

Annual Report on Electricity and Natural Gas Markets of the Republic of Lithuania to the European Commission

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1. INTRODUCTION

In 2010 the electricity sector underwent material changes.

Upon the shutdown of Ignalina Nuclear Power Plant (which generated electricity to meet approximately 80% of total national electricity demand) at the end of 2009, the previous exporter of electricity Lithuania started importing electricity from the third countries.

At the beginning of 2010 an hourly power exchange trading started facilitated by the electricity exchange BALTPOOL UAB based on Nord Pool Spot AS principles.

As of 31 July 2011, NCC issued 68 independent electricity supply licenses. 2010 featured an especially active interest in power exchange trading, when NCC issued 32 independent electricity supply licenses within one year.

Since 2010 customers with power capacity above 400 kW kept buying electricity from independent suppliers against contractual prices. As planned, in 2010 the real opening rate of the electricity market was 35%, compared to 12% in 2009.

In 2011 and 2012 customers with power capacity exceeding 100 kW and 30 kW should choose independent suppliers. Their share would be 45% and 55% of the total national electricity consumption respectively. Up to 2014 only household customers will be entitled to pay for electricity on the basis of the regulated public prices. In this case the market opening would be approximately 70%.

Under the implementation of the Baltic Energy Market Interconnection Plan (BEMIP) initiated by the European Commission, in 2010 an understanding was reached on implementing projects of power transmission interconnections with Swedish and Polish power systems, to connect the isolated Baltic power region with the West European and Scandinavian countries. The planned European Commission funding is approximately 32% of the Lithuanian share of the project value for the NordBalt interconnection between Lithuania and Sweden, while the balance will be covered by the national co-financing.

Amendments to the Law on Electricity were developed in 2010, and they are expected to be passed by the Seimas in the autumn of 2011. The amendments aim to implement the first and foremost model of unbundling activities of the transmission system operator under the Third EU Energy Package.

Inexistent gas supply alternatives have determined the dysfunctional natural gas market in Lithuania.

To address this problem, diversification of natural gas import sources is planned, by investing into construction of a liquefied gas terminal and interconnecting Lithuanian and Polish natural gas systems.

In 2010 the Government of Lithuania passed a decision on construction of a liquefied natural gas (LNG) terminal in Klaipeda. The projected potential capacity of the terminal is 2-3 billion m³/year, and the planned start of operations is 2014. The LNG terminal project is included into the Baltic Energy Market Interconnection Plan, approved by the European Commission and eight Baltic Sea states on 17 June 2009.

In 2010 the Polish gas transmission system operator Gaz-System S.A. and the Lithuanian gas transmission system operator Lietuvos Dujos AB agreed on principles of survey works for construction of the gas line to interconnect Poland and Lithuania. A joint proposal for financial support for the Interconnection Feasibility Study under the TEN-E programme was submitted.



On 30 June 2011 the Seimas passed the Law on Amending the Law on Natural Gas and the Law on Implementing the Law on Natural Gas of the Republic of Lithuania. The laws intend to implement the first and foremost model of unbundling activities of the gas transmission system operator under the Third EU Energy Package.

To develop this report NCC used regular reports and other materials of undertakings operating in the electricity and gas sectors and data supplied by other authorities. The present report overviews the key development stages of the gas and electricity markets and lists significant problems faced by them.

Chairman of NCC



Diana Korsakaitė



2. Key developments in electricity and natural gas markets

2.1. Gas sector

2.1.1. Wholesale market

The wholesale sector of the natural gas market has not seen any progress for several years by now. The market concentration is maximum, i.e., Lithuania is fully dependent on the sole gas supplier, Gazprom OAO, though gas is partly bought through LT Gas Stream AG.

In 2010 thirteen (13) gas companies were licensed as gas suppliers, but in real terms gas quotas were shared between Lietuvos Dujos AB and Dujotekana UAB.

In 2010 the sole company, Lietuvos Dujos AB was licensed as the Transmission System Operator for the entire territory of the Republic of Lithuania.

The distribution market is in a pretty similar situation. Lietuvos Dujos AB has 99% of the distribution market share. Five (5) other companies were entitled to engage in distribution activities, but they provided distribution services only in individual regions and their total distribution market share was 1%.

However in distribution activities, different from the transmission activities, approximately one third of the territory of Lithuania has not been gasified. To encourage competition and reduce the influence of dominating operators in this market, a competition procedure has been prescribed by law so that these unlicensed territories are gasified through the development of infrastructure.

Two main suppliers, Lietuvos Dujos AB and Dujotekana UAB dominate the natural gas supply market, they have supplied 99% of total gas sold to Lithuanian gas consumers. Haupas UAB supplied gas to Druskininkai Region and sold 1% of total gas supplied to consumers.

Lithuanian natural gas market is not integrated with other European Union (hereinafter – EU) member states. It has no interconnections with them (except the only interconnection with Latvia for emergencies only, i.e., to ensure uninterrupted gas supply, in case of gas supply disruptions through the only interconnection with Belarus). Technical capacities of the existing interconnection with Belarus are sufficient to meet customer needs.

As currently Lithuania has the sole interconnection available, operation of a natural gas exchange is impracticable, or its operations would be a mere formality. However a gas exchange is planned upon completion of the infrastructural projects of an interconnection with Poland or construction of a liquefied gas terminal. The exchange will enable free trade for suppliers and buying natural gas against the lowest prices for customers.

In summary, the wholesale natural gas market of Lithuania does not work due to the market isolation, determined by inexistent gas supply alternatives. To address this problem, investments into the Lithuanian-Polish gas line and the Liquefied Natural Gas Terminal are planned. Incentives for implementing these projects and at the same time for the operation of the wholesale market are provided for in the Methodology of Infrastructural Price Caps Calculation approved by the National Control Commission for Prices and Energy (hereinafter – the NCC).

2.1.2. Retail market

The natural gas retail market is basically determined by the wholesale market situation. Like in previous years, in 2010 customers were supplied with natural gas by the two main suppliers, namely Lietuvos Dujos AB and Dujotekana UAB. There are other five gas supply companies, which have the market share as low as 1.2% of the total gas supply retail market. Four of them resold gas to customers, and only Haupas UAB supplied gas to Druskininkai Region customers not connected to the main natural gas system of Lithuania.

In 2010 Lietuvos Dujos AB sold gas to household and non-household customers and had 73.5% of the gas supply retail market share. Dujotekana UAB sold gas to non-household customers only, and accordingly had 25.4% of the gas supply retail market share.

The natural gas retail market is 100% open in Lithuania, but due to the above reasons natural gas customers may not use the advantage of the open market, i.e., look for the cheapest gas market price.

The effectiveness of the natural gas market functioning depends on the number of customers having switched suppliers. For several years already Lithuanian customers may not switch their suppliers because of gas quotas prescribed to suppliers by Gazprom RAB. Thus, retail gas market in Lithuania is dysfunctional.

Knowing this situation back in 2007 the Seimas of the Republic of Lithuania authorized the NCC to regulate gas supplier mark-ups applied to customers. Having analyzed mark-ups applied by natural gas suppliers really operating in gas markets, the NCC set 3-5% gas supply mark-up subject to the gas import price value. The actual gas supply margin was 3.9% in 2010 (33.77 LTL/thous. m³). In 2009 the margin was 4.6% (34.25 LTL/thous.m³). The margin was reduced due to the 15% price increase for gas imports.

The end customer prices for natural gas and transportation applicable since 1 July 2011 based on Eurostat differentiation are provided in the Table below.

Table 1. The end customer prices for natural gas and transportation applicable since 1 July 2011 based on Eurostat differentiation

	Customer group	D3	I1	I4-1
Price, EUR/MWh				
Transmission		1.65	1.55	1.55
Distribution		7.19	7.19	3.85
End gas price (including 21% VAT)		56.97	55.43	51.39

Just like Lithuanian natural gas wholesale market, the retail one may also be considered dysfunctional due to the concentration of natural gas suppliers. No natural gas customers switched their gas suppliers in 2010. With respect to the really dysfunctional gas market in Lithuania natural gas supply prices are regulated by setting the gas supply margin.



2.1.3. Public service obligations and customer protection

Public service obligations are prescribed by the Law on Natural Gas in force up to 1 August 2011. The Government or the institution authorized by it shall be entitled to impose on gas undertakings, in the general economic interest, public service obligations related to security, including security of gas supply, regularity, quality and price of supply, and environmental protection, including energy efficiency, and establish the list of these obligations, the rules of their performance and financing. It also provides that the performance of these obligations shall be financed with funds received for the transmission, distribution, storage and/or supply of gas. Beside this, the performance of these obligations may be financed with the State budget and other funds. The European Commission shall be informed on the imposed public service obligations. These obligations shall be clearly defined, transparent, non discriminatory, verifiable.

The Law on Natural Gas specifically regulates the development of the gas infrastructure as implementation of the public service obligations (hereinafter – PSO), i.e., the Government or the institution authorised by it shall have the right to adopt decisions on the installation or development of the gas main, natural gas storage facility and liquefied natural gas (LNG) facilities required to ensure security. The gas undertakings and the NCC must implement such decisions.

The Law on Amending of the Law on Natural Gas passed on 30 June 2011 includes no obligations to gas companies regarding provision of PSO. Such obligations are provided for in the Renewable Energy Law of the Republic of Lithuania passed in May by the Seimas of the Republic of Lithuania. Gas system operators buy biogas, and biogas production is a PSO. Tariffs of biogas procurement for the network and costs incurred by a natural gas system operator for biogas facility connection are financed by the national and municipal financing programmes for the development of renewable energy sources. The programme would be financed by: partial excise duty funds actually collected for sales of: liquid fuel (heavy fuel oil), orimulsion, natural gas, coal, coke and lignite used for heat and power generation, gas oil (household furnace fuel) for heating, and electricity, under the procedure prescribed by the Law on Excise Duty of the Republic of Lithuania; revenue generated for statistical energy transmissions; state budget allocations; the Special Climate Change Programme; EU support funds; voluntarily contributed funds of individuals, legal entities and foreign states for the development of renewable resource use; and other funds received under the procedure prescribed by regulations of the Republic of Lithuania.

In the natural gas sector and within its remit the NCC has to settle received customer complaints, i.e., under the preliminary extra-judicial procedure the NCC settles complaints on gas company acts or omissions in natural gas transmission, liquefaction, re-gasification, distribution, supply, buying and storing, access to the system, the procedure of customer system connection (methodologies, prices), system balancing, price application, investment and contract terms.

Like in the electricity sector, in the gas one increasing public interest and more protection of own interests were felt. In 2010 the NCC received 43 consumer inquiries and complaints, 23 of them were submitted in writing and 20 – by e-mail. Emailed questions predominantly included questions on information provision about effective gas prices for household customers, payments for natural gas, customer sub-grouping, connection to gas networks and gas quality (calorific value and pressure).



The majority of inquiries received by the NCC concerned natural gas prices. They were predominantly related to providing information on natural gas prices and not justification of natural gas prices. As in previous years, some customers were interested in the justification of applying the fixed part of the natural gas tariff. The NCC provided a detailed explanation of the fixed part including specific calculations. With respect to the regular customer interest in this subject, all the information was posted on the NCC website www.regula.lt.

Approximately 1/3 of complaints were submitted to the NCC regarding customer connection and award of misperformance damages for failure to transport the minimum gas quantity. Customers faced the problem when they had undertaken to consume higher gas quantities when connecting to the gas system in 2005-2007, when Lithuanian economy was growing, but since 2009 their gas demand lowered and they could not meet their obligations. Under this situation gas undertakings calculated customer misperformance damages to implement the provision of the Law on Natural Gas stipulating that connection of new customers shall not increase prices for the existing customers during the pay-back period.

In summary it may be stated that PSO regulation is sufficient. PSO were not reflected in gas tariffs of 2010. The NCC actively protected customer interests by settling complaints and, with respect to justified arguments, modified its approved methodologies and submitted proposals to improve legislation.

2.1.4. Infrastructure

The NCC sets the transmission and distribution price caps in the natural gas sector. The natural gas transmission system is operated by one operator, Lietuvos Dujos AB. 6 companies are engaged in natural gas distribution, but 97% of total gas volume is distributed by gas lines owned by Lietuvos Dujos AB.

Lithuanian natural gas transmission system is connected with Belarusian, Latvian and the Russian Federation gas systems. International connections with these countries are regulated on a contract basis. In 2010 Lithuanian gas consumption demand amounted to 3,106 million m³ per year, thus the long-term contractual capacity reservation causes no transmission system overloads either on the level of domestic or international connections. In 2010 the maximum import gas pipeline use was 75%.

In 2010 construction of Jauniunai Gas Compressor Station was completed, the value of which was LTL 196 million. This site is included into the National Energy Measure Plan of Lithuania and is the most considerable investment into the natural gas sector within the last 20 years. The Compressor Station has strategic importance to ensure the required natural gas supply reliability for Lithuanian customers, meeting transit obligations, and development of regional cooperation.

In 2010 the Government of Lithuania passed a decision on construction of the Liquefied Natural Gas (LNG) Terminal in Klaipeda. The State Enterprise Klaipedos Nafta was selected as the main terminal construction instrument. The projected potential capacity of the terminal is 2-3 billion m³/year, and the planned start of operations is 2014. The project value will reach EUR 200–300 million. The LNG Terminal project is included into the Baltic Energy Market Interconnection Plan (BEMIP), approved by the European Commission and eight Baltic Sea states on 17 June 2009.



Together with the Terminal construction Lithuania plans to establish a gas exchange and build the gas line Jurbarkas–Klaipėda to develop the national ring of gas transmission mainlines. The building of the gas line will expand Lithuanian natural gas transmission system capacities, improve the reliability of the transmission system, and enable gas supply from the planned LNG Terminal in Klaipėda. In 2010 the special plan of the gas mainline Jurbarkas–Klaipėda was approved. The project implementation starts in 2011 and is to complete by 2013. Installation of 137.5 km of gas mainline is planned in total. The construction value is LTL 168 million. Attracting the EU support in the amount of 50% of the investment project value is planned.

Interconnection of Lithuanian and Polish gas line systems is a step towards eliminating energy isolation of the gas sector and integration into the general EU energy market. In 2010 the Polish gas transmission system operator Gaz-System S.A. and the Lithuanian gas transmission system operator Lietuvos Dujos AB agreed on principles of survey works for construction of the gas line to interconnect Poland and Lithuania. The signed document is the result of the joint application for financial support for the Interconnection Feasibility Study under the EU TEN-E programme (trans-European energy networks) submitted on 30 April 2010. The expected European Commission financing amounts to 50% of the survey project value, and the balance should be covered by own funds of the above companies.

Construction of the gas mainline Jurbarkas–Klaipėda and gas line interconnections between Lithuania and Poland is included into the ENTSO-G (European Network of Transmission System Operators for Gas) European 10 Year Network Development Plan.

The National Energy Strategy provides that natural gas storage facility capacities need expansion to reach 60 day gas storage capacity. For this purpose an underground natural gas storage facility is planned to have the minimum useful volume of 500 mln. m³. In 2010 geophysical surveys were completed in Syderiai location to determine the suitability of its geological structure for the underground natural gas storage facility, and the final technical implementation report and financial certificate on the project implementation were developed. In autumn of 2011 additional geophysical surveys of Syderiai geological structure are planned. Construction works of the storage facility are to complete by the end of 2016.

The Lithuanian Transmission System Operator allocates the transmission system capacities to customers according to the first come first served (fcfs) principle. While monitoring published Transmission System Operator's information on capacity the NCC requested Lietuvos Dujos AB to publish the actual 10-yearly system use statistics and information on the future technical capacities of the transmission system.

It may be said that Lithuanian transmission system capacities are sufficient to meet customer needs. Thus there is no secondary trade in interruptible transmission system capacities. The NCC has approved short-term transmission tariffs of Lietuvos Dujos AB which may be used by gas customers related to seasonal business.

2.1.5. Supply security

Long term gas supply contracts are among the key elements of ensuring the supply security and reliability. Lietuvos Dujos AB has a gas supply contract signed with Gazprom RAB up to 2015 (inclusively). This contract has been signed in 1999. Dujotekana UAB has a long term gas supply contract signed up to 2012 inclusively, and Haupas UAB – up to 2013.



The Law on Natural Gas regulates ensuring the natural gas supply security. Under this law the Government-approved Supply Security Description shall set minimum gas supply reliability requirements, their financing principles and duties of gas supply companies and other market players and the NCC to meet the Description requirements. The Description sets the priority of secure gas supply, including pipeline reserves for household customers and customers in sites with lower than 5 MW production capacities and without reserve fuel stocks, supplies to which may not be interrupted.

In line with provisions of the Law on Energy the regulators annually analyze natural gas supply security reports submitted by the Transmission System Operator. This information and progress made are summed up and presented in reports.

To ensure supply security and reliability within its remit the NCC is charged with analysis and approval of long term investment programmes, specific investment projects and setting price calculation methodologies prescribing principles and criteria for making such investments, KAS.

Supply undertakings are responsible for uninterruptible and secure gas supply to household customers. They have to store gas reserves, and storage costs are included into the gas supply price. Under the prescribed requirements the supply undertaking must store reserves until reaching 60 day uninterruptible gas supply to household customers in case of supply disruptions to the Republic of Lithuania. In 2010 29.25 million m³ of gas reserves were stored in Latvian Inčukalnis Underground Gas Storage Facility. These reserves would have ensured a 30 day uninterruptible gas supply to household customers during the cold season.

As already mentioned Lithuanian natural gas system is not connected to EU member state transmission gas lines. Therefore like other Baltic Region gas systems it may be qualified as isolated and dependent on the sole gas source, Gazprom.

The report of the High level group established by the European Commission notes that the role of Poland as the energy bridge to the common EU gas system should be increased to overcome energy isolation and reduce Lithuanian dependency on the sole natural gas supplier.

Interconnection of Lithuanian and Polish gas line systems is a step towards eliminating energy isolation of the gas sector and integration into the common EU energy market. Construction of the Lithuanian In April 2010 Lithuanian and Polish Transmission System Operators Lietuvos Dujos AB and Gaz System S.A., supported by the Ministry of Energy of the Republic of Lithuania and the Ministry of Energy of the Republic of Poland submitted a joint application to receive financial support under the TEN-E (trans-European energy networks) Programme to develop the feasibility study of Polish-Lithuanian gas line connection. The expected European Commission financing amounts to 50% of the survey project value, and the balance should be covered by own funds of the above companies. The European Commission is expected to take a decision on this in 2011. Business Case Analysis of Polish-Lithuanian gas line connection is to be developed by the end of 2011. The gas line completion is expected in 2016.

Under the gas market isolation long term gas supply contracts are a crucial element ensuring uninterruptible gas supply to the Republic of Lithuania. However, the existing infrastructure ensures only partial gas supply to customers in case of interrupted supply through the territory of Belarus. Thus, to address this problem the existing infrastructure capacities shall be expanded and new connections between EU member states and the LNG terminal shall be built.

The Regulator plays a very important role in implementing the supply security and reliability policy; it may send respective signals to companies operating in the gas sector, which may be done



through pricing. Beside this, the Regulator plays a very important role in the investment approval and evaluation process: if investments are not approved by the NCC, they may not be recognized justified for the purpose of revising state regulated prices.

Initiated by the European Commission, the Baltic Energy Market Interconnection Plan (BEMIP) was developed aiming to create a real market and ensure a reliable and uninterrupted gas supply, and is the key strategy addressing the gas market isolation in the Baltic States. The infrastructural projects planned there and their implementation are the prerequisite for Lithuanian long-term aim to ensure a reliable and uninterrupted gas supply and develop an integrated regional natural gas market.

2.1.6. Regulation issues and unbundling vertically integrated companies

Activity unbundling is regulated by Article 12 of the Law on Natural Gas currently in force. It provides that in gas undertakings transmission, liquefaction, storage, distribution activities must be unbundled. Unbundling shall be performed by establishing a subsidiary or a separate undertaking. An integrated gas undertaking supplying gas to less than 100 000 customers must not unbundle the activities and establish a subsidiary or a separate undertaking. The NCC must control the efficient unbundling of gas undertaking activities, i.e., that accounts are rightly unbundled to prevent cross-subsidizing of gas transmission, distribution and supply.

Lietuvos Dujos AB is the largest natural gas Transmission System Operator in the Baltic States. More than 99% of total natural gas volume demanded by Lithuanian customers is supplied to Lithuania through the company-controlled and operated gas system. This company is the only one in Lithuania providing services to more than 100,000 customers. The company is vertically integrated and has unbundled its activities internally. On its website this company is presented to customers as a single integrated company, Lietuvos Dujos AB having one logo, address and website. Activities of this company have not been legally unbundled; however the company keeps individual book-keeping records and does individual financial statements for each such activity. One of the most important and relevant upcoming issues is the one of unbundling the independent Transmission System Operator. The Law on Amending the Law on Natural Gas has been passed on 30 June 2011, by which transmission of natural gas shall be unbundled from extraction and supply in order to implement provisions of the EU 3rd Legislative Energy Package.

The Transmission System Operator plays a very important role in balancing gas flows. Currently transmission and supply activities are concentrated in one pair of hands. However upon unbundling energy companies in line with the 3rd Energy Package requirements, different undertakings would be engaged in natural gas transmission and supply activities, therefore the system balancing would be more complex. With respect to this both the Transmission System Operator and the NCC will have to set the system balancing rules and prices for the service.

Currently in order to meet requirements of the Regulation 1775/2005, the Transmission System Operator regularly publishes updates about the relevant points of the system on technical, actual, unused system capacities and the actual system pressure.

To sum up it may be stated that legal unbundling prescribed in the 2nd Energy Package has not been implemented in Lithuanian gas sector, but currently legislation is under drafting to fully unbundle the activities under the EU 3rd Energy Package requirements. This provision should be met by the sole integrated gas supply undertaking supplying gas to more than 100,000 customers,



namely Lietuvos Dujos AB. This undertaking has unbundled accounting of activities and operates them as if they were separate gas undertakings.

No abuse by the Transmission System Operator regarding the third party system access was observed.

With respect to the fact that the vertically integrated gas undertaking is not legally unbundled, activity cross-subsidising shall be prevented.

2.1.7. General conclusions related to the EU 3rd Energy Package

In 2010 Lithuania implemented the EU 3rd Energy Package requirements in the natural gas sector, thus consistently chose the main way of remodelling the energy sector provided for in the EU law: unbundling customer gas supply from natural gas transmission, i.e., from gas transportation by high pressure (main) gas lines. The aim of selecting this way is to provide maximum benefits to Lithuanian customers and increase the national energy security. Such model of remodelling vertical monopolies, based on the EU institutional position, is the most efficient and best facilitates ensuring the national energy security, while liberalization of the gas market is determined by strategic long-term energy policy goals of the Republic of Lithuania and the EU in general.

In 2010 the Government of the Republic of Lithuania approved the concept of the Law on Amending the Law on Natural Gas of the Republic of Lithuania. It has been developed to implement Directive 2009/73/EC of the European Parliament and the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/Employment Contract (hereinafter – the Gas Directive).

The Ministry of Energy drafted and on 7 December 2010 submitted to the Government the draft Law on Amending the Law on Natural Gas of the Republic of Lithuania and the draft Law on Implementing the Law on Natural Gas of the Republic of Lithuania. After the Government approval, on 30 June 2011 the Seimas passed the draft Law on Amending the Law on Natural Gas of the Republic of Lithuania and the draft Law on Implementing the Law Natural Gas of the Republic of Lithuania.

The law aims to implement the first and foremost model prescribed by the Gas Directive on unbundling natural gas transmission from extraction and supply, i.e., unbundle ownership of the transmission system operators. The draft Law provides that natural gas transmission in the Republic of Lithuania shall be unbundled from natural gas extraction and supply, by unbundling the ownership of the transmission system and/or of the Transmission System Operator from natural gas undertakings engaged in extraction and/or supply. This and other provisions of the draft law aim to ensure that the Transmission System Operator operates independently from commercial interests, and that the core activity areas of the Transmission System Operator are efficient and safe operation of the transmission system and improvement of the natural gas supply security.

2.2. Electricity sector

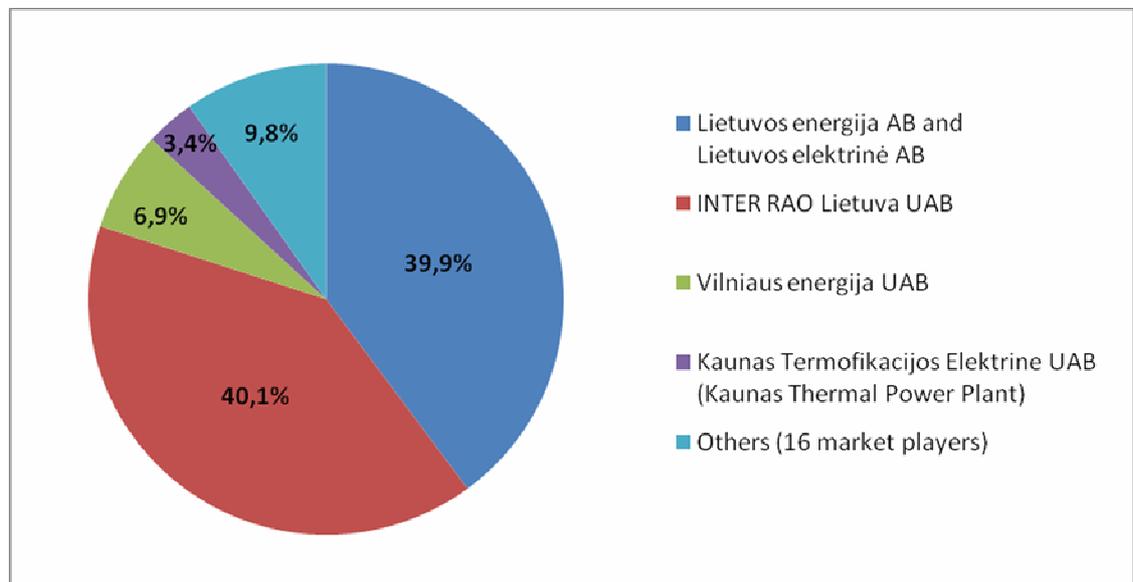
2.2.1. Wholesale market

a) Market concentration development based on the relevant market

When the last unit of the State Enterprise Ignalina Nuclear Power Plant was decommissioned at the end of 2009, thus losing the generating capacity which met approximately 80% of national electricity needs, the power market model has been implemented since 2010, which was approved by the Resolution No. 740 on Lithuanian Power Market Development Plan, of 8 July 2009 of the Government of the Republic of Lithuania. It has facilitated access to the power market for more players.

It should be noted that Lithuanian electricity system has turned from the previous exporter into the importer and has become more dependent on a non-EU member state supplier (the Russian Federation). Two key suppliers shared the wholesale electricity market in 2010, getting the market share of 40% each: INTER RAO Lietuva UAB and Lietuvos Energija AB (Lietuvos Elektrinė AB) (Fig. 1).

Figure 1. The wholesale electricity market structure in 2010



The interconnections with Sweden and Poland and synchronized operations with the Continental European power systems are required to reduce the market concentration. These projects are cost-intensive. Possibilities are looked for to finance these projects, except the interconnection NordBalt project to which the EU has allocated approximately one third of the amount, not only by the electricity tariffs or on the account of Lithuanian customers. The situation is also complicated by the fact that these strategic projects are being implemented almost simultaneously.



b) Dominating operator assessment: Market power evolution

Since the very opening of the electricity market in 2002 Lithuania has had 4 key operators having respective activity licenses: 1 Transmission System Operator, 1 Market Operator and 2 distribution grid operators. Since 2010 BALTPPOOL UAB has become the Market Operator and organizes the power exchange the activities of which are based on principles of Nord Pool Spot AS. At the end of 2010 the two distribution grid undertakings, namely VST AB and Rytų Skirstomieji Tinklai AB, were merged into one distribution grid operator LESTO AB. Activities of the three main operators operating in 2011 have been regulated by provisions of the Law on Electricity amended in line with provisions of the 3rd Energy Package and submitted to the Seimas.

From the regional market point transmission system operators are the key implementers of the regional electricity market, thus electricity market development progress depends on them to a major extent. Baltic energy regulators and transmission system operators address surfacing problems during meetings of the Electricity Regional Initiative working groups, based on regulations passed by the European Commission and other related documents.

c) Market integration (across borders, at the national level), reasons of non integration (lack of transmission capacity, discriminating allocation by TSO, insufficient regulatory measures)

Both in 2009 and 2010 Lithuania like other Baltic States kept its island status in the European Union electricity system, with the exception of a low throughput line between Estonia and Finland operation of which started in 2007. To interconnect the Baltic Region with the Nordic and West European countries, Lithuanian electricity system needs to be connected with Poland and Sweden and Baltic energy system operations need synchronization with the energy system of the Continental Europe. As mentioned above, these projects are cost-intensive, thus possibilities are looked for to finance these projects (except the interconnection NordBalt to which the EU has allocated approximately one third of the amount) not only by the electricity tariffs or on the account of Lithuanian customers. To timely implement the Baltic Energy Market Interconnection Plan (BEMIP), the Memorandum of Understanding regarding the above plan was signed on 17 June 2009 by 8 states of the Baltic Sea regionas.

Under the global economic crisis coming to an end, the Law on Electricity was amended to encourage investments into electricity infrastructure with the help of internationally practiced pricing principles. The Seimas is expected to pass these amendments in the autumn of 2011 followed by the respective adjustment of the Transmission Service Price Caps Calculation Methodology.

Upon decommissioning of Ignalina NPP at the end of 2009 and the change in electricity flows in the Baltic electricity system in 2010, overload problems in Latvian–Estonian interconnection were faced, especially during the hot season. The third Latvian–Estonian interconnection is planned for 2018–2020.

Passing of the common Baltic mechanism for the transmission system power allocations is restricted by the fact that the Baltic electricity system is directly connected to non-EU electricity systems (of the Russian Federation and the Republic of Belarus).

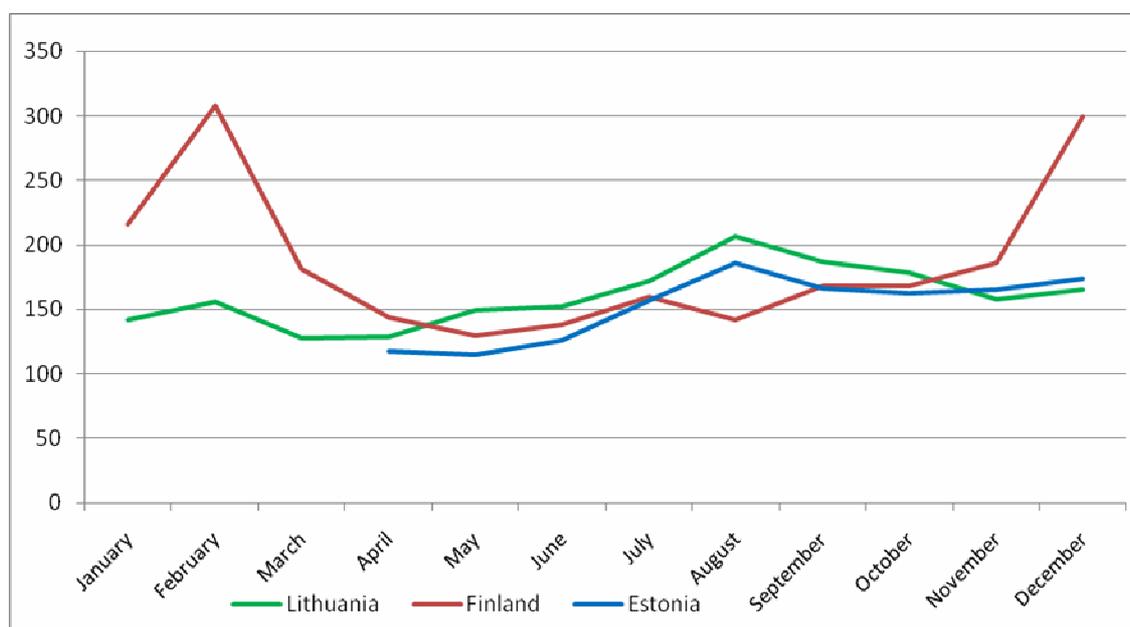


d) Energy exchange development

Since the beginning of 2010 the NPS platform-based power exchange (BALTPPOOL UAB) launched operations in Lithuania. By power trading results of the power market and bilateral contracts, the market power indicator C_4 of the four major market players (sellers) was approximately 90%, and the Herfindahl-Hirschman Index (HHI) was 3279. The electricity market is highly concentrated, as the C_4 exceeded 70 %, and HHI – 1800.

The price dynamics of the power exchange is shown in Fig. 2.

Figure 2. The price dynamics of the power exchange in 2010



Having assessed the power exchange trading results of 2010 and applied the compensation mechanism, the average (weighted) power exchange price was 43.63 EUR/MWh, with the effect of the compensation mechanism factored in.

Upon passing respective legal provisions a day-ahead and intra-day power exchange trading should be implemented, operated by NPS. Upon performing similar procedures in Latvia, prerequisites would develop to have three price areas in the Baltic countries and thus integrate into the regional power markets of the Nordic countries, and later of the Baltic Sea States. NPS is planned to operate in all the Baltic States in 2012–2013.

e) National regulatory activities to stimulate wholesale market competition

In 2010 the real electricity market opening increased from 14% faced several years in turn, up to the planned 35%. Every year up to 2013 the real market opening should increase by 10% per annum, as regulated electricity prices will gradually stop applying to customers with the power capacity 100 kW and 30 kW. In 2010 the number of licensed independent electricity suppliers increased from 32 to 59.



In 2010 the NCC approved the Description of the Electricity Market Supervision Procedure. The document specifies types of information to be supplied to the NCC and competition intensity indicators in wholesale and retail electricity markets. It also defines what information qualifies as significant, establishes its disclosure procedure and cases when using such information is qualified as a form of market manipulation or abuse. Annual and quarterly monitoring results are published on the NCC website.

The NCC was engaged in the development of provisions on legalization of the Power Market operator and cooperation with the energy regulators, Transmission System Operators and other stakeholders of the Baltic Region.

f) Conclusions

Like the Baltic States electricity market, Lithuanian electricity market is too small for efficient competition, thus the interconnections LitPol Link with Poland and NordBalt with Sweden and synchronized operations with the Continental European power systems are planned, and similar projects of the neighbouring states would also contribute to addressing this problem. By focusing on this issue the European Commission helped to reach a significant progress in this area.

When the Nuclear Power Plant was decommissioned at the end of 2009, the NPS-based Power Market (BALTPool UAB) started operating in 2010. Legal provisions on formalizing the Lithuanian price area have been developed to facilitate the development of the joint electricity market of the Baltic States.

Based on the Baltic Electricity Market Interconnection Plan (BEMIP) integration into the Scandinavian electricity market is the key task for the upcoming years. To implement this task the NCC representatives cooperated with colleagues from the Baltic and Nordic States.

2.2.2. Retail market

a) Development of the market concentration based on the delineation of the relevant market (as set forth in the Law on Competition)

In 2007 Lithuanian electricity market was 100% open as in other European Union countries. This means that all customers have become eligible and may choose their electricity supplier. Having shut down the Ignalina the Nuclear Power Plant at the end of 2009, the end public energy prices to customers with power capacity exceeding 400 kW have been abolished, and this level will gradually reduce up to 2013. This will facilitate practical implementation and accelerating market relation development both in the domestic and regional markets.

b) Supplier switching dynamics

Since the beginning of 2010 the NCC issued 32 independent electricity supply licenses, and the number of independent suppliers increased to 59. Their updated list is posted on the NCC website. As planned, the real electricity market opening was 35% compared to 12% in 2009. Dynamics of the declared and real market opening is shown in Table 2.

Table 2. Declared and real degree of market opening

Indicator	2002	2003	Up to 2004- 07-01	Since 2004- 07-01	2005	2006	Since 2007- 07-01	2008	2009	2010
Electricity consumption by eligible customers as a share of total customer consumption, %	20	23	25	74	74	74	100	100	100	100 (35*)
Electricity consumption by eligible customers having selected independent suppliers as a share of total customer consumption, %	17	17	15	15	15	13	12	14	12	35

*- Planned electricity market opening under Art. 25 of the Law on Electricity, when public prices are not applied.

c) Price development (total and components) vs. the preceding year, including regulated prices

With the shutdown of Ignalina Nuclear Power Plant at the end of 2009, the NCC estimated the average forecasted public price of electricity buying for 2010, which was 44.89 EUR/MWh. Compared to 2009 it increased by 26.03 EUR/MWh or almost 60%. For 2010 the average high voltage transmission service price of LITGRID AB went up by 0.8 EUR/MWh, as a result of electricity buying in the Power Exchange to cover technological losses. With the reduced power reserve needs after the shutdown of Ignalina Nuclear Power Plant, the power reserve price, which is a component of the transmission price, went down by 2.0 EUR/MWh. Thus the total transmission service price reduced by 1.12 EUR/MWh in 2010.

In 2010 the PSO price was 13.7 EUR/MWh and was separated as an individual price component in the pricing. To enable price comparison, the PSO price in 2008–2009 is included in Table 3 as an individual price component. In reports for the preceding years it was attributed to the electricity generation price.



Table 3. Actual prices in 2008-2010 and 2011 forecasted prices, EUR/MWh

Indicators	VST AB			Rytu Skirstomieji Tinklai AB			LESTO AB
	2008	2009	2010	2008	2009	2010	2011
Electricity buying price	23.54	19.1	45.13	23.54	19.1	45.12	46.34
Electricity transmission service price	10.4	11.0	9.88	10.4	10.65	9.88	8.63
PSO	10.77	18.48	13.7	10.77	18.48	13.7	17.41
Electricity supply service price	0.58	0.58	0.9	0.61	0.61	1	1.1
Public electricity price for customers receiving electricity from high voltage networks	45.29	49.16	69.61	45.32	48.84	69.7	73.48
Electricity distribution service price over medium voltage networks	21.58	20.24	15.73	19.55	17.84	15.09	14.16
Public electricity price for customers receiving electricity from medium voltage networks	66.87	69.4	85.34	64.87	66.68	84.79	87.64
Electricity distribution service price over low voltage networks	21.98	23.31	18.42	20.71	22.53	22.71	18.51
Public electricity price for customers receiving electricity from low voltage networks	88.85	92.71	103.76	85.58	89.21	107.5	106.15

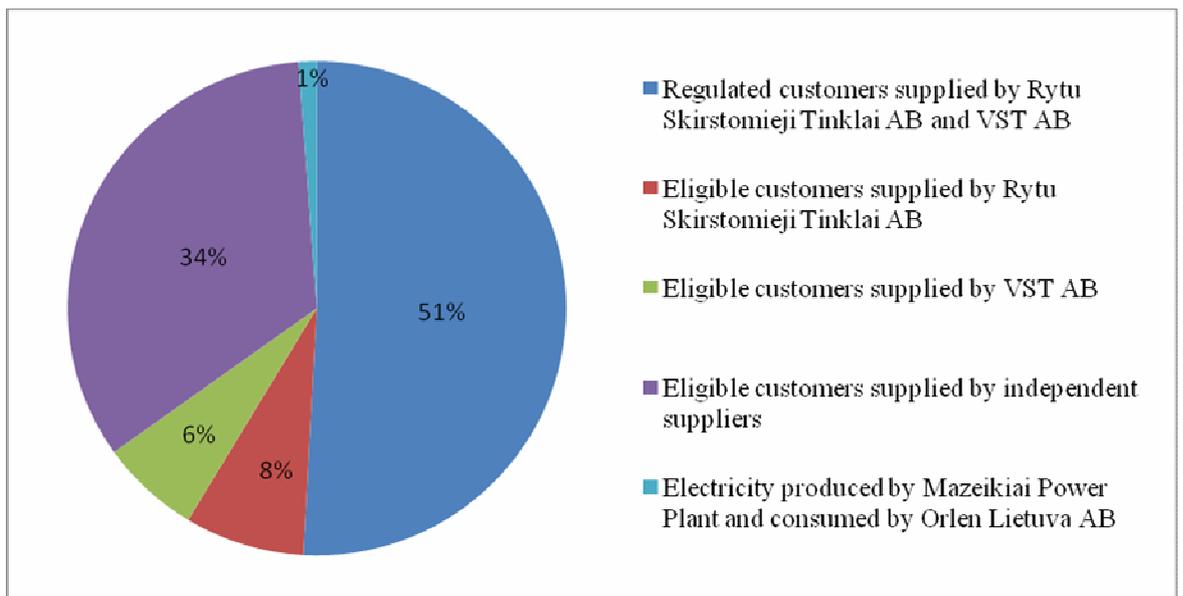
In 2010 the actual electricity buying prices and PSO price increase was 21.25 EUR/MWh compared to actual prices in 2009. At the same time price for electricity bought by distribution grid operators to cover the technological losses and own needs also rose. However the distribution service price stopped rising and slumped slightly due to operational effectiveness improvement. Thus after the shutdown of the Ignalina the Nuclear Power Plant, the end price for customers increased less than forecasted.

d) Activities by NRAs to foster retail competition

With Lithuanian Electricity Market Development Plan approved in the mid 2009 by the Government of the Republic of Lithuania and with the amendments to the Law on Electricity passed at the end of 2009, customers with power capacity exceeding 100 kW and 30 kW are planned to select independent suppliers and consume approximately 45% and 55% of the total national energy consumption. Since 2014 only household customer shall be entitled to make payments based on regulated public electricity prices. In this case the market opening would be approximately 70%.

Amendments to the Electricity Price Calculation methodologies passed by the NCC in 2010 based on the Law on Electricity and related to the gradual abolition of public (end) electricity prices, and additional amendments to the Law on Electricity based on the 3rd EU Legislative Energy Package, will encourage independent supplier activities and increase competition in the retail market (Fig. 3).

Figure 3. Retail electricity market structure in 2010



e) Conclusions

Compared to 2009, in 2010 the number of independent suppliers doubled. Since the beginning of 2010 the NCC issued 32 independent electricity supply licenses, and the number of independent suppliers increased to 59. Approximately 16 undertakings were engaged in the licensed activities.

Customer decision to switch suppliers may be economically motivated. Abolition of end electricity prices gradually increases supplier switching numbers since 2010. Compared to 12% of the real market opening in 2009, electricity consumption by customers having switched suppliers was equal to the planned 35% of total national consumption in 2010, in 2011 it is planned to be 45%, and in 2012 – 55%. Since 1 January 2013 public suppliers will have to conclude contracts with and supply electricity to all household customers in its licensed territory having requested this. Thus competition in the retail market would be gradually fostered.



2.2.3. Public service obligations and customer protection

a) Transparency

The Law on Electricity prescribes that public interests in the electricity sector mean any act or omission in the electricity sector, directly or indirectly related to the public security, environmental protection, and to electricity generation from renewable energy sources in combined heat and power generation plants. The list of public service obligations (hereinafter - PSO), suppliers and the supply procedure shall be established by the Government or an institution authorized by it with account of public interests in the electricity sector.

Under the PSO Supply Procedure Description the following 5 PSO types are included into the PSO price:

1. Electricity generation:
 - 1.1. From renewable energy sources;
 - 1.2. At combined heat and power generation plants in thermal operating mode when such plants supply heat to urban district heating networks;
 - 1.3. In listed power plants where electricity generation is necessary to ensure electricity supply security their energy system reserves;
2. Ensuring nuclear energy operational security, waste storage and soiling;
3. Connection of installations for electricity generation using wind, biomass, solar or hydro-energy to power transmission or distribution systems.

All the data related to PSO prices when deriving an average PSO price is publicly available on the Regulator's website.

For 2010 the average PSO price was set at 13.7 EUR/MWh, which vs. 2009 reduced by approximately 35%. The reduction was determined by reduced costs of electricity supplied by thermal power plants due to lower natural gas prices and established quantities of supported electricity.

The forecasted PSO price for 2011 compared to 2010 is 17.41 EUR/MWh, and this major price growth was determined by natural gas price increase up to the pre-crisis level in 2008, and inclusion of new PSO into the list of PSO:

- Implementation of the strategic projects related to increasing energy security, by installation of Lithuanian–Swedish and Lithuanian–Polish interconnections, connection of Lithuanian electricity system with ENTSO-E electricity networks of the Continental Europe;
- Balancing of electricity generated from renewable energy sources, performed by the Transmission System Operator and installations for electricity generation; KAS
- Connection of installations for electricity generation using wind, biomass, solar or hydro-energy to power transmission or distribution systems, preparation of distribution systems to integrate electricity generation from renewable energy sources.



Inclusion of new PSO into the list of PSO accounted for 16% of the PSO price, and the major share, 56%, was represented by Lietuvos Elektrine AB (Lithuanian Power Plant) the electricity generation of which is necessary to ensure electricity supply security and energy system reserves.

For PSO transparency at the end of 2010 the NCC approved the Description of PSO Funds Administration Procedure in order to establish a clear and transparent procedure for collecting and payment of PSO funds, and set requirements for the accounting of PSO fund use and their financial statements. The document established detailed and transparent PSO payment procedures for PSO providers, accounting requirements for PSO funds enabling the NCC to ensure and control the appropriate and right use of PSO funds. Information requirements were also approved, regarding information to be accessible for every electricity customer paying for PSO to inform about amounts of PSO funds spent and for which PSOs.

b) Complaints (topics, amount, responsibilities)

Recently provision of public services, customer interest protection, customer consulting and education gain increasing importance among the NCC activities. The NCC daily gets lots of customer correspondence with consumer questions, requests and complaints on undertaking activities, power supply disruptions, connection of new customers, failures of metering devices, justification of service price and tariff application, etc. Urgent reaction to customer-raised problems, faster analysis of requests (complaints) and more effective protection of the legitimate customer interests are the operational priorities of the NCC. **A detailed and specific description of the customer problem, including a clearly worded request or demand** is an important prerequisite for a fast and qualitative customer complaint analysis by the NCC. The NCC recommends a simple and convenient complaints form: customer just need to fill in a form developed by the NCC and word their request specifically. The request (complaint) may be submitted to the NCC by delivering it personally, or sending it by post or email. The NCC replies to all the consumer inquiries (if a contact address is included), including emailed ones (usually anonymous).

To facilitate convenient time for consumers to apply to the NCC, staff of the Utilities, Gas and Electricity departments stay on duty after open hours twice a week. The procedure for receiving visitors is posted on the NCC website www.regula.lt.

To raise consumer awareness and activity, the NCC:

- Arranged meetings with residents, representatives of Block House Owners Associations, undertakings providing services;
- Opened a “Good Practice” website page posting interesting ideas, opinions, proposals to improve the living environment conditions, reasonable energy consumption, reduce utility bills, etc.
- Organized public discussions of costs and prices of energy undertakings preceding official meetings;
- Regularly participated in conferences, seminars and discussions where problems significant to energy sector were discussed

- 
- Regularly informed the society on decisions made. In 2010 127 press releases were posted, including 30 on changes in terms (methodology, procedure) of the energy sector regulation;
 - Kept implementing the project “Improving the NCC Citizen Services”. Applicants to the NCC were surveyed and areas to improve customer service were identified, and customer service management methods were selected. Currently the NCC implements the methods, trains the staff, and at the end of 2011 plans to perform a quality control survey of customer serving.

Consumer complaints, requests or inquiries on topical subjects may be submitted to the NCC by delivering them personally, sending by post or email. In 2010 the NCC received 744 consumer inquiries and complaints, 362 of them were submitted in writing and 382 – by e-mail. 28 consumer complaints were referred to the NCC by the State Consumer Protection Authority.

In 2010 the NCC Electricity Department received 28 consumer complaints in writing, another 20 were submitted by e-mail.

The applicants predominantly inquired about terms of new customer connection and calculation of fees, application of electricity supply prices and tariffs, and contractual prices applicable to sub-subscribers, which are out of the NCC’s regulatory remit.

When the new version of the Law on Electricity was passed at the end of 2009, providing for the gradual opening of the electricity market without public prices applied to customers having power capacities below 400kW as of 31 July 2009, customers had lots of questions. The Electricity Department specialists consulted customers how to select an independent electricity provider and buy electricity against contractual prices, and informed that if an independent supplier is not temporarily selected, the actual energy buying price of the public supplier shall apply.

c) Conclusions

In 2010 the Regulator kept aiming for PSO cost reductions. If their reduction in 2009 was caused by the global economic crisis, due to which natural gas prices reduced, in 2010 the prices gradually went back to the pre-crisis level. This was the reason for the higher PSO price, as approximately 70% of PSO costs are represented by costs of power plants using natural gas. The 27% growth in PSO price was also caused by inclusion of new services into the PSO list. The main part of the services consisted of costs related to the strategic projects, representing 15% of the total PSO costs.

For PSO transparency at the end of 2010 the NCC approved the Description of PSO Funds Administration Procedure in order to establish a clear and transparent procedure for collecting and payment of PSO funds, and set requirements for the accounting of PSO fund use and their financial statements. Regular updates are posted on the PSO administrator’s website www.litgrid.eu.

To protect electricity customer interests the NCC passed new regulations and improved the existing ones and actively participated in the development of other legislation. Upon the decommissioning of Ignalina NPP at the end of 2009, electricity market supervision became a topicality in 2010. Thus the Description of the Electricity Market Supervision Procedure was passed as the basis to monitor the wholesale and retail markets and to publish annual and quarterly monitoring reports. With respect to amendments to the Law on Electricity, the Electricity



Price Calculation methodologies were adjusted to gradually abolish the public (end) electricity prices for customers. This should better facilitate competitive relations in increasingly larger market shares and enable customers to select an electricity supplier.

Urgent reaction to consumer-raised problems, faster analysis of requests (complaints) and more effective protection of the legitimate consumer interests are the NCC operational priorities. As mentioned above, the NCC applied various methods for this purpose to raise consumer awareness and timely deliver required replies to them.

2.2.4. Infrastructure

a) Tariff improvement

Since 2010 hourly electricity auctions have taken place in the Power Exchange, and the NCC electricity price and price cap setting methodologies provide for gradual abolition of public (end) electricity prices, based on the Law on Electricity. Since 2013 all commercial customers, except household ones, will have to buy electricity from independent suppliers against contractual prices, and end electricity prices will not be applied to them. Amendments to the Law on Electricity drafted in 2010 stipulate that since 2015 the regulated end prices shall apply only to socially supported customers.

Specific price differentiation principles which caused many stakeholder discussions were also revised. In 2011 household customers will be offered two new electricity tariffs: “Home” and “Home Plus”. These plans include a fixed component and are meant for household customers using more electricity.

With the view of a more effective use of transmission network capacities, the electricity transmission service price again includes the capacity component, which is no longer calculated based on the maximum hourly customer capacity, but is based on the (contractually requested) power capacity.

b) Investments / Art. 22

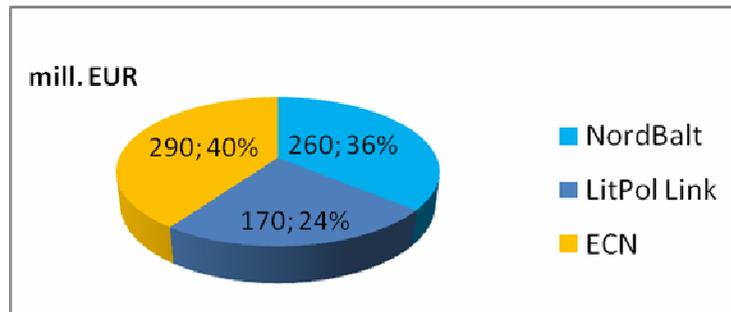
In 2010 investments into the transmission network amounted to EUR 19.1 million, and investments into the distribution grids were EUR 77.3 million.

Three strategic projects are planned, related to:

1. The interconnection line with Poland (500 MW up to 2016, extra 500 MW or 1000 MW up to 2020);
2. The interconnection line NordBalt with Sweden (700 MW up to 2016);
3. Synchronized operations with the Continental European power systems (up to 2020).

The forecasted share of these strategic projects would amount to one third of the total investment value (Fig. 4).

Figure 4. Strategic project investment shares in 2011-2020



The implementation of these projects is planned to include investments into the transmission system, which would triple the regulated asset base of the Transmission System Operator: the current asset base is approximately EUR 250 mln., while investment into the strategic Lithuanian projects amount to approximately EUR 720 mln. in 2011 – 2020. Possibilities to mitigate the forecasted 40% increase of the transmission service price (due to simultaneous implementation of all the projects) are looked for. LitPol Link project should be noted for the special financial support need in order to be successfully implemented.

Beside the above mentioned projects works are carried out under the Law on Construction of a New Nuclear Power Plant passed in June 2007. The planned maximum capacity is 3,400 MW; the construction is complete in 2020. The search for the strategic investor continues and should be finalized in 2011.

A smart network project has also commenced. For this purpose the Ministry of Energy has initiated the Smart Network Development Working Group and a dedicated undertaking to implement the decisions, Technologijų Ir Inovacijų Centras UAB (TIC). This project aims to implement the EU 20/20/20 objectives. They establish that 20% of energy consumed in the EU shall be generated from renewable energy sources, the EU energy consumption shall reduce by 20% compared to the forecasted volumes and energy efficiency shall increase, and CO₂ emissions shall reduce by minimum 20% compared to the level of 1990. In 2010 the Smart Networks Project Implementation Plan was drafted to plan for the development areas, word tasks for electricity undertakings, analyze potential EU fund use and implement a pilot project. Performing the Cost/Benefit analysis for installing smart accounting in Lithuania is planned by 2012. It will be followed by a pilot smart network project aiming to have an electricity bill equal to EUR 0.

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

c) Capacity distribution

Upon decommissioning of Ignalina NPP at the beginning of 2010 and the change in electricity flows in the Baltic electricity system in 2010, throughput capacity problems in Latvian–Estonian interconnection were faced. The Baltic power system is a component of the high voltage ring system, including the Russian Federation and Belarus power systems, thus the Baltic region is closely related to power flows of these third countries, including Kaliningrad Region (the Russian Federation).

Currently the capacity optimization method applies to Lithuanian interconnection capacity allocation between the TSOs for the agreed available transmission capacities (ATC) using the



implicit principle and operated by BALTPPOOL UAB (Lithuanian Power Exchange) which started its operations since 2010.

The market principle-based capacity allocation method (the implicit auction) between the Baltic market price areas should be applied and operated by NPS. NPS is likely to apply and implement the intersystem capacity optimization method based on general market principles for trading with the third countries. A joint Baltic Energy Regulator and Transmission System Operator working group keeps working with the view of the above aims, however a joint position development needs a joint decision enabling to coordinate different documents applying on the border with the Russian Federation and Belarus.

d) Conclusions

The gradual abolition of regulated public electricity tariffs should contribute to the development of the electricity market. The drafted Law on Electricity stipulates that since 2015 such tariffs shall apply only to payments of socially vulnerable customers. This tariff structure would contribute to the development of the electricity market and prerequisites for the strategic interconnection projects.

The projects on interconnection lines with Poland and Sweden which should ensure supply reliability and competitiveness in the electricity market after the shutdown of Ignalina NPP at the end of 2009 have progressed but irrespective of the assistance granted to the project of NordBalt interconnection with Sweden, customers may have to pay a much higher electricity transmission service price. Preparation for synchronized operations with the Continental European power systems would also require considerable financial resources.

Upon decommissioning of Ignalina Nuclear Power Plant, the largest Baltic electricity producer at the end of 2009 and the change in power flows, the Baltic Region has faced problems of interconnection capacity allocations and overload management. Influence of the non-EU member countries on the available transmission capacity calculations has become obvious. Beside this, different documents should currently apply to trading with the third countries: the EU legislation and the BRELL agreement (between Belarus, the Russian Federation, Estonia, Latvia and Lithuania.) Preparations are made for future regional implementation of the market-based intersystem capacity allocation methods.

2.2.5. Supply security

a) The National Regulator's remit in supply security area

Article 12 of the Law on Electricity prescribes that electricity supply reliability shall be monitored. A body authorised by the Government shall monitor the reliability of transmission and distribution systems. The outcome of reliability monitoring shall be summarised in public annual reports. The reports shall include data related to supply and/or demand balance on the national market; the level of expected future demand and envisaged future supply possibilities; additional capacity being planned or under construction; measures to cover peak demand and to deal with shortfalls of one or more suppliers; the level and quality of system maintenance and other information. Implementation progress of the strategic projects related to increasing energy security, by



installation of Lithuanian–Swedish and Lithuanian–Polish interconnections, connection of Lithuanian electricity system with ENTSO-E systems of the Continental Europe, is also monitored.

Under the PSO Supply Procedure the Ministry of Energy monitors electricity supply security related aspects on the national electricity market and annually up to 31 July posts website reports with conclusions and recommendations. The reports include such topics as the scope of the national market competition as seen by the Regulator. This section includes overview of the market concentration degree (the share of market players in generation, the Exchange and supply), the degree of market opening, the numerical market player dynamics, the market price dynamics, the degree of eligible customer activity and conclusions.

b) Investment development (generation, storage, LNG, transmission – including interconnections, transport, distribution, ...)

With the aim of electricity supply security and reliability, as mentioned in Section 1.1.4 (b), construction of a new NPP is planned to generate electricity. Information on this project progress is available at www.vae.lt. NordBalt and LitPolLink projects with Sweden and Poland should also contribute to the stable electricity system operations in Lithuania and the Baltic Region. They will require major additional financial allocations up to 2020, excluding investment needs met annually according to the investment programme.

Fixed assets (transformer substations, transformers, distribution points, grid lines) used to transmit electricity get outdated with time and fail to meet technical requirements, thus increasing annual investments are needed to reconstruct them. 3/4 of the transmission and distribution installations are more than 20 years old, and a quarter of them are more than 30 years old.

In 2009–2010 investment amounts reduced as, since applying the Government asset assessment principles to regulation, the price caps included only the value of the non-revalued assets for the purpose of calculating depreciation and normative profit. This resulted in lower cash flows undertakings could allocate for investment. But in 2010 as in 2009 lower prices for installations and works were another influencing factor. A major difference between 2010 and the previous years was also caused by a more effective use of investment project funds.

Amendments to the Law on Electricity were drafted in 2010, which should ensure that pricing of grid undertakings meet internationally practiced methods.

c) Supply/load balance development

The Monitoring Report on Supply Security in Lithuanian Electricity Market drafted by the Ministry of Energy provides actual and planned electricity generation, transmission and distribution capacities, and data on interconnections with the neighbouring energy systems, power capacity balances, electricity production, consumption, export and import. The latter information is based on the three yearly forecasts. After decommissioning of Ignalina NPP, in 2010 Lithuanian electricity system capacity balance during the peak system demand time has turned negative for the first time ever, i.e., it drastically slumped from 1727 MW in 2006 down to - 226 MW in 2010. Lithuanian electricity system has stopped being an exporter and become an importer and more dependent on the third countries. The Russian Federation has become the major supplier of imported electricity.



d) Investment delays (key reasons)

Having received the EU support the key investments into the electricity sector were not delayed, but only for NordBalt interconnection with Sweden. The other two strategic projects related to LitPol Link interconnection with Poland and synchronized operations with the Continental European power systems require major investments and support.

Investments into the transmission systems kept reducing, while investments into the distribution grids remained on the level similar to that of 2009. This was determined by the outcomes of the global crisis, reduced prices for works and materials and more effective investment activities of electricity undertakings.

Delays in implementation of individual interconnection projects are caused by either coordination of individual country positions, or lack of funds, or construction permission process.

e) Diversification of sources and supply

Upon shutdown of Ignalina NPP in 2010, the diversity of energy sources has reduced and the stable operations of the electricity system and electricity price became dependent on the natural gas supply reliability and price and on electricity imports from the main supplier of the Russian Federation. In 2010 electricity import was almost 10 times higher than in 2009, and this represents 61% of the total electricity volume consumed nationally.

The new Lithuanian interconnections with Sweden and Poland and the new Visaginas NPP would facilitate bolstering energy independence and increasing energy supplier number, diversity of energy sources together with improved electricity supply security.

f) Conclusions

Electricity supply security is closely related to the national energy policy and strategy. The Regulator may send respective signals about the need for investments to the market players and apply required measures via pricing. Under the Law on Energy, energy undertakings engaged in activities with regulated prices have to approve planned investments with the NCC. If investments of such energy undertakings are unapproved by the Regulator, they may not be recognized as justified for the purpose of revising state regulated prices.

Amendments to the Law on Electricity were drafted in 2010, which should ensure that pricing of grid undertakings is in line with internationally practiced methods.

To retain diversity of energy sources the use of renewable ones is encouraged. In 2010 the Law on Renewable Energy Sources was discussed and passed on 11 May 2011. The Law regulates the buying mechanism of and price setting for electricity generated from renewable energy sources to create favourable investment conditions.

Upon shutdown of Ignalina NPP at the end of 2009 Lithuanian electricity system has stopped being an exporter and turned into an importer and became energy-wise dependent on the energy supply reliability from the third countries. Implementation of long-term strategic projects related to new electricity lines with Sweden and Poland started, and new generation capacities using nuclear power would allow diversifying energy supply sources and ensure electricity supply security. BEMIP is the strategy of escaping the existing energetic isolation of Lithuanian and Baltic



electricity systems. But its further effectiveness primarily depends on adequate political and financial EU support. Thanks to the EU support the project NordBalt (the power interconnection between Lithuanian and Sweden) has achieved a major progress. Therefore now concentrating all the effort on other BEMIP project implementation is necessary, namely on Lithuanian and Polish interconnection LitPol Link and Lithuanian and Polish gas interconnection, and preparation for synchronized operations with the ENTSO-E Continental European power systems. These infrastructural projects are the prerequisite for Lithuanian long-term aim to develop a regional energy market integrated with the Nordic countries.

2.2.6. Regulation/Unbundling

a) The National Regulator's remit

Under the Law on Electricity the NCC 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 undertakings. Distribution and public supply activity costs are accounted for by doing individual bookkeeping accounts and accounting registers in distribution grid undertakings. Costs of the market operator, two hydroelectric power plants, and other activities are also individually accounted for in the transmission system undertaking.

On 4 May 2010 the Government of the Republic of Lithuania approved the new Law on Electricity concept implementing the Third EU Energy Package. Beside this, the Government approved the restructuring plan for Lithuanian energy undertakings. Under the latter four groups of electricity undertakings are formed: transmission, generation, distribution and servicing. The Government will retain control in all the groups. Upon the full implementation of the electricity sector restructuring, operational effectiveness of the undertakings will improve.

The aim of the national electricity company restructuring is to implement strategic projects of the new NPP and power interconnections to ensure energy security of the Republic of Lithuania. Another aim is to develop the electricity market, improve electricity company effectiveness and to bring the entire power economy in line with the Third EU Energy Package. The aim of consolidating the State control over electricity economy is to match the achievement of strategic goals with socially oriented energy policy.

Since 2010 Lietuvos Energija AB was reorganized by legally unbundling the Transmission System Operator LITGRD AB and the Market Operator BALTPPOOL UAB. Based on ownership unbundling provisions of the Third EU Energy Package the State of Lithuania exercises direct control over the owner of the power transmission system Lietuvos Energija AB, the Transmission System Operator LITGRD AB and the Market Operator BALTPPOOL UAB. LITGRID AB will be responsible for sustaining implementation of the interconnection projects with Sweden and Poland, and integration of Lithuanian power market into the Baltic and regional Nordic power markets.

Visagino Atomine Elektrine UAB (Visaginas NPP) is responsible for developing the project of the new NPP and is 100% Lithuanian State-controlled undertaking responsible for the share Lithuanian investment in the new NPP. Construction of the new NPP will be carried out by a project implementation undertaking to be established together with the strategic investor and strategic partners.



Visagino Atomine Elektrine UAB is a shareholder of Lietuvos Energija AB and the distribution grid undertakings. Beside this, VST AB and Rytu Skirstomieji Tinklai AB were reorganized to merge into a new undertaking LESTO AB with retained Lithuanian State control in it.

b) Sanctions imposed by the National Regulator

The NCC provides for detailed reporting requirements and liability for the failure to meet them. Sanctions imposed are detailed in the relevant section.

In 2008 legislation was passed on imposing sanctions which prescribes fining both officials and companies.

c) Transmission System Operators' (hereinafter – TSO) market role (TSO interaction with market locations (power exchanges), transparency, producer dispatcherization all the time or only during overload management, ...)

Knowledge of daily trade processes and electricity system data management place TSO in a special position. Close cooperation between the TSO and ENTSO-E, Nord Pool Spot AS and the Energy Regulator guarantees the successful development of the regional power market.

For the sake of transparency in the electricity market, the NCC approved the Description of the Electricity Market Supervision Procedure in 2010. The document specifies types of information to be supplied to the NCC and competition intensity indicators in the wholesale and retail electricity markets. It also defines what information qualifies as significant, establishes its disclosure procedure and cases when using such information is qualified as a form of market manipulation or abuse.

The Dispatch Centre operates round the clock performing the national balancing function, with respect to the power exchange and electricity flow limitations matched with other energy systems. In 2010 overload problems in Latvian–Estonian interconnections were faced. They were caused by decommissioning of Ignalina NPP, which influenced the change in energy flows. The Overload Management Working Group of the Electricity Regional Initiative and ENTSO-E respective working groups discuss market-based capacity allocation methods which may apply to the Baltic States. The situation is complicated by assessment of energy flows of the third countries which are not subject to EU legislation, to establish free interconnection capacities. A joint position of the Baltic States and the European Union and their joint decision are needed in this respect.

d) Improving TSO and distribution grid operator (hereinafter - DGO) unbundling (TSO independence degree, improvements related to TSO market unbundling: network investments, supply security, progress since the legal DGO unbundling became obligatory)

TSO and DGO legal unbundling took place in 2002. The transmission system company Lietuvos Energija AB performed TSO functions up to 2010. Upon passing the respective legislation, in 2010 Litgrid UAB, a newly established company took over the TSO functions. At the end of 2010 the distribution grid assets were also passed over to it. Lietuvos Energija AB has retained a hydroelectric power plant and a hydro-accumulation power plant. It also is the holder of 100%



shares of Lietuvos Elektrinė AB. In 2011 Lietuvos Elektrinė AB will also be merged with Lietuvos Energija AB.

Since 2010 the Market Operator's functions were performed by the also newly established undertaking BALTPool UAB, and Energijos Tiekimas UAB was engaged in energy supply activity.

Amendments to the Law on Electricity were drawn in line with the Third EU Energy Package provisions. They were submitted to the national Parliament.

Upon unbundling TSO and DGO no material problems have been observed regarding investments into the electricity system and the supply security. However in 2011 the Energy Regulator had to contribute to the process of connecting the electricity generator installations to the distribution grid as the transmission system development was also influenced. Amendments to the Law on Electricity were drawn. They are related to connecting to the transmission and distribution systems to ensure higher transparency in the connection procedure and distribution of functions..

e) Other unbundling problems (essential domination in production and supply)

Since the 2010 decommissioning of the largest energy producer in the Baltic Region, Ignalina NPP which produced 10.85 TWh of electricity in 2009, thus elimination of the dominating electricity producer, and hourly electricity auctions in the Power Exchange were fully introduced. The electricity previously produced by the above Power Plant was to a major extent replaced by imported electricity: in 2010 electricity import was almost 9.5 times higher than in 2009, from 0.68 TWh it went up to 7.13 TWh, and this represented 61% of the total electricity volume consumed nationally. The local production capacities grew by 27.5%. The statistical export reduction in 2010 was 68.4%, down to 1.14 TWh.

INTER RAO Lietuva UAB, Lietuvos Energija AB and Lietuvos Elektrinė AB had the largest market shares in 2010, with the joint market share reaching approximately 80% (see Section 1.1.1)

f) Conclusions

Since the 2010 decommissioning of the largest energy producer in the Baltic Region Ignalina the Nuclear Power Plant, legislation was drawn to develop power market by introducing hourly electricity auctions in the Power Exchange. Lithuanian electricity system has stopped being an exporter and become an importer and more dependent on the third countries (the Russian Federation and Belarus).

In 2010 electricity imports represented 61% of the total electricity volume consumed nationally. The local production capacities grew by 27.5%, but this is insufficient to ensure competition on the national electricity market. INTER RAO Lietuva UAB, Lietuvos Energija AB and Lietuvos Elektrinė AB had the largest market shares in 2010, with the joint market share reaching approximately 80%. Investments into the interconnections with the Nordic and West European countries are the key prerequisite to ensure electricity supply security and reduce the market player domination.

In 2010 the insufficient legal unbundling caused no material problems regarding network access and use. However upon decommissioning of Ignalina Nuclear Power Plant electricity flows changed, and the Baltic Region has faced problems of system overload management, transparency and legal regulation of participation of the third countries in the market.



The received EU support for the interconnection NordBalt between Lithuanian and Swedish power systems was a major impetus to develop power systems and the market. Insufficient investment level is planned for the LitPol Link interconnection between Lithuania and Poland and the future synchronization of the Baltic Region with the Continental European power systems. It should be noted that each of these three strategic projects represent one third of the total required investments and the projects implemented simultaneously. The assessed regulated asset value is estimated to triple in the electricity transmission service price, which may increase the price by approximately 40%. The problems are addressed on the level of various authorities.

The legal unbundling ensures the effectiveness of unbundling, thus at the end of 2009 new separate companies were established based on the functions of the TSO, the Market Operator, production and supply. To implement the Third EU Energy Package provisions, in 2010 respective amendments to the Law on Electricity were drawn and submitted to the national Parliament.

2.2.7. General conclusions

a) Related to Present Legal Framework

As mentioned above, the main problems related to the legal structure were faced due to the legal regulation of participation of the third countries (the Russian Federation and Belarus) in the Baltic Region power markets. This process requires a coordinated position of the Baltic States, may be the Nordic countries, and the European Union towards the above countries.

b) Related to 3rd Package

In 2010 the commenced reorganization of electricity companies was continued. The 3rd Package provisions have been transposed into the national law for ongoing implementation in 2011.



3. Electricity Market Overview and Regulation

3.1. Regulatory Issues [Article [23(1) except „h“]

3.1.1. Management and Allocation of Interconnection Capacity and Mechanisms to Deal with Congestion

With the day-ahead electricity market (the Power Exchange) operations having started on 1 January 2010, market traders trade anonymously. The trade strategy of market traders to allocate the traded quantities to the Power Exchange and trade under direct bilateral contracts is determined by the Power Exchange price and its trends.

When Ignalina Nuclear Power Plant was shut down on 31 December, 2009, a significant share of electricity demand is and will be covered by relatively cheaper electricity from other countries. Potential free power reserves for trading are available in Estonia, Belarus, the Russian Federation, Ukraine, Latvia (mainly during tides). During the upcoming years changes in Scandinavian market will influence trading scope and prices, as the 350 MW capacity cable interconnecting Estonia and Finland will facilitate free trade between the Baltic States (including Lithuania) and the Scandinavian countries.

Upon the change of Lithuanian production balance and energy flows in Baltic region, managing interconnection capacities becomes critical. Therefore the throughput capacity management system based on time-synchronized capacity and electricity trade has been implemented since 2010. This means that during electricity trading throughput capacities are allocated based on electricity price priorities, i.e., transmission throughputs are allocated primarily to market players offering a lower price for imported electricity or a higher price for exported electricity. Such a throughput management style requires one centralized platform for all imported or exported electricity buying and selling transactions - Lithuanian day-ahead market (the Power Exchange).

In 2010 autonomous power exchange Baltpool UAB operated in Lithuania but in the future after Latvia will adopt some legal framework it is forecasted that trading will cover the Baltic States market aiming to integrate into the common Scandinavian and Baltic market, Nordpool Spot (further-NS). These steps are included into the common Baltic States and Scandinavian electricity market joining plan that was passed in 2009 foreseeing not only the integration of electricity markets but also incorporation of electricity transmission networks between Scandinavian and Baltic States. Before expanding integration of power transmission grids by laying cables between Lithuania and Sweden and an extra cable between Estonia and Finland, the Baltic States are forecasted to develop one individual Baltic price area. This will happen because trade volumes between the Baltic States and Scandinavia will be limited by the existing Estonian-Finnish connection capacity, which is 350 MW.

Situations may be faced when different price areas will form in the Baltic States. They will depend on Estonian-Latvian and Latvian-Lithuanian transmission capacities. During time periods when due to transmission line status (repairs or other potential line disconnection cases) cross-border trade availability is limited, different price areas would form in these countries.

As mentioned above, in 2010 the Baltic energy system, namely the Estonian-Latvian connection, experienced overload problems, especially during the hot season. No network overloads were

noticed on the national level. In April 2010 the Memorandum between the Baltic States Transmission System Operators was signed on interconnection capacity allocations and overload management. Based on it Estonia-Latvia (Elering and AST) and Latvia-Lithuania (AST and Litgrid) have concluded individual agreements on interconnection capacity allocations. The Estonian-Latvian interconnection capacity is allocated as follows: 20% in explicit auction and 80% based on capacity optimization managed by Nord Pool Spot AS. The Latvian-Lithuanian interconnection capacity is also allocated on the basis of capacity optimization managed by Baltpool UAB. In future the implicit auction is to apply, but after the Feasibility Study on applying the energy flow-based method, the latter may apply. An effective capacity allocation mechanism in the Baltic States must be managed by NPS.

It should be noted that the Agreement of Transmission System Operators of Belarus, the Russian Federation, Estonia, Latvia and Lithuania (BRELL) exists on electricity exchange, system stability and setting other parameters. The Baltic electricity systems are closely related to electricity systems of the Russian Federation, including the Kaliningrad Region, and Belarus, which significantly influences energy flows in the Baltic States, thus a joint decision about the third countries is needed.

Under the Guidelines of the Regulation No. 1228/2003/EC and the new Regulation No. 714/2009, information related to market transparency shall be made public. Energy flows between energy systems, throughput capacities of interconnection lines, generation, consumption, export/import, the effect disconnections of the transmission grid installations for repair purposes have on throughput capacities with the neighbouring states may be tracked on the website of Lithuanian Transmission System Operator www.litgrid.eu.

The maximum possible capacity flows at cross-border points under a normal network scheme are presented in Table 4.

Table 4. Maximum possible capacity flows with neighbouring countries

Connection	Capacity, MW
Lithuania - Latvia	1500
Latvia - Lithuania	1300
Lithuania - Belarus	1350
Belarus - Lithuania	1100
Lithuania - Kaliningrad	680
Kaliningrad - Lithuania	680

In 2010 the average Lithuanian intersystem load was up to 30%, except Belarus-Lithuanian interconnection, where the average load was approximately 44 %. The maximum load of Latvian-Lithuanian, Belarusian-Lithuanian and Lithuanian-Russian interconnections was approximately 100%, while other interconnections had the load distribution of 17% to 55%.

Under the Agreement on Communication Policy signed by the Baltic Transmission System Operators, they exchange information required for intersystem trading. This document provides

for the work coordination scheme between the operators and balancing energy suppliers, timelines of trading schedule exchange, their approval and adjustment procedure for two days ahead, day-ahead and intra-day trading, etc.

The Working Group on Overload Management of the Baltic Electricity Regional Initiative discusses relevant problems related to intersystem capacity allocations and overload management. Work of ENTSO-E working groups is continued, but the key problem is the assessment and legal regulation of energy flows of the third countries.

3.1.2. The Regulation of Transmission and Distribution Companies

In 2010, the same as last year, licensed activities in Lithuania were carried out by one electricity transmission system, two regional and five local electricity distribution network operators indicated in Table 5.

Table 5. Data on grid operators

No.	Company	Type of licence	Local or national network	Shareholders
1.	LITGRID AB	Electricity transmission	National	Visagino atominė elektrinė, UAB – 97.5%, other – 2.5%
2.	Rytų skirstomieji tinklai AB	Electricity distribution and public supplier	Regional	Visagino atominė elektrinė, UAB – 71,35%, E.ON Ruhrgas International AG – 20,28%, other – 8,37%
3.	VST, AB	Electricity distribution and public supplier	Regional	Visagino atominė elektrinė, UAB – 98,21%, other – 1,79 %
4.	Visagino energija, PE (in operation by November 2010, later it was joined to Rytų skirstomieji tinklai, AB	Electricity distribution and public supplier	Local	The State
5.	Achema, AB	Electricity distribution and public supplier	Local	Private company
6.	Akmenės cementas, AB	Electricity distribution and public supplier	Local	Private company
7.	E-Tinklas, UAB	Electricity distribution	Local	Private company
8.	Lifosa, UAB	Electricity distribution and public supplier	Local	Private company

At the end of 2010 the two distribution grid undertakings, namely VST AB and Rytų Skirstomieji Tinklai AB, were merged into one distribution grid operator LESTO AB. In 2011 the main shareholders of the company, namely Visagino atominė elektrinė UAB owned 82.63 percent of shares and E.ON Ruhrgas International AG – 11.76 percent.

One electricity distribution licence in 2011 was issued to Korelita UAB.

From the beginning of 2010, the Commission has issued 32 independent supplier licences thus the number of licensed independent suppliers has increased up to 59 ones (at the moment of the report drafting). The updated list of independent suppliers is announced on the Commission website www.regula.lt

The number of licensed independent suppliers is specified in Table 6.

Table 6. Number of electricity suppliers (yearly)

Supply licences issued in 2010		Engaged in licensed activities in 2010		Supply licences issued in 2009		Engaged in licensed activities in 2009		Engaged in licensed activities in 2008		Engaged in licensed activities in 2007		Engaged in licensed activities in 2006	
PES	IES	PES	IES	PES	IES	PES	IES	PES	IES	PES	IES	PES	IES
6	55	6	20	6	30	6	8	6	8	6	6	7	5

Line lengths by electricity network companies in 2010 are provided in Table 7.

Table 7. Line lengths of power companies in 2010

No.	Company	Length of overhead lines, km	Length of cable lines, km
1.	Transmission system operator LITGRID AB	6639.18	38.9
2.	Distribution system operators:	100578	22403
2.1.	Rytų skirstomieji tinklai AB	52997	11411
2.2.	VST AB	47581	10992

Network Tariffs

Since 2002, Lithuania has applied the principle of stimulating regulation or price caps in setting prices for electricity transmission, distribution (50/50 price and revenue cap combination) services according to voltage levels. The same principle was effective in 2010.

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.

Transmission, distribution and public supply service caps set by the NCC are recalculated each year, when forecasts or data on volumes of sold or transmitted energy change, when set electricity transmission reliability and service quality indicators(END and AIT – for transmission, SAIDI and SAIFI- for distribution), annual inflation rate, the NCC-set operational effectiveness, the NCC-approved and made investments, taxes payable by a service provider, and other factors change, which are out of the service provider's control but influence price caps calculation, the setting of which was based on these indicators, or in case the NCC-set normative profit was exceeded

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. 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.

The NCC also participates in the benchmarking projects prepared by Energy Regulators Regional Association (further - ERRA). Moreover, in 2011 the preliminary final comparative report on distribution grid operators in ERGEG countries was received. The benchmarking revealed that the undertakings VST AB and Rytu Skirstomieji Tinklai AB were among the most efficient among the 40 companies analyzed. VST AB is the third after the best performance results, and Rytu Skirstomieji Tinklai AB is the eight.

The Electricity Transmission and Distribution Service Price and Price Cap Setting Methodology also sets the maximum technological electricity cost limits by grid voltage levels; and these cost limits were reduced subject to historic data of the last three years.

Investments are encouraged by observing the global economic situation and by drafting amendments to the Law on Electricity in 2010, that would allow for the Regulator to implement international price and its components calculation methods.

With respect to the set minimum power supply reliability and service quality indicators, incentives not only penalties are applicable to ensure the quality of investment use.

Upon the approval of the price caps by the NCC, 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 NCC 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 NCC shall control whether the weighted average of the prices and tariffs set by the service provider has not exceeded the price caps. Should the NCC 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.

It should be mentioned that setting up specific tariffs for transmission services, the component G is not applied i.e. all transmission system service costs are covered by consumers.

Since 2010, when network overload problems appeared, the Transmission Service Price Setting Methodology singles out revenue related to overload management, and the Transmission System Operator has developed a methodology of distribution and use of revenue generated by overload management. Provisions of Art. 16 of the EU Regulation No. 714/2009 were observed in making these decisions.

Other state institutions may provide comments and suggestions before approving various documents i.e. developing pricing, it has the advice function.

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:

1. annual audit report on the costs of the licensed activities;
2. annual analysis of the use of the electricity network system;
3. report on the development prospects for the electricity network system;
4. annual report on complaint investigation.

In 2010 a new version of the Energy Company Technological, Financial and Management Capacity Assessment Procedure was approved, being the basis to license regulated activities. Company assessment indicators have been reviewed, and their analysis procedure has been improved.

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.

Energy Company Information Provision Rules and the Procedure of Approval of Energy Company Investment Projects by the NCC oblige companies to provide reports on implementation of annual investments by project implementation phases and by financing structure and project types in appropriate voltage level grids.

With respect to amendments to the Law on Electricity passed at the end of 2009, the NCC approved amendments to the Methodology for Setting Prices for Electricity Transmission and Distribution Services and their Price Caps, which will apply to calculation of prices of 2011.

Key amendments in the pricing of electricity transmission and distribution services are the following:

- **the possibility to generate above 5% of profits by electricity transmission and distribution undertakings has been eliminated;**
- **accounting of costs for public service obligations (PSO) has been unbundled;** PSO costs and revenue shall be separated from other costs and revenue and included into the price as a separate component; the aim of this amendment is higher transparency, and a more efficient control of collecting and use of PSO funds;
- **the pricing for transmission and distribution services has been differentiated into the capacity and flow components;** This differentiation will allow system users to more effectively and efficiently plan the use of energy resources, and operators to optimize investment scopes (for connecting new users the Transmission System Operator will need less or no extra investment into the system due to the „frozen“ system capacities of the already existing users), thus enabling consistent system development;
- **the duty to approve maintenance and operation plans of the managed assets has been established;** this will enable to control amounts of funds to be allocated and ways to ensure the reliable and qualitative electricity system to uninterrupted supply electricity to users;
- **general economic trends of the national economy shall also be taken into account to forecast future consumption and costs;** to calculate electricity transmission and distribution costs not only the last year's actual consumed quantities but general future economic trends are taken into account; this is one of the prerequisites to have moderate fluctuations of electricity prices and prevent price leaps with the economic situation changes.



In line with the new version of the Law on Electricity, the Methodology for Setting Public Electricity Prices, the Public Supply Service Price and the Price Cap. The following material changes have been made to have a faster opening of the electricity market, enabling electricity customers to select independent suppliers and having more flexibility in assessing price fluctuations of buying electricity on the market:

- **The provision has been established that a public supplier shall ensure electricity supply to customers having not selected an independent supplier, based on actual electricity buying prices;**
- **The provision has been established that public electricity prices and tariffs shall be set for 6 calendar months;**
- **The definition of electricity production (buying) price as acquire price has been amended and the compensation mechanism has been worded differently, i.e., as the difference between the forecasted and actual data for the acquire price;**
- **Assessment of the balancing energy costs has been clarified, with respect to internationally practiced methods;**

Under the Law on Electricity the NCC is obliged to set quality requirements for electricity reliability of supply and service quality, criteria for companies' efficiency for operations and monitor their fulfilment. The NCC annually inspects major electricity companies, analyzes and evaluates how they register data on reliability of electricity supply and service quality, calculate indicators and outline reports submitted to the NCC. Under the Quality Requirements, already this year the change over the indicators will be compared with the minimum level fixed by the NCC and shall be taken into account when calculating price caps for transmission and distribution services thus motivating DSOs and TSOs to assure relevant level of electricity transmission reliability and service quality to all consumers

Based on the average electricity transport reliability indicators for the last 3 years, and with respect to their trends, the NCC establishes the minimum indicator levels; within the last 3 years the minimum indicator levels of electricity transport reliability had a downward trend; this indicates that conditions are created for companies to improve quality indicator results for transport services. Data correctness is ensured by controlling it during scheduled inspections. Interruptions due to *force majeure* or external influence shall have no impact on quality indicators.

Reliability of electricity supply by a transmission networks (the system operator Lietuvos Energija AB) is estimated by two indicators:

- END – the electricity quantity not delivered via the transmission network due to interruptions in the transmission system), MWh/per customer;
- AIT – the average interruption time which shows the average interruption duration in the transmission system), min./per customer.

Annual electricity transmission reliability indicators and their minimum levels are presented in Figures 5-6.



Figure 5. shows the electricity quantity not supplied by transmission network due to interruptions (END) and it's minimum level MWh/per customer

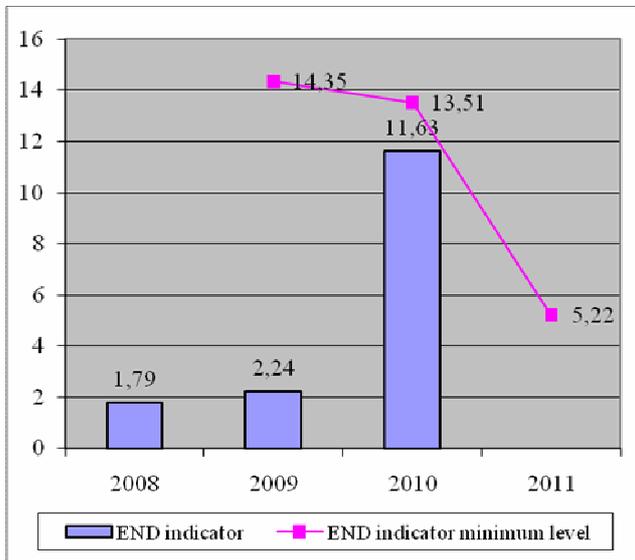
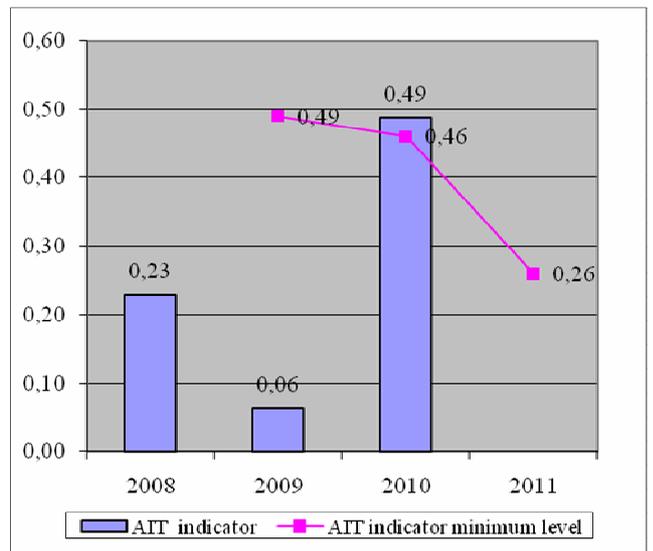


Figure 6. shows the average interruption duration (AIT) and the minimum level of the indicator, min./per customer



For the purpose of measuring the average frequency of unscheduled interruptions per consumer, two indices are calculated:

- SAIDI –average duration of unplanned transmission interruptions min/per customer
- SAIFI – average number of interruptions per customer (number/per customer).

Reliability indicators established by NCC in 2011 oblige the Distribution System Operator to ensure improved quality of technical services or stay in line with the minimum requirements: the average duration of interruption shall not go above 127 minutes per year, while the average number of interruptions per customer due to the distribution system operator's fault shall not exceed 1.82 times (Figure 7 and 8)

Figure 7. System average duration of unplanned long-term interruptions (SAIDI) and the minimum level of the indicator, min./per customer

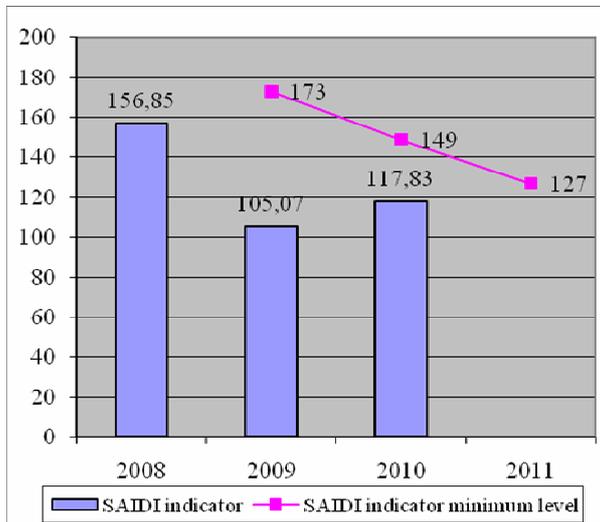
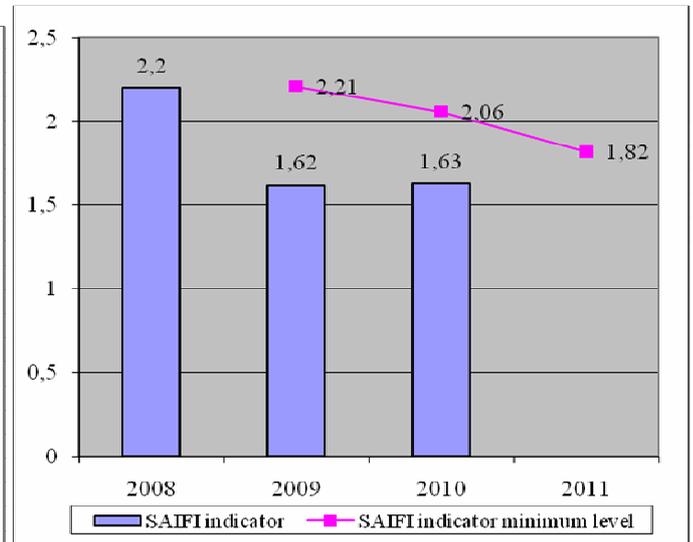


Figure 8. System average interruption frequency index (SAIFI) and the minimum level of the indicator, number/per customer



The actual 2010 END and AIT indicators of the Transmission System Operator were predominantly determined by the fault of Alytus transformer substation which took place last August. However the result of one reporting year may not determine lower quality standards. The 2011 reliability indicators set by the NCC based on the recent three yearly average shall oblige the Transmission System Operator to ensure technical service quality, compliant with the minimum requirements or higher: the average interruption time (AIT) per user should not exceed 0.26 min., and the average energy not delivered should not exceed 5.22 MWh.

To compare reliability indicators of Lithuanian distribution grid with indicators published by some EU countries (Council of European Energy Regulators currently has data up to 2008), the System Average Interruption Duration Indicators of Lithuanian distribution grid were quite high in 2005, significantly improved since 2007 and in 2009-2010 nearly reached the level of the system average unplanned interruption time of the old EU countries, based on currently available data. Compared to available data of the EU countries, in 2005-2007 the value of the system average interruption frequency index in Lithuania was approximately the same as in these EU countries. Since 2007 SAIFI indicator has also kept consistently reducing. In general this means that the technical quality of the distribution grid consistently improves in the context of the EU countries (Figures 9 and 10).



Figure 9. Comparison of SAIDI (system average duration of unplanned long-term interruptions) (min./per customer)

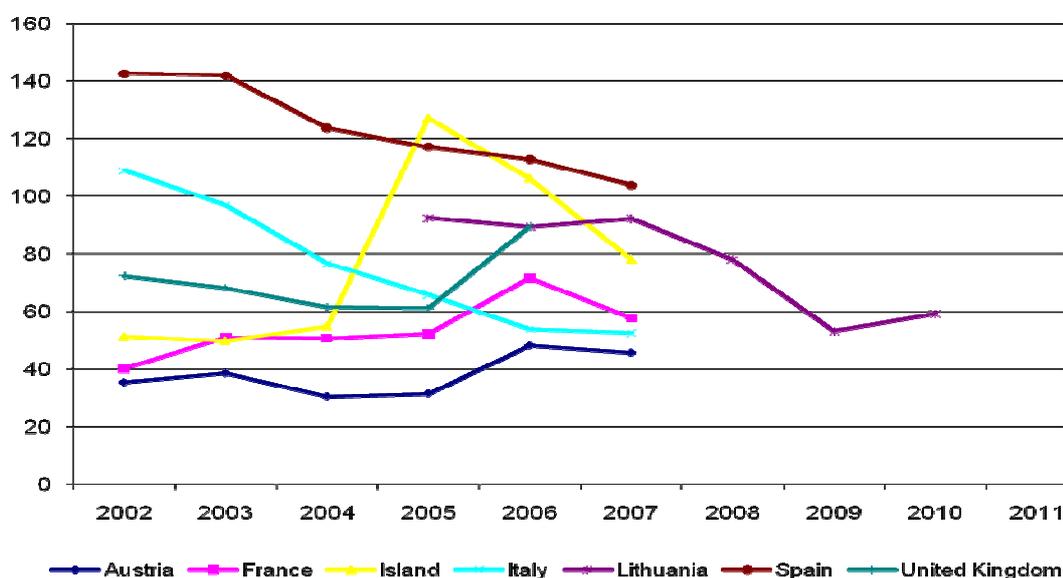
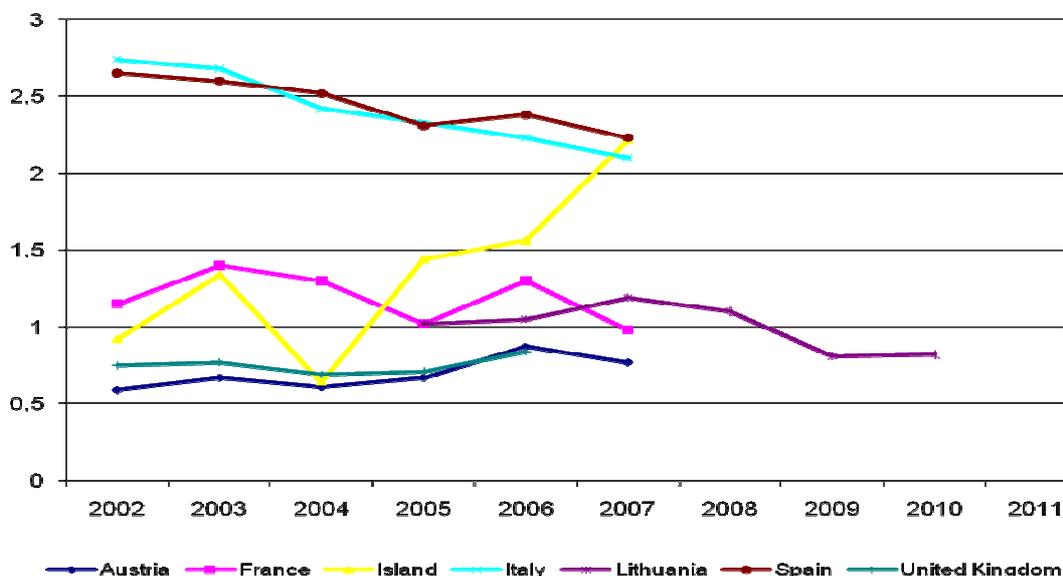


Figure 10. Comparison of SAIFI (System average interruption frequency index) (number/per customer)



The updated EU data on electricity supply reliability indexes the NCC shall have in 2012.

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 NCC. The rates of the fees are published when the NCC 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. According to the Law on Electricity and the provisions of Tariff Setting Methodology for Electricity Customer Installation Connection to Power Grids new electricity customers shall pay 20% costs of power installation connection.

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 promotions and discounts.

As mentioned before additional information according to the requirements of Regulation No. 1228/2003/EC and approved guidelines, and other information useful for market participants is published on the website www.litgrid.eu of the Transmission System Operator .

When the NPS-based Power Exchange started operating since 2010, the hourly electricity market price, the balancing energy price and other related information is public and posted on Lithuanian Power Exchange website www.baltpool.lt .

When the Baltic regulators coordinate data volumes and regularity on the regional scale, information is to be published based on the Guidelines of Good Practice on Information Management and Transparency established by the European Energy Regulators.

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 4000 kW receive electricity from medium and high voltage electricity distribution grids, whereas households with the annual consumption of about 3500 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 8.

Table 8. Average electricity transportation service prices in 2010

Title	Ig	Ib	Dc
Average electricity transportation service prices in the country , EUR/MWh	36.08	75.96	75.96

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

Table 9 shows electricity tariffs by regions served by two main distribution networks.

Table 9. Electricity distribution service tariffs in 2010 by companies of different regions

Indexes/company	VST AB	Rytų skirstomieji tinklai AB
Price for electricity distribution through medium voltage electricity grids, EUR/MWh	15.73	15.09
Price for electricity distribution through low voltage electricity grids, EUR/MWh	18.42	22.71

Balancing

Since the Power Exchange started operating in 2010 managed by BALTPPOOL UAB based on NPS platform, the NCC amended the Description of the Procedure on Balancing Energy Regulation. The balancing energy sell/buy price means the price for which the balancing energy supplier buys/sells balancing energy from the Transmission System Operator. Regulation up/down means the instruction of the Dispatch Center of the Transmission System Operator to increase/decrease the volume of electricity supplied to the system, or a command to reduce/raise the electricity consumption volume. Regulation up/down volumes shall be set on an hourly basis and measured in MWh.

The hourly balancing energy buy or sell price shall be equal to:

1. the weighted average of prices of that hour's regulation and/or balancing energy sold to other System Operators multiplied by the sell coefficient which is 0.98, if the Transmission System Operator regulated down and/or sold balancing energy to other System Operators;
2. the weighted average of prices of that hour's regulation and/or balancing energy bought from other System Operators multiplied by the buy coefficient which is 1.02, if the Transmission System Operator regulated up and/or bought balancing energy from other System Operators;
3. that hour's electricity market price multiplied by the buy coefficient 1.02 or sell coefficient 0.98, in all other cases.

Electricity transmission and/or distribution service price cap reduction is prescribed by using revenue of the Transmission System Operator and the Distribution System Operator, generated by applying the buy and sell coefficients.

Companies provide information to the NCC on balancing energy volumes, revenues and prices. At the beginning of 2011 the balancing energy buy/sell prices were approximately 23/55 EUR/MWh.

When the Baltic electricity market starts functioning, the Procedure Description of Balancing Energy Price Regulation will be adjusted by harmonizing definitions with the ones used in international practice and by amending the balancing energy price setting for buy or sell transactions by the maximum or minimum system balancing energy price respectively. The aim of this would be to harmonize balancing energy price-setting principles for producers and suppliers



of the Baltic States, by applying the same pricing with two prices set to establish the system imbalance.

In mid-August 2011 there were 24 balancing energy suppliers, i.e., by 8 suppliers more than at the same time in 2010. They are publicly listed on the Regulator's and the Transmission System Operator's websites. For comparison, according to the data of May 2011, the Power Exchange Baltpool UAB had 28 traders. At that time the NCC had issued 64 independent electricity supply licenses. More details on the market concentration level are available in the Section *Wholesale Market*.

3.1.3. Unbundling of Activities

The NCC 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 NCC 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 NCC 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.

There is one Transmission System Operator LITGRID AB and two main Distribution System Operators in Lithuania, namely VST AB and Rytu Skirstomieji Tinklai AB, which were merged into one Distribution System Operator LESTO AB on 1st January, 2011.

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. Therefore in 2010 reorganization processes took place by separating production unit from transmission activity.

The Transmission System Operator is not engaged in supply activities, but by the end of 2009 there was a market operator department in the company, which was responsible for the organisation of electricity trade, including auction. Starting 2010 the Market Operator department was reorganized to a subsidiary company of LITGRID UAB, namely Lithuanian Power Exchange Baltpool UAB functioning under the principles of Nord Pool Spot AS.

The costs of the electricity distribution service and the public supply service are unbundled. Under the Methodology for Setting Prices for Electricity Transmission and Distribution Services and their Price Caps, the undertakings shall provide to the NCC Unbundling Rules for the Cost and Profit (loss) Statements of Distribution and Public Suppliers. The Rules shall be applicable temporally while public electricity tariffs will evaporate and a public supplier will be no necessary. According to the provided amendments to the Law on Electricity starting 2015 the public supplier shall supply electricity to socially vulnerable customers and guarantee suppliers shall be selected by tender.

Since 2002, the Transmission System Operator (TSO) and Distribution System Operators (DSO) 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
 - (from 2010 LITGRID AB – www.ligrid.eu);
- Rytų skirstomieji tinklai AB (DSO) – www.rst.lt ;
- VST AB (DSO) – www.vst.lt , from 2011 LESTO AB – www.lesto.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.

Shares of LITGRID AB, Rytų skirstomieji tinklai AB and VST AB (from 2011 LESTO AB) are traded at the Lithuanian National Stock Exchange, quarterly reports of the companies are public in line with the requirements of the Stock Exchange.

In accordance with the procedure for profit and loss accounts for separate activities established by LITGRID 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 NCC. 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.



Pursuant to the methodologies for setting price caps and the licensing rules in the electricity sector, the NCC establishes forms of reports the electricity transmission and distribution operators are obliged to follow in submitting quarterly reports to the NCC 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 NCC. Since transmission and distribution activities are legally unbundled, the NCC 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 NCC. Audit companies carry out audits using the forms established in the NCC-approved Energy Company Rules for Provision of Information.

The NCC sets detailed requirements for preparing accounts and imposes responsibility for any breach of such requirements. The NCC may impose penalties, suspend or revoke licences for violations relating to the licensed activities. When suspending a licence, the NCC 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 NCC or failure to comply with orders of the NCC, 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. In 2010, to unify the unbundling of accounts in two unbundled energy sectors, the drafting of principles and rules of cost distribution and activity accounts unbundling for electricity, gas, heat and water companies has started. They should clarify and make requirements for the accounts unbundling more transparent and facilitate intersect oral comparison.

3.2. Competition Issues [Articles 23(8) and 23(1)(h)]

3.2.1. Wholesale Market

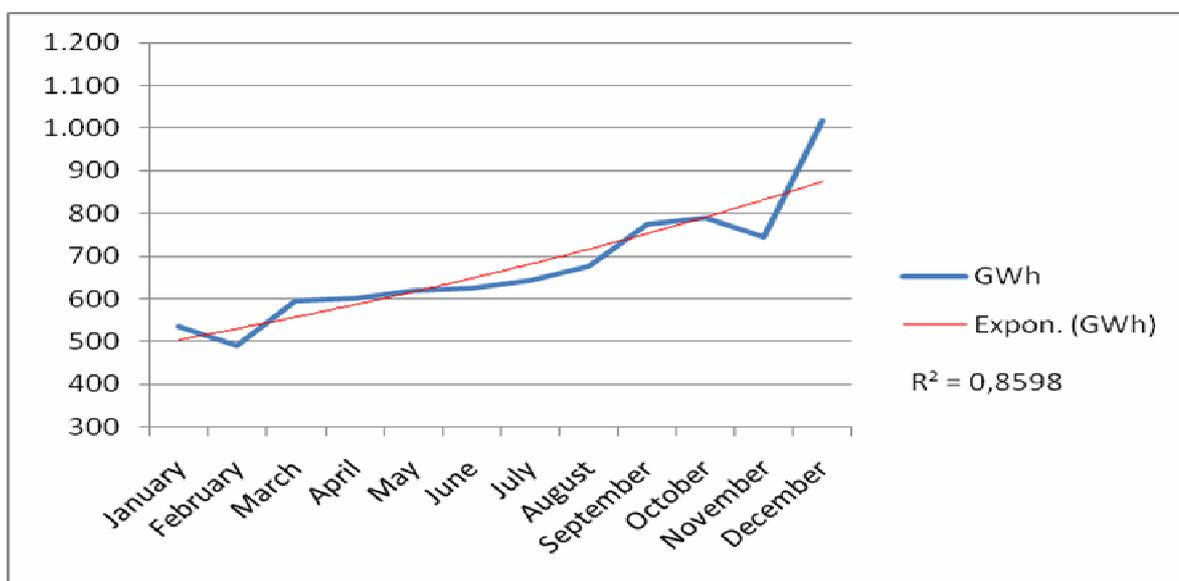
2010 was the year of challenges for the energy sector when Lithuania from an energy exporter became an energy importer and when the electricity trading system underwent material changes. This was determined by the following material events of 2010:

- Since 1 January 2010 Ignalina Nuclear Power Plant was decommissioned, and Lithuania has started importing more than 50% of consumed energy;

- 
- Since 1 January 2010 operations of the electricity trading platform started based on Nord Pool Spot, AS principles and managed by the market operator BALTPPOOL, UAB. A day ahead hourly power exchange trading started;
 - In 2010 the Transmission System Operator's functions were fully discharged by LITGRID, AB, which had taken them over from Lietuvos Energija, UAB in 2009, and was issued a license on 28 December 2009 entitling to engage in energy transmission activities in the entire territory of the Republic of Lithuania;
 - At the end of 2010 Rytu Skirstomieji Tinklai, AB and VST, AB were reorganized by merging them into the company LESTO, which was issued a distribution and a public supply licenses on 30 December 2010;
 - Within 2010 the number of entities active on the power exchange grew to reach 33%, however the player concentration also increased and the exchange concentration remained very high;
 - During 2010 the number of independent electricity suppliers active in the retail market grew to 15 (in 2010 the number of licensed suppliers totalled to 55);
 - 45% of total electricity consumed by retail customers was supplied by independent suppliers.
 - The first ever assessment of the electricity market competitive intensity encourages to look for and undertake response measures, analyze ways to address analogous situations in other countries in order to reduce the market concentration and the influence of dominant market players.
 - As mentioned above, the power exchange started its operations on 1 January 2010. The Electricity Trading Rules prescribe that the electricity wholesale trading shall consist of electricity trading on bilateral contract basis and the power exchange trading. All electricity supplied to Lithuania from foreign states or supplied from Lithuania to foreign states shall be traded on the power exchange.
 - The Electricity Trading Rules prescribe that the market players shall trade on the power exchange according to the uniform system price mechanism when the system price is established based on the highest selling bid still matched by the lowest buying bid (the price forming trade).
 - The Electricity Trading Rules provide that market players may conclude contracts based on a compensation mechanism enabling market players to trade electricity on the power exchange and pay based on a pre-agreed price (the non-price forming trade). Only local producers and independent suppliers may trade on a bilateral contract basis domestically, not on the exchange.
 - In 2010 the electricity volume traded on the exchange was 8.1 TWh.
 - The 24-hourly extreme points per were 201.90 MWh (min) and 2554.60 MWh (max). The monthly extreme points were 490,35 GWh (min) and 1.017,7 GWh (max). In 2010 the exchange traded volumes were marked for nearly consistent growth dynamics (Fig. 11).



Figure 11. Electricity quantities traded at Lithuanian power exchange in 2010, GWh

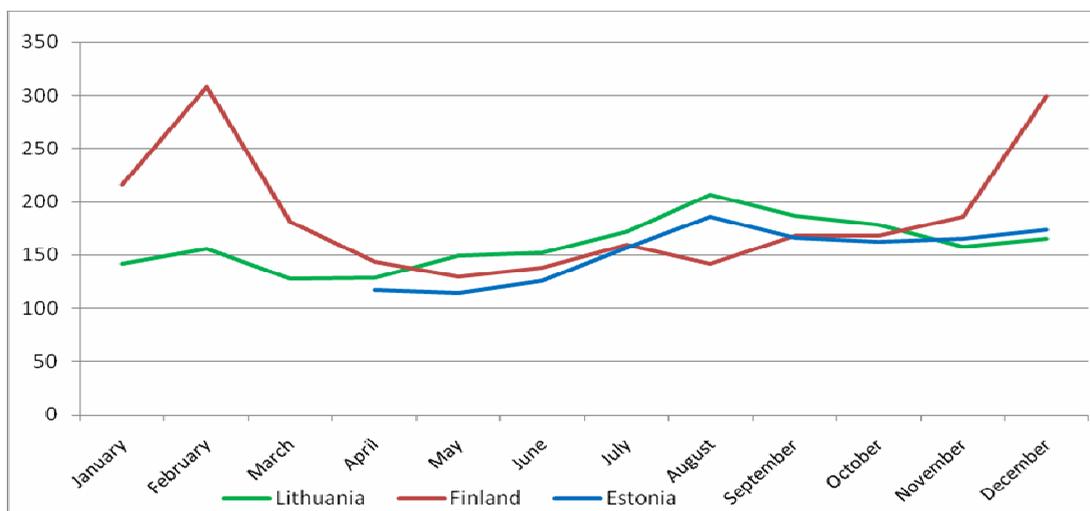


Source: NCC public information at www.baltpool.lt

Based on the price forming trading results the average 2010 electricity price on Lithuanian Power Exchange was 160.27 Lt/MWh. Assessment of the exchange trading results based on the compensation mechanism revealed the average (weighted) 2010 power exchange price, which was 150.65 LTL/MWh

The 2010 electricity volume traded based on the price forming assignments was 1.0 TWh or 12.3% of total traded volume. During the year the electricity volume traded based on the price forming assignments featured a downward trend, with the monthly extremes of 27% (max) in January and 6.7% (min) in November (Fig. 12).

Figure 12. Electricity prices at Lithuanian power exchange and Nord Pool Spot in 2010, LTLct/kWh



The exchange price was significantly influenced by electricity produced by Latvian hydroelectric power plants due to the spring tide, which reduced the exchange price in Lithuania in March and April (down to 12.75 ct/kWh), and by limited electricity transport capacity of the Estonian-Latvian interconnection, which increased the exchange price in Lithuania in August 2010 (up to 20.63 ct/kWh).

In Finland, the area of operation of the operator Nord Pool Spot, electricity price is also influenced by seasonality: in winter Finnish hydroelectric power plants cannot produce the required electricity volumes due to the lack of water (in December, January and February the price was high), and the lowest price was in May during the spring tide.

The power exchange operator Nord Pool Spot, AS is expected to start operations in Lithuania in 2012. However electricity may be directly sold in Scandinavia as late as in 2016, when the power interconnection with Sweden is there.

At the start of operations in the beginning of 2010, Lithuanian power exchange had 18 registered players. At the end of 2010 the number of registered exchange players increased up to 26. At the beginning of the year 15 of them, and at the end of the year 20 of them were active traders (Table 10).

Table 10. Power exchange participants in 2010

Indicator	QI	QII	QIII	QIV	Annual change, %
Registered players	20	24	24	26	
Quarterly change, proc.		20.0	0	8.0	30.0
Active players	15	17	18	20	
Quarterly change, proc.		13.3	5.9	11.1	33.3

In 2010 the following had the largest shares in the exchange selling structure: Lietuvos Energija, AB together with Lietuvos Elektrine, AB – 39.9%, INTER RAO Lietuva, UAB – 40.1%, Vilniaus Energija UAB – 6.9%, Kauno Termofikacijos Elektrinė, UAB – 3.4%. All other 16 market players had the total share of 9.8%. During the year the exchange player situation fluctuated within the limits of 12 percentage points (due to production seasonality).

In 2010 the following had the largest shares in the exchange buying structure: Lietuvos Energija, AB together with Lietuvos Elektrine, AB – 81.7%, Latvenergo Prekyba, UAB – 5.1%, ORLEN Lietuva, AB – 5.0%, Enefit, UAB – 3.3%. All other 16 market players had the total share of 4.8%. During the year the exchange player situation in the buying structure fluctuated within the limits of 3 percentage points (Figs. 13 and 14).

Figure 13. Exchange trade composition (according to flow, MWh), in 2010, percent.

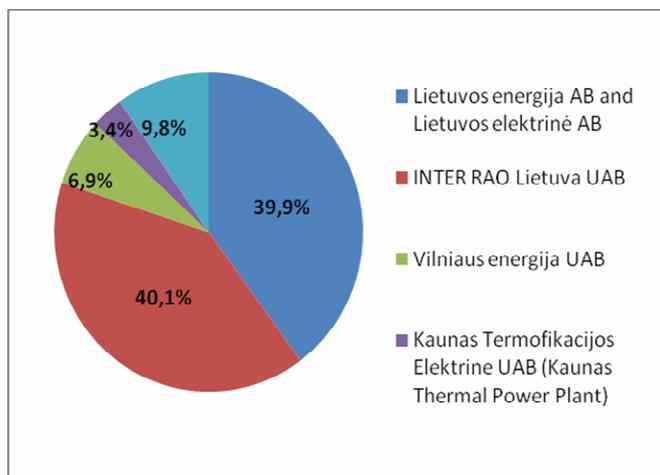
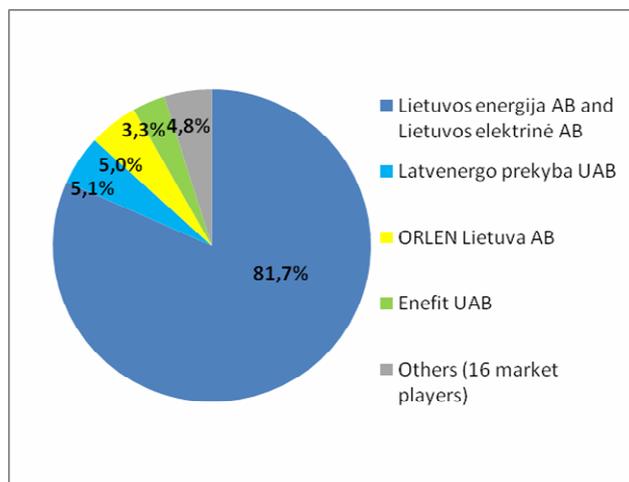


Figure 14. Exchange purchase composition (by flow, MWh), in 2010, percent.



Competition intensity on the power exchange is measured using the following indicators:

1. Market structure (concentration) indicators (C_1 and C_4);
2. Hirschman-Herfindahl index, HHI;
3. Pivotal supplier index, PSI.

The market structure (concentration) values C_1 and C_4 show that both sale and buy markets are highly concentrated, and dominant market players operate there (INTER RAO Lietuva UAB and Lietuvos Energija AB, and Lietuvos Elektrinė AB respectively).

The annual HHI indicator significantly exceeds the 1,800 limit and also indicates a very high degree of concentration; with the buy market concentration twice higher than the sell market one. Lower HHI indicators in the price-forming sell and buy market segments are related to the low share of such offers in the total Exchange turnover.

The PSI indicator confirms the market concentration of 2010 and dependency on 2 to 3 pivotal suppliers (market players).

Graphically the valuation of the said concentration indicators is presented in Figures 15-18.



Figure 15. Market composition (concentration) indicators in 2010

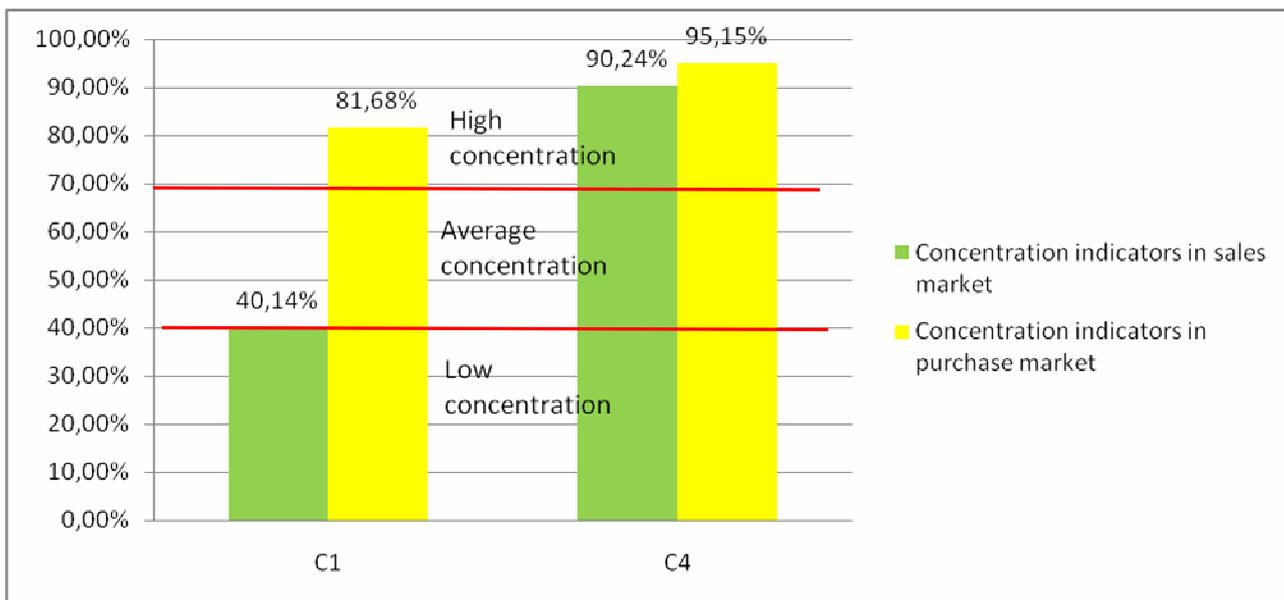


Figure 16. Dynamics of HHI indicator according to purchased electricity quantities in 2010

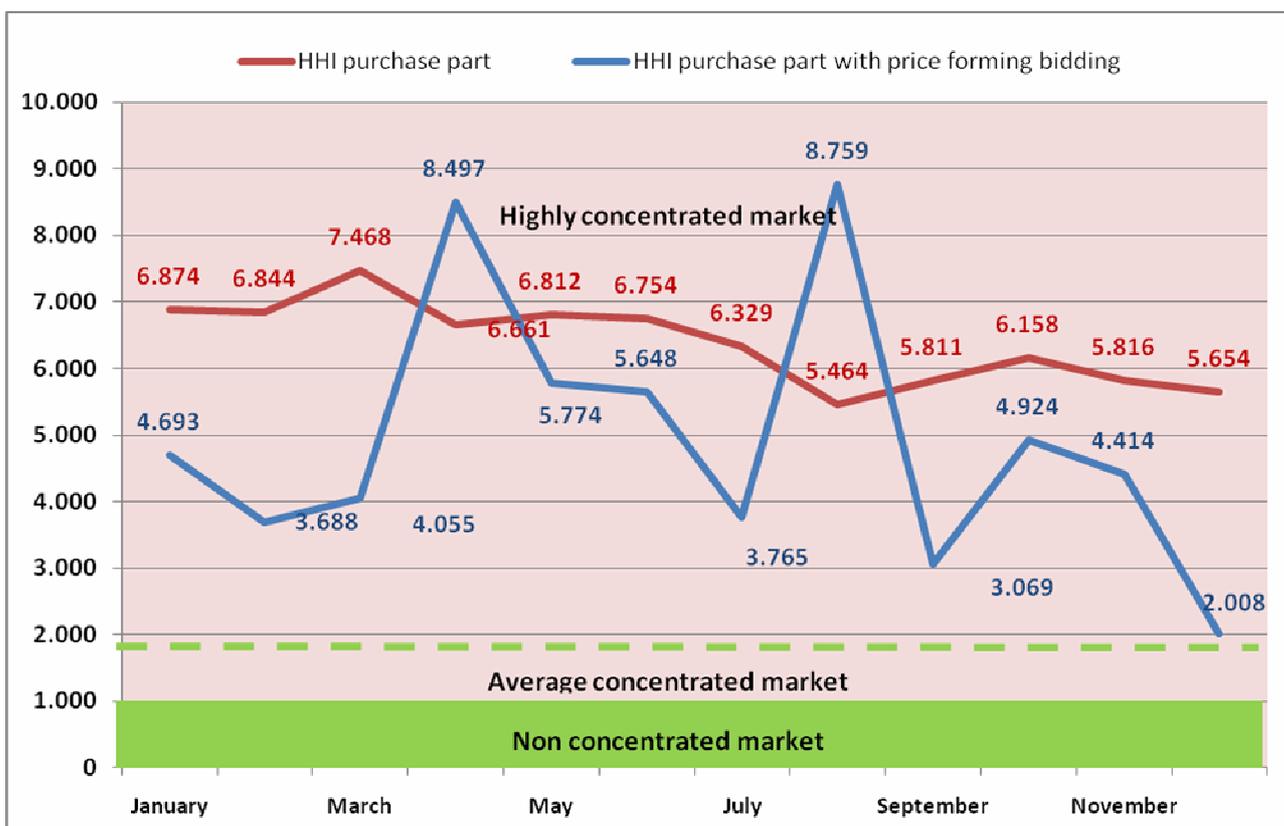


Figure 17. Dynamics of HHI indicator according to sold electricity volumes in 2010

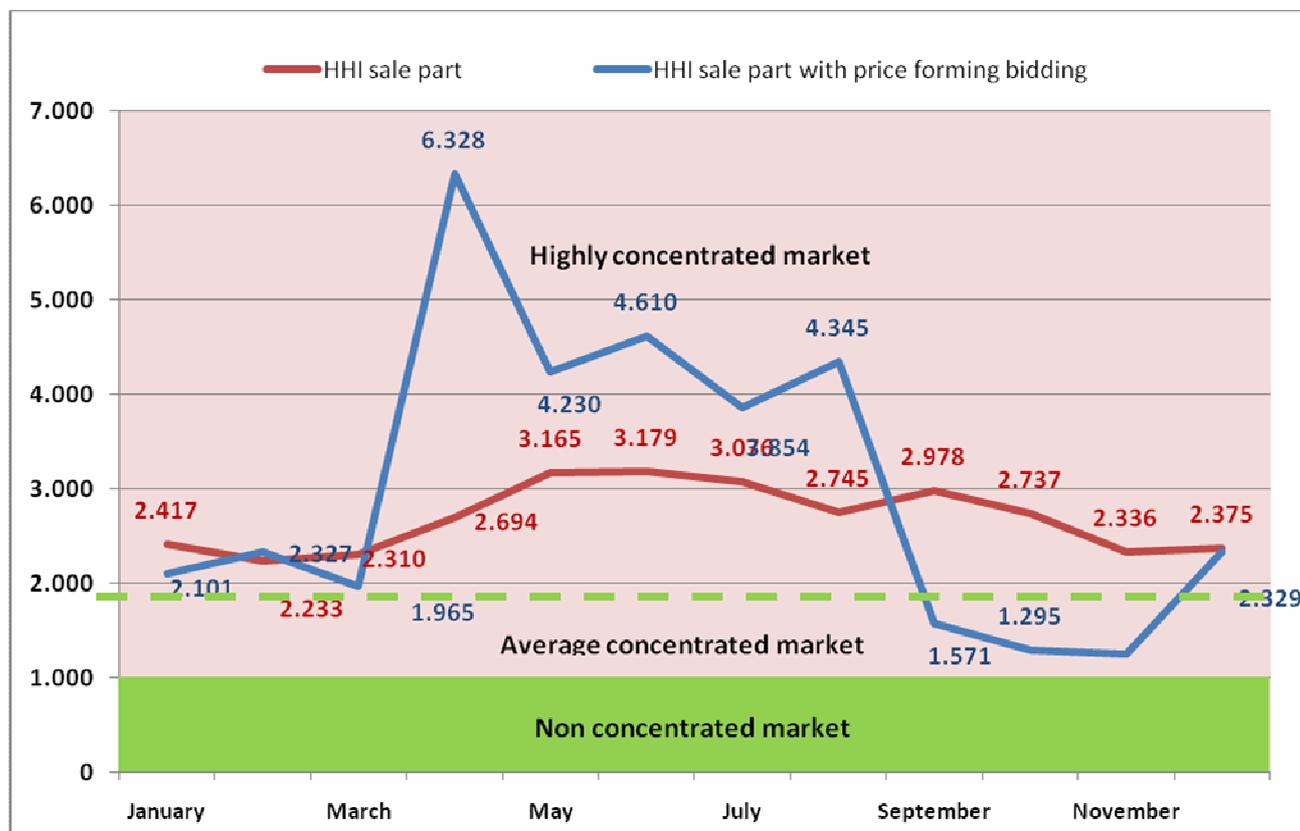
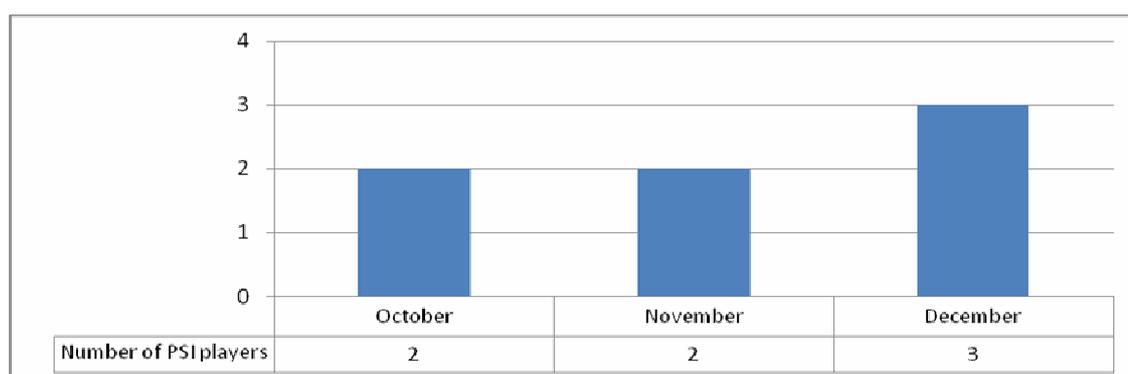


Figure 18. Dynamics of PSI indicator (according to total trade results at exchange and bilateral contracts)



Source: NCC by BALTPPOOL UAB report

In line with legislation in force, the market operator shall pre-monitor market player behaviours on the Exchange for potential violations of competition. In 2010 the market operator did not establish potential market player violations committed during trading on the electricity market. In line with the procedure of the Electricity Market Surveillance Description, 46 urgent notifications to the market were posted on the website in 2010.

Lithuanian transmission grid is fairly well integrated with Belarus, Latvia and Kaliningrad regions. There is no connection with neighbouring Poland and Swedish power systems. Hourly trade in export/import region started in November in 2003.



Electricity sales abroad in 2010 totalled to 1.04 TWh. Comparing with the last year, electricity export decreased by 55 percent.

In 2010 electricity import amounted to 7.03 TWh i.e. 10 times more than in 2009.

International electricity trade quantities are provided in Table 11.

Table 11. Electricity export-import in 2010, GWh

Indicator	Export	Import
2010	1041	7031

Independent suppliers use the Exchange for exports and imports, with the compensation mechanism applied subject to bilateral agreements.

The Baltic Electricity Regional Initiative working groups addressed relevant problems in order to implement the regional electricity market. Up to 2010 basically preparatory works have been carried out for real opening of the markets, because Estonian electricity market was scheduled to be fully open in 2013, while a huge producer operated in Lithuania, supplying more than 70% of electricity to the national market. Since 2010 the situation has changed because at the end of 2009 Ignalina NPP was shut down, but basically the Baltic States have 3 separate national electricity markets. One key reason for this is that Lithuania and Latvia lack legal provisions on the power exchange operation based on NPS principles. Legal amendments have been submitted to the national parliaments and the single power exchange managed by NPS is expected to be there in 2012-2013.

The efficient wholesale market development could be facilitated by the new interconnections with Poland and Sweden and the common mechanism on interconnection capacity allocations and overload management. These processes are heavily influenced by the third country energy flows. This is worked on in order to find a suitable joint solution.

3.2.2. Retail Market

According to Electricity trade rules the retail electricity market consists of electricity trade carried out by suppliers with customers in line with the conditions and terms defined by Electricity supply and consumption rules when electricity trader for customers is an independent or public electricity supplier.

Market development plan forecasts that during certain intervals within 2010-2015 time period electricity customers will choose independent electricity suppliers (Table 12). Electricity customers, whose allowable capacity of the facility connection to the electricity distribution network is over 400 kW, from 1st January 2010 had to choose independent electricity suppliers. The electricity consumption by these customers amounts to about 35 percent of the total electricity consumption in the country.

Table 12. Market opening stages

Date	Customer group selecting independent electricity suppliers
1st January 2010	Consumers, whose allowable capacity is over than 400 kW
1st January 2011	Consumers, whose allowable capacity is over than 100 kW
1st January 2012	Consumers, whose allowable capacity is over than 30 kW
1st January 2013	All non-household consumers
1st January 2015	All household consumers

In Quarter IV of 2010 customers, operating 66 percent of facilities, have selected independent electricity suppliers. Their electricity consumption increased from 16 percent in Quarter I – up to 45 percent in IV Quarter. In 2010 the average consumption was 35 percent (out of 35 percent planned) (Table 13). There was not recorded the suppliers' switching in 2010.

Table 13. Declared and real market opening degree

Indicator	2002	2003	Up to 2004-07-01	Starting from 2004-07-01	2005	2006	Starting from 2007-07-01	2008	2009	2010
Electricity consumption by eligible customers as a share of total customer consumption, %	20	23	25	74	74	74	100	100	100	100 (35*)
Electricity consumption by eligible customers having selected independent suppliers as a share of total customer consumption, %	17	17	15	15	15	13	12	14	12	35

*- scheduled electricity market opening according to Article 25 of the Law on Electricity, when public tariff are not applicable.

It is forecasted that in 2011-2012 customers, whose allowable capacity will be higher than 100 kW and 30 kW respectively, will choose independent suppliers, and their electricity consumption will total to 45 and 55 percent respectively from the total electricity consumption in the country. Starting 2014 only household customers will have the right to settle accounts according to the regulated public electricity tariffs. In such a case electricity market opening would reach to 70 percent.

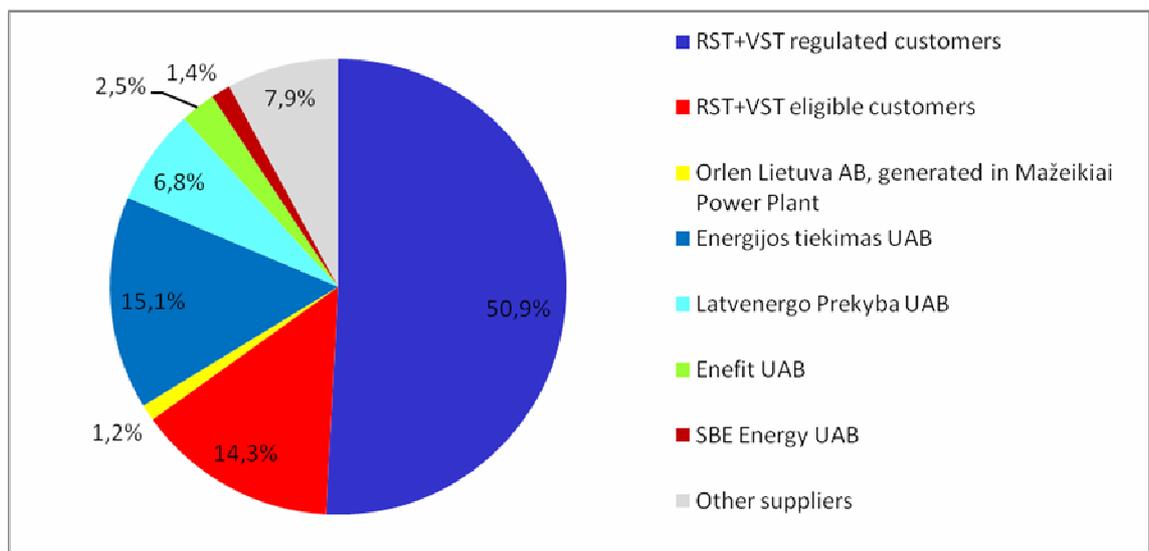
In 2010 NCC issued 27 new independent electricity supply licences and 1 licence was eliminated. The rate of active (engaged in activity) independent suppliers with all independent suppliers ranged from 27 to 30 percent. The number of active (engaged in activity) independent suppliers in 2010 increased from 12 (Quarter I) to 15 (Quarter IV) as presented in Table 14. The complete list of independent suppliers is available at www.regula.lt.

Table 14. Retail market participants in 2010

Indicator	QI	QII	QIII	QIV	Annual change, percent
Number of licensed suppliers	42	46	52	55	
Quarterly change, in percent		9.5	13.0	5.8	31.0
Number of active suppliers	12	14	15	15	
Quarterly change, in percent		16.7	7.1	0	25.0

In 2010 the amount of electricity sold by independent electricity suppliers increased from 0.376 TWh (quarter I) to 1.091 TWh (quarter IV). In the whole retail market it amounted 33.8 percent (growth from 16.1 % (quarter I) to 43.2 % (quarter IV)).

Figure 19. Retail electricity market in 2010, percent



In 2010 between independent electricity suppliers, who supplied non-regulated customers and covered 34 % of the retail market, Energijos tiekimas UAB covered the largest share (15%) of the market.

The average price of electricity sold by independent suppliers to end customers in 2010 totalled to 15.12 ct/kWh. Customers, whose according to the Law on Electricity were obligated to select the independent supplier thus failed to do so timely, had to purchase electricity from the distribution system operators at an actual electricity purchase price i.e. at the price that distribution network purchased electricity in the market. In 2010 the average actual electricity purchase price of distribution network amounted to 15.93 ct/kWh.

The total consumption of end users in the country totalled to 8.9 TWh (excluding consumption by auto producers). Electricity consumption by sectors presented in Table 15.

Table 15. Electricity consumption by sectors in 2010

No.	Sector	Consumption, TWh
1.	Industry	2.5
2.	Services	0.6
3.	Household consumers	2.6
4.	Other consumers (transport, agriculture and others)	3.1
5.	Total	8.8

In 2010, in the electricity supply sector, 6 companies held licences of public suppliers, 55 companies were licensed as independent suppliers, whereas 20 companies were actually engaged in the activities of the independent supplier. In 2010 the main public suppliers supplying energy upon request to all customers within their territory were Rytų Skirstomieji Tinklai AB and VST AB, from 2011 – LESTO AB.

The most active independent suppliers trading at power exchange and supplying energy to eligible customers are as follows: ORLEN Lietuva AB, Achema AB, Akmenės Cementas AB, Enefit UAB, Prekybos Namai Giro, Korelita UAB, Fortis Energy UAB and INTER RAO Lietuva UAB, Energijos tiekimas UAB, Latvenergo prekyba UAB and Lietuvos Energija AB.

Public suppliers Rytų skirstomieji tinklai AB and VST AB covered the main supply market share. In 2010 the share totalled to 65 percent of the sold electricity to customers in the country.

In 2010 Energijos tiekimas UAB was an active independent supplier trading at the retail market, which share in the market could reach 5 percent. Electricity sold by this company amounted to 15 percent of the retail market. The share of the three biggest independent suppliers covered almost 24 percent of the market.

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.

The data presented in Table 16 do not consider the prices agreed under direct contracts with independent suppliers in the market. The presented prices are calculated according to the regulated end or public prices for customers.

Table 16. Electricity prices according to components in 2010, EUR/MWh

Title/Customer group	Ig	Ib	Dc
Prices of transportation services(excluding fees)	36.08	75.96	75.96
Out of it: transmission service price	9.90	9.90	9.90
Fees included in the price of transportation services	-	-	-
Electricity and supply service prices*	45.71	46.09	29.84
Taxes (VAT– 21%)	15.55	25.63	22.13
Total (including all taxes):	97.34	147.68	127.93

Note: * Since 1 January 2008 this component has become the price for transmission service component and in 2010 it amounted to 13.70 EUR/MWh

Article 26.3 of the Law on Energy stipulates that the NCC 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 incompliant with the requirements of this procedure shall be considered under the Procedure of NCC Services to Citizens and other Entities.

In 2010, 48 complaints out of 744 addressed to the NCC concerned electricity. This amounted to 6% of total complaints received (it was 8% in 2009). The applicants predominantly enquired about new customer connection terms and calculation of fees, application of electricity supply prices and tariffs, and contractual prices applicable to sub-subscribers, which are out of the NCC's regulatory remit.

In line with Clause 56.1 of the Rules for Licensing Activities in the Electricity Sector approved by the Resolution No. 1474 of 5 December 2001 of the Government of the Republic of Lithuania (Official Gazette, 2001, No. 104-3713; 2010, No.51-2498), the license holder shall develop the procedure of registration, consideration and passing decisions on customer complaints or applications and approve it with the NCC. In 2010 the NCC approved the Procedure Description of Registration, Consideration and Passing Decisions on Customer Complaints and Applications of BALTPPOOL UAB. Based on this document the complaint means the written communication of the applicant stating that rights and/or rightful interests of the electricity market party have been violated and requesting to protect them. An application means a written communication of the applicant unrelated to violation of rights and/or rightful interests of the electricity market party and requesting to make a respective decision on: the described request or attitude of the applicant regarding a certain subject, notifying about the BALTPPOOL UAB market operator's activity shortcomings, the impermissible acts related to violation of the market operator's activity committed by BALTPPOOL UAB employees, proposing improvements to discharging the market operator's functions, paying attention to a certain situation and suggesting improvements, changes, undertaking actions or refraining from them, or a request of any other nature.

In April 2011 the NCC approved the adjusted Customer Complaint Consideration Procedure of LESTO AB. This document includes definitions of complaints and communication, procedures of accepting, registering and consideration of customer complaints told over the telephone or during individual conversation, the non-exhaustive list of reasons justifying complaints and other



provisions. Based on this procedure the complaint is the customer's written communication (by post, electronic means, fax, directly or through State institutions) to the Company (the Company headquarters, a regional office, a customer service centre, a territorial group) and/or the Company heads where the customer states that to his opinion his rights or rightful interests have been violated and requests undertake actions to eliminate violations of his rights or rightful interests or protect his rights or rightful interests. After considering complaints are grouped into justified and unjustified ones. The Company documents are managed using the DocLogix management system. Enquiries are managed using the Enquiry Management Information System.

To sum up the national market situation, key changes took place in 2010 after the decommissioning of Ignalina NPP, when the hourly Power Exchange BALTPool UAB started operating based on the principles of Nord Pool Spot AS. The energy market situation has materially changed also because regulated public electricity tariffs are gradually abolished based under Art. 25 of the Law on Electricity. Customers with power capacity exceeding 400 kW had to select independent electricity suppliers since 1 January 2010. Electricity consumption by such customers or electricity market opening was approximately 35% in the total national electricity consumption. Since 2014 only household customers shall be entitled to pay based on regulated public electricity prices. In this case the market opening would be approximately 70%.

The above mentioned events and legal amendments have caused higher interest in Lithuanian electricity market. Since the beginning of 2010 the NCC issued 32 independent electricity supply licenses, and the number of independent suppliers increased to 59, i.e., almost doubled; the opening of the electricity market grew likewise, from approximately 12% which were stable for several years in turn, to 35%.

The following Lithuanian electricity market goals are integration into the Nordic and Western European electricity markets, through the implementation of strategic electricity interconnections. In order for the integrated European electricity market to operate since 2014, working plans for 2011-2014 drafted by the Baltic Electricity Regional Initiative intend to address long-term problems of day-ahead and intra-day trading, intersystem balancing between Transmission System Operators, calculation of transmission interconnection capacities, market transparency and other problems related to integration of the regional electricity markets. These measures should create competitive environment in Lithuanian and the Baltic States' electricity markets and contribute to solving problems of electricity supply.

3.2.3. Measures to Avoid Abuses of Dominance

Production

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 NCC.



Electricity and active capacity reserve 25% levels are annually set for producers and independent suppliers, and a list of producers and independent suppliers compliant with this level is developed.

Under the NCC-approved Description of the Electricity Market Supervision Procedure, at the end of 2010 the NCC set the price cap for instructions to buy and sell on the Power Exchange. Setting the above cap will prevent market players from manipulating the market, and establishing and retaining unusual prices incompliant with supply and demand conditions. By setting the price cap for instructions to buy and sell on the Power Exchange, it is worth assessing variable production costs per 1 MWh, if electricity must be produced 1 hour, of a local energy producer with the highest installed capacity, which in case of intersystem and other unplanned limitations could meet the full deficient demand of Lithuanian electricity consumption for the next day. Upon assessing the maximum potential variable production costs of starting the reserve unit of a local energy producer with the highest installed capacity (Lietuvos Elektrinė AB in this case), on the next day and the hour agreed with the Transmission System Operator, the price cap for instructions to buy and sell on the Power Exchange has been set at 564 LTL/MWh (163 EUR/MWh).

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 said data is published in website of the Transmission System Operator and since 2010 in website of Power Exchange.

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

In June 2010, the Baltic Regional Transparency Initiative working group prepared a report on the transparency of the Baltic electricity market. It covers the instruments and the conditions under which the Baltic countries should be made public. Particular attention was paid to the Transmission System Operators to make their Websites to publish all information in accordance with the requirements of the Quidelines approved by Regulation No. 1228/2003/EC and a new Regulation No. 714/2009.

Bidding

Trade at Lithuanian power exchange is regulated by day-ahead electricity market regulation and Regulation on additional post-power exchange session, that is available as well as other related documents on the power exchange website www.baltpool.lt



Market Supervision

Under the amendments to the Law on Electricity it has been provided that the NCC shall supervise and monitor the electricity market and supervise the Transmission System Operator's trade in balancing and regulating energy. The NCC shall make the electricity market monitoring reports public in line with the terms and procedure prescribed by the NCC.

The NCC will supervise competition in the electricity market, except the cases of anti-competitive arrangements and concentrations, when competition surveillance is done by the Competition Council under the Law on Competition.

Under the Electricity Trading Rules the market operator supervises electricity trading. In line with their remit the market operator and the Transmission System Operator inform the NCC and the authority authorized by the Government about violations of activity terms set for license and/or permit holders.

Under exceptional circumstances (when efficient competition is unavailable and/or service customer interests are not ensured in proper manner) the NCC shall be entitled to undertake proportionate temporary measures, i.e., set electricity auction price caps or set regulated electricity generator and independent supplier prices, identify or not identify economic entities with major influence in a respective market and/or establish obligations for such economic entities or cancel the NCC-established obligations to them, and suspend validity of licenses issued by the NCC. These temporary measures may be established for no longer than 6 months. In this case the NCC must immediately notify the Ministry of Energy about such measures and justify them.

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 Energy and the NCC with information about development prospects for the electricity transmission and distribution systems and the electricity market.

In 2010 the NCC approved the Description of the Electricity Market Supervision Procedure. The document specifies types of information to be supplied to the NCC and competition intensity indicators in wholesale and retail electricity markets. It also defines what information qualifies as significant, establishes its disclosure procedure and cases when using such information is qualified as a form of market manipulation or abuse. The NCC published the first electricity market supervision report for 200 on website at www.regula.it

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 to 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 NCC 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.

Pursuant to Energy Company Information Provision Rules approved by the NCC separate power companies provide information on system services on regular basis, implementation of investments plan, complaint investigation report, report on connection of electricity facilities of new electricity customers, independent supplier activity report and other information.

4. Natural Gas Market and it's Regulation

4.1. Regulatory Issues

4.1.1. Assessment and Management of the Transmission System Capacity

The Lithuanian natural gas system is interconnected with the gas systems of Belarus, Latvia and the Russian Federation. Interconnections with the Russian Federation, the Republic of Belarus and the Republic of Latvia are regulated under contracts. Capacities for reserve are hold on the basis of long-term contractual liabilities.

Capacities located at the Lithuanian-Belarusian border ensure full capacities required by Lithuanian customers, for transit to the Russian Federation (Kaliningrad Region) and to Latvia. Natural gas transit via the territory of Lithuania to be delivered only to the Russian Federation Kaliningrad Region, i.e., by crossing the external the European Union borders.

Natural gas is supplied to Lithuania from Russian gas fields through Belarus using Minsk–Vilnius gas mainline. The second interconnection with Belarus, Ivancevici-Vilnius is currently not in use (due to unsatisfactory gas line status, it has no gas metering station installed).

In the North Lithuanian gas transmission system is connected to Latvian gas lines. Gas metering takes place in Kiemenai gas metering station. The metering station was installed in 2005 with the purpose of metering gas volumes going to the Latvian gas transmission system and vice versa. The gas metering station capacity is 5 mln. m³/day. Due to technical capacity of Latvian gas lines Lithuania may be supplied with gas pressurized up to 40 bar and the pressure of gas supplied to Latvia may reach 55 bar. Reserves meant for household gas customers are kept in Latvian Underground Gas Storage Facility.

Table 17 provides natural gas capacities at cross-border points, and Table 18 provides average yearly gas flows (thous. m³/day).

Table 17. Capacities at cross-border points

Connection	Capacities, thous. m ³ /per day
Lithuania - Latvia	5 200
Latvia - Lithuania	5 200
Lithuania – Russian Federation(Kaliningrad Region)	11 520
Belarus – Lithuania	27 200

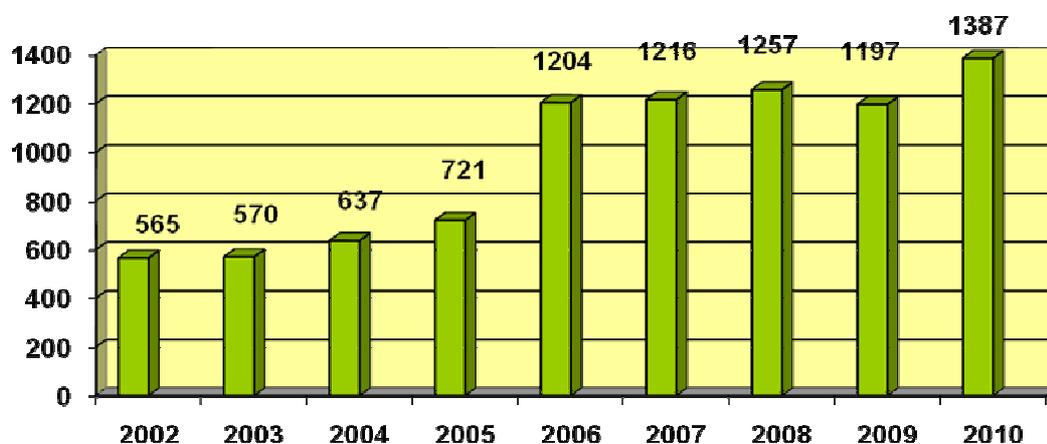
Table 18. Average annual gas flows (thous. m³/day)

Gas flows	2008	2009	2010
To Lithuania	424.37	80.30	52.79
To Latvia	59.81	102.54	127.17
To Russian Federation (Kaliningrad Region)	3433.48	3280.52	3800.45
From Belarus	11889.16	10736.5	12357.72

Lithuanian gas companies have not concluded a gas transit contract under the Article 3 (1) of the Directive 91/296. Natural gas transit to Kaliningrad Region is based on a long-term agreement between Gazprom RAB and Lietuvos Dujos AB signed in 1999 and valid until 1 January 2016. Under the transit agreement the transit transmission capacities reserved in 2010 amounted to 4.1 mln. m³/day.

In 2010, 1387.2 mln.m³ gas transited Lithuania to Kaliningrad Region. Compared to 2009, transit volumes increased by 15.9%. Figure 20 presents natural gas transit volumes in 2002-2010.

Figure 20. Natural gas transit to Russian Federation Kaliningrad Region, mln. m³



In 2010 Lithuanian customers needed 3.106 mln. m³ natural gas per year, and long-term reservation of standard capacities causes no system overloads in domestic or international connections. The maximum import gas pipeline use was 75.4%. The unused import gas pipeline capacity was 24.6%. Long-term reservation of standard capacities in domestic or international connections has caused no transmission system overloads. System users may access unused (available) capacities based on interruptible capacity contracts. From 2011 capacities of import gas pipelines increased by 31200 (thous.m³/per day).



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. 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. 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.

Functions of the System Operator, tasks, requirements and liabilities are defined on the Law Amending the Natural Gas Law of the Republic of Lithuania passed on 30th June 2011 (further-Amended Law) that consolidates the separation of natural gas supply from natural gas transmission activity. Provisions of Part 1 Article 26 prohibit to discriminate system users and obligate to provide sufficient information to other system operators and system users.

One of the most important priorities in the natural gas market - the provision of information and transparency.

Pursuant to the requirements of the Regulation (EC) No 715/2009as of 2009 July 13th of the European Parliament and of the Council on conditions for access to the natural gas transmission networks (further-Regulation) natural gas transmission operator Lietuvos Dujos AB on its website www.dujos.lt must publish the information about the relevant points of the system, indicating:

- a) the maximum technical capacities of the system, thousand m³/day;
- b) the maximum (minimum) pressure, kg/cm²;
- c) the contracted and interruptible capacities, thousand m³/day;
- d) the available capacities, thousand m³/day;
- e) the highest and lowest monthly capacities, thousand m³/day;
- f) annual average flows within the last three years, thousand m³/day;

The said relevant points are approved by the NCC.

System users and customers are provided with the timely information about:

- services provided;
- natural gas prices;
- natural gas transmission and distribution service prices (subject to the gas delivery points);
- quality of the natural gas.

The system users are notified of scheduled maintenance works two months in advance and additionally informed 48 hours beforehand – by coordinating (defining) the consumption mode of



natural gas. All other consumers shall be informed one month in advance and 48 hours beforehand repeatedly. In case of not planned events (emergencies, extreme situations and other urgent works) consumers shall be informed as soon as possible. Information sources should be press releases, official letters and communication means.

Declaration of free capacities in the transmission system is to be carried out once in the beginning of a month. Capacities additionally ordered by system users to be coordinated every week.

When concluding new contracts on natural gas transit and distribution or renegotiating prolongation of the existing ones, capacity requests are allocated under the following priorities:

- the system users having applied 60 days before the beginning of the year are first served;
- all other system users are served afterwards based on their application date.

Upon conclusion of a natural gas transmission, distribution contract, regular (long term) or short term capacities are set for the system user for the contract validity time. The contractual customer capacities are not modified during the contract validity time.

System users have a possibility to book (clarify) capacities (the maximum gas volume needed per day) on a weekly basis. They can do this electronically (over the Internet) or in writing under the contract terms. When booking capacities for a respective time period the system user must have a gas volume bought (the supply schedule must be coordinated with the supply company under the sale contract terms).

Prohibition to abuse a dominant position is regulated by Article 9 of the Law on Competition of the Republic of Lithuania (Official Gazette, No.30-856). Under provisions in this Article, direct or indirect imposition of unfair prices or other conditions of purchase or sale; application of unequal (discriminating) conditions to equivalent transactions with certain undertakings, thereby placing them at a competitive disadvantage; the conclusion of contract subject to acceptance by the other party of supplementary terms, or other acts that violate the interests of consumers are prohibited.

Under provisions of Article 6 the Natural Gas Law (*Article 14 of the Amended Law*) relations of natural gas undertakings with customers and system users shall be based upon contracts; it shall be prohibited to transmit, distribute, store, supply and use natural gas without a contract or without adhering to the conditions of the contract. Gas undertakings shall inform system users and customers about contract terms in advance, no later than with one month's notice before the contract conclusion or modifying the contract terms.

Transmission and distribution service contracts, and natural gas supply contracts with household customers shall be public contracts. General conditions of the contracts shall be fair and transparent. The natural gas supply contracts with customers shall comprise: name of the natural gas company, company address, code, natural gas quantity, quality, price, supply and transportation terms, terms for natural gas supply, transmission and distribution restriction or termination, information on provision procedure of natural gas and service prices, service conditions, liabilities of the parties, responsibilities, settlement procedure, contract duration and dispute settlement procedure.

Under the Natural Gas Law, transmission and distribution system operators shall annually draft yearly activity and security reports and submit them to the NCC and the Ministry of Energy. The supply undertaking shall draft yearly activity and security ensuring reports and information on key effective contract terms to monitor gas supply reliability, and have to submit them to the above authorities. The summary gas supply security report is submitted to the European Commission.

In line with the National Energy Strategy (Official Gazette, 2007, No. 11-430), gas undertakings draft yearly and long term (minimum 3-yearly) plans for transmission and distribution system development with respect to supply reliability, regularity, quality, consumer protection and environmental requirements.

4.1.2. The Regulation of Transmission and Distribution Companies

Natural Gas Transmission and Distribution System Operators

Pursuant to the Law of the Republic of Lithuania on Natural Gas, natural gas transmission, distribution and supply are considered to be licensed activities. Licences are issued and licensed activities are controlled by the NCC. In 2010, Lithuania had one main natural gas transmission system operator (Lietuvos dujos AB) and six distribution system operators. The total length of all natural gas systems is 9985.27 km, including 1864.87 km of the gas transmission system length, and 8120.4 km of total distribution grid length. Natural gas transmission and distribution system operators are listed in Table 19.

Table 19. Transmission and Distribution system operators

No.	Company	Licence type	Local or national network	Main shareholders
1.	Lietuvos dujos AB	Natural gas transmission Natural gas distribution	National	E.ON Ruhrgas International AG, Russian RAB Gazprom, the 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.	Josvainiai, AB	Natural gas distribution	Local	Private company

Under the Natural Gas Transmission, Distribution, Storage, Liquefaction and Supply Licensing Rules approved by the Government of the Republic of Lithuania, gas transmission or distribution licenses are issued to undertakings, which in the defined territory own or hold on other lawful basis a natural gas transmission or distribution system installed under the requirements of the law, which must be connected to the operating transmission or distribution system.

In line with Article 11.3 of the Law on Energy, the NCC approves planned investments of energy undertakings engaged in activities with regulated prices. This procedure has come into force since 1 January 2010. The purpose of the Procedure is to establish assessment criteria for investments planned by energy companies and principles and procedure of investment approval by the NCC.



Investments made by energy companies shall be grouped as follows, by the original investment purpose:

- Investments made under the Government-approved Measure Implementation Plan to implement energy priorities set in the National Energy Strategy, and ensure supply security and reliability;
- Investments made into system development (including new customer connection);
- Investments made to reconstruct the existing system;
- Investments made to reconstruct, modernize, etc., the existing system.

Gas companies serving 100000 and more customers shall coordinate with the NCC their investment needs with the value of 1 million or more LTL. The NCC is entitled to request that an energy undertaking approves a lower volume investment by developing a separate investment project with respect to the importance of the planned investment to the overall system, the investment purpose and the site invested into. during the last year of price caps being in force these undertakings shall submit a Long Term Program on Regulated Activities together with documents and data supplied for regulated price-setting. This Program shall be drafted with respect to provisions of the National Energy Strategy and requirements for energy supply reliability, regularity, quality, consumer and environmental protection. The Long-Term Program shall specify planned regulated activity investments during the price regulation period, as well as funds required to implement the Program and financing sources. When setting regulated prices the NCC shall take into account the need for funds, costs and other indicators regarding the investment planned in the Long Term Program on Regulated Activities. Every year, together with documents and data for regulated price-setting or adjustment, companies shall draft and submit for the NCC approval an Annual Investment (Development) Plan with a specific list of sites to match the Long-Term Program on Regulated Activities, deviations from which shall be duly justified by the company. While coordinating the Annual Investment (Development) Plan the NCC shall take into account the impact of planned investments on regulated prices. If the Annual Plan includes investments aiming to implement objectives of the National Energy Strategy, or measures to ensure security set forth by legislation or the Government or an authority authorized by it, or measures to ensure the system security and supply reliability, then their impact on regulated prices shall be assessed separately from all other investments specified in the Annual Plan.

In 2010 the approval procedure was followed up for the investment project included into the National Strategy, the gas mainline Jurbarkas–Klaipėda. The project of the section of the gas mainline from Jurbarkas to Klaipėda is important to Lithuanian gas customers. It is necessary to ensure operation of the planned liquefied natural gas terminal in order to diversify natural gas supply to Republic of Lithuania in the future. Moreover, gas reaches Klaipėda customers by the sole branch of Šiauliai – Klaipėda gas line, where minor defects reducing gas supply security and reliability were identified when this gas line section was analyzed in 2009-2010. This project consisting of three individual projects and partly financed by the EU Structural Funds was approved by the NCC in March 2011. The total investment value is LTL 168 million. When approving the investment projects of the gas mainline Jurbarkas – Klaipėda, the NCC assessed their impact on the natural gas transmission price cap. The NCC has estimated that the implementation of the investment project provided for in the National Energy Strategy would increase the natural gas transmission price cap by approximately 7%.



Beside this one, the NCC approved three other investment projects submitted by Lietuvos Dujos AB: replacement of tap units with bypass lines and gear remote control mechanisms of the gas mainline Ryga – Panevėžys, reconstruction of Pajiešmenys gas distribution station (GDS), and reconstruction of Girininkai gas distribution station.

Replacement of tap units of the gas mainline has been necessary to do the mainline diagnostics. In the total gas mainlines operated by Lietuvos Dujos AB, 633 km of gas lines are older than 40 years. The only way to inspect the system is to let diagnostic probes go through it. The old gas lines have not been inspected this way as they have not been meant for such inspection. To enable the gas line diagnostics, the system needs reconstruction: instalment of starting – receiving chambers of control installations and replacement of line taps preventing probe movement. The total investment value is LTL 6 million, including LTL 5.4 million (90%) of own company funds and LTL 0.6 million (10%) of the EU funds under the European Energy Programme for Recovery. It improved the transmission system security and gas supply reliability to customers. This project has increased the gas transmission price cap by 0.3%.

Reconstruction of Pajiešmenys and Girininkai GDSs is needed as both stations have exceeded the NCC-established norm for operating such stations, and technological installations have fully worn out, thus their reconstruction is required to ensure supply security. Moreover, Girininkai GDS reconstruction is needed to ensure the operational reliability of Kaunas City distribution system, as now is supplied to the city one way only, and after the distribution station is reconstructed the gas system could be ringed and ensure a two-way gas supply to Kaunas. Project implementation is scheduled for 2010-2012 using funds of Lietuvos Dujos AB. Implementing these projects would increase the transmission price cap by 0.62%.

The total value of investment projects of Lietuvos Dujos AB approved in 2010 was LTL 15.35 million. Implementing the investment projects increases the transmission price cap by 0.92%.

Before approving a company investment project the NCC shall establish financial capacity of the company. A new Energy Company Technological, Financial and Management Capacity Assessment Procedure was developed in 2011. Based on this Procedure infrastructure and supply companies have their financial capacity assessed separately. Eight relative financial indicators shall be calculated for infrastructure companies: four of them are revenue protection indicators, three others - financial leverage, and one - commercial activity indicator. Seven relative financial indicators shall be calculated for supply companies: three of them are revenue protection indicators, three others - financial leverage, and one - commercial activity indicator. The above indicators are used to calculate the total company financial capacity indicator which is compared with limit values of the normative indicator in the gas sector. The company financial capacity shall be rated sufficient for performing licensed activities, if its total financial capacity indicator (within the last two years) exceeds the NCC-set bottom threshold for the normative indicator of the sector.

Gas companies shall supply data to the NCC under the NCC - approved Energy Company Information Provision Rules. At the end of the reporting year a balance-sheet and profit (loss) statement data shall be submitted for audit, and shall be used to assess financial company capacity. Beside this, at the end of the year gas companies must submit annual investment statements made by gas companies, as well as statements of fixed asset change, provided service quality indicator statement, activity and security ensuring statement and reports on contracts concluded for the upcoming year. At the end of each quarter gas companies shall submit quarterly economic - financial activity statements including a breakdown of costs and revenue for all



company activities, quantities of supplied and transported gas, actual investments made, and a number of new connected customers.

The Rules provide that officers of energy companies may be made liable for failure to provide information or for providing knowingly misleading information in accordance with the procedure laid down in the Code of Administrative Offences, and an energy company may have a financial fine imposed against it under the procedure set forth in the Law on Energy.

Transportation tariffs

Gas transmission and distribution prices are applicable according to the “postage stamp” principle irrespective of the transmission and distribution distance. When setting transportation price caps, gas transportation volumes are calculated by taking into consideration the actual transportation volumes of the gas undertaking during the last year preceding the regulation time period, as well as forecasts for the forthcoming five years and causes having determined changes in gas volumes. Changes in volumes due to investments planned in the Long-Term Activity Program of the gas undertaking shall be specified separately.

The NCC sets annual basic costs for a five-year period based on the costs of the last year before the regulation period and their forecasts for the forthcoming five years.

Specific transmission price differentiation principles for gas companies are included in the Transmission Price-Setting Methodology. It prescribes that gas companies may differentiate gas prices by customer categories or groups, gas consumption volumes, gas pressure, capacity, duration, consumption purpose, gas supply reliability and other objective features chosen by a gas company enabling to strive for higher operational effectiveness. Customer discrimination and cross subsidizing between customer groups is prohibited when setting and differentiating prices. Natural gas price differentiation methodologies developed by gas companies are supplied to the NCC. Having established that price differentiation principles established by gas companies discriminate customers, the NCC points out their errors to gas companies, and the latter have to correct them. If they fail to follow the instruction, the NCC is entitled to unilaterally set gas prices. In 2010 transportation price caps were adjusted for all the gas companies. The commenced operation of Jauniūnai Gas Compressor Station increased costs of Lietuvos Dujos AB, and the company failed to achieve the basic gas transmission volumes, thus the transmission price cap of Lietuvos Dujos AB increased by 6.6%. The distribution price cap reduced by 5.9% due to excess profits generated in 2009.

The distribution price cap of Intergas UAB reduced by 9.4% because of lower interest rates paid by the company.

A new company, Fortum Heat Lietuva UAB started licensed activities since 1 January 2010. It bought all the assets of the previous operator Fortum Jonišķio Energija UAB, related to natural gas distribution and supply, and took all the customer service over. The adjusted distribution price cap for 2011 increased by 1.9% as gas prices went up in 2011, thus technological costs have increased accordingly.

The distribution price cap of Agrofirma Josvainiai AB increased due to the reduced volume of distributed gas.

The price caps of Druskininku Dujos UAB were adjusted having assessed gas distribution volumes for new customers planned under the investment project approved in 2009, and the project

implementation related costs. But due to the reducing gas volumes to the existing customers the distribution price cap has increased by 14.0%.

Table 20 presents comparison of all transportation price caps of all natural gas companies in 2010 and 2011.

Table 20. Gas transportation price caps in 2010 and 2011

Company	Price, Euros/MWh		Change, %
	2010	2011	
Lietuvos dujos AB			
Transmission	1.21	1.29	6.6
Distribution	5.24	4.93	-5.9
Fortum Heat Lietuva UAB			
Distribution	4.18	4.26	1.9
Intergas UAB			
Distribution	2.88	2.61	-9.4
Druskininkų dujos UAB			
Distribution	37.74	43.03	14.0
Josvainiai AB			
Distribution	1.64	1.69	11.56
Achema AB			
Distribution	0.42	0.42	3.0

Natural gas transportation prices of the major system operator Lietuvos Dujos AB for different customer groups are presented in Table 21.

Table 21. Average transportation tariffs for different customer groups in 2011

Customer group	Transportation price, EUR/MWh		
	Transmission	Distribution	Total
D3 (83,7 GJ)	1.65	7.21	8.86
I1 (418,6 GJ)	1.55	7.21	8.76
I4-1 (418,6 TJ)	1.55	3.86	5.41

Table 22 shows the natural gas price structure for customers.

Table 22. Natural gas price structure for customers, Euros/MWh

Price	Customer group	Price from 1st January 2011			Price from 1st July 2011		
		D3	I1	I4-1	D3	I1	I4-1
Natural gas import		28.66	27.96	27.96	36.14	35.72	35.72
Natural gas transmission		1.65	1.55	1.55	1.65	1.55	1.55
Natural gas distribution		7.22	7.22	3.86	7.19	7.19	3.85
Supply		1.06	0.30	0.30	1.06	0.30	0.30
Equity		1.06	1.06	1.06	1.06	1.06	1.06
	Total:	39.65	38.09	34.73	47.09	45.81	42.47
Taxes (VAT – 21 %)		8.33	8.00	7.29	9.89	9.62	8.92
	Total:	47.98	46.09	42.02	56.98	55.43	51.39

Due to major differences in company sizes and activity conditions making comparative analysis of gas companies' activities is complicated in Lithuania, if costs of individual gas companies per production unit are compared. The NCC analyzed gas company activity effectiveness by comparing dynamics of actual and the NCC-set operational expenditure (OPEX) in 2005 to 2010. As gas transportation is the major company cost item, the cost dynamics in gas transmission and distribution activity was analyzed. To establish the effectiveness comparison was made between costs per production unit per each year, i.e., costs per 1000 m³ gas transportation by mainline and distribution systems and costs set by the NCC during price adjustment.

Service quality requirements

Lithuanian natural gas system is developed in line with market principles and provisions of the European Union directives and other legislation, and also by taking into account realistic possibilities to implement these provisions, and Lithuanian obligations to the European Union. In order for the gas market and system objects to operate reliably and qualitatively, gas company service quality has to always be sufficient. Thus in line with the Natural Gas Law and Resolution No.725 of 11 July 2007 of the Government of the Republic of Lithuania, by Order No. 4-348 the Ministry of Economy of the Republic of Lithuania approved the Quality Requirements for Gas Company Provided Transmission, Distribution and Supply Services. The Quality Requirements prescribe a service quality evaluation procedure for natural gas transmission and distribution system operators and supply companies, the services being directly related to their licensed activities. These Requirements specify that gas company services of transmission, distribution, supply and connection of new customer systems to transmission or distribution systems shall be regulated. These requirements shall be obligatory for natural gas transmission and distribution operators and supply companies.

The NCC shall evaluate and control quality of gas company-provided services. Gas companies shall submit quarterly and annual quality indicator statements to the NCC.

The following are quality indicators for reliability: System average interruption duration index (SAIDI), and System average interruption frequency index (SAIFI) per reporting period. These

indicators shall be calculated separately for planned and unscheduled interruptions. SAIDI and SAIFI for unscheduled interruptions shall be calculated by groups of interruption reasons. Specified calculation principles of quality requirements were approved in the end of 2008, according to the new procedure the natural gas companies submitted data from the beginning of 2009.

Reliability indicators in 2009-2010 of the major natural gas company Lietuvos dujos AB presented in Table 23. As seen, the duration of scheduled interruptions increased from 22.4 to 31.12 thus the number of interruptions decreased from 0.2623 to 0.2561. Both the duration and the number of unscheduled interruptions occurred due to operator's fault in 2010 increased. Other distribution and supply companies did not face any interruption.

Table 23. Reliability quality indicators in 2009-2010

Indicators	2010	2009
SAIDI (planned interruptions)	31.132	22.436
SAIFI (planned interruptions)	0.2561	0.2623
SAIDI (unplanned interruptions due to operator's responsibility)	0.492	0.1678
SAIFI (unplanned interruptions due to operator's responsibility)	0.00556	0.00195

In 2009 the rate of customer applications timely analyzed and responded to by Lietuvos Dujos AB was in 98.6% thus in 2010 – 97.9% . Other companies timely analyzed 100% applications (including household and non-household customers). Emergency services of all companies 100% timely arrived to household customers' premises to verify their information about gas leakage.

In 2009 the natural gas supply continuity rate for household customers was 0.266 for Lietuvos Dujos AB, and the rate decreased in 2010 and was 0.25. Other gas companies supplied household customers without interruptions. The average interruption duration per interrupted customer was 84.54 min. in 2009, and longer, namely 121.02 min in 2010.

For new customers the Transmission System and Distribution System Operators provide the service of customer system connection to operating transmission or distribution systems. 2 requirements apply to this service:

- consideration of a new customer applications to connect their systems to the operating transmission or distribution system;
- connection of the new customer systems to the operating transmission or distribution system under a connection contract.

The rate of timely (i.e., within 45 calendar days) sent replies to new customers for Lietuvos Dujos AB was 97.9% in 2009 and 100% in 2010. Other companies replied about connection in time both in 2009 and in 2010. For Lietuvos Dujos AB, the share of new customers with delayed connection due to the operator's fault was 6.7% in 2009 and reduced down to 1.8% in 2010. Other companies timely connected new customers both in 2009 and in 2010.

Under the newly approved procedure, since 2009 gas companies started submitting indicators structured by the NCC. Under the Quality Requirements for Gas Company Provided Transmission, Distribution and Supply Services approved by Order No. 4-348 of the Ministry of Economy of the Republic of Lithuania, the NCC shall calculate the minimum annual service quality indicators applicable to gas companies since 2011, and submit them for the Minister of Energy's approval.



After comparing the service quality level achieved by the gas companies with the level set by the Minister of Energy, the NCC shall adjust price caps of services provided by the gas companies based on the Natural Gas Transmission and Distribution Price Cap Calculation Methodology.

Balancing

The key legislation regulating balancing activities of the natural gas transmission system is the Natural Gas Law and the *Natural Gas Transmission, Distribution, Storage and Supply Rules* approved by an Order of the Minister of Economy. The key requirements and procedures of the gas system balancing are defined in standard natural gas transmission, transmission-distribution contracts, natural gas supply (Purchase-sale) contracts and contracts signed with Gazprom RAB.

Article 3 of the Law on Natural Gas defines balancing as equation in the transmission and/or distribution systems of the delivered and received amount of natural gas. Balancing is ascribed to gas company services provided to system users. This law prescribes that transmission or distribution system operators shall set system balancing rules upon approving them with the NCC. The rules shall be objective, transparent and non-discriminatory. Requirements of system balancing rules shall be mandatory for customers and system users, except household customers. System balancing rules shall be published in the supplement *Information Announcements (Informaciniai pranešimai)* of the *Official Gazette (Valstybės žinios)*. Chapter VI of the Law entitles the NCC to set system balancing and use rules, if draft rules developed by system operators are incompliant with requirements of this law and other legislation. Article 25 also provides that the NCC shall consider complaints about system balancing under an extra-judicial preliminary complaints handling procedure.

Natural Gas Transmission, Distribution, Storage and Supply Rules specify that gas flow balancing in the transmission and distribution system shall be ensured. The Transmission System Operator has an opportunity to request a supply company to conclude a gas transmission contract with a gas transmission company for gas transmission customers, or a tripartite contract with a gas transmission company and an eligible user.

Chapter IX of these Rules is about system balancing. A gas company with a transmission license shall be responsible for the balanced activity of interconnected transmission systems located throughout the territory of Lithuania. Its instructions regarding gas flow balancing shall be obligatory to distribution, storage and supply companies, the ones transporting gas in transit and system users (customers). The gas company responsible for balancing shall draft gas flow balances based on contracts concluded and gas quantities supplied to the gas system.

Balancing rules and applicable principles in 2010 remained the same. The gas system shall be balanced on a daily basis in line with gas quantities received, transferred and distributed. The gas balance shall not exceed $\pm 8\%$. An hourly consumption (transfer, distribution) of gas by a customer (system user) at the place of delivery shall not exceed the contracted maximum permissible gas quantity. If the contracted maximum permissible gas quantity is exceeded, the gas company shall be entitled to limit gas supply (transmission, distribution).

The gas company with a transmission license, i.e., Lietuvos Dujos AB, shall be responsible for the activity of interconnected transmission systems located throughout the territory of Lithuania. Instructions of this company shall be obligatory to the system users. The transmission system balancing time shall be one 24-hourly period. The 24 hour-based balancing is acceptable to all the market players. As long as balancing methodologies are neither drafted, nor approved, gas

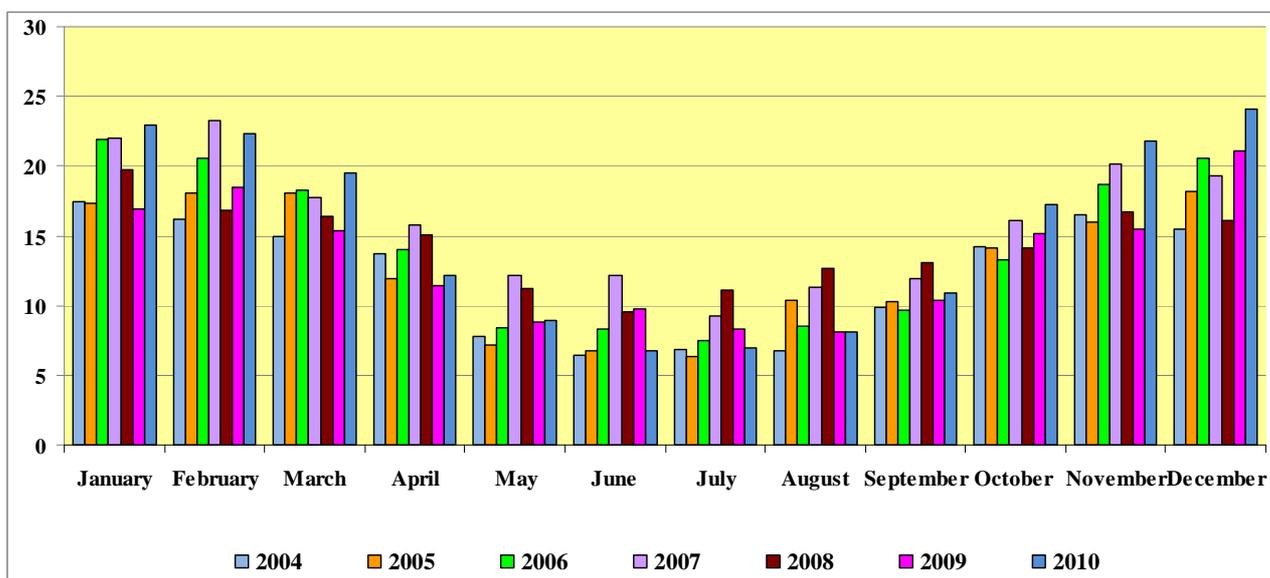
balancing issues shall be addressed in customer gas transmission/distribution contracts. Quantities required for the gas system balancing shall be established by the transmission/distribution operator based on the planned need and capacities ordered by customers, and specified in gas supply contracts, as well as the existing reserve in the pipeline or the Storage Facility.

Gas system balancing procedures in Lithuania are quite liberal. System users and customers may simply and quickly agree about modifying gas quantities bought and consumed as provided for in contracts. Gas companies, including the gas seller Gazprom RAB are flexible and pay attention to changing needs of gas system users and customers. So far Lietuvos Dujos AB have not received gas system user and consumer complaints about the system balancing.

Capacity Distribution Mechanism and Overload Management

Taking into account that transmission system is not in full use the Transmission System Operator applies simplified overload management mechanism. 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 m³ do not participate in system overload management mechanism. Medium customers participate passively, i.e. gas consumption limitations are specified in their contracts, but no specific balancing charges have been set. Other system users actively participate in the system balancing process and therefore must pay charges for exceeding the established capacity. The highest natural gas consumption per month is indicated in Figure 21.

Figure 21. The highest monthly gas consumption in 2004 – 2010 (mln. m³/ day)



Unbundling

Activity unbundling is regulated by Article 12 of the Natural Gas Law. It provides that in gas undertakings transmission, liquefaction, storage, distribution activities must be unbundled. Unbundling shall be done by establishing a subsidiary or a separate undertaking. An integrated gas undertaking supplying gas to less than 100 000 customers must not unbundle the activities and establish a subsidiary or a separate undertaking. The Law prescribes that employees managing



transmission, storage, distribution or liquefaction activities shall act independently and may not take part in the management of the integrated gas undertaking.

By Resolution No. 585 (Official Gazette 2010, No. 61-2996) of 19 May 2010 the Government of the Republic of Lithuania approved the *Concept of Amendment of the Natural Gas Law of the Republic of Lithuania (hereinafter – the Concept)*.

The concept has been developed to implement Directive 2009/73/EC of the European Parliament and the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC.

The purpose of the concept is to enforce key legal regulation provisions and structure of the Law Amending the Natural Gas Law of the Republic of Lithuania. Aiming for the goals set forth in the Concept this Law will improve the following gas market areas: the proper gas transmission activity unbundling from extraction and supply; consumer protection to develop the competitive gas market; the remit, independence, international cooperation and acts of the National Regulator ensuring the proper gas supply reliability level; Transmission System Operator cooperation at the regional and the European Union level. The Concept provides for the first alternative proposed in the Directive 2009/73/EC concerning common rules for the internal market in natural gas, the full ownership unbundling of transmission and supply activities.

Ministry of Energy, fulfilling the order by the Government of the Republic of Lithuania drafted and on 10 the December 2010 presented to the Government of Lithuania the draft Law Amending the Natural Gas Law and draft Law on Implementing the Natural Gas Law. After the Government approval for the said drafts, the laws on 3rd February were introduced to the Seimas of the Republic of Lithuania. On 30th June the Seimas passed the Law Amending the Natural Gas Law and Law on Implementing the Natural Gas Law.

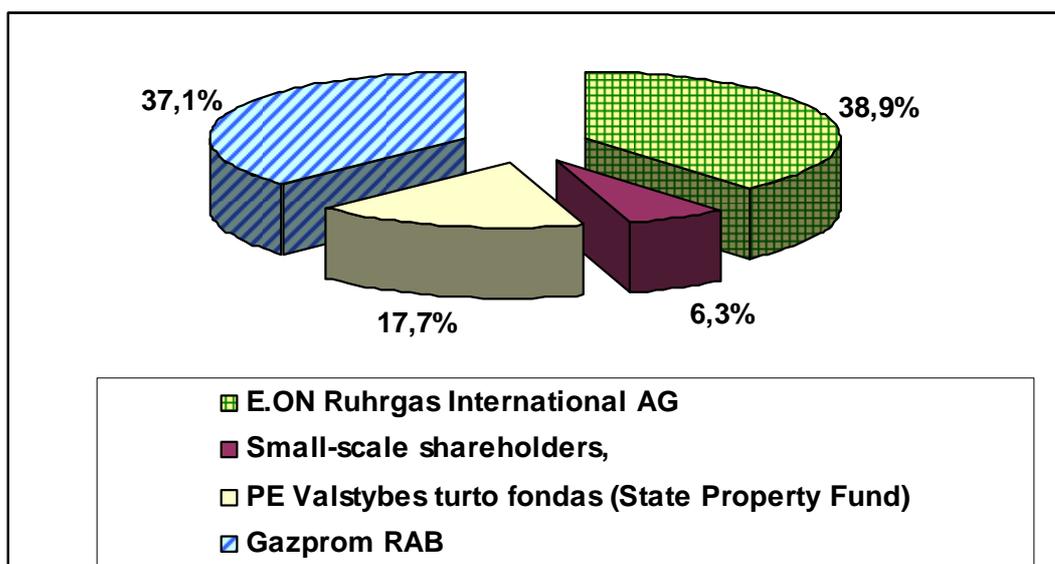
Lietuvos Dujos AB is the largest natural gas Transmission System Operator in the Baltic States. This company is the only one in Lithuania providing services to more than 100000 customers. The company is a vertically integrated undertaking. Since 1 January 2008 Lietuvos Dujos AB modified its organization management structure in line with the European Union legal requirements on functional unbundling of the company transmission, distribution and supply activities. The company implemented the functional unbundling of transportation and supply activities. Five company natural gas distribution branches operate in different regions of Lithuania. To more effectively manage the company resources, the branch organization management structure was optimized in 2009: branch management was centralized by leaving only four city divisions within branches. This company has not legally unbundled its activities, which are unbundled just internally. On its website this company is presented as a single integrated company, Lietuvos Dujos AB having one logo, address and website www.dujos.lt.

Activities of Lietuvos Dujos AB have not been legally unbundled; however the company keeps individual book-keeping records and does individual financial statements for each such activity. The General Manager of the company approved the accounting procedure for activities. The company has distinguished three main segments in the financial statements: natural gas transmission, distribution and supply. In addition, there is isolated the other business segment. Individual activities in the accounting records handled as they should be handled, if these types of activities carried out by separate companies with their assigned assets. When processing of

accounts business balance sheet and income (loss) statements of each activity are publicly available.

Moreover, the shares of Lietuvos Dujos AB are traded on the regulated market, they are listed on the Stock Exchange NASDAQ OMX Vilnius. The company quarterly reports are published in line with the Stock Exchange requirements. The company shareholders are E.ON Ruhrgas International AG, Gazprom RAB and the State-Owned Enterprise State Property Fund. These shareholders have the controlling share portfolio and have a decision vote when decisions are passed at the General Shareholder Meeting. The shareholder structure of Lietuvos Dujos AB is provided in Figure 22.

Figure 22. Shareholders of Lietuvos dujos AB



Small shareholders

System operator’s activity at Lietuvos Dujos AB is arranged as if it functions as a separate company: separate decision making, daily management, accounting and contracts with customers. Deeper (legal) unbundling of activities to be carried out in accordance with EU legal acts.

In 2010 there were two gas supply companies not engaged in other licensed activities – Haupas UAB and Dujotekana UAB (Table 24) in Lithuania

Table 24. Unbundling of natural gas companies in 2010

Activity	Number of gas companies	Legally unbundled	Legally non-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 , namely supply.



Liability for Violations of Requirements for Licenced Activities

The Natural Gas Transmission, Distribution, Storage and Supply Licensing Rules regulate gas company licensing for the natural gas transmission, distribution, storage, liquefaction and supply activities, license modification and suspension, unsuspension and termination for gas companies.

The NCC may impose penalties, suspend or revoke licences for violations relating to the licensed activities. When suspending a licence, the NCC must set a time period during which the undertaking concerned must eliminate its violations of the requirements for licensed activities. The licence may be revoked if:

- emerged that data provided in application to issue a licence is incorrect;
- the company twice or more per year makes violations relating to the licensed activity;
- companies technological, financial or managing capacities fails to carry out the licensed activities;
- the company fails to eliminate violations by the NCC-established deadline.

Licence validity could be revoked if the company concerned fails to eliminate the indicated violations during the set period of time or violates the licensing activity conditions repeatedly.

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 NCC or failure to comply with orders of the NCC, etc.

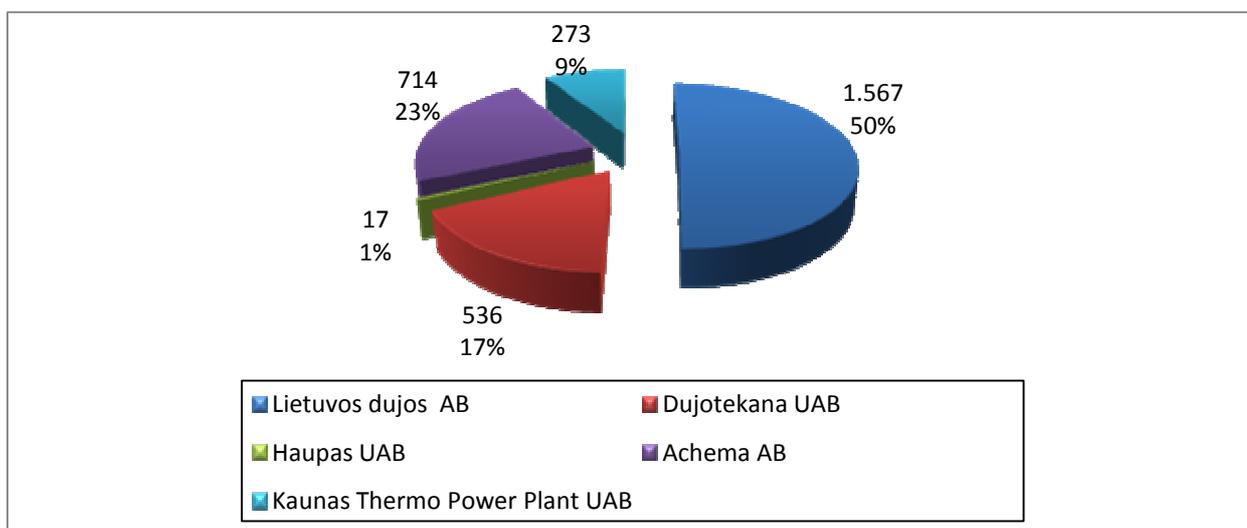
4.2. Competition Issues

4.2.1. Wholesale Natural Gas Market Overview

Lithuanian Market

Natural gas market in 2010 did not face any principle changes - the same five companies were engaged in the import of natural gas i.e. Lietuvos Dujos AB, Dujotekana UAB, Haupas UAB, Achema AB and Kaunas Thermo Power Plant UAB. Natural gas import volumes in 2010 in comparison with 2009 increased by 15 percent and totalled to 3105.98 million m³. Lietuvos Dujos AB saw the highest increase (31.5%) of natural gas import and covered about 50 percent of the market. Achema AB and Kauno termofikacine elektrine UAB use the imported natural gas only for their own use., the other three – sell to customers. 83 percent of all imported natural gas was purchased from Gazprom AAB, the other part- from Gas Stream AG LT. The quantities of imported natural gas by the companies and their share market are presented in Figure 23.

Figure 23. Natural gas import market in 2010 (mln. m³)



All the natural gas is purchased from Russia: 83 % from Gazprom RAB, the rest natural gas – from Gas Stream AG LT .

Lithuanian natural gas wholesale market is hardly in existence. In 2010 trade in natural gas among gas companies amounted only to 0.3% of total imported gas volume. Local gas distribution companies buy and sell small gas quantities to customers: in 2010, 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 NCC has the right of access to contracts concluded between gas undertakings and customers. Every year gas undertakings submit the main conditions of their gas purchase and sales contracts and annual activity reports to the NCC

Two gas supply undertakings, namely, Lietuvos Dujos AB and Dujotekana UAB, supply gas to Lithuanian customers. Haupas UAB supply natural gas only to Druskininkai Region, where the gas grid is not connected to the rest of the network.

The annual natural gas consumption in Lithuania in 2010 totalled to 28.74 TWh (3.085 billion m³). The average calorific value of imported natural gas was 9.317 kWh/m³. In 2010 the maximum daily consumption of natural gas was 0.187 TWh. Natural gas is not produced in Lithuania; the entire volume of gas is imported from Russia. In 2010 import of natural gas totalled to 41.86 TWh (4493 billion m³). Out of them 12.92 TWh (1387 billion m³) was transmitted to Kaliningrad Region by transit. Maximum technical import capacities are presented in Table 25.

Table 25. Maximum technical import and export capacities

Connection	Capacities, TWh/hr	Out of them : not reserved capacities, TWh/hr
Latvia – Lithuania (Kiemėnų DAS)	0.002	0.002
Belarus– Lithuania (Kotlovkos DAS)	0.011	0.003
Total:	0.013	0.005
Lithuania – Russian Federation (Šakių DAS)	0.007	0.002

Import capacities reserved for long-term contracts totalled to 0.009 TWh/h, while export amounted to 0.005 TWh/h.

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 RAB.

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.

Baltic Market

Currently the Baltic States gas market is dysfunctional. This is caused by two reasons: an isolated gas transportation system of the Baltic States (including Finland) and the fact that all the countries are dependent on a single gas supplier, Gazprom RAB.

Gas supply source diversification is one of the key preconditions of the gas market functioning. This purpose may be achieved by implementing strategically important infrastructure investment projects: interconnection of Lithuanian and Polish natural gas systems, finding a solution of the issue of Latvian gas system capacities and the use of Inčukalnis underground natural gas storage facility in Latvia, and construction of a liquefied gas terminal.

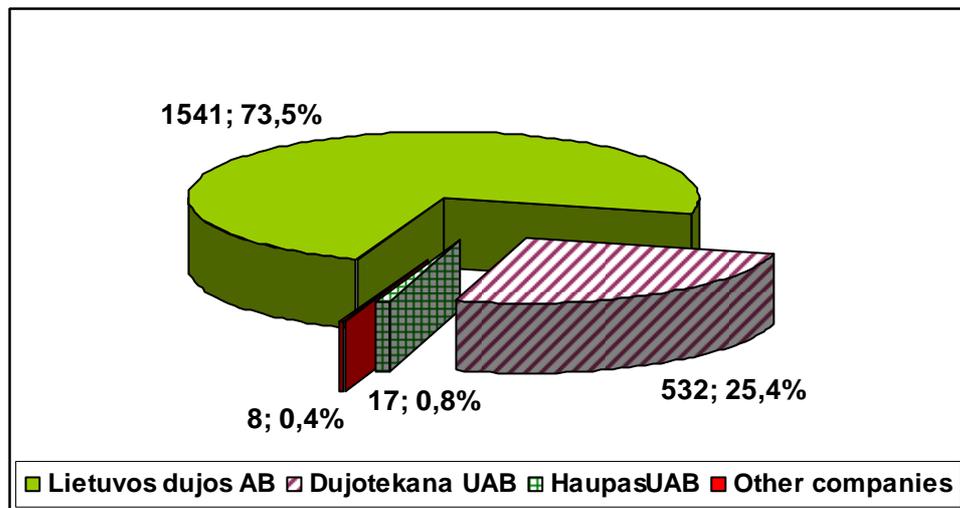
Diversification and liberalization of the gas market would ensure gas supply security and reliability and make it possible for every gas user to freely choose a gas supplier and buy cheaper gas on the market. However it should be noted that though Lithuania has opened its natural gas market this has been a mere formality which currently generates no benefits whatsoever to natural gas users due to the above mentioned circumstances.

4.2.2. Retail Market Overview

In the end of 2010 there were 555 thous. natural gas consumers (users), out of them 549 thous. household users and 5.8 thous. industrial users. The number of retail market participants did not change in 2010 – there were 7 natural gas suppliers, thus the same as in the wholesale market two of them were dominating i.e. Lietuvos dujos AB and (73.5 %) and Dujotekana UAB (25.4%). All the other companies cover only 1.2 percent of the total natural gas volume sold to customers.

The total volume of natural gas sold in 2010 amounted to 19.55 TWh (2098 billion m³) i.e. 27 % more than in 2009. Non-household customers consumed 29 % more of natural gas than in 2009. The closure of Ignalina Nuclear Power plant has a great impact on such a significant natural gas consumption increase as Lithuanian Power Plant became the biggest electricity producer in the country. Household consumers in 2010 consumed 198 billion m³ i.e. 9 % more than in 2009. Peak natural gas consumption was faced in Quarter I of 2010 when due to the cold winter the consumption of natural gas increased by 41.5 percent than in 2009 in the same quarter. Lietuvos dujos AB supplied 99.9 percent of the total demand of Lithuanian customers for natural gas.

Figure 24. Retail market share of Lithuanian gas companies



The largest gas company **Lietuvos Dujos AB** in 2010 amounted to 14.4 TWh (1.546 billion m³), of which 1.84 TWh (197.827 billion. m³.) was sold to household customers, 12.56 TWh (1348.192 mln. m³) – to non-household customers.

Dujotekana UAB supplied 4.99 TWh (535.681 million m³) of natural gas. All gas was sold only to non-household consumers, of which 33.0 GWh (3.548 million. m³) was sold to other gas undertakings (Agrofirma Josvainiai AB and Intergas UAB). Dujotekana UAB has 15 consumers in total; the largest share of them consists of gas power plants.

Haupas UAB sold 155.6 GWh (16.7 million m³) of natural gas. The company supplied natural gas only to two non-household consumers. One of them is a gas supply company Druskininkų Dujos UAB.

Fortum Heat Lietuva UAB purchased 47.14 GWh (5.06 million m³) of natural gas from Lietuvos Dujos AB, which was supplied to household and non-household consumers.

Druskininkų Dujos UAB purchased from Haupas UAB 2.43 GWh (0.261 million m³) of natural gas. In 2010 it hold 2713 of household consumers and 15 of non- household consumers. In 2010 1.37 GWh (0.147 mln. m³) of natural gas was sold to household consumers and 1.06 GWh (0.114 mln. m³)- to non-household consumers and supplied it to household consumers.

Agrofirma Josvainiai AB purchased from Dujotekana UAB 25.25 GWh (2.71 million m³) of natural gas and supplied it to household and non household consumers

Intergas UAB engaged in supply activities only in Mažeikiai Region Municipality. In 2010 the company sold 7.79 GWh (0.836 million m³) of natural gas to both household and non-household consumers.

In 2010, 55 percent of the total natural gas consumption in Lithuania, fertilizer producing companies covered 23 percent. Natural gas consumption according to the consumption purpose is presented in Figure 25.

Figure 25. Natural gas consumption, mln. m³

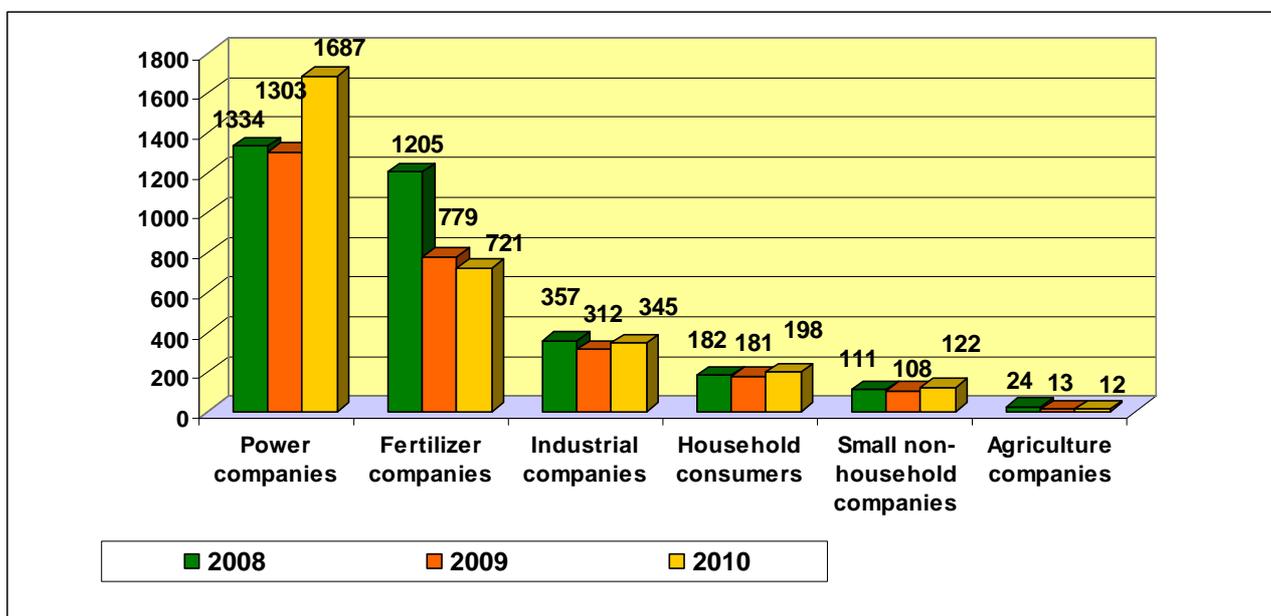
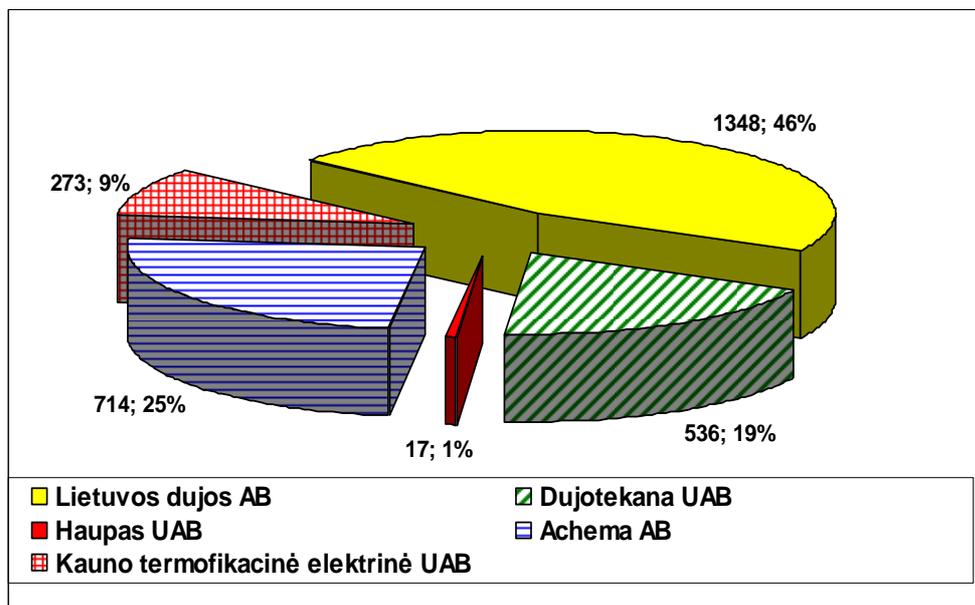


Figure 26 shows all non-household customer market in Lithuania in 2010, including the companies consuming gas for their own needs.

Figure 26. Non- household customer market in Lithuania in 2010



As from 1 July 2007, all natural gas customers are eligible customers, i.e. customers 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 NCC must also be informed of such refusal to meet the customer’s request.

Though Lithuanian gas supply market is fully open, in 2009 there were no retail customers having changed their gas suppliers.

Settlement of Complaints and Applications

Energy Company Information Provision Rules regulate data and report submission on regulated energy company activities in the natural gas sector to the NCC. These Rules are applicable to companies licensed by the NCC. To improve consumer protection and transmission and supply service requirements of gas companies, at the end of each year companies submit annual reports on received complaints analysis to the NCC. In 2010 Lietuvos Dujos AB received and analyzed 66 complaints. Table 26 provides data on complaints (applications) settlement by Lietuvos Dujos AB.

Table 26. Complaint settlement report for 2010 of Lietuvos dujos AB

Complaint (application) subject	Complaints
Regarding prices and tariffs	1
Regarding contract terms	4
Regarding the connection to networks	2
Regarding permission to use the system	13
Regarding supply reliability and service quality	1
Other	45
TOTAL:	66

To improve customer service and reduce the number of inquiries and applications, since 1 July 2009 Lietuvos Dujos AB implemented its plan to use a single short telephone number 1894 to provide customer information throughout Lithuania. Before 1 July it was used only by Vilnius and Panevezys county gas customers. The implemented „one stop shop” principle has ensured effective customer service. The majority – approximately 95% of all the received inquiries are answered during the first contact. Customers may call this number to find out gas tariffs, the payment procedure or clarify other issues.

Customers may also find their full gas payment balance during days off or weekends, i.e., 24/7. This information is provided by an automatic voice system. Using this system is simple and convenient: one just needs to use one's telephone to key in the number of a gas customer's payment book and the first seven numbers of one's personal code. Topical information SMS texting services also started.

Lietuvos Dujos AB continued works related to simplifying, convenience and flexibility of payments for natural gas. Though direct debit payments are for customers paying against invoices, since 2009 this payment method has been adapted to household customers, as well. For non-household customers electronic VAT invoice delivery was offered since 2009. The key advantage of this payment method is shorter and cheaper invoice delivery time.

Due to non-payment on time 558 customers were disconnected in 2010 (in 2009- 1132) out of them 393- household customers and 165 non-household customers.

Article 25.1 of the Natural Gas Law prescribes that the NCC, under the preliminary extra-judicial procedure, settles complaints on gas company acts or omissions in natural gas transmission, liquefaction, re-gasification, distribution, supply, buying and storing, access to the system, the procedure of customer system connection (methodologies, prices), system balancing, price application, investment and contract terms.

The increasing public activity and interest in energy issues and the need to protect their interests is demonstrated by the NCC receiving increasing loads of consumer questions, requests and complaints. In 2010 the NCC Gas Department received 43 customer inquiries and complaints, 23 of them were submitted in writing and 20 – by e-mail. Emailed questions predominantly included questions on information provision about effective gas prices for household customers, payments for natural gas, customer sub-grouping, connection to gas networks and gas quality (calorific value and pressure).



The majority of inquiries received by the NCC concerned natural gas prices. They were predominantly related to providing information on natural gas prices and not justification of natural gas prices. As in previous years, some customers were interested in the justification of applying the fixed part of the natural gas tariff, i.e., why they have to pay the fixed price part though they do not use natural gas. The NCC provided a detailed explanation of the fixed price part including specific calculations. With respect to the regular customer interest in this subject, all the information was posted on the NCC website www.regula.lt.

Approximately 1/3 of complaints were submitted to the NCC regarding customer connection and award of misperformance damages for failure to transport the minimum gas quantity. Customers faced the problem when they had undertaken to consume higher gas quantities when connecting to the gas system in 2005-2007, when Lithuanian economy was growing, but since 2009 their gas demand lowered and they could not meet their obligations. Under this situation gas undertakings calculated customer misperformance damages to implement the provision of the Natural Gas Law on stipulating that connection of new customers shall not increase prices for the existing customers during the pay-back period. The NCC amended the Fee Setting Methodology for New Natural Gas Customer Connection and established that the investment pay-back period shall be extended from 10 to 15 years for the purpose of calculating connection fees and applying misperformance damages against customers. This Methodology amendment enabled to reduce the burden of contractual misperformance damages for customers. With respect to the received customer complaints, the NCC also obliged the gas undertaking to more flexibly apply terms of misperformance damages to customers facing solvency problems, by scheduling customer payments till the end of the investment pay-back period.

With respect to customer complaints received in 2009, the NCC amended customer grouping in 2010 subject to the purpose of gas use. These customer grouping amendments have worked as no related customer complaints were received. However procedures of implementing this amendment were not clear for some customers. Customers inquired which group tariffs they should use for payments, if in 2009 they used gas quantities attributed to Group 1, which would be the Group 2 quantity under the new grouping. The NCC specialists provided detailed explanations on the subject.

5. Security of Supply

5.1. Electricity Sector

5.1.1. Electricity production capacities, demand, production and production stimulation

The Ministry of Energy is taking control and every year by 31 July provides public information in the Monitoring Report on Security of Supply of the Lithuanian electricity market as provided by the NCC. This Annual Report publishes different technical information related to the energy sector development.

The total installed electricity generating capacity in 2010 compared with 2009, down from 5070 MW to 3872 MW (Table 27) as the main source of electricity in the country - the Ignalina Nuclear Power Plant Unit II - has been closed.

Table 27. Installed/available capacity of Lithuanian power plants as of 2011 01 01, MW

Power plants	Installed/available capacity
Lithuanian power plant	1800 / 1732
Mazeikiai power plant	160 / 148
Vilnius power plant	360 / 342
Kaunas power plant	170 / 161
Kaunas energija	8 / 7
Klaipeda energija	11 / 9
Panevezys energija	35 / 33
Companies' power plants	96 / 93
Thermo power plants in total:	2640 / 2525
Kaunas hydro power plant	101 / 90
Kruonis HPSP	900 / 760
Small-scale hydro power plants	25 / 25
Hydro power plants in total:	1026 / 875
Biomass power plants	45 / 44
Wind power plants	161 / 161
Biomass and wind power plants in total:	206 / 205
In total:	3872 / 3605

Lithuanian power system capacity balance is presented in Table 28.

Table 28. Capacity balance during the peak demand in 2011-2013, MW

Indicator	2011	2012	2013
Installed/available capacity at power plants	3664/3410	3729/3476	4267/4001
System maximum demand capacity under the maximum demand growth	1840	1870	1900
Actual available capacity of the system	2147	2165	2492
Export	0	0	0
Mandatory long-term reserve	380	380	530
5% reserve to assure system adequacy	175	185	174
Capacity balance (overcapacity)	307	295	592

With respect to the planned decommissioning of Ignalina NPP and the obligation of Lithuania to the European Union to increase electricity generation in thermo power plants and from renewing energy sources, it is forecasted to increase electricity generation capacities to 500 MW using renewable energy sources. In 2010 there are plans to approve the following updated development strategy and stimulus procedure for the generation capacities.

Jointly with the neighbouring states there were plans to build a new nuclear power plant up to 2020. Therefore, joint stock company Visaginas Power Plant (www.vae.lt) was incorporated.

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.

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.

Electricity production subject to energy resources is presented in Table 29.

Table 29. Electricity supplied to the grid by Lithuanian power plants in 2010, GWh

Lithuanian power plant	1894.4
Mazeikiai power plant	0.7
Vilnius power plant	755.5
Kauno energija	0.5
Kauno thermo power plant	437.7
Klaipėda power plant	14.3
Panevezys thermo power plant	169.9
Other power plants	250.9
Thermo power plants in total:	3523.9
Kruonis hydro power plant	755.4
Kaunas hydro power plant	447.0
Small-scale hydro power plants	93.0
Hydro power plants in total:	1295.4
Other plants using renewable energy resources	376.4
Out of them: wind power plants connected to DN	31.2
Out of them: wind power plants connected TN	192.2
Out of them: biomass power plants	153
Power plants using renewable energy resources in total:	1671.8
In total:	5195.7

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 NCC.

Electricity generated from bio fuel is purchased at the price of 86.9 EUR/MWh, from hydro-power – at the price of 75.3 EUR/MWh and from wind power – at the price of 86.9 EUR/MWh. In order to promote the variety of energy resources in 2009 electricity prices from solar power plants were set forth. The said prices were established referring to peak energy capacity: up to 100 kW- 472.1 EUR/MWh, from 100kWh to 1 MW - 451.8 EUR/MWh, from 1 MW - 437.3 EUR/MWh. Purchasing prices may change due to the increase of equipment and maintenance costs. 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.



In 2010 the Law on Renewable Energy Sources was extendedly drafted and passed in May 2011. The main objective of this law is to ensure that renewable energy's share of the country's overall final energy consumption in 2020 to no less than 23 percent, and continue to increase by using the latest and most effective renewable energy technologies and promoting energy efficiency.

5.1.2. 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.

In May 2009 started the construction of 455 MW combined cycle gas turbine (9 unit), which could start producing electricity in 2012. In November 2010, more than 320 tonnes of the gas turbine for the construction of the 9-th unit of Lithuanian Power Plant.

In December 2010 a new unit generator and condenser were delivered. Combined cycle unit will output about 60 percent. The unit will produce 20-25 percent of Lithuania's electricity demand.

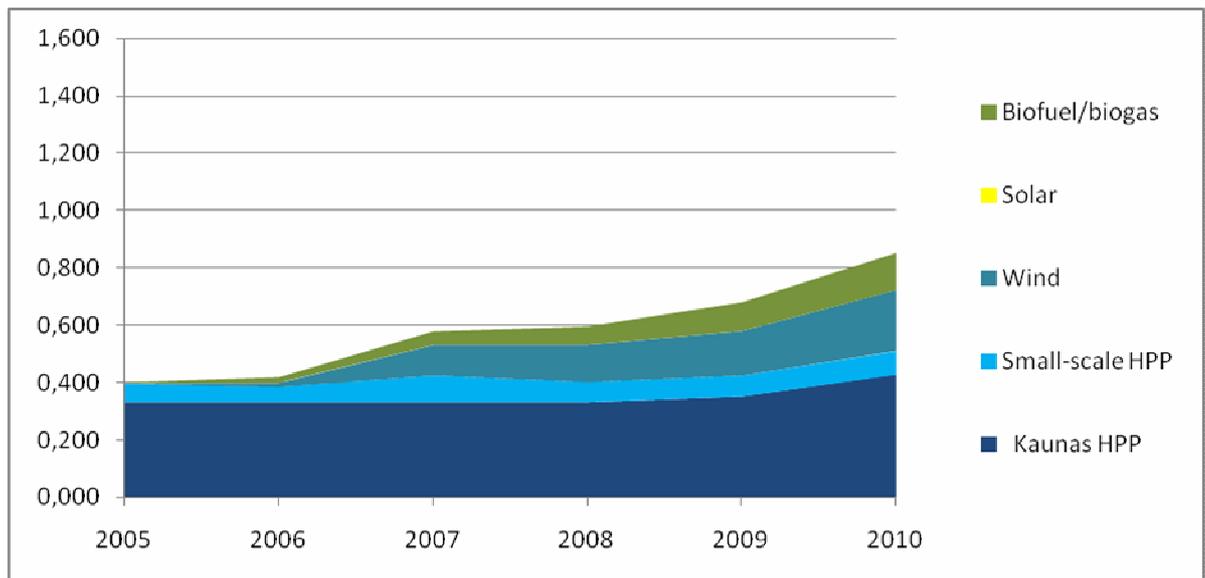
However, as mentioned, by 2020, one of the major manufacturers has become, together with its neighbors is planned to build a new nuclear power plant. To that end, a closed joint-stock company "Visaginas Nuclear Power Plant (www.vae.lt) was established.

In accordance with the Electricity produced from renewable energy resources, production and purchase of inventory procedures. 2010, Electricity produced from renewable energy sources in relation to the total Supplied to the network in the Electricity consumption accounted for - about 10 percent.

Manufacturers that produce electricity from renewable energy sources, in 2010 produced 0.91 TWh (from the Kaunas Hydro Power Plant - 0.45 TWh) of electricity or 32 percent. more than in 2009, when it was produced 0.69 TWh. Lithuania, 2010 31 December manufacturing facilities from renewable energy sources in total installed capacity of hydropower was 126 MW (of Kaunas HPP - 101 MW), bio power - 33 MW wind farm - 161 MW.

The dynamics of this kind of energy production in presented in Figure 27.

Figure 27. Dynamics of electricity quantities, produced by using renewable energy resources in 2005-2010, TWh



The Transmission System Operator posts the Register of Guarantees of Origin and reports on its website.

As mentioned above, in 2010 the Law on Renewable Energy Sources was extensively drafted and discussed by the Seimas of the Republic of Lithuania and passed in spring 2011. The Law establishes the legal basis for the state governance, regulation, surveillance and control of and organizing activities in the renewable energy sector of the Republic of Lithuania. Under the law the NCC is delegated new responsibilities and functions related to the economic regulation of this sector to organize auctions, calculate producer tariffs, carry out surveillance and control of the sector, which will require many new human resources.

Lithuanian power plants installed /available power during the 2011-2013 year, the projections in Table 30.

Table 30. Installed/available capacity alteration forecast for Lithuanian power plants, MW

Indicator	2011	2012	2013
Lithuanian power plant	1500/1448	1500/1448	1950/1888
Mazeikiai power plant	160/148	160/148	160/148
Vilnius power plant	360/342	360/342	360/342
Kaunas power plant	170/161	170/161	170/161
Kaunas energija	8/7	8/7	8/7
Klaipeda energija	11/9	11/9	11/9
Panevezys energija	35/33	35/33	35/33
Companies' power plants	143/140	143/140	143/140
Thermo power plants in total:	2387/2288	2387/2288	2837/2728
Kaunas hydro power plant	100/90	100/90	100/90
Kruonis hydro power plant	900/760	900/760	900/760
Small-scale hydro power plants	26	27	29
Hydro power plants in total:	1030/876	1030/877	1031/879
Biofuel power plants	45/44	59/58	94/89
Wind power plants	200	250	300
Solar power plants	2/2	3/3	5/5
Biomass and wind power plants in total:	247/246	312/311	399/394
Total:	3664/3410	3729/3476	4267/4001

Maximum capacity demand for 2011-2013 and forecasted balances are presented in Tables 31-32.

Table 31. Forecasted maximum capacity demand in 2011–2013, MW

Year	Maximum demand (neto)*
2011	1840
2012	1870
2013	1900

Table 32. Trade balance in 2008-2013

Power plants/ sales, thous. kWh	2008	2009	2010	2011	2012	2013
Ignalina NPP	9.140.038	9.745.531	-	-	-	-
Lithuanian power plant	779.708	935.651	1.894.400	2.120.000	2.000.000	2.000.000
Vilnius power plant	581.130	613.438	755.500	644.200	591.000	535.000
Kauno energija (Petrašiūnai power plant)	-3.971	9.907	500	0	0	0
Kaunas Thermo power Plant	658.213	412.707	437.700	298.000	270.000	245.000
<i>Panevėžys energija</i>	109.740	181.100	169.900	144.000	130.000	286.812
Wind power plants	117.131	122.100	223.400	352.800	469.000	115.000
Mazeikiai power plant	125.682	143.430	729	0	0	0
Import	1.279.788	559.000	7.031.000	5.763.200	5.809.500	5.875.300
Kauno HPP	325.716	273.096	447.000	334.000	379.600	385.300
Kruonis HPP generation	586.361	463.653	755.400	777.500	789.200	801.000
Other power plants	129.186	180.569	83.920	30.000	30.500	30.900
In total	13.931.041	13.695.768	11.799.449	10.503.700	10.468.700	10.615.000
Suppliers/purchases thous. kWh	2008 m.	2009 m.	2010 m.	2011 m.	2012 m.	2013 m.
Rytai distribution network VT AB	4.638.522	4.417.116	2.390.200	4.058.100	4.079.900	4.115.800
VST VT AB	4.384.861	4.195.996	3.995.768	3.893.600	3.924.70	3.954.300
Independent suppliers	1.298.871	1.202.559	3 000.700	1.108.000	991.400	1.042.700
PE Visaginas energija	66.031	66.031	57.415	76.300	78.400	79.900
TN technological costs	351.912	350.413	269.428	257.000	267.000	278.000
Export, regulation, balancing	2.370.956	3.000.000	1.041.800	0	0	0
Kruonis HPP demand	819.888	463.653	1.044.138	1.110.700	1.127.400	1.144.300
Demand in total:	13.931.041	13.695.768	11.799.449	10.503.700	10.468.700	10.615.000



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 and TS and ETL are installed.

Currently Lithuanian power system is not interconnected with any neighbouring North and Central European country. In order to ensure reliable supply of electricity, stability of system operation and diversification of power sources, the Baltic Energy Market Interconnection Plan (BEMIP) has been signed. Consequently Baltic region electricity market shall operate to 2015 and afterwards shall be integrated into a single European electricity market.

Thus National Energy Strategy has been drafted in Lithuania, which aims at identifying the main objectives of the Lithuanian energy sector and their implementation directions by 2020, 2030 and 2050. The principle objective of forecasted energy policy directions and actions in the Strategy is to achieve Lithuania's energy independence. The Strategy covers the electricity, heat, gas, oil, renewable energy, energy efficiency and environmental and greenhouse gas emission reduction.

Electricity sector, which is important to the overall state energy policy goals, focuses on the implementation of the strategic initiatives that will have a major impact on Lithuania's energy independence increase. Integration into the European electricity system:

- Completion of Lithuania-Poland power link LitPol;
- Completion of Lithuania-Sweden power link NordBalt;
- Interconnection of Lithuania, Latvia and Estonia electricity grids with the European continental grid for synchronous operation;
- Integration into European electricity markets.

Sufficient generating capability to meet the country's electricity demand in 2020 (12-14 TWh per year):

- Construction of Visaginas Nuclear Power Plant;
- Increase of electricity production from renewable energy resources.

Implementation of the EU 3rd Legislative Energy Package:

- Unbundling of production, transmission and distribution ;
- Electricity market liberalisation.

It is necessary to reinforce the internal Lithuanian electricity transmission network so that Lithuanian power grid to be ready for synchronous operation with the continental European networks. There are already planned and carried out these network-building projects:



In order to get ready for Lithuanian power grid for synchronous operation with the continental European networks it is necessary to reinforce the internal Lithuanian electricity transmission grid. At the moment some grid – building projects are scheduled and on-going:

- High voltage 330kV switchyard at Bitėnai Mūšoje;
- DC converter station in Klaipėda;
- DC Box Alytus;
- Nine new 330-400kV power line of the territory of Lithuania;
- Substations and lines in the reconstruction of the territory of Lithuania.

All the detailed information about strategic and investment projects of national importance are published on Transmission System Operator's website www.litgrid.eu

In 2010 bilateral relations with the third countries have not changed. Market integration issues are under negotiations due to energy structural changes in the third countries.

5.2. Security of Natural Gas Supply

5.2.1. Natural Gas Supply Contracts

One of the main supply security elements is long-term natural gas supply contracts. The total natural gas consumed in Lithuania is extracted in Russia and delivered to Lithuania via pipelines. Since there are no alternative gas supply possibilities, Gazprom RAB is the single natural gas supplier to the Republic of Lithuania, with the exception of LT Gas Stream AG AB.

Gazprom RAB and Lietuvos Dujos AB have signed long-term gas sales and purchase agreement for 2000-2015 (inclusive). The Agreement signed in 1999. From 1st October 2008 Dujotekana UAB broke a contract with Gazprom RAB and purchased natural gas from a company LT Gas Stream AG AB, with the main office in Switzerland. The said contract has been signed for 2008-2012.

Current and expected natural gas consumption in Lithuania is shown in Table 33.

Table 33. Natural gas consumption in Lithuania

Natural gas consumption	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
mlrd.m ³	3.08	3.10	3.02	2.99	2.99	3.00	3.00	3.00	3.00	3.00	3.00
Mtoe	2.47	2.49	2.42	2.40	2.40	2.41	2.41	2.41	2.41	2.41	2.41

Natural gas supply meets consumption level.

Another important element of ensuring supply security is the increase of transit flows to Kaliningrad area. The total volume of natural gas is supplied to Lithuania through the territory of Belarus. There is a potential gas import (supply) disruption risk due third party acts. Such disruptions are hardly feasible as Gazprom RAB is a shareholder of Beltransgaz AAB (Belarus transmission system operator), and moreover, gas transits Lithuania to reach Kaliningrad area of the Russian Federation. In case of a gas import disruption through the territory of Belarus natural gas would be supplied to Lithuania through the territory of Latvia. Cooperation of Lithuanian, Latvian and Estonian transmission system operators is facilitated by the fact that in these countries operator functions are performed by companies with the same key shareholders.

Lithuanian gas transmission systems are not interconnected with the West European natural gas system. The transmission system has a single interconnection with Latvia. However natural gas from Latvia may be transported only upon disruption of gas supply via the Republic of Belarus. We believe that interconnection of Lithuanian and Polish gas systems should be aimed at to implement Lithuanian energy supply security improvement policy.

The stable supply of natural gas to Lithuanian consumers was provided in 2010, consumers demand was fully met.



The Law on Energy of the Republic of Lithuania (Official Gazette, 2002, No. 56-2224) and the Law on State Stocks of Petroleum Products and Crude Oil (Official Gazette, 2002, No. 72-3008) regulate the obligatory requirements for storing reserve fuel in the country.

Under Article 22 of the Law on Energy, energy undertakings having heat or electricity facilities with the heating power of more than 5MW and producing heat and electricity for sale must maintain reserve energy stocks. Reserve energy stocks shall be built, maintained and renewed with the funds of energy enterprises and other funds. Energy reserve stocks must be at a level corresponding to at least one month's consumption. Facilities with the heating power of more than 5MW and producing heat and electricity use fuel: natural gas, orimulsion, heavy fuel oil, bio fuel, sulphur, peat moss, shale oil. Most often bio fuel, heavy fuel oil, shale oil, diesel fuel are stocked as reserve fuel. As of 1 January 2011 the volume of the stocked reserve fuel was 246748 tonnes exceeding the one required by the law.

The Procedure of Customer Supply with Energy and/or Energy Resources In Emergency Energy Situation approved by the Resolution No.12 of 13 January 2003 by the Government of the Republic of Lithuania (Official Gazette, 2003, No. 5-182) regulates customer supply with energy and energy resources in emergency energy situation and preparation for and management of an emergency situation. In line with this Resolution, the Order No. 1-41 of 23 April 2009 of the Director General of Lietuvos Dujos AB approved the Emergency Situation Preparedness Plan including responsible executives, measures, and actions to ensure customer supply with natural gas, limit customer supply with gas and renew gas supply.

The Description of Measures Ensuring Natural Gas Supply Security approved by the Government of the Republic of Lithuania by the Resolution No. 163 of 26 February 2008 (Official Gazette, 2008, No. 27-966) aims to ensure natural gas supply reliability. The Description sets minimum gas supply reliability requirements, their financing principles and duties of gas companies and other market players (system users and customers), the Commission, State Energy Inspectorate and other Government authorities to meet the Description requirements, which are applied in case of gas supply disruptions or interruptions due to breakdowns or other external factors out of gas company control and influence. The Description sets the priority secure gas supply, including pipe reserves for household customers and customers in sites with lower than 5 MW energy production capacity (when this energy is sold or used to meet public or residential customer needs) without reserve fuel stocks, supplies to which may not be interrupted.

The Description provides that the uninterruptible natural gas supply to household customers shall be ensured by building and stocking gas reserves under the schedule: since 1 September 2008 gas reserve had to be stored to meet a 10 day household customer need, and afterwards every year a 10 day extra gas reserve shall be stored until the 60 day gas reserve is reached.

Gas supply undertakings are responsible for the continuous gas supply to household customers buying gas directly from them. To ensure the continuous gas supply to household customers, Lietuvos Dujos AB has concluded a contract on the natural gas storage in Incukalnis Underground Gas Storage Facility in Latvia with Latvijas Gaze AB, the gas storage system operator of Latvia. The required natural gas reserve is stored in the above Gas Storage Facility.

Non-household customers using gas to produce energy for selling or meeting public or household customer needs, must have the reserve fuel stocks (of the type selected by the undertakings) to meet the demand for one month.

The Transmission System Operator shall develop and approve all customer gas supply limitation schedules during the heating and non-heating seasons and attribute customers to respective gas supply limitation sequence groups:

Group 1 – customers with interruptible gas supply contracts;

Group 2 – industrial companies able to use reserve fuel (obliged by law to have reserve fuel volumes);

Group 3 – industrial companies without reserve fuel available;

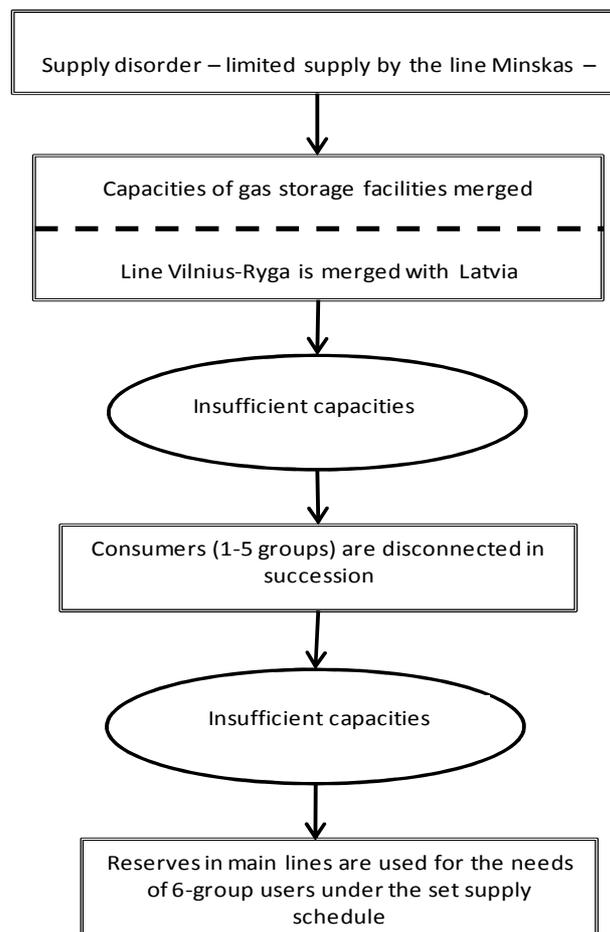
Group 4 – industrial companies using gas for uninterruptible technological processes and customers generating electricity and producing heat energy able to use reserve fuel;

Group 5 – household customers and persons ensuring that staple needs of customers are met.

All customers shall be grouped into two main categories by gas supply reliability: the ones with continuous gas supply and ones with interruptible gas supply. Gas supply (sale) contracts shall specify customer gas supply groups (interruptible or continuous). Household customers shall be continuous gas supply customers. Non-household customers generating and supplying energy to residential or other customers to meet their staple needs and having no technical capacity to use reserve fuel, must choose the continuous gas supply group.

Ensuring natural gas supply under an energy emergency is illustrated in Figure 28.

Figure 28. Natural gas supply scheme in case of emergency situation





Natural gas supply disruption or restriction over Minsk–Vilnius line or a threat of failure to supply customers with gas and a threat to the national economic activities would be the basis to declare an energy emergency. To ensure customer supply with natural gas, under the Emergency Situation Preparedness Plan approved by Lietuvos Dujos AB, the company would primarily agree with Gazprom RAB and Latvijas Gaze AS regarding natural gas supply from Latvian Incukalnis Underground Gas Storage Facility. Lithuanian and Latvian gas Transmission System Operators are in close contact, both companies have the same shareholders, and gas transmission between the two systems takes place from time to time. During the regional working group meeting Latvijas Gaze AS representatives informed that both Latvian and regional level emergency plans have been developed. They facilitate forecasting that in case of an emergency crisis management possibilities in the plan will be used through cooperation of the Transmission System Operators.

In case of a major gas supply disruption when the country loses up to 20% of the supplied gas volume and there are no real measures to renew the volume, gas supply shall be limited for all the interruptible supply customers in proportion to their gas use.

In case of a major gas supply disruption when the country loses up to 20% of the supplied gas volume and there are no real measures to renew the volume, Lietuvos Dujos AB shall immediately (no later than within 1 hour) warn customers about this and after the warning start disconnecting them according to the gas supply limitation sequence groups. Interruptible gas customers must stop using gas no later than within 1 hour from receiving the warning. Other customers attributed to Groups 2-4 must stop using gas no later than within 2 hours from receiving the warning.

In case of a gas supply disruption the transited gas volume shall be limited in proportion to the gas volume limitation for national customers. In case of a gas supply interruption gas transit shall be terminated immediately. In case of a full gas supply termination pipeline gas reserves shall be used only to meet household customer needs.

In preparation for an emergency situation Lietuvos Dujos AB have developed lists of gas customers having contracts on gas supply, transmission, distribution with the following data collected:

- Customer names;
- Gas delivery place;
- Gas distribution station via which gas is supplied to the delivery places;
- Gas supply limitation, termination group;
- Gas volumes supplied, transported to gas delivery places;
- Contact customer and authorized representative information.

At the end of each year the company Dispatch Center develops a consolidated list of natural gas customers with set supply priorities and stated sequence of gas supply limiting and gradual termination in case of an emergency or gas supply disruptions. To disconnect customers a Work Organization Plan and Route shall be developed and a required employee and vehicle numbers shall be planned.

Under the Law on State Stocks of Petroleum Products and Crude Oil implementing the Council Directive 68/414/EEC of 20 December 1968 imposing an obligation on Member States of the EEC to maintain minimum stocks of crude oil and/or petroleum products (as last amended by the Council Directive 98/93/EC of 14 December 1998), beside other fuel types the member state shall have heavy fuel oil and furnace fuel stocks to meet the minimum 90 day demand calculated by the average daily national consumption of the preceding calendar year. As of 1 January 2011, nearly 160 thousand tonnes of heavy fuel oil were stocked in the national oil product storage facilities.



The storage facilities (terminals) are installed so that oil products could be taken at any time and transported to locations of use by road, rail or pipelines. Lithuania may import approximately 7 million tones of oil products through Klaipėda Terminal (Klaipėdos Nafta AB) and 8 million tones through Butinge Terminal from any country. Oil products may be supplied by rail or road transport, thus Lithuania is fully technically capable of diversifying oil and oil product supplies. The market in this area is free and fully liberalized. The increasing use of renewable energy resources in heat production plays a significant role in improving heat supply reliability.

The state and reserve stocks of energy resources are regularly controlled by the State Energy Inspectorate.

As natural gas importers buy natural gas from Gazprom RAB in line with allocated quotas, gas supply and demand volumes usually match as the booked gas volumes are adjusted on a quarterly basis, and clarified on a monthly basis.

Energy service providers must ensure quality and continuous service provision to customers. Therefore the NCC annually inspects technological, financial and management capacities of the licensed companies. Annual inspection results show if energy companies have sufficient complete capacities for secure and reliable service provision.

5.2.2. Natural Gas Storage

There is no gas storage facility in Lithuania, thus services of a gas storage facility in Latvia are used. Based on applications submitted Latvijas Gaze AB distributes capacities of the gas storage facility in the Republic of Latvia. Required information is made available on a contract basis and is available on the website of Latvijas Gaze AB.

On 15 April 2008 to ensure the continuous gas supply to household customers, in case of a gas supply disruption, a gas storage agreement was concluded with Latvijas Gaze AB of the Republic of Latvia.

Under the Description of Measures Ensuring Natural Gas Supply Security approved by the Government of the Republic of Lithuania every year a 10 day gas reserve shall be stored until the 60 day gas reserve is reached. In 2009 20 mln. m³ gas reserve was stored in Incukalnis Underground Gas Storage Facility in Latvia. This reserve would have ensured 20 day uninterrupted gas supply to household customers during the cold season.

In 2010 to ensure the supply security for household customers 30 mln. m³ gas will be stored in the storage facility (the actual average daily gas consumption in the cold season in 2007-2009 was 1000 000 m³). In case of emergencies or extreme situations in 2010 the stored gas reserve will ensure the continuous gas supply to household customers for 30 days.

As the key gas supplier to household customers Lietuvos Dujos AB is responsible for the continuous gas supply to household customers. The company has a contract on the natural gas storage in Incukalnis Underground Gas Storage Facility in Latvia with Latvijas Gaze AB, the gas storage system operator of the Republic of Latvia. At the end of 2009 Lietuvos Dujos AB had the required 20 day gas reserve. Lietuvos Dujos AB received no refusal to accept gas in the Storage Facility. The company had no need to book natural gas for the system or supply balancing.

5.2.3. Technical System Maintenance: Quality and Degree

Lietuvos Dujos AB transmission system includes 1864.87 km gas lines, 275 gas tap sites, 65 gas distribution stations, 3 gas metering stations, and 2 gas compressor stations.

The gas transmission system is operated in line with the *Gas Mainlines Operation Rules* approved on 15 May 2003 by the Minister of Economy of the Republic of Lithuania. The company ensures the transmission system maintenance quality by drafting and implementing annual gas line equipment technical maintenance schedules, annual repair and reconstruction works programs, and, if needed, by outsourcing technical maintenance and repair works to other companies.

The company has a security strategy providing for measures to ensure gas mainline security and reliability, as well as urgent and efficient response to emergencies. The technical maintenance system ensures a reliable system functioning level. Defects found are immediately eliminated or included into a gas system repair or reconstruction programme. No breakdowns or defects of the national gas mains were registered in 2010.

Information on regularity of the gas mains maintenance works is presented in Table 34.

Table 34 . Regularity of the gas mains maintenance works

Operation performed	Regularity	Comments
1. Linear part of the bypass (going around)	Twice a year	
2. Inspection of underground passages through the natural obstacles (rivers, cliffs, streams)	Twice a year	In spring and autumn
3. Inspection of pipeline overground parts (intersection, taps columns, gas sampling stands, pen)	Once a quarter	
4. Inspection of passes through the railways, roads, rivers, ditches and tray status thrust tube ("candle") gas pollution	Once a quarter	
5. Underground pipeline circular measurement of potential terrain change locations	If needed, according to round-about results	
6. Inspection of closures park fencing, locks, warning signs	Once a quarter	
7. External inspection of closing installations, detection of gas leakage	Once a quarter	
8. Review of closure management points, impulse lines and valves	Once a quarter	
9. Closures function check, close to 15 percent. and open them manually or automatically	Once a quarter	

The gas transmission system is operated in line with the Distribution and Building Gas System Operation Rules approved by the Order No.4-43 of 19 February 2004 of the Minister of Economy of the Republic of Lithuania. The company ensures technical maintenance quality of the distribution system by drafting and implementing annual system technical maintenance schedules. Deficiencies found during technical maintenance are removed immediately or included into gas

distribution system repair or reconstruction programs under development, which serve the basis to put the gas system in order.

The distribution pipeline leaks are checked with sensitive gas detectors. Table 35 shows the distribution pipeline integrity inspection frequency.

Table 35. The underground distribution pipeline leak testing frequency

No.	Pipeline type	Frequency of testing
1.	Polyethylene pipelines	Once in 5 years
2.	Steel pipelines (except the one listed in Line 3)	Once in a year
3.	Steel pipelines, which were determined by electrochemical corrosion spots, not less than 200 m length of pipeline corrosion in all directions from fire (up to their rehabilitation, reconstruction)	Twice in a year

Table 36 presents periodicity of inspections of gas regulation points and gas installations

Table 36. Periodicity of natural gas system installations

No.	Natural gas installations	Periodicity
1.	Gas regulation points (DPR, SDRP, PŽDRP):	
1.1.	Without telemetry system (in separately located buildings)	At least once a week
	Without telemetry system, with the installation of gas alarm signal	At least once every two weeks
1.2.	With telemetry system	At least once every three months
2.	Household gas pressure control equipment (HGSCCE)	At least once a year
3.	Telemetry system functionality	At least once a month
4.	Gas pipelines protection zone of construction or excavation	Every day until the threat of damage to the pipelines

5.2.4. Technical Maintenance of Transmission System

The sole Lithuanian company, Lietuvos Dujos AB, performs the functions of the Transmission System Operator.

In 2010 this company invested 121.1 mln. LTL into the development of a new gas transmission system construction and development. Jauniunai Gas Compressor Station construction in Sirvintos Region is among the critical investment projects. The purpose of this project was to ensure natural



gas supply security and reliability for Lithuanian customers and increase natural gas transit volumes.

In 2010, investments into the transmission system reconstruction amounted to 27.7 million LTL, in 2009 they amounted to 19.4 million LTL. The major share was invested into gas mainline reconstruction. Tap node replacement works were carried out on the gas lines Ryga – Panevėžys and Panevėžys – Vilnius. The reconstruction enabled to continue gas line cleansing works which had started in 2009 aiming to prepare the gas line for internal diagnosing works. To this end four additional control device launching and acceptance chambers were installed on the gas lines Vilnius – Kaunas, Kaunas – Šakiai and the branch line to Utena Gas Distribution Station (GDS).

Implementation of the Gas Distribution Station Modernization Programme continues. Currently 54 out of 65 gas distribution stations are new or materially modernized. In 2010 Pasvalys and Rudamina gas distribution stations were reconstructed, and reconstruction of Elektrėnai and Girininkai gas distribution stations started. When Rudamina Gas Distribution Station throughput capacity was increased, gas supply reliability improved for Vilnius city.

Technological water and power supply systems were modernized in Panevėžys Gas Distribution Station operated since 1974, and other renovation works started. Moreover, in 2010 corrosion prevention works of the transmission system, telemetry, SCADA works, as well as renovation works of communication systems and measuring instruments were performed.

5.2.5. Technical Maintenance of Distribution Grid

Lietuvos Dujos AB operates 8.1 thous. km of the distribution gas lines. As the gas system owner the company guarantees proper technical maintenance of the gas systems: timely gas line leakage tests, system inspections and technical check-ups.

In 2010 Lietuvos Dujos AB invested 8.3 million LTL into construction of new gas distribution systems, built 40.15 km of distribution gas lines and connected 1.5 thous. new customers. Compared to 2009, the distribution system development reduced considerably. In 2009 76.4 km new gas lines were laid and 2.5 thous. new customers were connected. The company explains the reducing development by gradually lowering numbers of customers wishing to connect to natural gas lines.

In 2010 investments into the distribution system reconstruction amounted to 6.7 million LTL. The investments were predominantly made into reconstruction of distribution gas lines: 14.1 km gas lines were reconstructed, including 5 km reconstructed by inserting polyethylene gas lines into steel ones. Technological equipment was modernized in gas regulation points, stand-alone gas regulation points were replaced by rack-mounted ones.

In 2010 information technologies were wider applied to unify operations of the distribution systems, thus achieving the rate of 70% gas regulation points operating with new technological equipment.



5.2.6. Infrastructure Projects

Implementation of the EU 3rd Legislative Energy Package

In 2010 Lithuania implemented the EU 3rd Energy Package requirements in the natural gas, like in electricity, sector, thus consistently selected the main way of remodelling the energy sector provided for in the EU law: unbundling customer gas supply from natural gas transmission, i.e., from gas transportation by high pressure gas lines (mains). The aim of selecting this way is to provide maximum benefits to Lithuanian customers and increase the national energy security. Such method of remodelling vertical monopolies, based on the EU institutional position, is the most efficient and best facilitates ensuring the national energy security, while liberalization of the gas market is determined by strategic long-term energy policy goals of the Republic of Lithuania and the EU in general.

Liquefied natural gas (LNG) terminal

The LNG import terminal would enable Lithuania to diversify natural gas imports. The Government of the Republic of Lithuania passed a decision on construction of a Liquefied Natural Gas (LNG) Terminal in Klaipėda. The projected potential capacity of the terminal is 2-3 billion m³/year. The planned start of operations is 2014. The project value will reach EUR 200–300 million.

An Interagency work group was formed on 23 June 2010 as ordered by the Minister of Energy. The group drafted proposals on the best location for the construction of LNG terminal in Lithuania (the southern part of Klaipėda Seaport by the Pig's Back island) and the best technological solution (water terminal).

By Resolution No. 1097 (Official Gazette, 2010; No. 90-4755) the Government of the Republic of Lithuania approved Klaipėdos Nafta AB to commence drafting the LNG Terminal project and the Ministry of Energy was charged to submit the ready LNG Terminal project to the Government of the Republic of Lithuania. The Report has been presented to the Government, municipal institutions, the Transmission System Operator Lietuvos Dujos AB, the society. The Report was posted on the website of the Ministry of Energy.

Studies competed:

Belgium's Exmar NV study on the use of liquefied natural gas technologies in Lithuania. The study results were presented to the Interagency working group on 27 September 2010.

Science Applications International Corporation (JAV) study, where various potential alternatives of gas delivery by sea were analyzed, and the gas market of the Baltic States, the Terminal security and economic activity subjects were discussed. The Final SAIC study was presented to the Interagency working group on 29 November 2010.

On 30 December 2010 a competition to select the LNG Terminal consultants was announced. The consultants would assist in drafting a business strategy and a technical plan of the Terminal.

On 8 June 2011 Klaipėdos Nafta AB selected an international company FLUOR as the Lead Adviser for the development and implementation of the Liquefied Natural Gas Terminal project. This Adviser will prepare the technical project plan, assist in selection of technologies, perform activities in order to get obligatory permits, solve matters related to the project safety, navigation and other issues associated with the technical project implementation. Simultaneously the Adviser



will perform works related to the economic part: will produce a business and financial models for the Terminal, and develop the Terminal activity strategy.

The LNG Terminal project is included into the Baltic Energy Market Interconnection Plan (BEMIP) approved by the European Commission and 8 Baltic Sea States on 17 June 2009.

Construction of Klaipėda-Jurbarkas gas line

Lithuania plans to create a gas exchange and build a gas line Jurbarkas-Klaipėda simultaneously with the Terminal construction, to create a national “ring” of gas transmission mainlines. The built gas line will increase capacities of Lithuanian natural gas transmission system, improve the transmission system reliability, and enable gas supply from the planned Liquefied Natural Gas Terminal in Klaipėda. A special plan for the gas mainline Jurbarkas-Klaipėda was approved in 2010. Attracting the EU support in the amount of 50% of the investment project value is planned. The project implementation will commence when the EU support is allocated.

Lithuanian-Polish gas line interconnection

Interconnection of Lithuanian and Polish gas line systems is a step towards eliminating energy isolation in the gas sector and integration into the common EU energy market. Construction of the Lithuanian The Polish gas Transmission System Operator Gaz-System S.A. and the Lithuanian gas Transmission System Operator Lietuvos Dujos AB signed a document defining principles of company cooperation in survey works for construction of the gas line to interconnect Poland and Lithuania. The signed documents are the result of the joint application for financial support for the survey project under the EU TEN-E programme (trans-European energy networks) submitted on 30 April 2010. In 22 December 2010 the European Commission confirmed support allocation amounting to 50% of the survey project value, and the balance should be covered by company own funds. The Business Case Analysis for Lithuanian and Polish gas interconnection is to be ready by the end of 2011. The gas line completion is scheduled for 2016.

To ensure sufficient pressure in the existing and planned gas lines, especially in the West Lithuania, in 2010 a new compressor station in Jauniunai (Sirvintos District) was completed on the planned Jurbarkas-Klaipėda branch. The project was implemented in 2007-2010, the investment amounted to approximately LTL 196 million.

Lithuanian-Latvian gas interconnection

To increase the throughput capacity of Lithuanian-Latvian gas interconnection, Lietuvos Dujos AB together with Latvija Gaze AS are implementing the project “Improvement of Latvian-Lithuanian gas interconnection throughput capacity“. In August 2010 the companies received the individual decision of the European Commission regarding financial support allocation to the project in the amount of 50% of the project value. In 2010 works were completed as planned under the Schedule of Works. The project will be implemented in 2011 to 2013.

Underground natural gas (UNG) storage facility

The National Energy Strategy provides that natural gas storage facility capacities need expansion to reach 60 day gas storage capacity. For this purpose an underground natural gas storage facility



is planned in Lithuania to have the minimum useful volume of 500 mln. m³. A potential Lithuanian location to install such underground storage facility is close to Syderiai settlement (Telšiai District). Currently a study is conducted regarding construction of this underground natural gas storage facility. The European Commission allocated EUR 2 million for survey works of the underground natural gas storage facility in Lithuania.

In 2010 geological-geophysical surveys were completed in Syderiai location to determine the suitability of its geological structure for the underground natural gas storage facility. In May 2011 the final technical implementation report, financial certificate and other documents related to the project implementation were developed.

In autumn of 2011 additional geological-geophysical surveys (i.e., survey wells) of Syderiai geological structure are planned. Other preparatory works are to be completed by 2014. Construction works of the UNG storage facility are to complete by the end of 2016.



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.

In line with the *List of Public Service Obligations in the Electricity Sector* approved by the order of the Minister of Energy of the Republic of Lithuania, and the Public Service Obligations Supply Procedure Description, in 2010 the NCC accordingly adjusted the Public Service Obligations Price Calculation Methodology. Under the above legislation the Public Service Obligations (hereinafter – PSO) price shall include PSO funds by individual PSO services:

1. for producers using renewable energy resources to generate electricity;
2. for cogeneration producers having procurement volumes approved by the Minister of Energy;
3. for producers which need PSO funds to ensure electricity supply security and energy system reserves in defined power plants;
4. for strategic projects of energy companies related to energy security improvement;
5. for ensuring operational security of the nuclear power plant, waste storage and siloing;
6. for connection of installations for electricity generation using wind, biomass, solar and hydro-energy to transmission or distribution systems;
7. for balancing electricity generated using renewable energy resources;
8. for covering costs related to PSO administration.

In 2010 PSO price was 4.73 LTLc/kWh or 1.37 EURc/kWh. Like in previous years, the costs were predominantly related to Lietuvos Elektrine AB. It should be noted that compared to the previous years, in 2010 PSO funds allocated for thermal power plants significantly reduced, from 48 % down to 8 %. For 2011 the PSO price is set at 6.01 LTLc/kWh or 1.74 EURc/kWh. PSO price dynamics is reflected in Figure 29 below.

Figure 29. PSO price dynamics in 2003-2011 (GWh; LTLc/kWh)



In 2010 the NCC approved the Description of PSO Funds Administration Procedure in order to establish a clear and transparent procedure for collecting and paying PSO funds, and set requirements for the accounting of PSO fund use and their financial statements.

They key goal is to establish clear and specific requirements for collecting and payment of PSO funds ensuring the maximum possible transparency and public awareness:

- Detailed and transparent PSO payment procedures for PSO providers were approved (for supporting producers using renewable resources of energy, thermal power plants and producers ensuring security and reliability of the national electricity system, and for implementing strategic projects);
- Accounting requirements for PSO funds were listed, enabling the NCC to ensure and control the appropriate and right use of PSO funds;
- Information requirements were also approved regarding information to be accessible for every electricity customer paying for PSO about amounts of PSO funds spent and which PSOs they are spent for.

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.

6.1.1. 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> (from 2010 www.litgrid.eu) 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.

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.

6.1.2. 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

Under the Law on Electricity the Transmission System Operator or a distribution system operator may stop providing electricity to customers, operations of which cause failures or have a negative impact on electricity quality, if such customers continue such activities for 5 days after receiving a written notification. Operators may also stop providing electricity to customers having failed to pay bills for electricity consumed or for power transmission or the related services: for household customers, if the payment is delayed by 15 days, for other customers, if it is delayed for 10 days. Upon advance notification and specification of the effective date, operators may also stop providing electricity to customers not giving access to the Transmission System Operator or a distribution system operator to the customer areas and/or premises to install, maintain or replace electricity meters or record their readings.

Within 2010 due to insolvent household consumers, VST and Rytu skirstomieji tinklai failed to collect around 1 % of planned income.

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.



By 2010, an independent supplier of Lithuania chose a very small percentage of eligible customers, which since 2007 1 July can be all users. The majority of electricity consumers buy electricity from the two main public providers under rates regulated public. Regulated public rates include all categories of users - the population of small, medium and large businesses. However, in 2009 after the adoption of relevant legislation, since 2010 the situation changed as the market adversaries, some large manufacturers, end users prices gradually eliminated. In 2010 public final price has not been applied for about 35 percent. consumer consumption, etc. Y. users are allowed capacity of 400 kW. In 2011, these users should be about 45 percent. (100 kW) in 2012 - about 55 percent. (30 kW) in 2013 - about 70 percent (all except for domestic consumers).

Currently 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. This activity is carried out by customer service related separate departments of two main distribution companies (from 2011 – single company).

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.

Free consumer in a public supplier specified in the license area, before entering into or terminating the power supply contract with an independent supplier, must be at least 30 calendar days notice in writing to the public supplier.

Customers may change their electricity supplier without paying any charges.

During the transition period price caps of public tariffs (Table 36) 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 taking into account the amount of electricity to be transmitted, distributed or sold during that year. Price caps of public tariffs consist of the price caps of electricity buying price, the transmission service price, and the distribution service price through medium and low voltage networks and supply service price. The level of public tariffs depends on fluctuations of the electricity buying (generation) cost. The NCC estimates the electricity buying price which is included into the calculation of price caps of public tariffs (Table 37)).

Table 37. Cap levels of public tariffs of Rytų Skirstomieji Tinklai AB, VST AB and LESTO AB, EUR/MWh

Index	2004	2005	2006	2007	2008	2009	2010	2011
High voltage (330-110 kV)	35.45	36.00	35.88	39.91	50.1	57.84	69.43	73.45
Medium voltage (35-6 kV)	48.51	54.65	54.30	58.16	70.9	78.95	85.09	88.51
Low voltage (0,4 kV)	74.49	85.15	83.79	87.29	103.1	111.07	108.2	107.94
VST AB								
High voltage (330-110 kV)	35.51	35.97	35.83	39.85	50	57.81	69.37	73.42
Medium voltage (35-6 kV)	48.86	58.04	57.55	61.20	73.9	81.38	84.78	86.6
Low voltage (0,4 kV)	72.06	85.32	84.29	87.75	103.9	111.01	104.3	104.09
LESTO AB								
High voltage (330-110 kV)	-	-	-	-	-	-	-	73.45
Medium voltage (35-6 kV)	-	-	-	-	-	-	-	87.61
Low voltage (0,4 kV)	-	-	-	-	-	-	-	106.12

Table 38 shows how users are using public tariffs in 2010.

Table 38 . Customers, those pay according to public tariff, in percent

Residents	Industry	Other
99.6	0	0.4

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 Energy 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 NCC 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.

Social electricity tariffs in Lithuania are not applicable. Social support is provided under legal acts approved by the Government.



6.2. Natural gas sector:

The following public service obligations are established by legislation regulating activities in the national natural gas sector:

a) Natural gas supply price regulation for all customers by setting supply price caps.

The obligation has been established under Article 23.1.5 of the Law. Article 23.1.5 of the Law prescribes that: *1. The following prices shall be regulated in the gas sector by setting their price caps: <..> supply“*

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

The obligation has been established under Article 16.3 of the Law:

After the Law on Amending the Natural Gas Law was passed on 30 June 2011 (hereinafter – the Law on Amending), requirements for PSO also changed. The Law on Amending prescribes no regulation for the supply price, but Art. 9.6 provides that the natural gas supply price shall be regulated, when the NCC’s market study establishes that due to a lack of efficient competition an entity applies excessive prices thus harming market players.

Art. 39 of the Law on Amending regulates the last resort supply. This article prescribes that if the supply company fails to meet the undertaken obligations to supply customers with natural gas against contractual terms or when the license issued to the supply company is suspended or terminated, the last resort supply shall be ensured for household and non-household customers using up to 20,000 m³ natural gas per year. The last resort supply must be ensured by the Distribution System Operator licensed to distribute gas in the respective territory, and the last resort price shall be calculated using the method of marginal costs, taking into account the natural gas purchasing price and the last resort service provision price. The last resort supply shall be ensured for no longer than 6 months. At any time the customer shall be entitled to conclude a contract with any other supply company and terminate the contract with the last resort supplier.

The Law on Amending includes no obligations to gas companies regarding provision of PSO. Such obligations are provided for in Art. 30.1 of the Renewable Energy Law of the Republic of Lithuania passed on May , which specifies that biogas production is a PSO, and gas system operators shall buy biogas. Art. 41.1 of the Law establishes that the use of renewable energy sources shall be encouraged by developing a National Financing Programme for the Development of Renewable Energy Sources (hereinafter – the Programme) and municipal financing programmes for the development of renewable energy sources. Under Art. 40.3 the programmes shall be approved by the Government.

Under Art. 41.3 the Programme would be financed by: partial excise duty funds actually collected for sales of: liquid fuel (heavy fuel oil), orimulsion, natural gas, coal, coke and lignite used for heat and power generation, gas oil (household furnace fuel) for heating, and electricity, under the procedure prescribed by the Law on Excise Duty of the Republic of Lithuania; revenue generated for statistical energy transmissions; state budget allocations; the Special Climate Change Programme; EU support funds; voluntarily contributed funds of individuals, legal entities and foreign states for the development of renewable resource use; and other funds received under the procedure prescribed by regulations of the Republic of Lithuania.



7. Report on the Pricing Structure of 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.

The transmission system managed by LITGRID AB is interconnected by four 330 kV electric lines with Latvian, five lines with Belarusian and three lines with Russian (Kaliningrad) energy systems. One of the primary objectives of LITGRID 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 system is planned in the near future by interconnecting it with the Swedish and Polish electricity networks. The Lithuanian-Polish interconnection project is vitally important in developing a common EU electricity market and enhancing the energy supply reliability. The utilization 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 the 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 electricity transmission service price consists of the following components:

1. Price for the Transmission System Operator's service;
2. Price for additional (capacity reserve) services.

Since 2010 PSO price is applied as a separate component.

Up to 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. To have a more effective regional electricity market development after the shutdown of Ignalina NPP and easier-to-forecast electricity transmission service price, since 2010 the electricity transmission service price and its components are no longer differentiated by the capacity component. However aiming for the effective utilization of the transmission system capacity, at the end of the year the capacity component was

reintroduced, but based on the maximum permissible capacity instead of the maximum hourly capacity.

2010, the transmission price (without VAT) by type of service distribution networks and customers receiving electricity from the transmission network, as shown in Table 39.

Table 39. Components of the transmission network price

No.	Tariff (1 LTL = 3.4528 EUR)	Tariff without VAT	
		When the ownership boundary is between 330-110 kV voltage facilities	When the ownership boundary is between 35-6 kV voltage facilities
1.	Non-differentiated price of Transmission network operator service	2.667 ct/kWh	2.667 ct/kWh
2.	Capacity reserve service price	0.74 ct/kWh	0.74 ct/kWh

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.

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, and 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 NCC approved fees (see Table 40). The said fees come into force on 1st January 2010.

Table 40. Effective fees for the connection of customer facilities to the grid (without VAT)

Customer group	The cost per 1 kW of electrical equipment permitted to use power equipment or increase (LTL)	Fee for 1 m of power grid laying (LTL)
Group I	166	75
Group II	700	75
Group III	610	75
Group IV	440	75



Having made amendments to the Law on Electricity it was established that fees for the connection of customer's equipments shall cover 20 percent but not 40 % of the operator's costs. The NCC has approved new connection fees.

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.