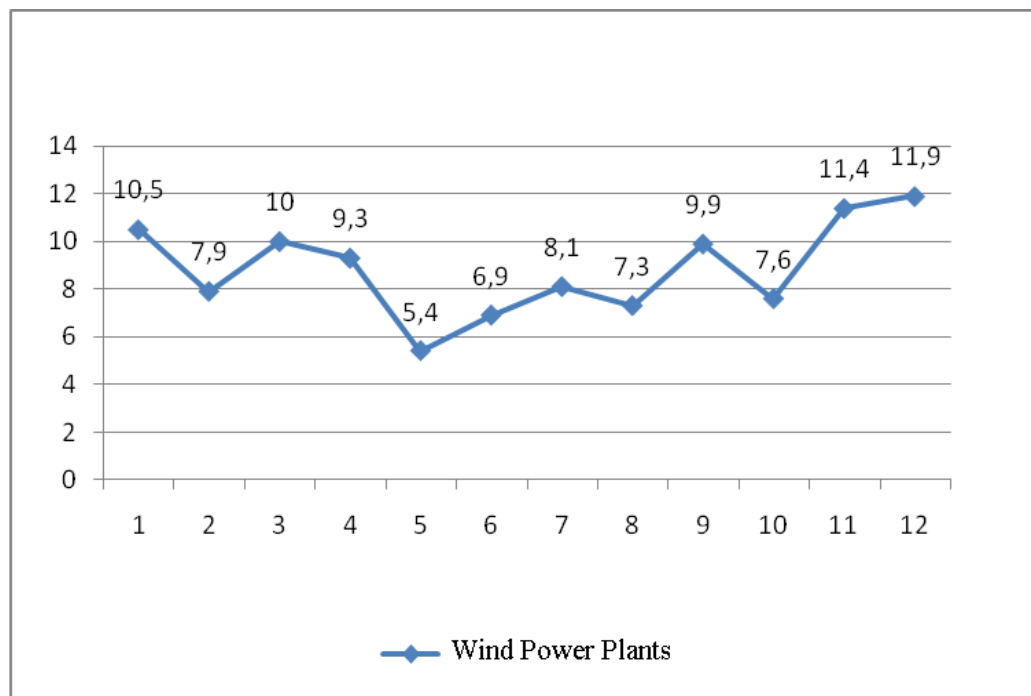
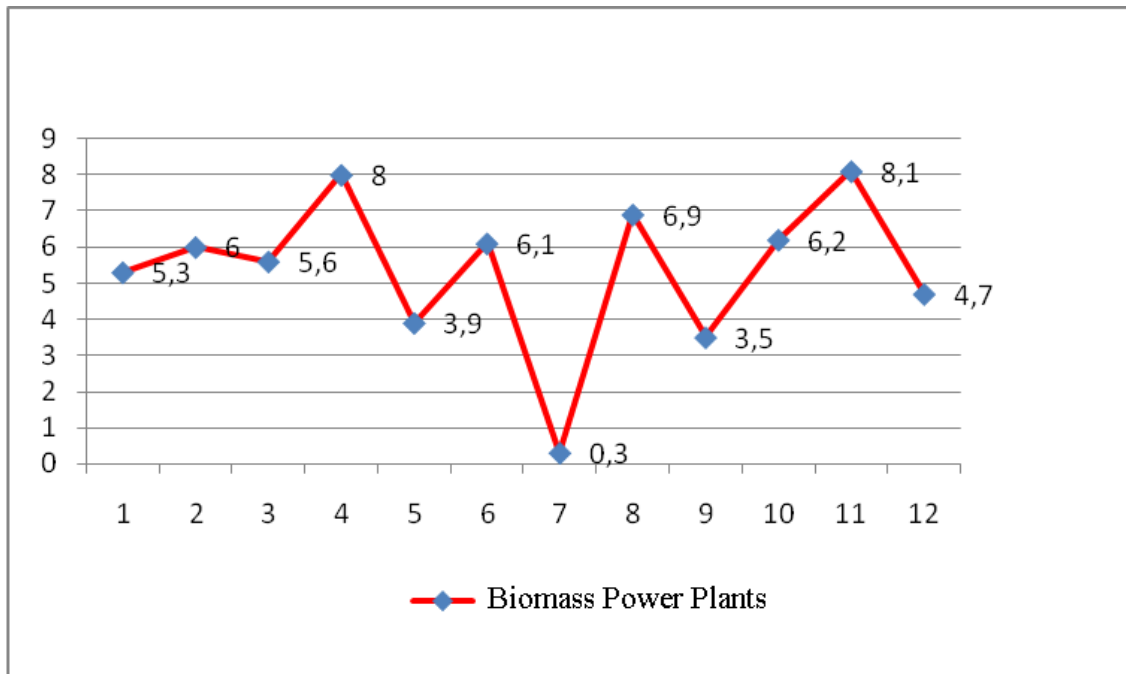


Figure 19. Electricity Supplied to the Network by Biomass Power Plants in 2007 (MWh)



The volume of electricity generated from renewable energy sources is the total output of electricity produced by power plants using only renewable energy sources, as well as the proportion of electricity generated from renewable energy sources in hybrid power plants also using non-renewable energy sources. The proportion of electricity generated from renewable energy sources in these power plants is determined by subtracting the amount of electricity produced from non-renewable energy sources from the gross electricity output. The amount of electricity produced from non-renewable energy sources is determined on the basis of the consumed fuel balance and the normative consumption of conventional fuel for the generation of 1 kWh of electricity established by the Minister of Economy of the Republic of Lithuania.

The producer must, not later than within seven days after the end of each month, provide the following information to the institution issuing guarantees of origin (producers whose facilities are connected to the distribution network – to the distribution network operator of their relevant region) in respect of every facility registered in the database:

- 1) the amount of electricity generated from renewable energy sources during the previous month (in kWh), where this amount is measured by electricity metering devices complying with the requirements set by the Law of the Republic of Lithuania on Metrology and other legal acts, specifying the renewable energy source;

2. the amount of electricity generated from renewable energy sources and supplied to the network during the previous month (in kWh), specifying the renewable energy source;

3. the amount of electricity sold with guarantees of origin that were not used (in kWh), and the purchaser.

The distribution network operator must, not later than within seven days after the end of each month, submit the following information to Lietuvos Energija AB (the institution issuing guarantees of origin) in respect of each producer separately:

1. amounts of electricity supplied to the network during the previous month from producers generating electricity from renewable energy sources (in kWh);

2) amounts of electricity purchased from producers during the previous month under public service obligations (in kWh), and the amount paid (in LTL).

Participants shall be responsible for the accuracy and reliability of the data provided.

### **Implementation of the Criteria Set out in Annex A to the Directive**

While carrying on their activities, companies operating in the electricity sector must inform customers about efficient electricity consumption, the services provided by the company, conditions of the provision of services, prices and tariffs of services and electricity, fees and terms for the connection of customer equipment to the grid and expected modifications to contractual conditions. Companies of the electricity sector must notify household customers of an increase in prices and tariffs in writing or by other means at least one month prior to such increase. Public suppliers are prohibited from discrimination between customers or categories of customers. Any customer receiving electricity from a public supplier is obliged to settle all payments with the public supplier for electricity and its transportation in a timely manner. A customer has the right to unilaterally withdraw from the contract with the public supplier without paying any charges, giving written notice 30 calendar days in advance and settling all payments for the supplied electricity and its transportation service by the day of withdrawal from the contract.

Household customers have the right to:

1) freely and without any charges choose a supplier;

2) receive information from suppliers concerning the supplier's name, registered address, company code and legal form, the services provided and conditions of their provision, prices and tariffs of services and electricity, the means of notifying about prices, the duration of the contracts, the conditions for conclusion and termination of the contracts, dispute settlement procedures;

3) unilaterally withdraw from the contracts without paying any charges, if contractual conditions are modified and they are not acceptable to household customers;

4) be offered a choice of payment methods by companies operating in the electricity sector and choose a payment method.

Pursuant to the approved Electricity Supply and Consumption Rules, supply may be interrupted or limited through the customer's fault. The operator or supplier has the right, subject to a prior warning at least 15 calendar days in advance in the case of household customers or 10 days in advance in the case of other customers, interrupt or limit electricity supply to them on the date specified in the warning or any later date, when within the set period of time the customer concerned fails to pay or pays in part for the electricity consumed.

Throughout 2007, VST AB temporarily interrupted electricity supply to 0.45 thousand commercial customers and 6.32 thousand household customers for non-payment for the services provided. This accounts for some 0.9% of the total number of customers, or 11% more than in 2006.

In the same period, Rytų Skirstomieji Tinklai AB temporarily discontinued electricity supply to 0.3 thousand commercial customers and 4.1 thousand household customers for non-payment for the services provided. This accounts for about 0.6 % of the total number of customers.

Where electricity transmission and/or supply to a customer are interrupted or limited or where electricity quality parameters at the point of the provision of the electricity transmission service or the purchase and sales of electricity do not comply with the set requirements, the operator or public supplier must compensate the customer upon the customer's request for direct damages incurred through the fault of the operator or public supplier. Indirect damages are not subject to compensation. The customer must file a claim for compensation for direct damages within 10 calendar days after the damages have been incurred. The operator or public supplier must hear the customer's claim within 30 calendar days. Damages incurred due to electricity transmission and/or supply interruption or limitation must be compensated within 30 calendar days from the establishment of their amount and the validity of the customer's claim, unless otherwise agreed by the customer and the public supplier or operator.

Since an independent supplier was chosen by a very small percentage of eligible customers in Lithuania (all non-household customers being eligible customers from 1 July 2004), the majority of electricity customers purchase electricity from two main public suppliers according to the regulated public tariffs. The regulated public tariffs are applicable to all categories of customers, i.e. residents, small, medium and large businesses.

A public supplier is obliged to conclude contracts and supply electricity upon request to all customers within the territory specified in the supplier's licence, who have not chosen an independent supplier.

A customer has the right to unilaterally withdraw from the contract with the public supplier without paying any charges. The customer must notify the public supplier in writing 30 calendar days in advance and settle all payments for the supplied electricity and its transportation service by the day of withdrawal from the contract.

Before concluding or terminating the electricity supply contract with an eligible customer located in the territory specified in the public supplier's licence, the independent supplier must communicate a written notification thereof to the public supplier 30 calendar days in advance.

Before concluding or withdrawing from the electricity supply contract with the independent supplier, an eligible customer located in the territory specified in the public supplier's licence must communicate a written notification thereof to the public supplier 30 calendar days in advance.

Customers may change their electricity supplier without paying any charges.

Price caps of public tariffs (Table 37) are set annually for each specific public supplier. The revenue level for transmission services through high voltage networks and distribution services, as well as for public supply services is set for a three-year period, with annual adjustment by the following coefficients: indexation, impact of electricity volume, unpredicted changes and correlation; price caps for distribution and supply services are calculated in respect of the amount of electricity planned to be transmitted, distributed or sold during that year. Price caps of public tariffs consist of the price caps of the generation cost, the price of transmission services, as well as the price of distribution services through medium and low voltage networks and supply services. The level of public tariffs depends on fluctuations of the generation cost. As the price of the main Lithuanian producer, which has a share of over 70% of the market, is regulated, and other producers sell the major share of their electricity as public service obligations, the NCCPE estimates the generation cost which is included in the calculation of price caps of public tariffs.

Table 37. Cap Levels of Public Tariffs of Rytų Skirstomieji Tinklai AB  
and VST AB, EUR/MWh

<i><b>Rytų Skirstomieji Tinklai AB</b></i>	2004	2005	2006	2007	2008
<i>High voltage (330-110 kV)</i>	35.45	36.00	35.88	39.91	50.1
<i>Medium voltage (35-6 kV)</i>	48.51	54.65	54.30	58.16	70.9
<i>Low voltage (0.4 kV)</i>	74.49	85.15	83.79	87.29	103.1
<b>VST AB</b>					
<i>High voltage (330-110 kV)</i>	35.51	35.97	35.83	39,85	50
<i>Medium voltage (35-6 kV)</i>	48.86	58.04	57.55	61.20	73.9
<i>Low voltage (0.4 kV)</i>	72.06	85.32	84.29	87.75	103.9

The breakdown of all customers covered by public tariffs in 2007 is presented in Table 38.

Table 38. Share of Customers Paying According to Public Tariffs, %

Household	Industry	Other
96.5	0.1	3.4

Electricity is supplied to customers as a good. Electricity consumption is allowed only subject to a contract between a customer (including eligible customer) and a public electricity supplier,

transmission or distribution network operator. The grounds for executing contracts are established in the Civil Code. Disputes are settled by mutual agreement or in court. Compliance with the mandatory requirements is stipulated in licences issued to energy companies.

The State Consumer Rights Protection Authority holds preliminary extra-judicial hearings of complaints lodged by natural persons concerning the application of unfair conditions in energy purchase-sale or service contracts.

The State Energy Inspectorate under the Ministry of Economy holds preliminary extra-judicial hearings of complaints concerning the malfunctioning and breakdowns of energy facilities, equipment and metering devices, breaches of requirements for maintenance, energy quality, accounting of energy and payment for the consumed energy, accidents, the interruption, suspension or restriction of energy supply.

The NCCPE holds preliminary extra-judicial hearings of complaints concerning acts or omissions of energy enterprises in supplying, distributing, transmitting, storing energy, refusal to grant them the right of access to networks and systems, connection, balancing of energy supply flows, as well as application of prices and tariffs.

## **6.2. NATURAL GAS SECTOR**

Article 3(6) of Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas (CELEX No 32003L0055) sets out the requirement to inform the Commission of the European Community of all measures adopted to fulfil public service obligations.

By Letter No (30.7-63)-3-1655 of 13 March 2007 addressed to His Excellency Commissioner Andris Piebalgs, the Ministry of Economy of the Republic of Lithuania notified the Commission of the following measures adopted to fulfil public service obligations:

a) natural gas supply price regulation for all customers to set the supply price caps.

The obligation is established under the Article 23.1.5 of the Law on Natural Gas. Article 23.1.5 of the Law provides for the following: *1. The following prices shall be regulated in the gas sector by setting their price caps: <..> supply.*

Natural gas is imported into Lithuania based on contracts signed between Gazprom AAB and Lithuanian companies. Gazprom AAB is the sole gas seller to Lithuanian companies.

PSO established in Lithuania shall comply with specific prescribed aims, objective causes, and are stringently regulated and transparent.

These PSO is related to the supply of the service of general economic interest. It is directly related to the Lithuanian aim of keeping certain price level control and supervises fairness of price setting. Under the document published by the EC *Note of the DG Energy&Transport on Directives*

*2003/54/EC and 2003/55/EC on the Internal Market in Electricity and Natural Gas—Public Service Obligations* the obligation applicable in Lithuania complies with criteria listed in Section 2.1.2.3 *Quality and Price of Service Supplied*.

The key causes for applying this measure are: the internal gas market is not fully created; there is no domestic gas supply competition, as gas is supplied to Lithuania by the single external gas supply source. Lithuania has no developed gas transport infrastructure which facilitates receiving gas from other sources. Beside this, gas supply companies purchase gas in line with Gazprom-set quotas and prices. This company also sets import, payment and sales terms to all Lithuanian gas customers.

Due to Gazprom AAB policies eligible customers in Lithuania have no real chance to select a supply company. Otherwise speaking, supply companies are operating in the environment of a natural monopoly or an oligopoly with a miniscule number of players.

Currently only one sole external gas supplier, Gazprom AAB of the Russian Federation supplies gas both to Latvia, Estonia and Lithuania.

So far as gas supply to Lithuania (and other Baltic States, Latvia and Estonia) is fully dependent on a non-the European Union member company there are no preconditions to have fully-fledged market relations in the gas sector. Lithuanian and Latvian gas pipelines are interconnected; however the gas supply source remains the same. So far this interconnection plans to be used in an extreme energy situation and a gas metering station is installed for this case.

The supply price regulation principle is clearly prescribed in Articles 23.3 and 24.4 of the Law on Natural Gas. Article 23.3 of the law provides for the following: *The NCCPE shall draft and approve price setting methodologies specified in sections 1 and 2 herein*, and the Article 23.4 provides that: *Upon having them verified by the NCCPE, gas companies shall make prices specified in sections 1 and 2 herein public*.

The Natural Gas Price Caps Calculation Methodology approved by the Resolution No. O3 – 54 of the NCCPE of July 31, 2007, establishes that the NCCPE shall set gas transmission, distribution and supply price caps for five years. Specific gas transmission, distribution and supply prices shall be annually set by gas companies without exceeding the NCCPE-set price caps.

This Methodology is public and available to customers. It establishes respective procedures, e.g., that gas supply price caps may be adjusted upon the NCCPE decision in case of changes in the inflation level, taxes, gas transportation volume, legal requirements, or when gas companies exceed set indicators, however maximum once a year. Thus this obligation is clearly defined, transparent, non-discriminatory and verifiable. To our opinion such PSO has no negative impact whatsoever on trade development and Community interests.

b) The request for supply companies to be the supplier of last resort for household customers.

This obligation is established under the Article 16.3 of the Law on Natural Gas:

3. *The supply of the last resort may be provided to household customers and users to sites with the energy generation capacity less than 5 MW and having no fuel reserve stocks. Eligible customers shall be entitled to select another company than the company providing the supplier of the last resort services.* Observing the last provision customer rights to choose a gas supply company is not limited. This obligation is non-discriminatory as various obligations are applicable to supply companies but customer choice is not limited.

Under Article 10 of the Law on Natural Gas the Government of Lithuania approved the Licensing Rules on Natural Gas Transmission, Distribution, Storage, Liquefying and Supply. In these Rules the scope of the supply of the last resort is narrower than in the Law, and the supply of the last resort is provided only for household customers, without discussing the supply of the last resort for customers to sites with the energy generation capacity less than 5 MW and having no fuel reserve stocks. Clause 122 of the Rules provides that household customers shall be supplied with gas by the supplier of the last resort.

The supply of the last resort is clearly regulated in the Law on Natural Gas and the implementing legislation, and licensing and other procedures are established. Article 10.4, *Licensing in the Gas Sector* of the Law provides that the NCCPE shall be entitled to oblige a gas company with a supply license to do the supply of the last resort under the Government-prescribed procedure. The Licensing Rules on Natural Gas Transmission, Distribution, Storage, Liquefying and Supply prescribe that the NCCPE shall oblige a company with a supply license to do the supply of the last resort.

Section X of these Rules, *Supply of the Last Resort* prescribes procedures how the supply of the last resort is done. Before making a decision on obliging a respective company to become a supplier of the last resort, the NCCPE shall verify the readiness (technological, financial and management capacity) of licensed gas supply companies to be the supplier of the last resort.

In terms of transparency and non-discrimination the Rules emphasize that the NCCPE decision on doing the supply of the last resort should not be discriminative in respect of other supply companies.

Provisions of the Articles 3, 16 of the Law on Natural Gas related to the supply of the last resort comply with the Article 3 of the Directive 2003/55/EC. The supplier of the last resort is treated as a consumer protection measure allowing ensured continuous provision of the natural gas.

The purpose of these public service obligations is to create conditions for the protection household customers and other small customers ensuring secure and reliable gas supply to them. This obligation is also related to the supply of services of general economic interest. With reference to *Note of DG Energy & Transport on Directives 2003/54/EC and 2003/55/EC on the Internal Market in Electricity and Natural Gas – Public Service Obligations* published by the European Commission, the obligation implemented in Lithuania complies with the provision of section 2.1.3 that this service is entrusted to private operators rather than all undertakings in the sector. Pursuant to these



recommendations and Article 3 of Directive 2003/55/EC, Member States may appoint a supplier of last resort for customers connected to the gas network. It should be underlined that this public service obligation is imposed in a way that prevents any adverse effect to the development of trade or to the interests of the Community.

It should be noted that by defining the PSO the European Commission specifies that these are the services which, based on commercial company interests it would either not provide or provide in a different scope or under different conditions. In the Lithuanian case the impact of the supplier of the last resort on the company to be obliged to provide such services is set forth in the Article 5 of the Law on Natural Gas. It prescribes that PSO implementation shall be financed by funds received for gas transmission, distribution, storage and (or) supply. Under the currently existing practice costs of the supplier of the last resort are included into corporate activity costs.

In their operations gas companies shall directly notify customers (in writing or otherwise) about effective gas consumption, services provided by gas companies, terms of service provision, gas and service prices, prices and terms of connection to systems and planned contract term amendments. No less than with one month's notice gas companies must notify customers about contract term amendments and planned price changes. Discrimination of customers or customer categories by gas companies is prohibited. A customer receiving gas must timely make payments to natural gas companies for natural gas and its transport.

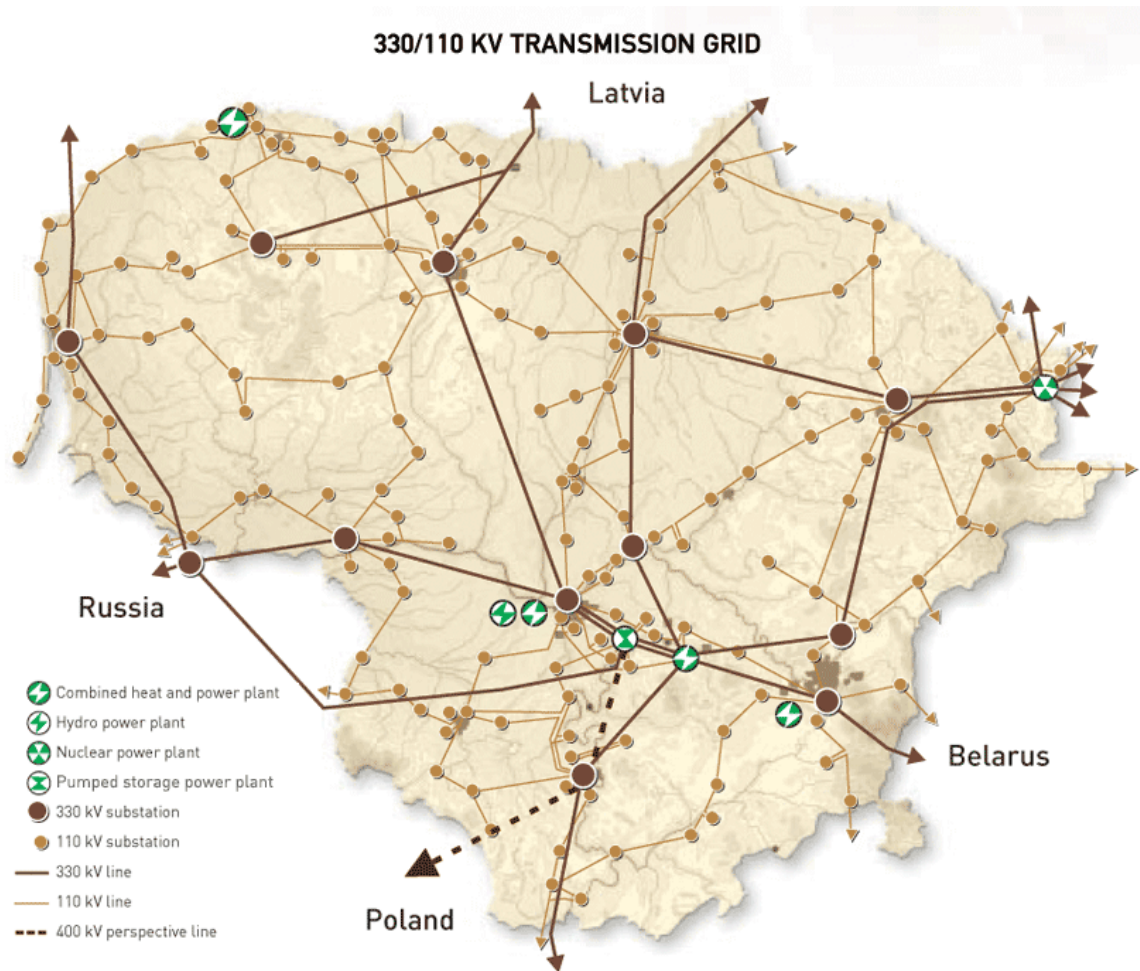
## **7. REPORT ON THE PRICING STRUCTURE AND G VALUES**

The electricity transmission service price has been applicable since 2002, following the splitting of the vertically integrated electricity company and the start of the functioning of the electricity market. Lithuania has one company holding the transmission system operator's licence, namely, Lietuvos Energija AB, the main company in the Lithuanian electricity sector, functioning as the owner of the electricity transmission grid (110-330 kV), system operator and market operator. It:

- maintains and develops the electricity transmission system;
- ensures a balance between electricity generation and consumption, as well as electricity transmission from Lithuanian power plants to distribution companies;
- co-ordinates the operation of the Lithuanian energy sector to ensure reliable electricity supply to consumers. Together with the neighbouring energy systems, it is engaged in electricity exports, imports and transit;
- organises trade in electricity.

The structure of the transmission system is shown in Figure 20.

Figure 20. Lithuanian Electricity Transmission System



The company owns 222 transformer substations and switchyards, over 6,000 km of 330 and 110 kV electric lines, Kaunas Hydro-Power Plant and Kruonis Pumped Storage Plant, the Dispatch Centre and the ITT centre. Kaunas HPP and Kruonis PSP ensure capacity balances and the regulation of modes.

The transmission system managed by Lietuvos Energija AB is interconnected by four 330 kV electric lines with Latvia, five lines with Belarus and three lines with Russia (Kaliningrad). One of the primary objectives of Lietuvos Energija AB is the integration of the Lithuanian energy system into the Western European electricity market as well as the development of regional co-operation. The expansion of the transmission grid is planned in the near future by interconnecting it with the Polish electricity networks. The Lithuanian-Polish interconnection project is vitally important in developing a common EU electricity market and enhancing the reliability of energy supply. The exploitation of joint capabilities of the electricity systems of the Baltic States is aimed at creating a common Baltic electricity market ensuring successful integration of the Baltic States into Western European and Scandinavian electricity markets.

The general pricing principles applicable to electricity transmission services are defined in the Law on Electricity, i.e. prices for transmission services are regulated by setting the price cap. The specific procedure for calculating price caps for these services is established in the Methodology for Setting Prices for Electricity Transmission and Distribution Services and their Price Caps. It is described in the Section on *Network Tariffs in this Report*. The prices for electricity transmission services are calculated according to several voltage levels: 330-110 kV (high) and 35-6 kV (medium). The prices for lower voltage transmission services are close to those charged for the services provided by the twice higher voltage grid. However, the transmission system has only several medium voltage electric lines, which do not have particular importance to the system.

The transmission service price consists of the following components:

1. price for the transmission system operator's service;
2. price for additional (capacity reserve) services;
3. price for public service obligations (applicable from 1<sup>st</sup> January 2008).

The average transmission service price is differentiated into capacity and energy components according to voltage levels. The average price for additional services is differentiated only on the basis of capacity component.

Transmission service prices (excluding VAT) effective from 2007 by types of services provided to distribution networks and customers receiving electricity from the transmission grid are given in Table 39.

Table 39. Components of Transmission Service Prices

No	Tariff (LTL 1 = EUR 3.4528 )	Tariff, excluding VAT	
		when the ownership boundary is between 330-110 kV voltage equipment	when the ownership boundary is between 35-6 kV voltage equipment
1.	Differentiated two-component prices charged by the transmission system operator:		
1.1.	capacity component	LTL 6.06/kW per month	LTL 11.04/kW per month
1.2.	energy component	LTC 1.25/kWh	LTC 1.27/kWh
2.	Differentiated price for the capacity reserve service – capacity component	LTL 6.40/kW per month	LTL 6.40/kW per month

When paying for transmission services, distribution network operators and customers whose equipment is connected to the transmission grid make the following payments:

- A differentiated price of the transmission system operator's service in ct/kWh for the actual amount of electricity transmitted to them from the transmission grid and in LTL/kW per month for the maximum actual hourly demanded capacity per month (including electricity generated with own resources and received from producers, except for those using renewable and waste energy sources);
- A differentiated price of the capacity reserve service in LTL/kW per month for the maximum actual hourly demanded capacity per month (including electricity generated with own resources and received from producers, except for those using renewable and waste energy sources);
- A set price of public service obligations in LTC/kWh for the actual amount of electricity transmitted to them.

Public suppliers selling electricity to customers whose equipment is connected to the transmission grid apply public tariffs less the prices charged for electricity transmission and capacity reserve services.

It is evident that producers are not charged the transmission service price or a part thereof, i.e. G component is equal to zero. Furthermore, no charges are applied on the basis of the location of producers or customers.

The equipment of new customers and producers is connected to the grid in accordance with the Rules for the Connection of Energy Facilities (Networks, Equipment, Systems) of Electricity Customers and Producers to the Existing Facilities (Networks, Equipment, Systems) of Energy Companies approved by the order of the Minister of Economy.

Pursuant to the Law on Energy and the Law on Electricity, the NCCPE approves connection fees (see Table 40).

Table 40. Effective Fees for the Connection of Customer Equipment to the Grid, Excluding VAT

Tariffs	Measurement unit	One-phase branch line	Three-phase branch line
1.1. Monomial tariff for allowed capacity	LTL/kW	108.0	142.8
1.2. Binomial tariff for: - allowed capacity - taxable distance	LTL/kW LTL/m	108.0 14.8	142.8 19.2

These fees are set at the rates so as to cover 40% of the operators' costs needed to provide the services specified in the aforementioned Rules, except where:

- 1) a customer wishes to enhance the reliability of electricity supply;

2) the price for the service provided by the operator as calculated in accordance with the approved fees for the connection of customer equipment to the grid is more than 2.5 times lower than the estimated amount for this service;

3) a customer wishes to replace the one-phase branch line with the three-phase one, without changing the allowed capacity;

4) a customer, as a result of the transfer of part of its immovable property to another person (new customer), waives its allowed capacity or a part thereof, while the new customer's electrical equipment, the allowed capacity whereof equals to the waived one, is connected at the same grid address as the equipment of the customer that has waived its allowed capacity;

5) the allowed capacity of the customer's electrical equipment that is newly connected is above 1000 kW;

6) the customer's electrical equipment is connected to the 35 kV voltage grid and the ownership boundary is at the side of 35 kV voltage;

7) the connection of electrical equipment to the grid is requested for one-off events, construction period or other short-term purposes, except for the cases when the electricity grids constructed and installed for construction needs will be used for continuous electricity supply, as well as the connection of electrical equipment in temporary constructions is requested;

8) a customer, producer or other persons wish to move or reconstruct the energy facilities (electricity networks and equipment) owned by the operator, when these facilities impede the construction of buildings or for other reasons;

9) customer equipment is connected to the transmission grid in the cases prescribed by the Law of the Republic of Lithuania on Electricity;

10) the price for the connection of electrical facilities of producers to the grid is equal to the estimated project amount. Producers using renewable and waste energy sources for electricity generation pay for the connection of their equipment in accordance with the Procedure for Promoting the Generation and Purchase of Electricity Generated from Renewable and Waste Energy Sources;

11) this service is free of charge in the event of a customer reducing the allowed capacity of its electrical equipment.

The following procedure for applying fees for the connection of customer equipment to the grid has been established by the resolution of the NCCPE:

1) monomial tariff (for allowed capacity) is charged, where  $L \leq L_v$  or  $k \leq x L$ .

2) binomial tariff (for allowed capacity and distance) is charged, where  $L > L_v$  and  $k > x L$ .

where:

$k = L / P$ ;

$P$  – newly connected (additional) allowed capacity of the customer (kW);

$L_v$  and  $xL$  – electricity network development estimation values;

$L$  – shortest geometrical distance from the customer’s metering cabinet (boundary of the ownership of the electricity network) to the calculated connection point (m).

The following network development estimation values have been set:

$$L_v = 38 \text{ m}, \text{ x } L = 4.49 \text{ m/kW}.$$

Based on the allowed capacity, the connection point is determined in accordance with the conditions specified in Table 41.

Table 41. Determination of the Connection Point

Customer’s additional allowed capacity $P$ , kW	Connection point for the requested branch line ( $L$ ) is determined as follows:
$P \leq 10$	a) the nearest point in the 0.22 – 10 kV voltage electricity grid; b) when installing a new three-phase branch line, the nearest point in the 0.38 – 10 kV three-phase voltage electricity grid.
$10 < P \leq 500$	the nearest point in the 10 kV voltage electricity grid. In cases where the allowed capacity may be connected to the 0.38 kV voltage electricity grid without any reconstruction, the nearest point in the 0.38 kV voltage electricity grid.
$500 < P < 1000$	the nearest 110 kV transformer substations or 10 kV buses of the 10 kV distribution point.
$P \geq 1000$	in accordance with technical conditions.

Connection fees are calculated according to the following formulas:

- monomial when a one-phase branch line is installed  $M = 108,0 \times P$  (LTL);
- monomial when a three-phase branch line is installed  $M = 142,8 \times P$  (LTL);
- binomial when a one-phase branch line is installed  $M = 108,0 \times P + 14,8 (L - 4,49 \times P)$  (LTL);
- binomial when a three-phase branch line is installed  $M = 142,8 \times P + 19,2 (L - 4,49 \times P)$  (LTL).

Fees for the connection of customer equipment to the grid and the procedure for their application are applied to customers of all electricity network operators, who conclude contracts for the connection of their equipment to the grid after 1 January 2003.

Connection does not entail any additional charges. However, privileges are granted to producers using renewable energy sources pursuant to the Procedure for Promoting the Generation and Purchase of Electricity Generated from Renewable Energy Sources. When paying for the services of the transmission system operator, such producers are not charged the capacity component of the transmission service and the price for the capacity reserve service.