



KONKURENTSIAMET

**ELECTRICITY and GAS MARKETS
in ESTONIA**

REPORT

TALLINN 2016

SISUKORD

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Foreword

The present report provides an overview of the Estonian electricity and gas markets. The Competition Authority presents information on the developments of the markets in 2015 and on the changes in safeguarding security of supply¹.

In 2015 substantial decline in energy prices took place. Leaving aside the crude oil price shock of 2008, the following steep fall and the new rise in 2009, it was for the first in the last 10 years when we as consumers could enjoy favourable energy prices caused by the low crude oil prices. It is seen both when we refuel our car in petrol stations and on our electricity and gas bills. Like in other European Union countries it has been discussed also in Estonia whether the free electricity and gas markets still ensure best prices for consumers or, it rather should be continued with a more conservative market model in which a monopoly from first to last controls the provision of electricity and gas to consumers. As of today it can be said with confidence that the European Union has chosen the correct direction in the implementation of the free market principles. Estonia along with the other Baltic States with their free electricity and gas markets and integrated connections can serve as an example to others. Vivid illustrations of this are the Estonia-Finland power interconnections and the power interconnection between Lithuania and Sweden that was commissioned last year. As well, in 2020 an additional interconnector between Estonia and Latvia should become operational.

As regards gas connections, progress has been made in the entire region. In Lithuania the network reinforcement was completed. Consequently, now also Estonia and Latvia can buy natural gas from the Klaipeda terminal. The pipeline of new Lithuania-Poland and Estonia-Finland gas interconnections is also material, as it ends up the decades lasting gas supply isolation of Finland and the Baltic States. It is very important in following the principles of both the free market and energy security. Therewith, in the Estonia-Finland gas interconnection project we are the Europeans with capital initial letter, as it will be implemented through the Estonian initiative. Sure enough, the project has many critics and the debates on its economic feasibility may last endlessly, but having a look at the map of Europe makes it clear that without this interconnection there would be no common and functional gas market.

In 2015 the Competition Authority prepared an overview of the long term price regulation outcome in Estonia that analyses various indicators of the regulated undertakings such as return on capital, price dynamics, quality of the services sold to consumers (service and security of electricity supply) and as well as the efficiency of energy use (electricity and heat losses) in the context of aforesaid indicators. Conclusively, the price regulation in the past 15 years has been successful. Some of the main regulatory objectives – ensuring price stability and avoiding earning of excessive profit for monopolistic undertakings – are generally fulfilled. The biggest progress has been achieved in energy conservation. Both electricity losses and heat losses in the district heating pipeline networks have substantially decreased in the observed period. Although, the operational reliability of the Estonian electricity networks has increased but at the same time they are not sufficiently “weather proof” and in extreme weather conditions their reliability is compromised.

¹ In the preparation of the present report the Competition Authority based on the CEER guidelines „Advice on the structure of future national reports and relevant indicators“ and fulfilled the obligation set forth to the Authority by the Electricity Market Act and the Natural Gas Act to prepare, make it public and submit to the European Commission a report that treats of the issues laid down by law.

With best wishes,

Märt Ots

Director General of the Estonian Competition Authority

1. Main developments in electricity and gas markets in 2015

1.1 Developments in electricity market

Wholesale and retail markets of electrical energy

The annual electricity production in the Estonian electricity system in 2015 was 9 062 GWh, while 5 452 GWh was imported and 6 377 GWh was exported. The Estonian domestic net consumption (without network losses) was 7 440 GWh. Figure 1 highlights the relationship between the gross domestic product (GDP) and the consumption of electricity, which reflects well the consumption behaviour of both businesses and people. If more goods and services are produced and bought then also the consumption of electricity is growing and contrary, together with the decrease in the purchase power it decreases as well.

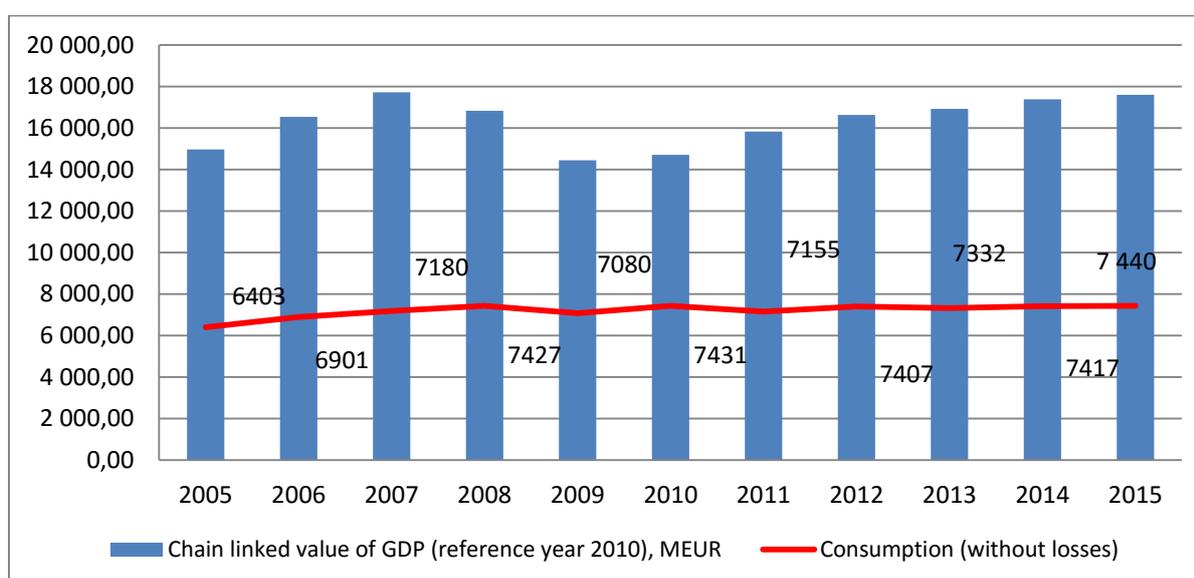


Figure 1. Relationship between electricity consumption and GDP. Source: Statistics Estonia

The biggest developments in the electricity market have taken place in connection with the market opening in 2013. As of the beginning of 2014 553 282 consumption points had electricity contracts. Compared to the beginning of 2013 this is more by 90 000. As of the end of 2014 electricity contracts were entered into by 83% of the consumption points and 17% used universal service. As of the end of 2015 electricity contracts were entered into by 81% of the consumption points while universal service was used by 17% (Source: AS Elering). **Thus, the market opening in Estonia is characterised by very high customer activity and the number of universal service consumers is relatively small, compared to other European Union countries.**

An average electricity price in the Estonian price area of Nord Pool (NP) in 2015 was 31,08 €/MWh, which is by 21% lower than in 2014. An average household price including network charge, excise tax and renewable energy charge (without VAT) was 11,73 ¢cent/kWh.

In greater detail the progress in the electricity market in 2015 is described in section 2.2 of this report.

Electricity networks

The Estonian electricity system works synchronously among the united system of Russia and the Baltic countries IPS/UPS and is connected through alternating current (AC) lines with Latvia and Russia, as well as through direct current (DC) lines with Finland and Sweden. The transfer capacity of the AC cross-border connections between Belarus, Russia, Estonia, Latvia and Lithuania is generally high, which assumes close cooperation between the TSOs in the planning and management of the common synchronised parallel operation.

Estonia has the single transmission network service provider Elering AS, who is also the system operator (TSO). The number of distribution network service providing undertakings is 34. In total there are 5 539 km of transmission (110-330 kV) lines belonging to the TSO and almost 65 700 km of low and medium voltage lines belonging to the distribution operators. The distribution network undertaking with the biggest market share of 86% is Elektrilevi OÜ.

In 2015 neither transmission nor distribution service prices change. An annual average transmission tariff was 1,18 €cent/kWh, while the distribution tariff was 5,13 €cent/kWh (both without VAT).

More closely the issues of electricity networks' regulation are dealt with in section 2.1.

Cross-border issues in electricity sector

Some changes have taken place on the issues of cross-border electricity trade and transmission capacity allocation rules. On 11 September 2015 the Baltic TSOs signed the agreement on common rules for the transmission capacity allocation and calculation in the Baltic countries and on the borders between the Baltic countries. On 8 October 2015 the Baltic regulators endorsed the new transmission capacity allocation and calculation rules elaborated by the Baltic TSOs and on 14 October the Estonian Competition Authority approved the new rules. The new rules were validated from 1 January 2016.

On 7 July 2015 Elering AS submitted to the Competition Authority for approval the harmonized Allocation Rules for Forward Capacity Allocation and the specific Annex for the border between Estonia and Latvia, which sets forth the rules for the allocation of the long-term transmission capacity instruments, the limited physical transmission rights (PTR) on the Estonian-Latvian border from 1 January 2016. The Estonian and Latvian system operators reviewed the PTR rules following the developments of the European electricity grid codes and decided to replace them the EU HAR (*Allocation Rules for Forward Capacity Allocation*) and its Regional Annex. The Competition Authority approved the forward capacity harmonised allocation rules and its specific annex for the Estonian-Latvian border on 15 September 2015.

Elering AS is continuously dealing with the activities related to minimising the impact of the Russian transmission system to the functioning of the Estonian electricity system. They prepared the „Report on Security of Supply of Estonian Electricity System 2015”. The Report contains the issues of connecting of the power systems and investments in both domestic and foreign connections until 2030.

The cross-border issues of electricity networks are more closely dealt with in point 2.1.4.

Security of electricity supply

In 2015 the Estonian energy balance in was continuously positive as the production exceeded the consumption. The peak load in winter 2014 in the Estonian electricity system was 1 404 MW (recorded on 7 January 2015). According to the data available to the Competition Authority the installed capacity in the Estonian electricity system was 1 600 MW. Thus, the installed generation capacity in Estonia exceeded the system's peak load and presumably such tendency will continue at least until the end of 2023.

Large scale investments in the electricity transmission network connections with the neighbouring electricity systems are continuing, like the Tallinn-Riga line (the third Latvian line), which received financing support in the framework of projects of common interest of the European Union. The Tallinn-Riga line improves electricity supply security of the Baltic countries, minimises the dependence of Member States of the European Union on the third countries and enables customers to select the most favourable electricity supplier and producers to offer electricity in larger open market, which motivates the erection of new production capacity in the Baltic countries. Upon the initiative of the European Commission it is studied, which could be the most reasonable scenario for separation of the Baltic countries from the Russian electricity system.

According to the „*Security of Estonian electricity system supply report 2016*“ prepared by the TSO Elering AS the security of supply is ensured until 2031 in the concurrence of the production transmission capacities.

In greater detail the security of electricity supply issues are dealt with in section 2.3.

1.2 Developments in natural gas market

Whole sale and retail market of natural gas

An event of a character value in 2015 was the substantive activation of wholesale market. Besides Eesti Gaas AS (with its market share of 80% in 2015) gas is imported by three more active undertakings. The largest of them, Baltic Energy Partners OÜ, had 13% market share.

In the Estonian natural gas market considerable decrease in consumption by 11% took place in 2015 (in 2013 – 689 million m³ per annum, in 2014 – 538 million m³ and in 2015 – 478 million m³). The reasons being the warm winter and the broader use of wood chips in district heat supply.

In February 2012 the gas consumption peak was the highest in the last five years (5,7 million m³ daily), while in 2015 the daily peak in winter was 3,2 million m³. In the winter period Estonia received all the needed gas volume from the Inčukalns (Latvia) Gas Storage (also the gas imported from Lithuania was delivered physically from the Storage through swap). No natural gas supply disturbances took place.

The main country of origin of gas in 2015 was Russia. Currently, it is possible to purchase re-gasified liquefied natural gas (LNG) also from Lithuania. The country of origin of it is Norway. The use of this opportunity depends on the price of the gas in the GET Baltic exchange, which is located in Lithuania.

Currently there is five wholesalers in the market (Eesti Gaas AS, Baltic Energy Partners OÜ, Alexela Energia AS (with former Reola Gaas AS), Eesti Energia AS and UAB Litgas). The biggest share in the market has Eesti Gaas AS.

Pursuant to the Natural Gas Act an undertaking shall have an activity licence for gas import. Five activity licences for the import of gas has been issued (Eesti Gaas AS, Nitrofert AS, Baltic Energy Partners OÜ, Alexela Energia AS (former business name Reola Gaas AS) and Nordic Power Management OÜ). Pursuant to the European Union rules UAB Litgas can sell gas in Estonia under the Lithuanian authorisation.

Nitrofert AS has discontinued its activity (production of fertiliser) and did not import gas in 2015. Nordic Power Management OÜ has not commenced the import of gas by the time being. Also, UAB Litgas did not import gas to Estonia in 2015.

Similarly to the wholesale market also in the retail market Eesti Gaas AS has substantial market share. In 2015 it was 77,7% and compared to 2014 it has decreased (in 2014 it was 93,4%), due to the emerge of new importers in the market. 23 gas retail sellers of gas are currently active in the market.

In greater detail the wholesale and retail markets of gas are characterised in section 3.2.

Ownership unbundling of natural gas transmission network

On 6 June 2012 Riigikogu passed amendments to the Natural Gas Act which were enforced on 20 June 2012. With the amendment Estonia abandoned the application of the exemption for the transmission system operator's ownership unbundling requirement, which was applied for Estonia in the process of legislative proceedings of Directive 2009/73/EC of the European Parliament and of the Council, which treats of common rules for the internal gas market. Instead, Estonia chose the way of complete ownership unbundling for the fulfilment of the Directive. The amendment creates preconditions for emerge of real natural gas market in Estonian in the future.

On 26 September 2014 Elering Gaas AS (until 10 April 2015 its business name was EG Võrguteenus AS) submitted to the Competition Authority the application for obtaining a preliminary activity licence, since their existing transmission service activity licence expired on 1 January 2015. On 30 January 2015 the Competition Authority issued the preliminary activity licence to Elering Gaas AS, which is valid till the issuance of the main activity licence for the provision of transmission service or, refusal to issue.

During 2015 Elering Gaas AS has dealt with the bringing into compliance of the circle of its shareholders with the requirements of the Natural Gas Act. The latter is a precondition for the certification of the system operator. Elering Gaas AS bought the 37% holding of Gazprom group, the 10% holding of SIA ITERA Latvia and the 0,86% minority interest.

On 15 December 2015 Elering AS entered into the merger agreement with its daughter company AS Võrguteenus Valdus and with Elering Gaas AS that belongs to the latter. The merger took effect after the decisions made in the general meeting of shareholders and respective entries in the commercial register on 1 March 2016.

Thus, from 1 March 2016 the complete ownership unbundling of the Estonian system operator is finalised and the Estonian gas system operator is Elering AS. The process of certification of the public limited company is going on in the Competition Authority.

From 1 March 2016 both electricity and gas transmission network undertaking in Estonia is one company – Elering AS.

In greater detail the gas system operator's ownership unbundling issues are dealt with in point 3.1.1.

Security of natural gas supply

In 2015 there were no changes in the security of natural gas supply. The supply of gas volumes which satisfies the demand is fulfilled in Estonia also in the coming years. The key question of the Estonian gas market development is attracting of new suppliers into the market through infrastructure investments (regional liquefied natural gas (LNG) terminal in Estonia and the construction of Estonia-Finland connection (*Balticconnector*)) and suspension of the falling gas consumption trend.

In greater detail the natural gas security of supply issues are dealt with in section 3.3.

1.3 Main changes in legislation

The Competition Authority handled the draft of amending of the Electricity Market Act and responded with an in-depth opinion on it. The amendment draft treated of the grounds for support of electricity produced from renewable sources or in the process of efficient cogeneration. However, the Electricity Market Act was not yet amended in 2015. The Energy Sector Organisation Act was passed, which sets forth measures for achieving energy efficiency and energy conservation, and designates the obligated parties in both public and private sector. In the process of the adoption of the Act an opinion was delivered, that maximum possible increase in end consumer prices of 27% is too high and the authorisation for establishing energy efficiency charges is too broad. The Ministry of Economic Affairs and Communications undertook to analyse whether it is possible to refine of the regulation of the energy efficiency obligation so as to minimise the incidental price increase and prepare respective amendment.

The Natural Gas Act was amended/supplemented once in 2015. The amendment arose from the amendment of the Social Welfare Act, which changed the reference to the Social Welfare Act in relation to vulnerable consumers. The definition of a vulnerable consumer itself did not change.

Major amendments to both Acts are planned in 2016.

European network codes

The third energy package envisages the elaboration of harmonised legal framework on the Pan-European level. The European network codes will be worked out and passed, and increasingly applied in the daily practical functioning of the wholesale market of electricity. In order to make the market function it is first of all necessary to ensure that all market participants can use existing gas and electricity infrastructure in a non-discriminative way and at fair prices. Thus, the priority considerations are capacity allocation and congestion management and first and foremost the interconnection of the networks, which should promote cross-border trade. As well, it is necessary to concentrate on facilitation of short term trading and developing of ancillary services market, in order to grant access for new entrants, including for the producers of renewable energy. It is important to develop products that are traded in the so-called short term market and new products which should allow buyers and sellers to adjust the quantities of purchased of gas and electricity in real time, to buy at a short notice or to sell an unintended surplus. Aforesaid is related also to the need to make energy systems more flexible, first of all considering ever increasing utilisation of wind and solar energy.

Therewith it is necessary to consider the change in the mutual influence of the transmission and distribution network undertakings caused by the fact that the networks have become smarter. The cross-border balancing markets are also important, in order to allocate the balancing resources between countries in an efficient manner which in turn, should improve security of supply and minimise the cost of balancing.

To date the progress has resulted in the pass of several network codes while several more are awaiting their enforcement both in electricity and gas sector. In the following the network codes related regulations are listed:

Electricity

- On 14 August 2015 the EU Regulation 2015/1222 took effect, laying down guidelines for capacity allocation and congestion management (CACM);
- On 17 May 2015 the EU Regulation 2016/631 took effect, laying down the network code on the requirements for connecting electricity generation units to the grid (*Requirements for Generators, RfG*).

The following network codes are awaiting a positive decision of the European Parliament and of the Council:

- network code on the connection of consumption (*Demand Connection*);
- network code on the high voltage direct current (HVDC) systems and energy park modules' network connections;
- network code on the rules for the allocation of forward capacity (*Forward Capacity Allocation, FCA*)
- network code on the guidelines for the transmission system management (*System Operations, SO*).

The following network codes are to be approved by the Member States:

- network code on the balancing of electricity system (*Electricity Balancing*);
- network code on emergency operation and restoration of electricity systems (*Emergency and Restoration*).

Natural Gas

- On 4 November 2015 the EU Regulation 984/2013 took effect, laying down network codes for capacity allocation and congestion management in gas transmission systems (CAM);
- On 17 May 2016 the EU Regulation 312/2014 took effect, laying down the *Network Code on Gas Balancing of Transmission Networks*.

The following network codes are awaiting a positive decision of the European Parliament and of the Council:

- *Framework Guidelines on Harmonised Transmission Tariff Structures*;
- *Network Code on Interoperability and Data Exchange Rules*;
- network code on congestion management.

2. Functioning and regulation of electricity market

2.1 Regulation of electricity network

2.1.1 Ownership unbundling

(Articles 10, 11 and 26 of Directive 2009/72/EC and Article 3 of Regulation (EC) No 714/2009)

Pursuant to Article 10 of Directive 2009/72 EC of the European Parliament and of the Council (hereinafter the internal electricity market directive), which treats of the common rules for internal electricity market and Article 3 of Regulation (EC) No 714/2009 a Member State shall designate and certify the transmission network undertaking. In the result of the certification it is clarified whether the transmission network undertaking complies with the requirements of Article 9 of the internal electricity market directive.

In the second half of 2013 the Competition Authority carried out the assessment of compliance of Elering AS as the transmission network undertaking upon its application or, the so-called certification process. In the assessment the Competition Authority followed in addition to the provisions of the Electricity Market Act also the requirements provided for in Regulation (EC) No 714/2009 of the European Parliament and of the Council (that treats of the network access conditions in the cross-border electricity trade). The Authority confirmed the compliance of the undertaking to the requirement by its decision made in December 2013.

A distribution network undertaking shall form a separate business entity if the number of customers exceeds 100 000 and shall not operate in other area of activity than the provision of network service. The latter applies only to the distribution network Elektrilevi OÜ that belongs to the Eesti Energia AS group, as other distribution network undertakings have less than 100 000 customers.

If a distribution network undertaking has less than 100 000 customers it shall separate its accounts by areas of activity as follows:

- provision of network service;
- sale of electrical energy;
- ancillary activity.

Also, all distribution network operators, regardless of their size, shall keep their accounts on the same principles, as separate undertakings operating in the same area of activity should have been required to keep. Therefore, a distribution network operator that is not required to form a separate business entity is obliged to keep its accounts similarly to a business entity and shall submit in its accounts separately the balance sheet, profit and loss account, management report and other reports provided for in the Accounting Act both for network services, electricity sales and ancillary activities. Respective information shall be submitted in their annual report and made public. The auditor shall give its evaluation on the separation of the fields of activity.

Securing of equal treatment

With the opening of the electricity market the issue of equal treatment of market participants has become very important as the electricity network and its regulation will remain in the status of monopoly. Thus, all customers of the network undertaking shall be able to use the electricity

network in the same manner and the network operator shall ensure equal possibilities for selling of electricity for all traders.

Pursuant to the Electricity Market Act all distribution network operators are obliged to prepare an action plan with the measures for equal treatment of other electricity undertakings and customers, including the duties of employees in the implementation of these measures. Separate provisions apply to the system operator (who is also the transmission network undertaking).

The system operator is obliged to follow the principles of equal treatment of the market participants in order to achieve best economic results for the whole system within the framework of existing technical and security of supply requirements and other legal requirements. The Act emphasises that, for example, in the preparation of the standard terms and conditions of balance contracts and in the formation of balancing energy price the system operator shall be guided by the principles of equal treatment and transparency. In addition, all network undertakings shall observe the principles of equal treatment and transparency in establishing the technical conditions for connection to the network and the charge for changing of consumption and production conditions (the conditions of connection). The principles equal treatment and transparency also apply to the criteria for the establishing of network charges.

Equal treatment in Elektrilevi OÜ

Elektrilevi OÜ supplements and updates its equal treatment report annually. The report can be examined on the network undertaking's web site <https://www.elektrilevi.ee/vordse-kohtlemise-pohimotted>

Elektrilevi OÜ is not allowed to produce and sell electricity, as the number of consumers connected to its network is higher than 100 000. That is why Elektrilevi OÜ shall designate a seller, which has activity licence, for providing universal service (section 76¹ (2) of the Electricity Market Act). For the provision of universal service and in case of interruption of the open supply chain Elektrilevi OÜ has designated Eesti Energia AS, in the capacity of selling of electricity. Eesti Energia AS belongs to the same group and represents Elektrilevi OÜ also in the conclusion, amendment and termination of the network contracts. Elektrilevi OÜ uses Eesti Energia AS services in the performing of certain functions like the settlement of customer payments, debt management, call centre and others. However, Elektrilevi OÜ neither concludes electricity sales contracts nor resolves other electricity sale issues.

Equal access to the metering point data and to the measurement information is ensured by the means of the data exchange platform (DEP) which was created pursuant to section 42¹ of the Electricity Market Act. Elektrilevi OÜ transmits to the DEP the data stipulated by legal acts in order to ensure the acquisition of information by the market participants in time and on equal basis.

Along with the market opening the issue of a single invoice has become a topic. Today those consumers, which do not use universal service or the sale service of an electricity seller, which belongs to the same group with the network operator, receive two separate invoices: one for the network service and the other one for the electrical energy. On 29 December 2015 by its decision the Competition Authority endorsed the Elektrilevi OÜ obligation to develop by the beginning of 2017 an IT solution and standard conditions, by which all electricity traders in the Elektrilevi OÜ network area will have a possibility to submit to their customers a single invoice

for both electricity and network service. The decision can be examined on the Competition Authority's web site <http://www.konkurentsiamet.ee/index.php?id=27992>

2.1.2 Technical functioning

The Estonian electricity system belongs to the large synchronously operating joint system BRELL, which is comprised by the neighbouring countries, connected with Estonia through the alternating current lines, Latvia and Russia. The latter in return are connected to their neighbours Lithuania and Belarus. With Russia Estonia is connected through three 330 kV lines (two lines go from Narva to St. Petersburg and Kingissepp, and one line from Tartu to Pskov). With the Latvian electricity system Estonia is connected through two 330 kV lines (one between Tartu and Valmiera, the other one between Tsirguliina and Valmiera). With Finland Estonia is connected through two direct current cables (EstLink 1 and EstLink 2).

There is a the single transmission network service undertaking Elering AS in Estonia, who is at the same time also the system operator (TSO), and 34 undertakings that provide distribution network services. The total length of the transmission lines (110-330 kV) that belong to the transmission network undertaking is 5 539 km, while the length of the low and medium voltage distribution networks is in total 65 722 km. The map of the Estonian electricity system is presented in Figure 2.

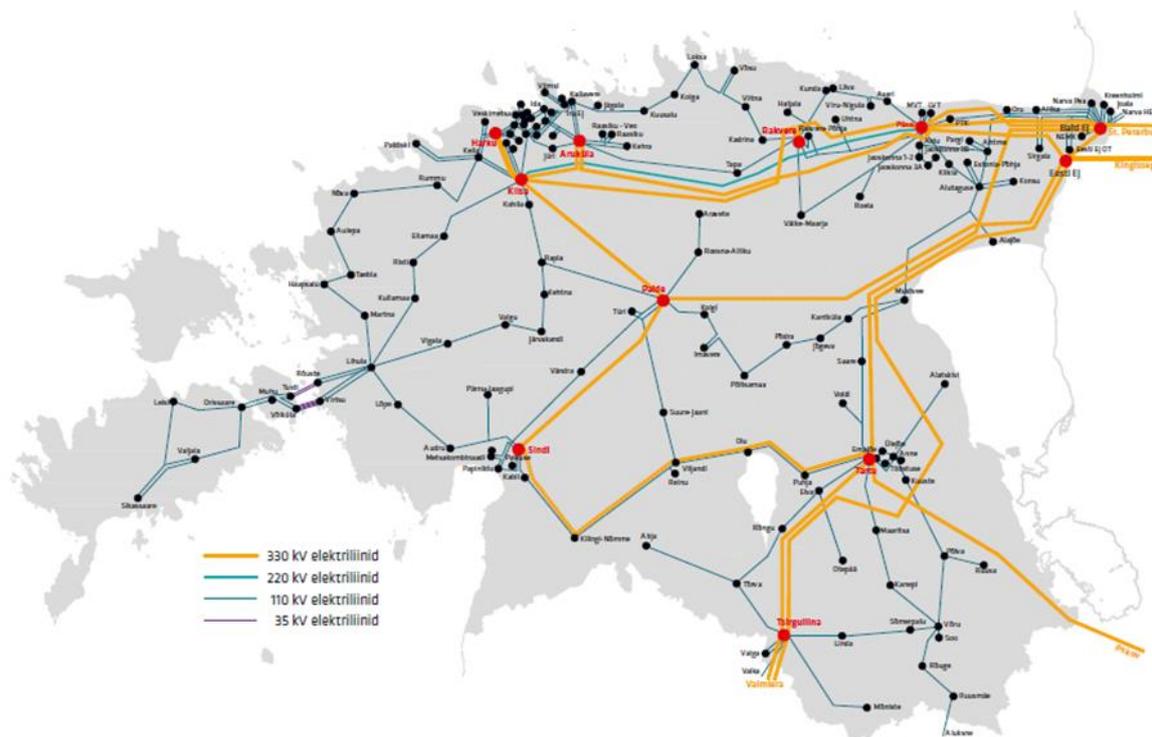


Figure 2. Map of Estonian electricity system. Source: Elering AS

As regards distribution networks the shares of undertakings are to a large extent the same from year to year. The largest distribution network undertaking is Elektrilevi OÜ, with the 2015 annual sale of 6 520 GWh and the share on the market on the basis of sale volume was 87,2%; followed by Imatra Elekter AS with the annual sale volume of 205 GWh and the market share

of 2,7% and VKG Elektrivõrgud OÜ with respectively 204 GWh sale volume and the 2,7% market share. The annual sale of the rest 31 distribution undertakings is below 550 GWh with the market share of 7,4%. The largest among those are TS Energia OÜ, AS Sillamäe SEJ and AS Loo Elekter.

Balance services (Articles 37(6)(b) and 37(8) of Directive 2009/72/EC)

The Electricity Market Act and the Grid Code lay down the regulation of balance responsibility in detail. Pursuant to these Acts every market participant is responsible for its balance. The transmission network is responsible for the balance of the whole system and several balance providers may act in the market. In order to balance the system, the transmission network buys or sells balancing energy. The methodology for calculation of the price for balance energy and standard terms and conditions for balance contracts are to be approved by the Competition Authority *ex ante*. In the formation of the balance energy price the transmission network is obliged to buy or sell balance energy at the most favourable price possible. The prices of balancing energy are published on the web site of Elering AS (<http://elering.ee/bilansienergia-osta-ja-muuk/>).

Balance is determined by means of remote reading devices (*on-line*) in case the customer's electrical connection capacity exceeds 63 A. For the determination of other customer's balance, which have no remote reading devices yet, standard load curves are used. This means that for household customers an *on-line* metering is not necessary. The conversion to the remote reading devices takes place gradually until 2017. On 1 January 2017 all connection points have to be equipped with remote reading devices and the whole metering process shall function on the *on-line* principle.

According to the principles of electricity market functioning a market participant shall ensure that the amount of electricity supplied to the network and/or purchased by the market participant in each trading period is equal to the amount of electricity acquired from the network and/or sold by the market participant. For the balance of small consumers their distribution network operator is responsible for. Together with the market opening the situation from the competition point of view has improved and new balance providers have come to the market. The biggest balance provider is Eesti Energia AS. Besides, seven other balance providers are active. The list of them is given on the Elering AS web site.

Quality of electricity supply (Articles 37(1)(h) and 37(1)(t) of Directive 2009/72/EC)

Quality of supply requirements arise from the Electricity Market Act. Due to this the requirements are established by the Minister of Economic Affairs and Communications. Following of the requirements is obligatory and in case of violation penalties are stipulated (through misdemeanour proceedings). The quality of supply requirements contain requirements for customer service and acceptable duration of supply interruptions, separately for those caused by faults and those caused by planned activity. The functions of the Competition Authority are to monitor undertaking's performance in fulfilment of the quality requirements, adequacy of keeping records on quality indicators and to initiate misdemeanour proceedings in

case of violation. Disclosure of relevant quality indicators on the web site is obligatory for all undertakings.

The customer service quality requirements determine the maximum acceptable time, during which certain operational procedures have to be accomplished. Undertakings have to submit to the Authority information about the extent of compliance with the service quality requirements. Based on the submitted information it is possible to calculate the percentage of compliance with the service quality requirements. As well, it is possible to analyse the trend: whether it is improving or worsening. In case of failure to comply with the requirements customers have the right to file a complaint with the Competition Authority.

As regards network service quality both supply interruptions caused by faults (not planned) and planned outages are regulated. Supply disruptions lasting less than 3 minutes are not considered interruptions. According to the quality requirements the time limits (maximum acceptable durations) are set out, during which customers shall be re-supplied. The time limits are distinguished for summer and winter period (see Table 1).

Table 1. Network service quality requirements

	Summer period from April to September	Winter period from October to March
Transmission network		
Acceptable duration of an interruption caused by faults	2 hours */ 120 hours **	
Acceptable annual accumulated interruption duration	150 hours***	
Distribution network		
Acceptable duration of an interruption caused by faults	12 hours	16 hours
Acceptable duration of a planned interruption	10 hours	8 hours
Acceptable annual accumulated interruption duration by faults	70 hours	
Acceptable annual accumulated planned interruption duration	64 hours	

Notes: *Power is supplied through two or more 110 kV transformers or lines

** Power is supplied through a single 110 kV transformer or a line

If undertakings fail to comply with the acceptable time limits specified in Table 1 they are obliged to pay monetary compensation to customers.

The Competition Authority has elaborated the specific form for reporting. Undertakings are required to fill out and to disclose it. Therewith they are required to disclose how many times and in how many grid connection points they failed to comply with the established quality requirements. Undertakings shall also submit data on how many times they failed to fulfil the service quality requirements.

All aforesaid data on network quality are disclosed on the Competition Authority's web site <http://www.konkurenciamet.ee/index.php?id=18300>. The Authority analyses and takes these into account in the process of price proceedings.

The Competition Authority analysed the quality indicators of the distribution network undertakings with the sales volume over 100 GWh and of the transmission network operator in the period 2005-2014.

Figure 3 presents the comparison of an average annual frequency of the fault caused supply interruptions per consumption point (*SAIFI*) for the three largest distribution network undertakings. The data are distinguished for those caused by the impact of stormy winds and without storms' impact.

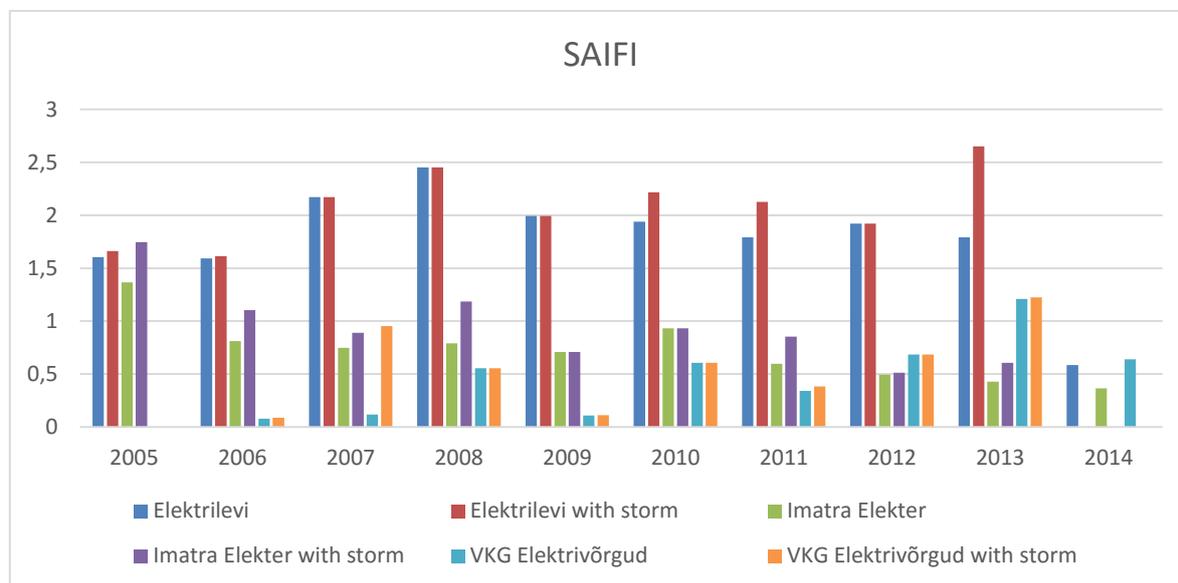


Figure 3. *SAIFI* in electricity distribution networks, average interruption frequency per consumption point per annum, in number of cases

It is seen from Figure 3 that both Elektrilevi OÜ and Imatra Elekter AS are weather sensitive and in case of storms the number of interruptions increases. Over the years 2006-2010 the total number of interruptions have steadily increased, growing during five years by 12 874 cases (42%).

SAIDI indicates an average interruption time per consumption point per year and is the main indicator that reflects the quality of network service provision. A decrease in it directly refers to the improvement of reliability and service quality.

Figures 4 and 5 present the *SAIDI* indicators for the transmission and the three largest distribution network operators.

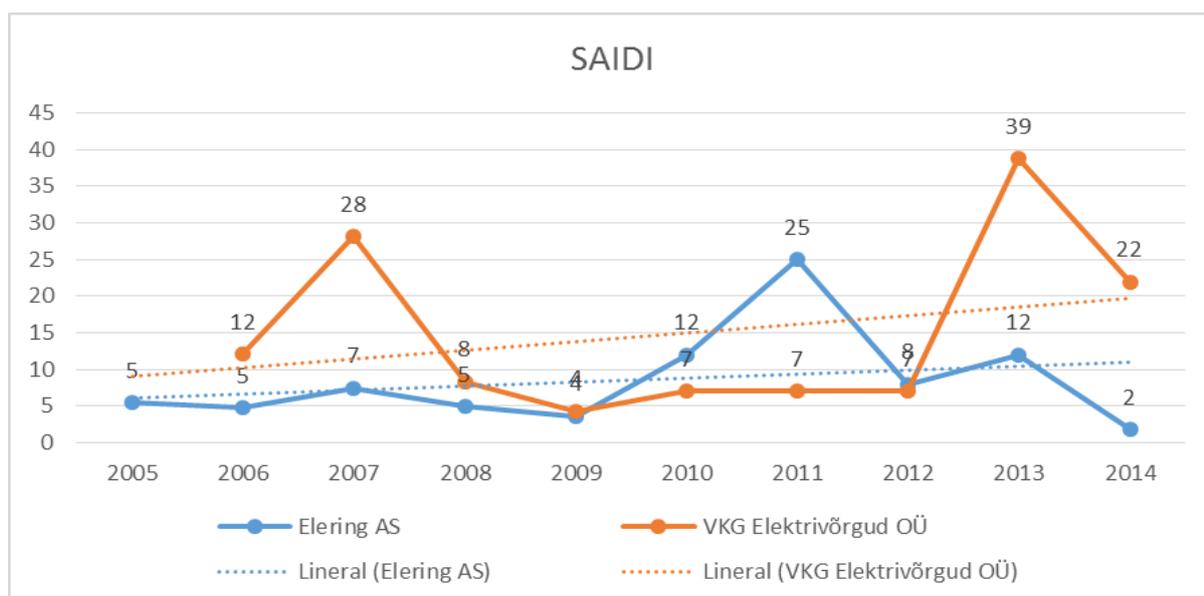


Figure 4. SAIDI indicators in period 2005-2014, interruption duration per consumption point per annum, in minutes

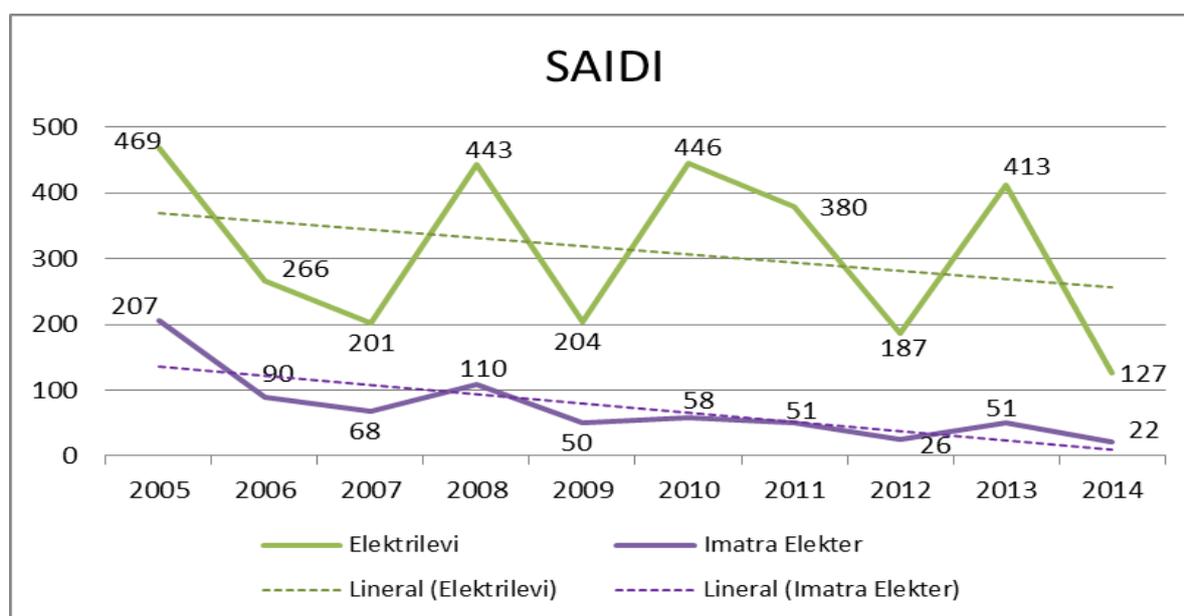


Figure 5. SAIDI indicators in period 2005-2014, interruption duration per consumption point per annum, in minutes

From the data presented in Figures 4 and 5 it can be concluded that in general the *SAIDI* indicators have improved. That means – the operational reliability of the networks has increased. However, the networks are not “weather proof” and much of time resource is spent for resupply. Regarding Imatra Elekter AS, their *SAIDI* has decreased from year to year. Also Elektrilevi OÜ has had the same trend, but the data fluctuate quite heavily year-wise. The same trend is true for Elektrilevi OÜ however, the data vary heavily from year to year. For example, in 2013 the weather had big impact. If to eliminate the increase in faults caused by weather, then Elektrilevi OÜ would have had even more positive trend. Due to the analysis conducted on the investments of Elektrilevi OÜ², the company is too much vulnerable to storms as storms

² Hevac töö “Elektrilevi OÜ investeeringute vajalikkuse ja efektiivsuse hindamine”, 2014.

have significant impact on *SAIFI* and especially strongly on *SAIDI*, meaning that it takes a lot of time resource to eliminate the faults caused by storms. In order to improve the result, it shall be necessary to strengthen the pre-emptive work and the operational efficiency of remedy of faults.

The *CAIDI* or an average duration of an is interruption caused by faults is the measure of an average time spent for resupply of the consumers.

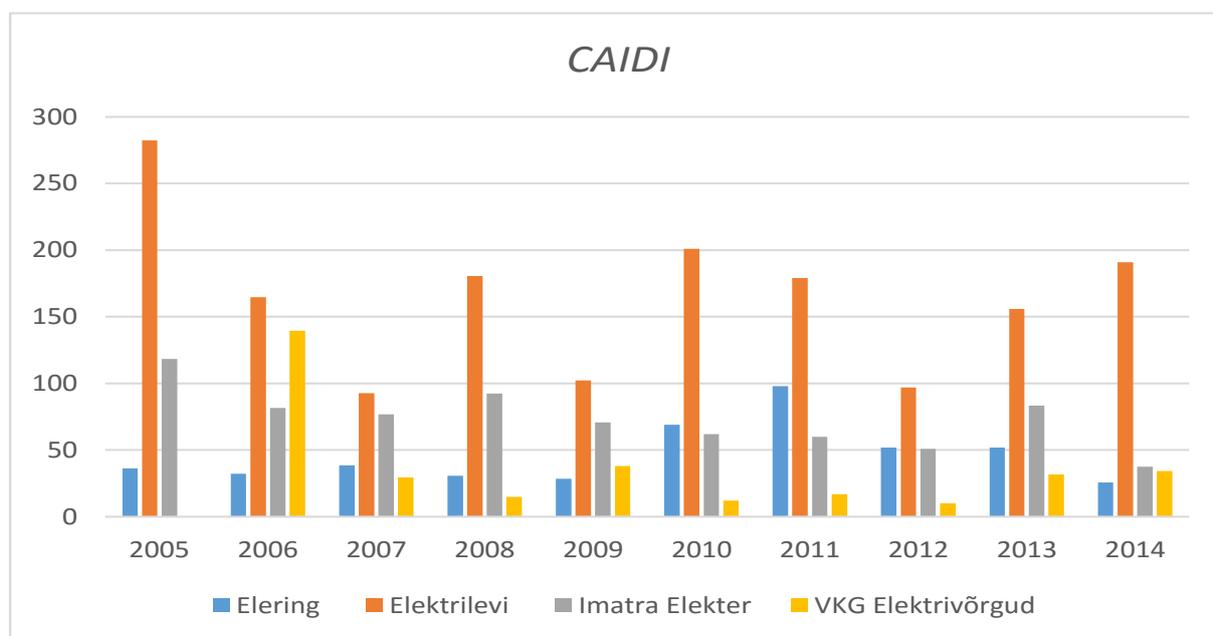


Figure 6. *CAIDI* indicators in 2005-2014, average time per network operator per year, in minutes

It appears from Figure 6 that in comparison with the year 2005 the *CAIDI* indicator has decreased in all reference undertakings, although different year-wise. Thus, in 2012, when there were less stormy days, also the network undertaking's indicators were considerably better.

Although the operational reliability of the Estonian electricity networks has increased, they are not sufficiently “weather proof” and in extreme weather conditions the reliability is compromised. However, the fact, that in Estonia a complete blackout of the system has never taken place, is important to mention. In distribution networks an increase in reliability can be achieved through significantly bigger investments that in turn, will result in considerably higher network charges.

Table 2 presents the electricity supply quality indicators for the transmission network undertaking Elering AS and the largest distribution network undertaking Elektrilevi OÜ in the years 2013-2015.

Table 2. Electricity supply quality of Elering AS and Elektrilevi OÜ

Security of supply indicators	Unit	Elering AS			Elektrilevi OÜ		
		2013	2014	2015	2013	2014	2015
Total number of consumption points	pcs	233	233	233	660 009	700 751	660 595

Fault caused annual accumulated interruption duration	minutes	2719	410	484	172 583 717	88 820 300	121 293 779
Planned annual accumulated interruption duration	minutes	17403	119376	55641	61 111 547	48 682 388	49 258 331
Average fault caused interruption frequency per consumption point per year (CI) (SAIFI)	pcs	0,223	0,069	0,107	2,65	0,664	1,344
Average interruption time per consumption point per year (SAIDI)	minutes	12	1,8	2,1	413	126,8	183,6
Average duration of an interruption (CAIDI)	minutes	52	25,6	19,4	155,8	190,8	136,6
Average planned interruption frequency per consumption point per year	pcs	0,043	0,176	0,116	0,601	0,5	0,502
Average planned interruption duration per consumption point per year	minutes	74,5	512,3	238,6	92,6	69,5	148,6
Average planned duration of an interruption	minutes	1740,3	2911,6	2060,8	154,2	138,9	138,9

It is seen from above Table that in 2014 that almost all fault caused electricity quality indicators had improved considerably in comparison with previous years. In 2015 the fault caused quality indicators slightly worsened, but due the favourable weather conditions, not considerably.

Outages in EstLink 1 and EstLink 2

On 12 September 2014 the Competition Authority initiated supervisory proceedings towards Elering AS in connection with the outage of the power connections between Estonia and Finland (*EstLink 1* and *EstLink 2* connections failed respectively on 10 September 2014 and 09 September 2014). Due to these two outages besides Estonian customers also Latvian and Lithuanian customers suffered as the high price in Estonia raised the prices also in the Latvian and Lithuanian electricity markets. In its analysis the Competition Authority came to the conclusion that existing legislation does not regulate the operation of the cross-border direct current connections sufficiently. In order to improve the situation, the Competition Authority made the proposal that the legislation shall be supplemented with the DC cross-border connections *EstLink 1* and *EstLink 2* related quality requirements.

The monitoring of the fulfilment of safety requirements is not in the sphere of competence of the Competition Authority. That is why the present report does not reflect the safety requirements of the electricity network undertakings, undertaken measures to avoiding accidents, nor their fulfilment.

Time taken by transmission system operator to make new grid connections and repairs of cross-border network connections (Article 37(1)(m) of Directive 2009/72/EC)

Connection to the power network is regulated by the Grid Code established by Regulation No 184 of the Government of the Republic on the basis of section 42(2) of the Electricity

Market Act. In order to connect to the transmission network a connectee shall submit to Elering AS a connection application. On the basis of the application an offer for a connection contract shall be issued within 90 days. If the customer wants to connect in an area where the network transfer capacity is not sufficient and the customer does not accept the connection offer together with the cost of construction and strengthening of the network, the network undertaking shall notify the customer and the Competition Authority in 30 days from the reception of the connection application from the customer, that a connection in the specific network area is impossible. If the data presented in a connection application are insufficient or do not comply with the requirements, then the network undertaking shall notify the customer about this in 10 business days from the reception of the application and the customer has 15 days to bring its application into compliance with the requirements. In order to connect a connectee's electrical appliance to the network or to amend the consumption or production conditions the network undertaking shall conclude a connection contract with the connectee.

For the functioning of electricity market, it is necessary that the market participants have timely information on the capacity of the power connections and possible connection interruptions. The transmission network undertaking is obliged to disclose the information on cross-border transmission capacity and limitations on the transmission capacity in connection with planned outages and repair works. Table 3 below presents the data submitted by Elering AS on the time spent for the creation of interconnections between networks and repairs in the years 2012 - 2015.

Table 3. Timing of creating and repairing connections between networks by Elering AS

Line	Interruption duration (hours) 2012	Interruption duration (hours) 2013	Interruption duration (hours) 2014	Interruption duration (hours) 2015
L301 Tartu - Valmiera	58,2	10,9	504,4	253,88
L354 Tsirguliina - Valmiera	0	507,68	608,03	856,27
L358 Tartu - Pskov	657,7	314,52	206,62	366,53
L373 Eesti PP - Kingissepp	265,3	349,82	2076,83	1260,48
L374 Balti PP - Leningradskaja	1194,3	1556,58	1883,32	4629,65
L677 Tsirguliina - Valka	444,7	92,45	999,05	309,12
L683 Ruusmäe - Aluksne	1307	855,55	2449,92	959,47
LN3	2080,1	0	0	0
Total	6007,3	3676,6	8728,17	8635,40
incl. ordered by neighbouring systems	2730	3442,75	7613,15	7561,75

As seen in Table 3, the interruptions in the network interconnections in 2012 took place during 7 007,3 hours, while in 2013 it was during 3 676,7 hours, in 2014 during 8 728,17 hours and in 2015 during 8 635,4 hours. In 2015 the connections' interruption time was almost the same as in 2014. Interruptions in the grid are primarily caused by faults (old and worn out lines, heavy storms), as well as due to the repair and maintenance works.

Ensuring access to market of producers basing on renewables and efficient cogeneration (Article 11 of Regulation (EC) No 713/2009)

Pursuant to the current Estonian legislation all producers have equal access to the market. The producers which produce from renewable energy sources or in an efficient cogeneration process

and have applied for a support, may bring the whole produced electricity to the market without any limitation. Sections 59, 59¹, 59² and 108 of the Electricity Market Act provide the conditions for being eligible for a support and the rates of the support. In relation to wind energy a limitation is set forth: a producer who uses wind as the source of energy may receive support until the total amount of 600 GWh electricity is generated from wind power in Estonia in a calendar year.

In the connection to the network of the production equipment that use renewable energy sources or operates in an efficient cogeneration process there is no support related specific exceptions. Herewith we explain that pursuant to the Electricity Market Act aforesaid producers do not have priorities also in the order of connection (waiting list), nor in the provision of balance. Pursuant to section 32¹ of the Grid Code for a small cogeneration installation (of up to 5 MW electrical capacity) the creation of a new connection is ensured through the transmission network operator's obligation not to take into account connection offers issued to other producers or production capacity for which connection contracts have been concluded, but whose connection to the power network as agreed in the contract or as known to the transmission network operator is intended to occur later than that stated on the installation of the small cogenerator. In addition, the Grid Code provides exceptions for the use of different technologies including wind generators, in order to secure technical functioning and stability of the system. Hereby the Competition Authority is in the position that the producers which use renewable energy sources or an efficient cogeneration process are supported sufficiently through the renewable energy support scheme. At the moment the new draft act of the Electricity Market Act for amending the support scheme has been worked out and is currently in the legislative proceedings.

2.1.3 Access to the network and network service price regulation (Articles 37(1)(a, f), 37(6)(a), 37(8), 37(10), 37(3)(c, d) of Directive 2009/72/EC)

The Electricity Market Act provides for uniform price regulation for all network undertakings regardless of their size. In 2015 there was one transmission network undertaking and the number of distribution undertakings in Estonia was 34.

A network operator shall connect to the network at the connection point any electrical installation, which conforms to the requirements, of a consumer, producer, line possessor or any other network operator within its service area and amend of the consumption or generation conditions on the basis of a corresponding request. A network operator has the right to refuse to provide network services if:

- the electrical installations of the user of network services do not conform to the requirements of legislation or to the technical conditions established by the network operator for connection to the network;
- the provision of network services is not possible for any other reason due to the user of network services;
- the provision of network services is not possible for reasons independent of the network operator;
- the network of the network operator lacks the necessary transmission capacity for the provision of network services;
- the corresponding right of the network operator arises on any other grounds provided in the Electricity Market Act.

A network operator shall provide the reasons for any refusal to provide network services. The reasons must state the legal basis for refusal and also the Competition Authority shall be notified. Aforesaid principles shall ensure connecting of all customers, who apply for, to the network. If necessary, the Competition Authority may verify the grounds for refusal in order to ensure the legal application of law and equal treatment of market participants.

In addition to aforesaid the Competition Authority approves separately the following network charges and methodologies:

- network charges (for transmission and for using of a network connection);
- ancillary services provided by network operator (e.g. replacement of main protective fuse or sealing of meters at the customer and some others);
- the methodology for the calculation of a charge for connecting to the network;
- the methodology of the pricing of balancing energy.

The prices for balance energy and the charges for transits of electricity are not subjects to approval, but the Competition Authority is obliged to monitor the justification of the prices. That means *ex-post* regulation is applied to these charges.

Although Article 14(2) of Regulation (EC) No 714/2009 and the *Guidelines on Transmission Tarification* allow charging producers for the transmission, so far Estonia has not applied it.

Electricity network charges

The Electricity Market Act lays down the following price regulation principles:

- A network operator shall establish network charges in its service area in accordance with the Energy Market Act and the legislation enacted on its basis;
- The criteria adopted for establishing network charges shall be transparent and in compliance with the principle of equal treatment;
- When setting network charges, the need to ensure security and efficiency of supply and the integration of markets as well as the results of research conducted in this area shall be taken into consideration;
- The rate of network charges must make it possible for a network operator to perform the obligations arising from legislation and fulfil the conditions of the activity licence, and to ensure a justified return on invested capital;
- A network operator shall set the transmission charge such that it guarantees market participants who have paid a connection charge and a charge for the use of the network connection the possibility of transmitting electricity throughout the entire system;
- Network charges may differ from one network operator to another.

Pursuant to section 72(4) of the Electricity Market Act the Competition Authority shall prepare uniform methods for the calculation of network charges based on the weighted average cost of capital. The methodologies are disclosed on the Authority's web site. The Competition Authority has elaborated and published on its web site specific tables together with the guidelines for input data collection to be filled out for the approval process. The tables are comprehensive and include technical data and detailed accounts: profit and loss statement, balance sheet, data on acquired fixed assets, planned investments and the expected sale volumes of network services. Since the tables are comprehensive, it is required to fill them out only in the price approval process. On the basis of the data it is possible to verify whether cross-

subsidising of different areas of activity is avoided. A regular filling out is not required, but according to need the Competition Authority has the right to ask information on economic performance of and technical indicators and as well to require filling out the tables presented on the web site. The obligation to provide data is prescribed by law and the Authority is entitled to require all the data necessary for both the approval of prices and to carry out supervisory proceedings. The Competition Authority has also the right to perform site inspection any time and require data and the copies of documents. The practice so far has shown that the undertakings do not refuse submission of data. In addition, the undertakings have to separate in their accounts the different areas of activity. An annual accounting report is a public document and all interested parties can examine it.

The approval of prices takes place upon application by the undertakings. The latter means that undertakings have permanent opportunity to submit an application for the approval of network charges. New network charges shall be approved in case if an undertaking finds that the operating cost, capital cost and the justified return that were used in the approval do not provide the price that meets the provisions of section 71 of the Electricity Market Act. According to necessity the Competition Authority has the right to verify whether the valid network service price is in compliance with the provisions of the Electricity Market Act. In order to give to the network undertaking a possibility to set long-term goals, to plan its work and to fulfil its legal obligations, the Competition Authority applies the revision of an undertaking's investments in the process of price approval.

The Competition Authority has prepared and published on its web site the "Standard Methodology for Calculating of Electricity Network Charges" and the "Guidelines for the determination of weighted average cost of capital (WACC)".

Pursuant to Regulation of the European Parliament and of the Council No 714/2009 the regulation of the network service prices of the transmission network undertaking has some differences. Similarly to other network operators the charges established by the transmission undertaking must be transparent, take into account the need of ensuring security of the network and reflect all actually incurred costs, provided that they comply with the efficiency criteria and with the cost of other network operators with comparable structure. The charges may not be discriminatory. As the transmission network undertakings incur additional costs and revenues as the result of hosting cross-border transit flows of electricity the Regulation provides for the establishment of a so-called compensation fund between the transmission network undertakings of the EU Member States (ITC fund). On 23 September 2010 the European Commission passed Regulation No 838/2010, which lays down the principles of compensation for transit. All transmission system operators contribute to the ITC fund and from the fund the costs of all transmission operators participating in the transit of electricity are compensated for. Amongst other things Article 4(3) of the Regulation sets out that when setting the charges for the access to the network the payments to and receipts from the ITC fund shall be taken into account. Since the following of the Regulation is mandatory to Estonia, in the approval of network charges the Authority takes into account the costs incurring from the ITC fund.

In the regulation of the network service prices of the transmission network undertaking the revenues resulting from the allocation of cross-border interconnection has been taken into account. Pursuant to Article 16(6)(a) of Regulation (EC) No 714/2009 any revenues resulting from the allocation of the interconnection shall be used for the guaranteeing the actual availability of the allocated capacity (so-called counter-trade) and the rest may be taken into account in the calculation of network tariffs under the provisions of Article 16(6) of the

Regulation. From 1 July 2014 the transmission undertaking started the collection of the congestion income for the maintaining or increasing interconnection capacities.

Impact of the investments of Elering AS on network charges

In 2015 the Competition Authority conducted an analysis³ on the impact of various electricity network investments on the network charges, as their share in the formation of network charges is vitally important. Pursuant to the Electricity Market Act the rate of network charges must make it possible for a network operator to perform the obligations arising from legislation and fulfil the conditions of the authorisation, and to ensure a justified return on invested capital⁴. According to the method worked out by the Competition Authority⁵ the network charges comprise the following components:

- variable cost;
- operating cost;
- capital cost (depreciation of fixed assets);
- justified return.

Figure 7 presents the composition of the network charges of Elering AS by cost components.

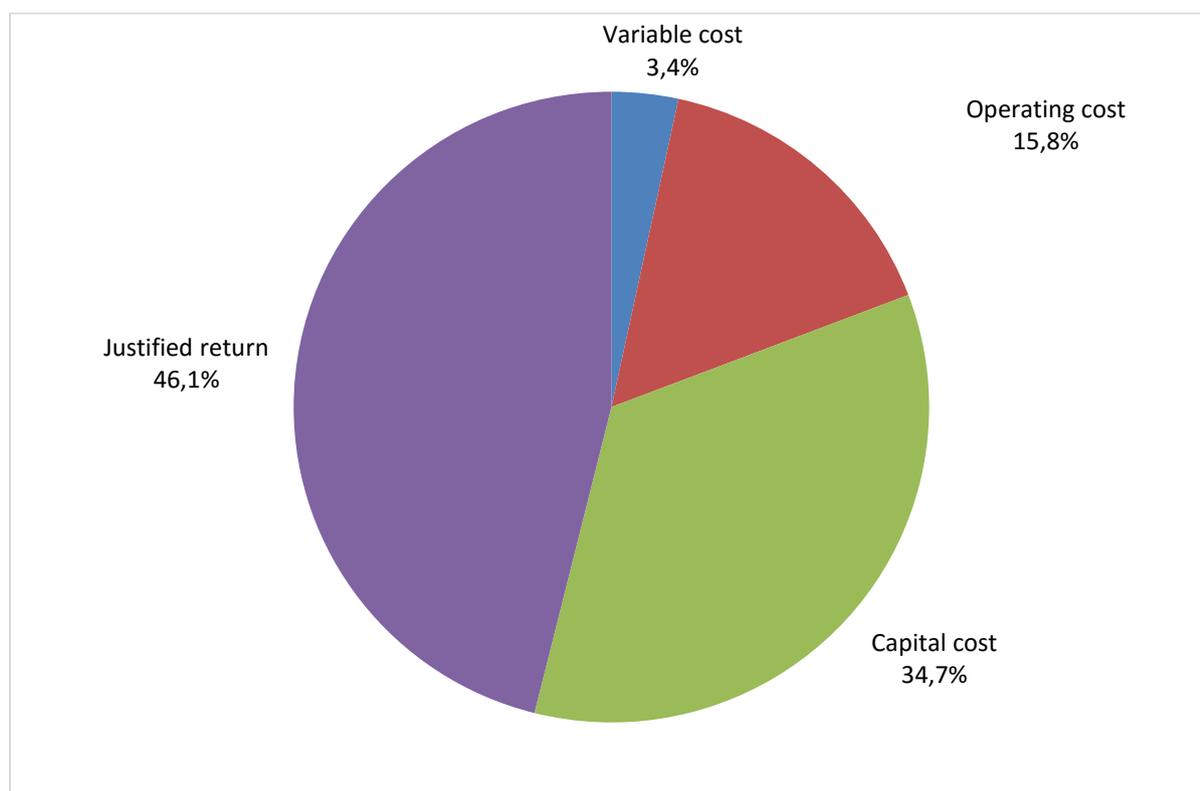


Figure 7. Share of cost and return in network charges of Elering AS

It appears from above Figure 7 that majority or 80,8% of the network charges of Elering AS comprise the cost of investing in the electricity network and the return. However, most of the consumers of electrical energy do not pay network charges directly, i.e. they have not contracted Elering AS, but through the distribution network service. This means that the contract for the

³ Disclosed on the Competition Authority's web site <http://www.konkurentsiamet.ee/index.php?id=10836>

⁴ Electricity Market Act, section 71(5)

⁵ Electricity Market Act, section 72(4)

provision of network service is entered into with a distribution network undertaking. The composition of the network charges of the largest Estonian distribution network undertaking Elektrilevi OÜ is illustrated in Figure 8.

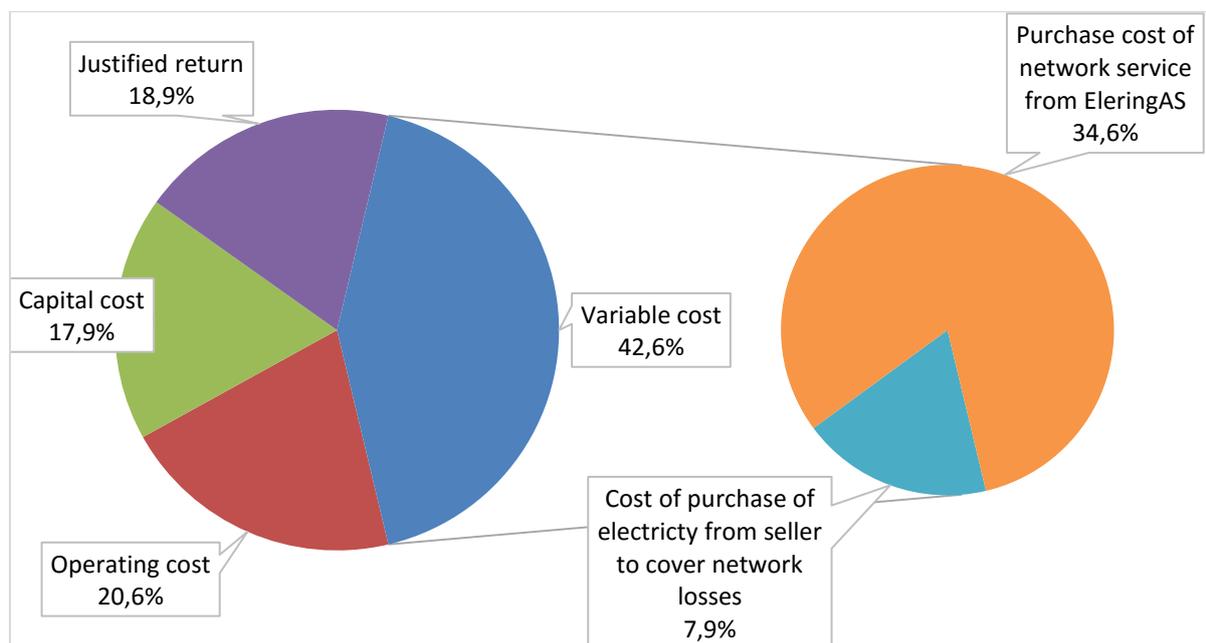


Figure 8. Share of cost and return in network charges of Elektrilevi OÜ

It appears from above Figure 8 that the share of the network charges of Elering AS in the network tariffs of Elektrilevi OÜ is 34,6%. Since the share of the transmission network investments in the network charges of Elering AS is 80,8%, the share of the transmission network's investments in the network tariffs of Elering OÜ is 28%⁶. Thus, it can be said that Elering AS investments have great impact on the network charges of most consumers of electrical energy.

In 2003 the book value of the electricity transmission network of Elering AS was 255,2 million €. As of today the company has implemented a substantial volume of investments and the regulatory residual value of the fixed assets has grown to 644,1 million € (as of 1 January 2015). Therewith, a remarkable part of the regulatory investments (*in the amount of 288 million € or, 45% of the total volume of investments since 2013 comprised in the network charges*) are related to the integration with Finland (EstLink 1 and 2, and the emergency reserve power plants). Owing to these investments Estonia today is economically connected with the electricity market of Nordic countries and a successful integration of markets have taken place, where the price of electricity is formed in free market conditions.

The capital cost of the fixed assets in the amount of 30,6 million € that is included in the network charges of Elering AS consists of two components – capital cost calculated on the book value of the old fixed assets, i.e. the ones acquired before 2003, in the amount of 15,6 million € and capital cost calculated on the acquisition value of the new fixed assets acquired from 2003 (incl.) in the amount of 15,0 million €. Since capital cost of the old fixed assets is straight line, by 2019 they will be depreciated and after that the network charges of Elering AS will include only capital cost of the new fixed assets.

⁶ $34,6\% \times 80,8\% / 100\% = 28\%$

The Competition Authority analysed various scenarios and their impact on the company's network charges. In the result the conclusion was drawn out that the bigger the investments of Elering AS the higher the network charges. For example, with the level of investments of 33 million annually the real value network charges by 2015 would be higher by 12,2% compared with the level of investments of 20 million annually. Compared to the today's 2016 network charges the real value network charges in 2025 would be higher by 23,8%, if 33 million € is invested annually. With 20 million € annual investments level the 2025 real value network charges' difference in comparison with today's, 2016 charges would be less or, 10,3%.

The bigger the investments of Elering AS the bigger the impact of the WACC on the network charges. For instance, if the same data that were used in the analysis of aforesaid investments were considered, the difference in the WACC appeared the biggest in 2019 (two percent point) and this had an impact on the real time network charges of 16,0% in case 33 million € annual investment level and respectively, 15,4% in case of 20 million € investment level per annum.

Beginning from 2019, after the complete depreciation of the old fixed assets or, the ones which were acquired before 2003 the network charges of Elering AS will be formed only by the capital cost calculated on the depreciation of fixed assets of the transmission network and justified return calculated on the book value. Aforesaid means that until 2044 a pressure towards increase of the network charges can only be expected. Beginning from 2044 a stabilization of the network charges can be assumed, as by this time the assets acquired in 2003 (*implemented investments*) will be depreciated and in the following the fixed assets (*implemented investments*) acquired after 2003 will become gradually depreciated.

Based on the above Elering AS shall very carefully analyse the real necessity and justification of the panned investments and find possibilities to minimise investment budgets for the purpose of lowering the level of network charges or the rate of their rise.

The analysis can be examined more thoroughly on the web site of the Competition Authority.

Electricity network charges

The Competition Authority analysed the long term price trends of larger electricity network companies (see Table 4)⁷.

Table 4. 10-years dynamics of electricity network charges in real prices, €/MWh

Ettevõtjad	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
THI	4,1	4,4	6,6	10,4	-0,1	3	5	3,9	2,8	-0,1
Elektrilevi OÜ	40,81	39,21	36,62	33,35	31,18	33,59	36,95	37,72	38,31	36,35
AS Elering	10,66	10,37	9,37	9,14	7,95	9,98	11,72	12,10	13,18	11,82
Imatra Elekter AS	44,23	42,60	45,63	42,22	38,32	38,31	40,21	38,82	38,55	35,79
VKG Elektrivõrgud OÜ	32,44	31,16	32,55	31,33	29,36	29,39	38,09	37,29	40,77	38,46

In the result of the analysis of regulation it is rational to observe first of all the price dynamics in real prices. This shows how the prices have changes in comparison with general rate of

⁷ Hinnaregulatsiooni tulemuste hindamine reguleeritud sektorites

http://www.konkurentsiamet.ee/public/Hinnaregulatsiooni_tulemuste_hindamine_reguleeritud_sektorites.pdf

inflation. The change of electricity network charges of network companies in real prices in percentage is given in below Figure 9.

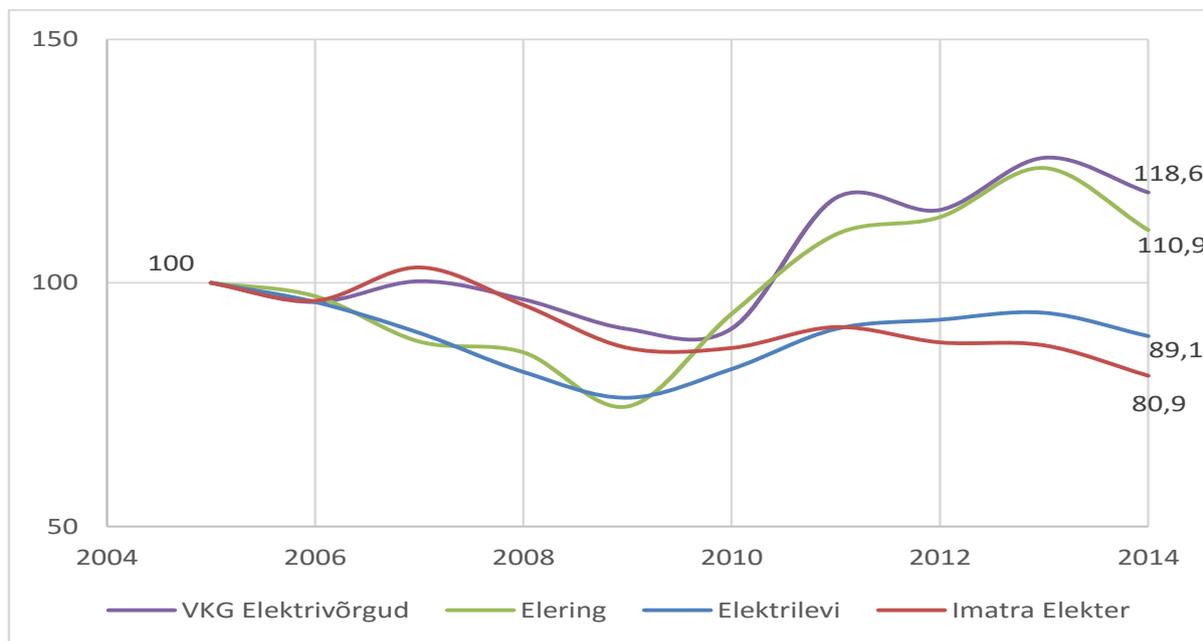


Figure 9. Percentage change of electricity network charges in real prices

As it is clear from Figure 9 the network charges of Elektrilevi OÜ, that has the biggest market share, have fallen in real value. The same is true for Imatra Elekter AS. At the same time the network charges of Elering AS and VKG Elektrivõrgud OÜ have increased in real value. The reasons of the price rise of Elering AS are the substantial investments in international (cross-border) connections and in the construction of emergency reserve power plants and the added maintenance cost related to these facilities. In connection with the international connections electricity losses have inevitably increased. All this has been the reason for the increase of the network charges of Elering AS. For VKG Elektrivõrgud the reason of the increase of their charges network have been essential decrease in sales volume in the reference period.

While analysing the dynamics of the network charges of Elering it is important to look at the formation of their prices with and without the international interconnections and the emergency reserve power plants. Considering the actual price (including the interconnections and the emergency reserve power plants) does not give an adequate picture as the regulator has to include the cost related to these facilities in the price.

Below Figure 10 shows the dynamics of the real value network charges of Elering AS with and without the international interconnections.

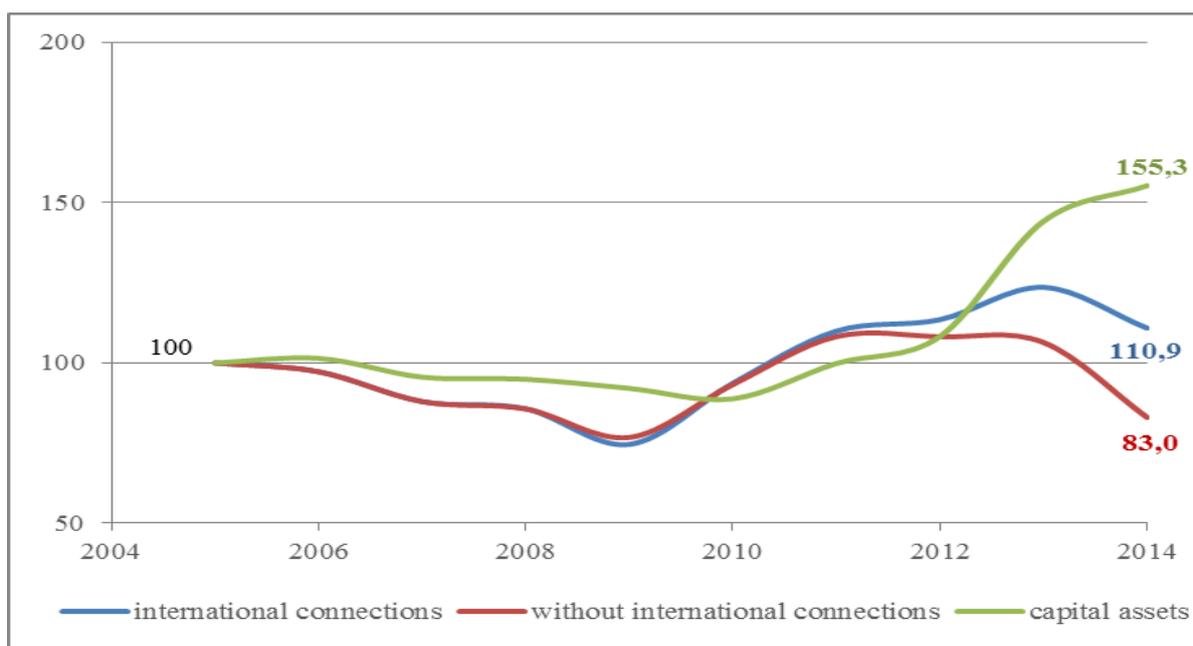


Figure 10. Network charges of Elering AS with and without the international interconnections

As it is clear from Figure 10 the network charges of Elektrilevi OÜ have increase in ten years in the real value 11%, therewith the reason for the increase has been just the construction of the international interconnections. Without these interconnections the opposite would have been the case – a 17% decrease. In the today's approved prices, the share of the interconnections is almost 25%. Based on this it can be said that the Elering AS related regulation has also been successful and without the additional international interconnections the service price in real value prices would have decreased.

Average network service prices in 2015 are the same as they were in 2014 are presented in Table 5. All approved network service prices are disclosed on the Competition Authority's web site.

Table 5. Transmission and distribution service average prices of electricity networks in 2015

Provider of service	Number of undertakings	Transmission and distribution service average price, €cent/kWh
Transmission network	1	1,18
Distribution networks	34	5,13

Charges for connecting to network

Connection to the electricity network is regulated by the Grid Code established by Regulation No 184 of the Government of the Republic on the basis of section 42(2) of the Electricity Market Act. Chapter 5 of the Grid Code sets out the requirements for connecting of a customer's electrical appliance to the distribution network of a network undertaking. For connecting to the transmission network a connection application must be submitted to Elering AS and based on the application, during 90 days an offer for connection is issued. A distribution network undertaking shall issue a connection offer during 30 days from the reception of the application or from performing an action necessary for the transmission network undertaking.

The connection offer shall contain the location of the metering point of the customer's electrical appliance, the charge for connecting and the grounds of its calculation, the conditions for connecting to the network and the conditions for amending or cancelling of the connection contract. The charge for connecting to the transmission network is determined on the basis of the cost pursuant to the principles outlined in the Grid Code. In the calculation of the charge for connecting to the network the justified cost which incurs in making the connection is considered. The charge includes the necessary and justified cost for connecting the new consumption load or for the amending existing consumption conditions, including the cost of construction of new electrical installations or re-construction of existing ones. It shall be explained herewith that the charge for connecting to the distribution network is calculated according to the methodology approved by the Competition Authority. For the preparation of the methodology the Competition Authority has published the *Guidelines for preparation of methodologies for approval the charge for network connection and amendment of consumption or production conditions*. The Competition Authority approved the „Method for calculation of connection charges“ of Elering AS on 26 June 2015 and the standard terms and conditions of connection contracts of Elektrilevi OÜ on 10 March 2015.

2.1.4 Cross-border issues

With neighbouring countries Estonia has power connections with Russia, Latvia and Finland. The map of the Estonian electricity system was presented in Figure 2 above. The map of the power systems of the Baltic countries and north-western part of Russia is given in Figure 11 below. It should be clarified yet that Finland is part of the Nordic power system Nordel, which is not synchronised with the Russian and the Baltic countries' system IPS/UPS, where Estonia belongs to.



Figure 11. Map of electricity systems of Baltic countries and north-western part of Russia
Source: Elering AS

Estonia has three 330 kV overhead AC connections (500-650 MW) with Russia and two 330 kV overhead lines (500-900 MW) with Latvia and two DC connection with Finland (350 MW and 650 MW). Due to network repair works and ambient air temperature variations the transfer capacity between Estonia and Latvia may significantly decrease. The maximum power which can be imported and exported depends on the one hand from the thermal transmission capacity of the lines and on the other hand from the stability margin determined in the operational regime calculations. The one which is lower determines the final limitation. Thus, currently Estonia has connections with neighbouring countries in the total of 2 946 MW.

By statistics of 2015 the peak load from Narva to the direction of Russia was 790 MVA (if no electricity trading takes place between Estonia and Latvia), while from South Estonia in the direction of Russia it was 285 VA. The peak load in the Latvian direction was 838 MVA and the same in the direction of Finland was 999 MVA.

Rules of calculation and allocation of available capacity (Articles 37(1)(c), 37(6)(c), 37(8), 37(9), 37(3)(f) of Directive 2009/72/EC)

On 15 March 2013 the transmission system operators of the three Baltic countries agreed upon the new *Baltic internal cross-border trading capacity calculation rules*. The Competition Authority approved the agreement by its 31 May 2013 decision. The same 31 March 2013 approved rules were valid also in 2015. The data on the cross-border transfer capacity calculations made by the TSOs, as well the limitations on the system, their reasons and impact

on the power system on weekly basis, are presented on the NP web site. In addition, on the NP site the information on actual interruptions in the transmission systems can be found.

In the last years several changes have taken place in the rules of the cross-border transmission capacity allocation. The main goal of the changes is to follow the direction undertaken by the European Commission to use only market based solutions in the allocation of the transmission capacity and not to give certain advantages to individual market participants. Such approach enhances competition and improves transparency, which is needed for making new investment decisions, in order to sustain security of supply in the system. In the following an overview of the transmission capacity allocation rules between Estonia and Latvia in different periods is given.

Transmission capacity allocation on Estonia-Russia and Estonia-Latvia borders in NPS Estonia price area from 3 June 2013

On 3 June 2013 the NPS ELE price area was invalidated and the new Latvian price area was created by the NP. Therewith the three Baltic TSOs had reached agreement on 15 March 2013 on the allocation of cross-border transmission capacity between both on the borders of the Baltic countries themselves and also on the borders with Russia and Belarus. According to the agreement the bidding areas were formed between the electricity systems of the Baltic countries and the third countries (Estonia–Russia, Latvia-Russia, Lithuania-Belarus and Lithuania-Kaliningrad). The transmission capacity is calculated following the jointly agreed calculation model and methodology. The new rules were enforced on 3 June 2103 when the new NP price area in Latvia became operational. These activities are the first step in the process which has the eventual task of creation single virtual and common Baltic price area for electricity export and import operations with the third countries.

- In the Estonian, Latvian and Lithuanian price area all active market participants can make their bids. The cross-border capacities are allocated by the NP by using the method of *implicit auctions*;
- According to method agreed upon by the Baltic TSOs the NP directs all the electricity originating from the third countries to the NP price area on the Lithuania-Belarus border. No commercial capacity is allocated to the borders of Estonia-Russia and Latvia-Russia.

The Competition Authority approved the rules for the transmission capacity calculation by its decision on 31 May 2013. In the same decision the Authority pointed out that the transmission capacity allocation rules agreed upon by the TSOs facilitate integration of the Baltic electricity market, but for better functioning of the market Elering AS in cooperation with other system operators shall complete a well-developed financial market in the region with proven efficiency (liquidity).

On 6 December 2013 Elering AS and the Latvian TSO signed the agreement „Congestion management rules on the Estonia-Latvia border through the PRT (*physical transmission rights*) auctions“. Therewith Elering AS and the Latvian TSOs agreed on the implementation of the congestion management financial instrument of the PRT on the border between Estonia and Latvia. The agreement lays down the rules of implementation and use of the PTR for the market participants. From January 2014 the PTR auctions are offered on the Estonia-Latvia border. For the market participants an annual auction and monthly auctions are arranged. The organiser of the PTR auctions is Elering AS. In order to participate in a PTR auction the market participants, which have concluded respective contract with Elering AS, shall submit their bids for an auction period on every specified auction day. The difference between the purchased and re-

purchased PTR is paid to the PTR owners once in a calendar month on the basis of a written clarification.

The Competition Authority approved the PTR-auction rules by its decision of 13 December 2013. The Competition Authority outlined in its decision that the PTR rules take into account the rights and obligations assigned to the transmission network operators and the regional conditions as well, in order to foster real and efficient competition in the electricity market. The Competition Authority also outlined that the agreement between Elering AS and the Latvian TSO on congestion management on the Estonia-Latvia border contributes to the integration of the Baltic electricity market, prevents from unequal treatment of market participants and ensures equal access to the network for all market participants.

Transmission capacity allocation on Estonia-Russia and Estonia-Latvia borders in NPS Estonia price area from 1 January 2015

On 6 November 2014 the Baltic TSOs concluded a joint Memorandum. The Memorandum enables application the contractual principle on the Estonia-Latvia border that in the planning phase the whole tradeable capacity of the Estonia-Latvia-Russia cross section is allocated between Estonia and Latvia. A change is pointed out, which is related to the calculation of the quantities of import from the third countries. While during the validity of the trilateral agreement (15 March 2013) a calculation may have allocated 0 MW result to the Lithuania-Belarus border, according to the Memorandum of 6 June 2014 the minimum trading capacity limit is 200 MW, which is secured by the Lithuanian TSO by keeping additional 100 MW of reserve capacity. The Competition Authority approved the Memorandum for the calculation of transmission capacity by its decision of 13 November 2014.

On 5 November 2014 the new congestion management rules on the border between Estonia and Latvia were agreed upon by the TSOs of both countries. The new rules raise the volume of auctions: besides monthly and yearly auctions also quarterly auctions were added. The Competition Authority approved the new rules by its decision of 7 November 2014.

Transmission capacity allocation in the Baltic states from 1 January 2016

On 11 September 2015 common rules on the transmission capacity allocation and calculation in the Baltic states and on the borders between them were agreed upon by the Baltic system operators. The new rules take into account the changes in the functioning of the electricity system due to the new interconnections between Lithuania and Poland and Lithuania and Sweden. On 8 October 2015 the Baltic regulators endorsed the new transmission capacity allocation and calculation rules worked out by the Baltic system operators. The Competition Authority approved the new rules on 14 October 2015. The new rules took effect from 1 January 2016.

On 10 July 2015 Elering AS submitted to the Competition Authority for approval the Harmonised Rules for Forward Capacity Allocation and its specific Annex for the Estonian-Latvian border, which provides allocation rules for the long term transmission capacity limited physical transmission rights (PTR) on the Estonian-Latvian border from 1 January 2016. The Estonian and Latvian system operators reviewed the PTR rules in respect of the European grid codes developments and decided to replace them with the EU HAR (*Allocation Rules for Forward Capacity Allocation*) and a Regional Annex. The Competition Authority approved the rules and the specific annex for the Estonian-Latvian border on 15 September 2015.

Pursuant to Article 15 of Regulation No 714/2009 “Provision of information” and Clause 5 of the Guidelines “Transparency” Elering AS has disclosed on its web site (<http://www.elering.ee>) the rules for allocation of aforesaid available capacity and the agreements. The web site also presents information on available transmission capacity, utilised total capacity, demand and production, presenting both actual data and either annual, month-ahead, week-ahead and/or daily estimates pursuant to the Guidelines. In addition to aforesaid the TSO publishes on its web site the planned and emergency outages of the production units in the Estonian electricity system with a rated capacity of over 100 MW and the report on sufficiency of the production capacity in the Estonian electricity system which, among other things, covers long-term infrastructure development issues. The web site includes a separate data disclosure application (*Dashboard*), where the information is visually observable and easily downloadable. The information is disclosed to the market participants simultaneously, transparently, in a user friendly manner and in an easily downloadable format.

Use of congestion income in the period from 1 July 2013 to 30 June 2014 (point 6.5 of Annex I of Regulation (EC) No 714/2009)

Pursuant to Article 16 (6) of Regulation (EC) No 714/2009 the revenues resulting from the allocation of interconnection shall be used for the following purposes:

- a) guaranteeing the actual availability of the allocated capacity; and/or
- b) maintaining or increasing interconnection capacities through network investments, in particular in new interconnectors; or
- c) if the revenues cannot be efficiently used for the two aforesaid purposes, they may be used, subject to approval by the regulatory authorities, as income to be taken into account in the calculation of network charges.

In the period from 1 July 2015 to 30 June 2016 Elering AS earned congestion income in the total of 24 112 468 euro. Out of this 142 983 euro was used pursuant to Article 16 (6)(a) of Regulation (EC) No 714/2009 for guaranteeing the actual availability of the allocated capacity (so-called counter-trade) and the rest of 22 688 83 euro is used pursuant to Article 16 (6)(b) for maintaining or increasing interconnection capacities through network investments, first of all through interconnectors between the networks.

2.1.5 Electricity market related obligations of Competition Authority (Articles 37(1)(b,d,q), 37(3)(a), 37(3)(a,b,e), 37(4)(d), 37(5), and 39 of Directive 2009/72/EC)

Arising from Directive 2009/72/EC and Regulation (EC) No 714/2009 by virtue of the Electricity Market Act the rights and obligations of the regulatory authority are granted to the Competition Authority. Pursuant to the Electricity Market Act and other legislation enacted on its basis the Competition Authority exercises state supervision over the functioning of the electricity market and the activities of market participants pursuant to the procedure provided in the Act and other legislation.

In order to ensure cooperation with the Agency for the Cooperation of Energy Regulators (hereinafter ACER) and other regulatory authorities the Electricity Market Act sets out the following rights and obligations to the Competition Authority:

- Cooperate with the ACER and other regulatory authorities of the Member States;

- Engage in cooperation with the transmission network operator and, should this be needed, with other relevant authorities in order to perform its functions, and without prejudice to its independence and special authority. An approval issued by the Competition Authority pursuant to the Energy Market Act may not in any way limit the subsequent exercise of its powers;
- Engage in cooperation with counterpart authorities of other Member States in order to harmonise the data exchange platforms of the electricity market of the region;
- If necessary, the Competition Authority shall involve independent experts and cooperate with other Estonian and foreign supervisory authorities in order to exercise supervision.

The Competition Authority's obligations are set out in chapter 9 of the Energy Market Act „State Supervision“. Amongst others obligations the Authority shall:

- verify compliance with the requirements set out in Regulation (EC) No 714/2009 of the European Parliament and the Council;
- monitor of investments in production capacity and, having regard to considerations of security of supply, where necessary, requiring the system operator to hold the invitation to tender referred to under subsection 4¹ of section 4 of the Energy Market Act;
- monitor and verify of the conduct of the invitation to tender provided for under subsection 4¹ of section 4 of the Energy Market Act;
- resolve disputes between market participants following the procedure provided in the Electricity Market Act;
- disseminate through its website the network operators' network charges that it has approved in accordance with the Electricity Market Act;
- issue decisions of approval in accordance with the Electricity Market Act;
- verify whether the distribution network operator complies with the requirements set out under section 18 of the Electricity Market Act;
- scrutinise the justifications for the expenditure incurred by the transmission network operator for the purpose of administering the support provided for in subsection 4 of section 59² of the Electricity Market Act;
- verify whether the price of the electricity sold in the framework of the open supply referred to in 44(4²) of the Energy market Act is justified;
- verify the information that is provided by the seller to the consumer under section 75¹ of the Electricity Market Act;
- verify whether the price of electricity sold by way of provision of universal service complies with section 76³ of the Electricity Market Act;
- verify the issue, transfers and validity of the guarantees of origin described in section 58¹ of the Electricity Market Act;
- verify the prices of balancing electricity set by the system operator;
- verify whether the transmission charges applied by the network operator for the transit of electricity, as well as the operator's connection charges and charges for the amendment of conditions are in conformity with sections 71-73 of the Electricity Market Act;
- in its annual report, stating its opinion regarding the report drawn up by the system operator in accordance with section 39(7) of the Energy Market Act, taking into account whether the report of the system operator is in conformity with the Community-wide network development plan referred to in Article 8(3)(b) of Regulation No 714/2009 of the European Parliament and of the Council, and issuing recommendations concerning the amendment of the system operator's investment plan, if needed;
- monitor technical cooperation between the transmission network operators of the member states of the European Union and of third countries;

- engage in cooperation with counterpart authorities of other member states in order to link up the information exchange platforms of the electricity market of the region;
- monitor the situation concerning market opening and competition, including the prices on the power exchange and the prices set for household customers, and publish, at least once a year, recommendations concerning the setting of the prices of electricity sold to household customers;
- monitor the time that it takes network operators to build connections and to perform repairs;
- monitor the level of transparency of the electricity market, including the transparency of wholesale prices in the electricity market;
- ensure that no cross-subsidisation occurs between the activities of transmission, distribution and sale;
- ensure that no anti-competitive contractual practices are engaged in, including the prohibition to purchase the fixed supply from several sellers at the same time;
- ensure that consumers are granted speedy access to their consumption data without charge;
- in order to perform its functions, and without prejudice to its independence and specific competence, engaging in cooperation with the transmission network operator and, should this be needed, with other relevant authorities. No approval issued by the Competition Authority in accordance with this Act in any way limits the Authority in the subsequent exercise of its powers;
- submit to the European Commission a report on market dominance among electricity undertakings and on predatory and other anti-competitive behaviour, changes in ownership, measures taken to enhance competition, and the potential effects on domestic and international competition of the measures taken to comply with the obligation of providing universal service;
- notify the European Commission of the decision to issue the authorisation to the transmission network operator, and publishing that decision in the Official Journal of the European Union;
- annually draw up, publish on its website and transmit to the European Commission, to the energy regulators of member states and to the Cooperation Agency a report on the measures implemented to perform the functions of the Competition Authority and on the results that those measures have attained;
- in accordance with Article 3 of Regulation No. 256/2014 (EU) of the European Parliament and of the Council, transmit to the European Commission the information described under section 19(5) of the Energy Market Act;
- disseminate through its website information concerning the rights of consumers, the relevant legislation and the possibilities of dispute resolution;
- prepare and publish on its website by 31 July each year an overview concerning the previous calendar year which reflects the following:
 - the rules of allocation of capacity of intersystem connections;
 - the rules for resolving congestions in the system;
 - the time spent on construction and repair of cross-border interconnectors;

- the information published by network operators concerning cross-border interconnectors and distribution of the capacity of the network, taking into account the need to maintain business secrets;
- the unbundling of activities referred to in section 16 of the Energy Market Act;
- the connection conditions established for new producers;
- the performance of obligations by the system operator and network operators;
- the competition situation in the electricity market.

In addition to above the Competition Authority may establish temporary network charges or a temporary methodology of calculating network charges in situations where the network charge is not justified or the network charge has not been set and the network operator does not comply with the enforcement order issued by the Competition Authority. The network charges established by the Competition Authority remain in force until such time as the network operator obtains, in accordance with section 73 of the Energy Market Act, the approval of the Competition Authority for the new network charge. The surplus profits which the network operator earned while applying the unjustified network charge are, taking into account the network operator's sustainability, deducted from its justified sales revenue on the next occasion, or if necessary, also subsequent occasions of approving network charges.

The Competition Authority is obliged to verify compliance of the transmission and distribution network undertaking to the requirements outlined in law. The Authority monitors whether the transmission network undertaking complies with the legal requirements and initiates an assessment of compliance of the transmission undertaking in cases prescribed in law (including, if the European Commission has submitted a reasoned request). In doing so the Competition Authority shall immediately inform the European Commission of circumstances which permit a person from a third country to acquire control over the transmission system operator.

When exercising the state supervision provided for in the Electricity Market Act, the Competition Authority may apply the special measures of state supervision provided in sections 30, 50 and 51 of the Law Enforcement Act on the grounds and following the procedure provided in that Act. In the event of failure to perform an obligation imposed by an enforcement order, a penalty payment may be imposed pursuant to the procedure provided by law. The upper limit for a penalty payment is 1 300 euros. In the event of failure to comply with the requirements established in the Act, the upper limit for a penalty payment to be applied in respect of the transmission network operator is nine million euros, and the total amount of penalty payments which may be imposed in order to achieve the goal prescribed in the enforcement order may not exceed nine million euros. Both an enforcement order and a decision are administrative legislation acts that may be challenged with an administrative court. The latter may invalidate the decision or the enforcement order.

The Competition Authority is independent in exercising the functions entrusted to it by virtue of law. The Authority's rights and obligations in the monitoring of the market are prescribed in both the Electricity Market Act and the Competition Act. In case if an abuse of market dominant position or other competition related violation cannot be resolved pursuant to the special law, it can be proceeded on the basis of the Competition Act. Independence of the Competition Authority is ensured also pursuant to section 93(6)(1) of the Government of the Republic Act, pursuant to which the prescribed procedure for supervisory control does not extend to the state supervision activities nor to the decisions made in the application of enforcement powers of

state. Thus, in application of enforcement by state the agencies in the area of government of the ministries are independent. All parties to proceedings, both companies and consumers have the right to challenge the Competition Authority's decisions with and administrative court, which makes a decision on the exercising of state supervision and the application of enforcement powers of the state. In addition, the Competition Authority is independent in utilising of its annual budget authorised by Riigikogu (the parliament).

Pursuant to the Public Service Act the Director General of the Competition Authority is appointed to office for five years and the same person may not be appointed for more than two successive terms. The first term begun with the enforcement of the Act. The obligations of a public servant, including limitations on activity are prescribed in chapter 5 of the Public Service Act, in chapters 1 and 2 of the Anti-Corruption Act and in the internal procedure rules of the Authority. The employees of the Competition Authority and the persons responsible for its management act independently from the market interests and in the exercising of their regulatory tasks do not ask and do not receive direct guidelines form any state agency nor other public or private person.

2.2 Enhancement of competition in electricity market

2.2.1 Wholesale market of electricity

(Articles 37(1)(i,j,k,l,u) and 40(3) of Directive 2009/72/EC)

In April 2010 the Nordic countries' power exchange NP started operations in Estonia. In 2010 the market was opened by 28,4%. On 1 January 2013 the market opened for all, meaning that all electricity consumers which have a valid network contract may choose suitable electricity seller for themselves.

In order to adequately evaluate the activity of electricity producers and wholesale traders it is appropriate to consider their market share in the regional wholesale market together with other Baltic electricity market regulators. Due to the *EstLink 1* and the *EstLink 2* connections between Estonia and Finland the electricity system of the Baltic countries is integrated with Finland and the Estonian and the whole Baltic electricity system even more integrated with the Nordic

In 2015 9 062 GWh of electricity was produced (net production) in Estonia. Compared to 2014 the production decreased by 17,7%. The network losses in the Estonian electricity system in 2015 comprised 697 GWh, compared to 2014 the losses decreased by 17,2%. Import to Estonia in 2015 was 5 452 GWh, compared to 2014 it is more than in 2014 by 46,2%. The domestic consumption in 2015 increased by 0,3% compared to 2014 with the total of 7 440 GWh. Export from Estonia in 2015 was 6 377 GWh, which is less than in 2014 by 1,7%. Table 6 presents the changes in the Estonian energy balance in 2014 and 2015.

Table 6. Electrical energy balance in GWh. Source: Statistics Estonia

Electricity balance in GWh	2014	2015	Change, %
Net generation*	11 013	9 062	-17,7
Import	3 730	5 452	46,2
Consumption	7 417	7 440	0,3
Losses	842	697	-17,2
Export	6 484	6 377	-1,7

Note: *excluding own consumption (house load) of the power plants

Table 7 presents the volumes of cross-border electricity trade.

Table 7. Cross-border electricity trade, GWh. Source: Statistics Estonia

Cross-border electricity trade in GWh	2014	2015	Change, %
Total import	3 730	5 452	46,2
incl. from Latvia	108	175	62,0
incl. from Lithuania	0	0	0,0
incl. from Finland	3 622	5 277	45,7
Incl. from Russia	0	0	0,0
Total export	6 484	6 377	-1,7
incl. to Latvia	6 390	6 079	-4,9
incl. to Lithuania	0	0	0,0
incl. to Finland	94	298	217,0
incl. to Russia	0	0	0,0

It appears from Table 7, that in 2015 Estonia exported to the neighbouring countries 6 377 GWh of electricity. In 2015 the total import was 5 452 GWh, which is higher than the 2014 volume by 46,2%. The largest volume of 5 277 GWh was imported from Finland, which is almost 99% of the total import. The total export in 2015 was 6 377 GWh, which is by almost 1,7% less than in 2014. The largest export volume of 6 079 GWh was to Latvia, which is 4,9% less than the 2014 volume.

Below Figure 12 presents the comparison of prices in the NP Estonia and NP Finland price areas from 1 January 2013

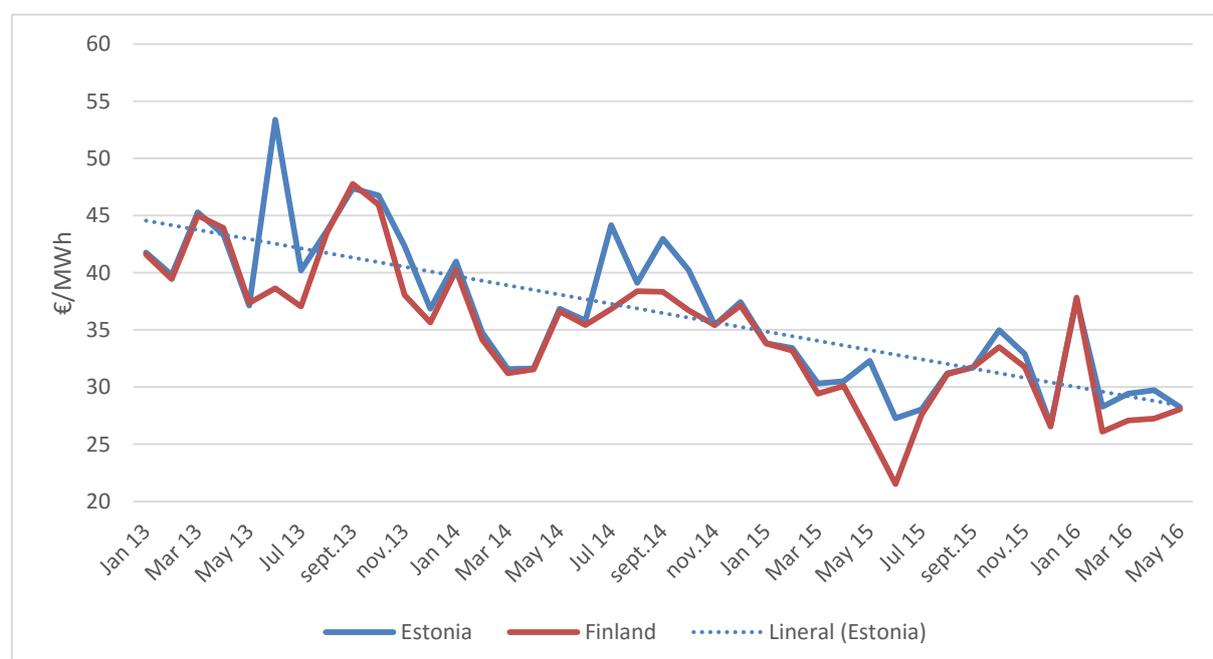


Figure 12. Comparison of average prices (in €/MWh) in NP Estonia and NP Finland price areas from 1 January 2013. Source: Nord Pool

It appears from Figure 12 that the Estonian and Finnish electricity prices were quite similar after the commissioning of *EstLink 2* in December 2013. The differences in prices between

Estonia and Finland have been caused mainly by interruptions in *EstLink 1* and *EstLink 2*, when the transmission capacity between Estonia and Finland have decreased.

For comparison the NP Estonia price area electricity prices in years 2013-2015 are presented in Figure 13.

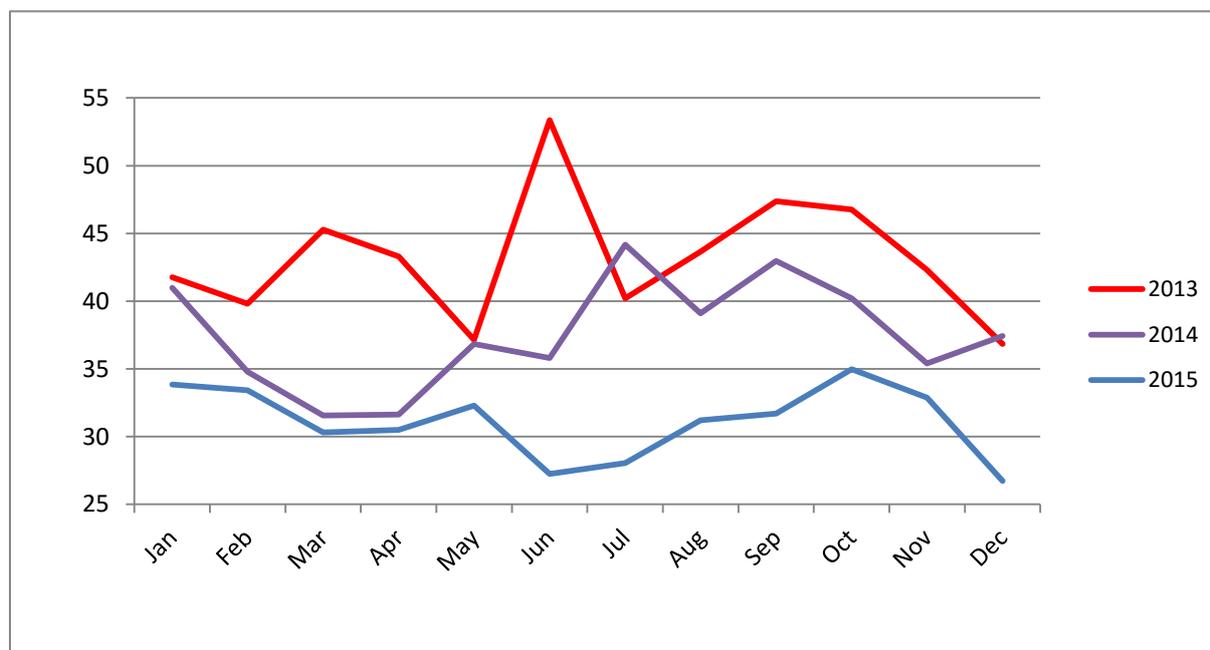


Figure 13. NP Estonia price area average electricity prices in 2013-2015 in €/MWh. Source: Nord Pool

It is clear from Figure 13 that the price volatility the NP Estonia price area in reference years has been very high. While in June 2013 an average electricity price was at the highest level, being over 50 €/MWh, then in June 2015 it was on the lowest level, being slightly below 25 €/MWh.

Below Table 8 presents the comparison of NP prices in 2014 and 2015.

Table 8. Comparison of prices in NP System, Finland, Estonia, Latvia and Lithuania. Source: Nord Pool

Price area	Unit	Average price 2014	Average price 2015	Maximum price 2015	Minimum price 2015	Change, %
NP System	€/MWh	29,61	20,98	69,94	1,14	-41,1
NP Finland	€/MWh	36,02	29,66	150,06	0,32	-21,5
NP Estonia	€/MWh	37,61	31,08	150,06	0,32	-21,0
NP Latvia	€/MWh	50,12	41,92	200,11	4,05	-19,6
NP Lithuania	€/MWh	50,13	41,85	200,11	4,05	-19,8

As appears from Table 8, an average price in the NP Estonia price area in 2015 was 31,08 €/MWh. Compared to the 2014 price, it is 41,1% lower. Similar decreases in average prices took place also in NP System, NP Finland and NPS Lithuania price areas. The prices of

electricity were primarily affected by the water reserves in the hydro reservoirs of the Nordic countries and by the deficit of electricity in Latvia and Lithuania. The highest hourly price in the NP Estonia price area in 2015 was 150,06 €/MWh, while the lowest one was 0,32 €/MWh.

Below Tables 9 and 10 present the quantities of electricity traded in the day-ahead and intra-day markets.

Table 9. Quantities traded in day-ahead (Elspot) market in NP Estonia price area. Source: Nord Pool

Quantities traded in the NP Estonia price area	Unit	2014	2015	Change, %
Quantity of electricity sold in the day-ahead (Elspot) market in the NP Estonia price area	TWh	9,78	7,80	-20,2
Quantity of electricity bought in the day-ahead (Elspot) market in the NP Estonia price area	TWh	7,03	6,99	-0,6

As appears from Table 9, the total sale in the day-ahead (Elspot) market in 2015 was 7,80 TWh. Compared to the quantities sold in 2014 these were lower by 20,2%. The total purchased quantity was 6,993 TWh.

Table 10. Quantities traded in intra-day (Elbas) market in NP Estonia price area. Source: Nord Pool

Quantities traded in the NP Estonia price area	Unit	2014	2015	Change, %
Quantity of electricity sold in the intra-day (Elbas) market in the NP Estonia price area	GWh	37,85	44	16,2
Quantity of electricity purchased in the intra-day (Elbas) market in the NP Estonia price area	GWh	110,82	109	-1,6

As appears from Table 10, the quantities sold in the intra-day (Elbas) market in 2015 were in total 44 GWh. Compared to the quantities sold in 2014 these were higher by 16,2%. and total of purchases were 109 GWh.

The operator of the NP power exchange and Elering AS have disclosed on their web sites the information on production data and the transmission capacity (including interruptions), as well as data on the prices in all NP system power exchange price areas. The data are easily findable and downloadable. The market transparency is ensured also through the uniform organisation of the market with the neighbouring countries.

In the estimation of the Competition Authority large-scale developments have taken place in the Estonian wholesale electricity market in connection with the opening of markets in the Baltic countries and commencement of the power exchange operations. This is well illustrated by the active import and export with the neighbouring countries. For better functioning of the electricity market the high voltage DC connection between Estonia and Finland *EstLink 2* started operation in the end of 2013. In addition, in 2016 the *NordBalt* connection Lithuania-Sweden and the *LitPol* connection Lithuania-Poland started operation. The stronger connections with Nordic countries facilitate stronger competition between producers, more transparent and lower prices for consumers and preconditions for a well-functioning electricity market. It is important to emphasize that functioning and transparency in the electricity market of Baltic countries and strong competition is ensured by uniform organisation of the market.

2.2.2 Retail market of electricity

(Articles 37(1)(i, j, k, l, u) and 40(3) of Directive 2009/72/EC)

In 2013 the electricity market in Estonia was completely opened. This means that all consumers, which have a valid network contract, can choose a suitable electricity seller. The undertaking with the biggest share in the retail market is Eesti Energia AS. The retail market related information is presented in below Table 11.

Table 11. General data on retail market

Year	Total consumption (without losses) GWh	No of undertakings with more than 5% market share	No of independent electricity sellers*	Market share of the three biggest sellers			Switch of the seller		
				Large and very large industries	Medium and small industries	Small undertakings and household customers	Large and very large industries	Medium and small industries	Small undertakings and household customers
2001	5 607	1	0	100	93	93	0	0	0
2002	5 686	1	0	100	93	93	0	0	0
2003	6 013	1	0	100	93	93	1	0	0
2004	6 326	1	0	100	93	93	1	0	0
2005	6 403	1	0	100	93	93	1	0	0
2006	6 902	1	3	100	92	92	1	0	0
2007	7 180	1	3	100	92	92	0	0	0
2008	7 427	1	3	100	92	92	n/a	n/a	n/a
2009	7 080	1	4	100	93	93	n/a	n/a	n/a
2010	7431	1	4	100	94	94	80	n/a	n/a
2011	6845	1	5	100	93	93	116	n/a	n/a
2012	7407	1	5	100	93	93	116	n/a	n/a
2013	7332	2	15	100	90	85	n/a	n/a	n/a
2014	7 417	2	16	100	90	85	n/a	n/a	n/a
2014	7 440	5	16	100	90	85	n/a	n/a	n/a

* Does not include network operators

It appears from Table 11 that by the end of 2015 the number of independent electricity sellers had increased to 16. 10 of them are active players in the market. The Competition Authority has no information about the switch of seller between various customer groups (small and large industries, and household consumers). The rate of the switch of seller for small consumers in 2015 was 5%.

Data on the final consumer price formation (network services + electricity) are presented in below Table 12.

Table 12 Household consumer prices of electricity in 2015 (based on main tariff)

Price components	Unit	Consumer
Network service (main tariff)	€cent/kWh	5,13

Price of electricity without network service	€cent/kWh	3,31
Excise tax on electricity	€cent/kWh	0,447
Charge for renewable energy	€cent/kWh	0,89
End consumer price without VAT	€cent/kWh	9,78
Value added tax (VAT) 20%	€cent/kWh	1,96
End consumer price incl. VAT	€cent/kWh	11,73

Notes: The basis for the electricity price is the Nord Pool Estonian price area average price in 2015 + the marginal of varying price package of 220 Energia OÜ.

The network service price is based on the price list of Elektrilevi OÜ

Below Figure 14 presents the formation of the charges for transmission and distribution network services from 2009.

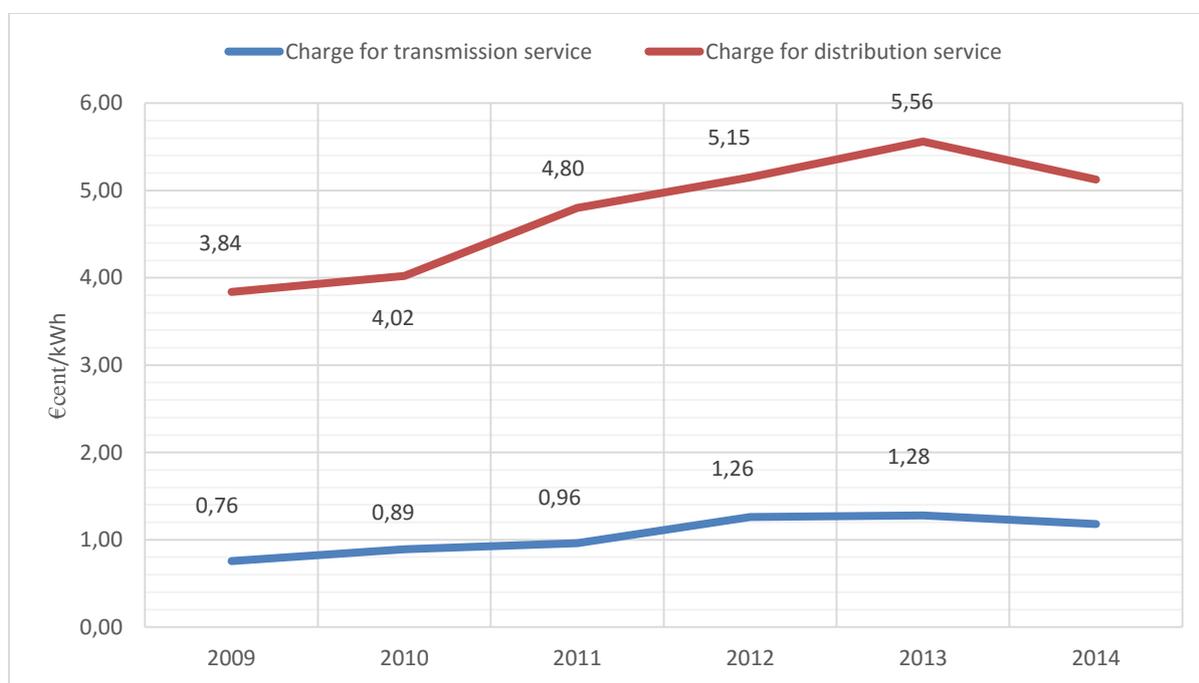


Figure 14. Formation of network charges from the year 2009

It appears from Figure 14 that beginning from 2009 the charges for transmission and distribution services have gradually grown until 2013. The main reason for the increase are investments in the emergency reserve power plants, in interconnections with neighbouring countries and in remote reading devices as well. However, beginning from 2013 some decrease in the charges is noticeable.

Overall assessment on retail market by Competition Authority after market opening

Pursuant to section 93(4)(18) of the Electricity Market Act the Competition Authority monitors the level of market opening and competition, among others the power exchange and households designated prices and at least once a year delivers recommendations on the formation of prices for the electricity sold to household consumers.

On 1 January 2013 the electricity market in Estonia opened for all consumers in Estonia. For consumers the opening of market means a possibility to select most suitable electricity seller/trader irrespective of the network operator with whom a consumer has contracted for the provision of network services. On the other hand, undertakings are in the situation in which they have to apply more efforts in order to attract more customers. The price for electricity in open market is formed in equal competition conditions. By the end of 2012 all earlier electricity contacts were invalidated. A consumer which did not choose to contract with any trader, is supplied with electricity by the network operator (under the framework of universal service) that provides services in the area where the consumption point is located. The basis for the price of universal service is the previous month's weighted average power exchange price with the addition of justified costs of the undertaking and a reasonable profit margin.

There are 16 sellers of electricity, which offer various price packages in the open market. According to data from Elering AS 710 698 consumption points had entered into electricity contracts as of the end of 2015, which is 81% of the consumption points, while 19% used universal service. The seller switch rate by small consumers in 2015 was 3%.

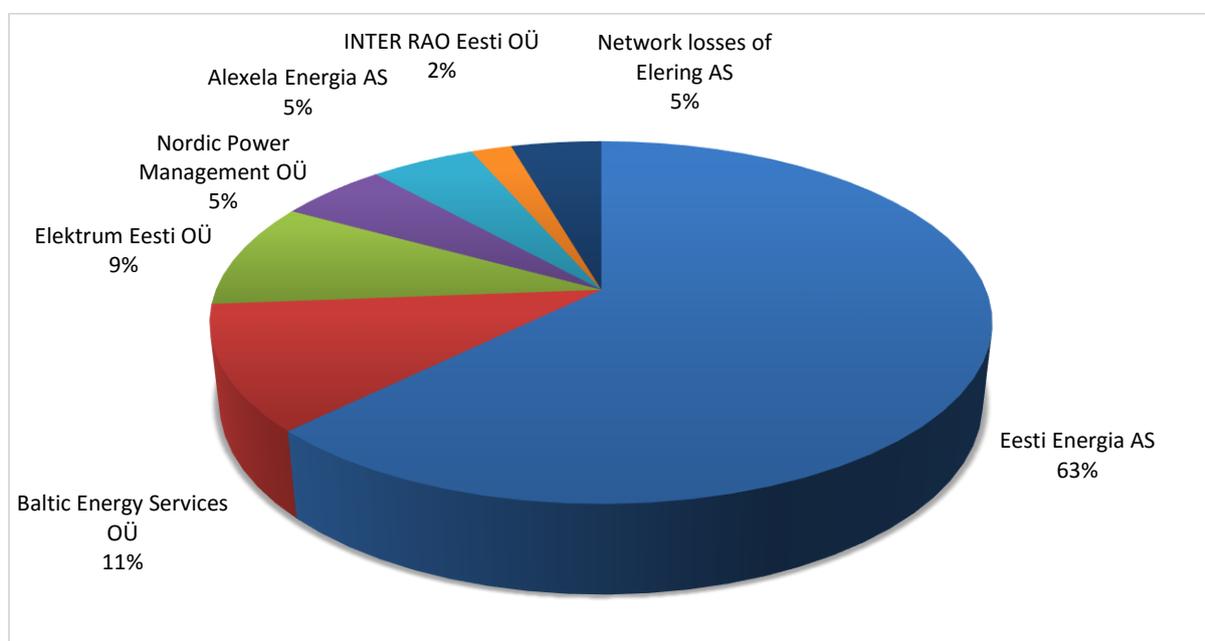


Figure 15. Wholesale market in 2015. Source: Elering AS

It appears from Figure 15 that the biggest wholesale market electricity seller in 2015 was Eesti Energia AS, with its annual average balance portfolio share of 63%, followed Baltic Energy Services OÜ with 11% and Elektrum Eesti AS with 9% and others. In 2013 an average balance portfolio share of Eesti Energia AS was 71,9%. If to compare this with 2015 it appears that the market share of the largest Estonian electricity seller (Eesti Energia AS) has decreased. Thus, it can be concluded that competition sellers in the electricity market has enhanced. At the same time small consumers switch their electricity sellers. This is an illustrates of activity in the electricity market.

In the estimation of the Competition Authority in 2015 the advance notifying according to requirements about the prices and price changes, as well as the disclosure of the standard conditions of contracts was to a large extent secured in the electricity market.

2.2.3 Enhancement of effective competition (Articles 37(1)(o) and 37(4)(b) of Directive 2009/72/EC)

In order to enhance competition, the presence of various producers and traders is necessary. It is also important to create an environment where the information between traders and consumers is moving. The amendments passed to the Electricity Market Act in 2007 established a support scheme in Estonia for supporting renewable energy production. In the result many new electricity producers, first of all wind electricity producers, have come to the market. Along with the development of technology the producers of electricity from solar energy have come to the market. Heat and power cogeneration plants with biomass and biogas as the source of production are gaining ground in the market. Thus, in 2014 a CHP plant making electricity from municipal waste was built. In 2015 there were 16 independent electricity traders in Estonia. Interest in coming to the market have been showed by several large electricity traders in the European Union (Denmark). In 2014 a Norwegian company requested electricity sales authorisation from the Competition Authority. At the same time all network operators have the right and the obligation to sell electricity (from the market opening only to small consumers under the framework of universal service).

To that end Elering AS created the information exchange platform IEP or, in other words, a data store, intended for market participants. The general function of the store is to ensure data exchange processes in full opening of the market considering the principles of efficiency and equal treatment of market participants. The functioning of the store is an important precondition for consumers in order to choose and switch electricity suppliers beginning from 2013 and that the information on the whole quantity consumed by customers reaches the electricity seller. Thus, customer information is an essential input in enhancement of competition. An acute topic is also the enactment of electricity trade principles with the third countries, i.e. with the countries that are not members of the EU.

In the estimation of the Competition Authority the general environment for emerging of new electricity producers and traders in the market is good. In 2014 two new electricity sellers came to the market, one Norwegian undertaking and the other one is undertaking on Lithuanian capital. In 2015 no new electricity traders appeared in the market. Both producers and traders need authorisation for acting in the market. The authorisation issued by the Competition Authority pursuant to the Electricity Market Act.

2.3 Security of electricity supply

2.3.1 Monitoring of balance between demand and supply (Article 4 of Directive 2009/72/EC)

Estonia has sufficient production capacity to cover domestic electricity demand and also for exporting electricity, mainly to Latvia and Lithuania. In 2015 the domestic production was 9 062 GWh, while the import of electricity was 5 452 GWh. The domestic consumption in 2015 was 7 440 GWh, the network losses were 697 GWh, while 6 377 was exported. Table 13 presents the electrical energy balance from 2002 to 2015.

Table 13. Estonian electrical energy balance in GWh. Source: Statistics Estonia

Electricity balance, GWh	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Production (net)	9 013	9 232	9 114	8 728	10 954	9 498	7 884	11 732	11 356	10 526	11 823	11 013	9 062
Import	93	347	345	251	345	1 369	3 025	1 100	1 690	2 710	2 712	3 730	5 452
Consumption	6 013	6 326	6 403	6 901	7 180	7 427	7 080	7 431	6 845	7 407	7 332	7 417	7 440
Losses	1 192	1 112	1 103	1 077	1 354	1 130	886	1 047	949	879	903	842	697

The Estonian energy portfolio is independent from energy point of view as most of electrical energy is produced from domestic oil shale (Figure 15). From 2010 the production increased because of the stabilisation of economic situation. Although the share of oil shale is continuously the highest in the general electrical energy portfolio, the electricity production from renewable energy sources has also been steadily increasing. Figure 15 presents the production of electricity by various fuels from 2000 to 2014 (the 2015 data will be disclosed by the Statistics Estonia in the end of summer 2016).

Figure 16 presents the share of fuels and energy sources used for the generation of electricity in 2014 in greater detail (2015 data will be disclosed by Statistics Estonia in the end of summer 2016).

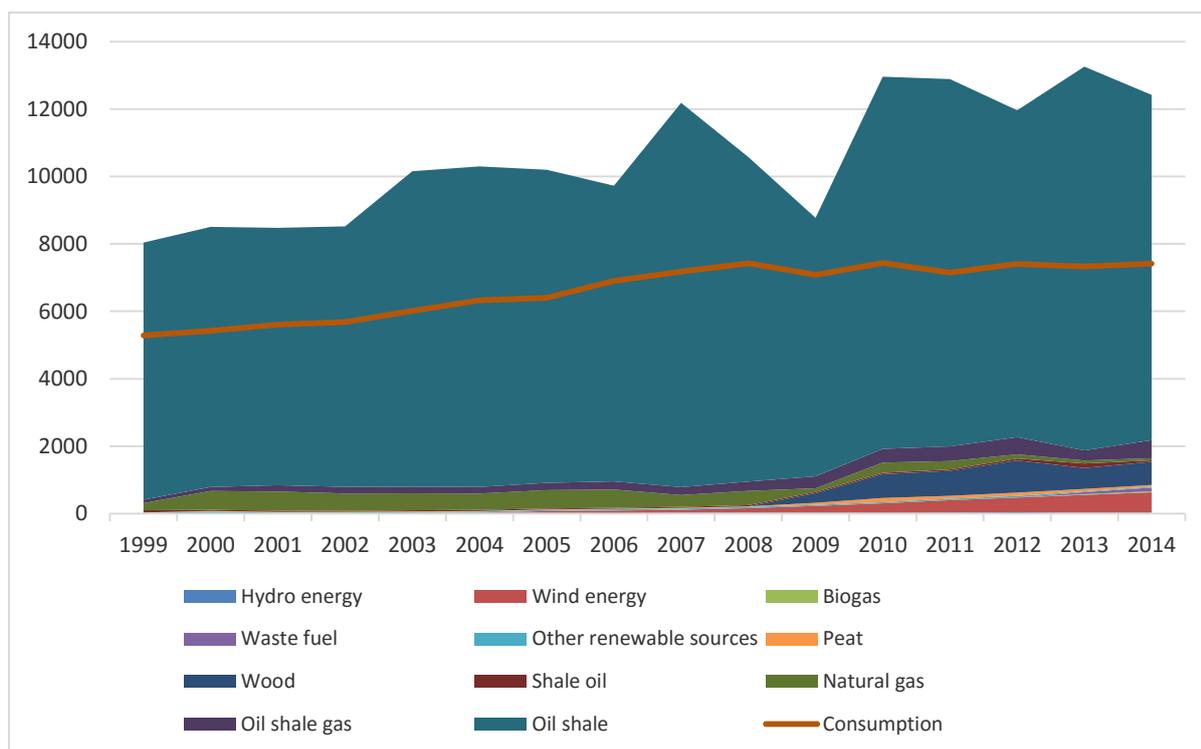


Figure 16. Production of Estonian power plants by fuels in 2000 – 2014 in GWh.
Source: Statistics Estonia

Figure 17 presents the share of fuels used for electricity generation in 2014 (the 2015 data will be published by Statistics Estonia in the end of summer 2016).

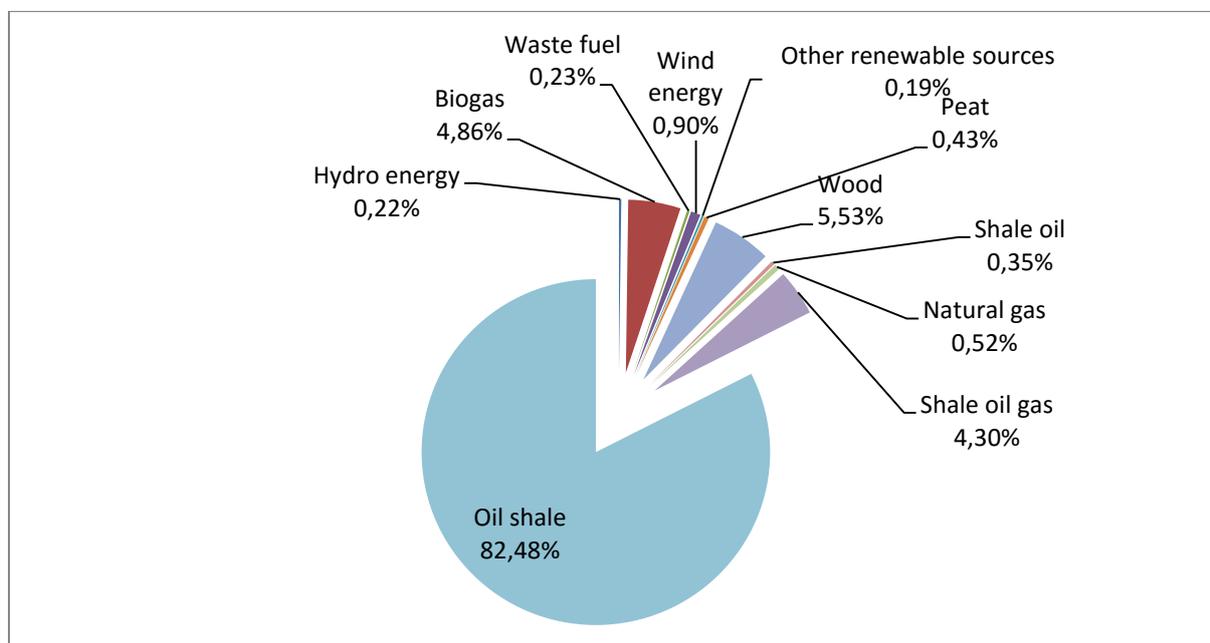


Figure 17. Energy sources used for electricity production in 2014. Source: Statistics Estonia

It appears from Figure 17 that in 2014 85,9% of electricity was produced from oil shale, while 9,2% was produced from other non-renewable sources and 5,0% from renewable sources. Biomass had the biggest share of all the renewable resources used for the production of electricity.

Figures 18 and 19 show that more and more electricity is generated from renewable energy sources. In 2007 the rates of renewable energy support were raised by the amendments to the Electricity Market Act, which resulted in the erection of new power plants that base on renewable energy sources (wind mills, heat and power cogeneration plants). In 2015 the volume of renewable energy production increased compared to 2014. The share of biomass and wind energy has been steadily increasing. The wind energy increase (Figure 18) was caused by the addition of new wind mill parks' production to the electrical energy balance.

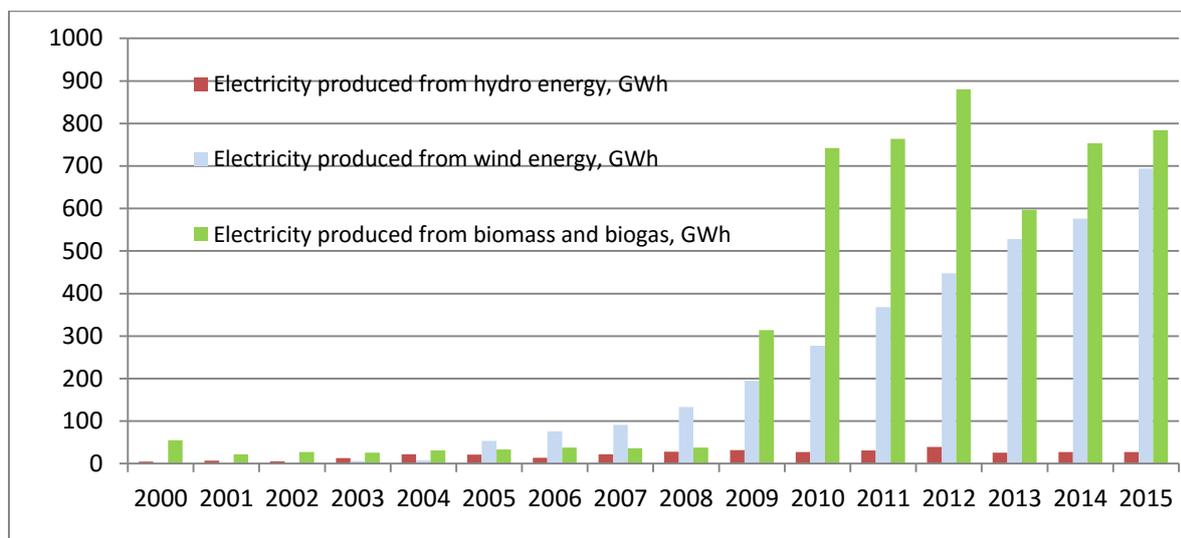


Figure 18. Production of electricity from renewable energy sources 2000–2015. Source: Elering AS

The biggest share of the renewable electricity production in Estonia comes from the biomass and municipal waste using CHP plants. In 2015 the annual production from these sources was 784 GWh. Lesser portion of electricity is produced from wind, as of the end of 2015 the total installed capacity of windmill parks was 302,91 MW and their total production was 694 GWh (Figure 19). The smallest share of renewable energy generation capacity belongs to the hydro power plants with their annual production of 27 GWh.

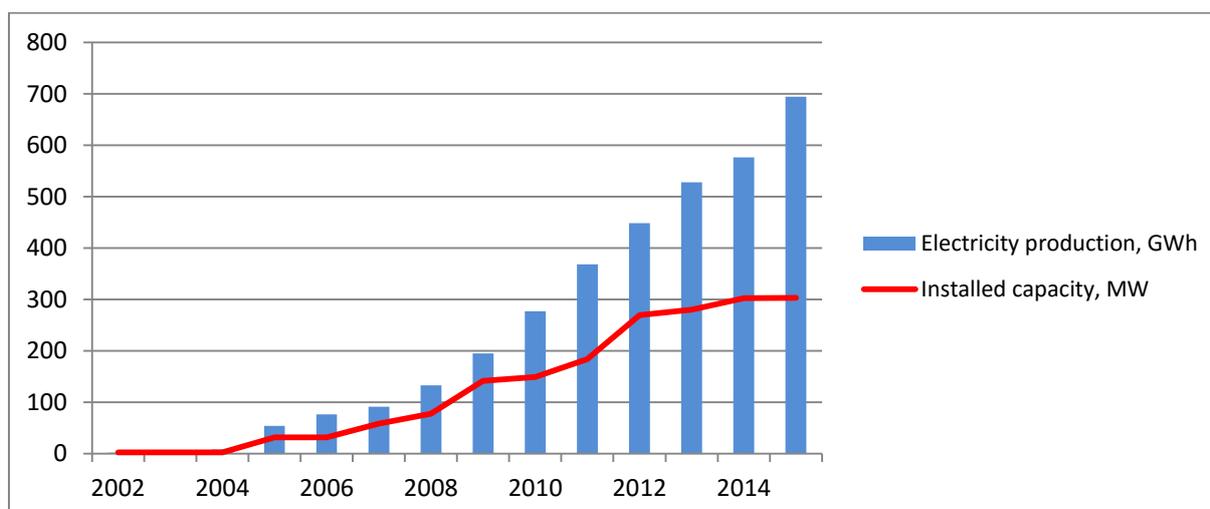


Figure 19. Installed wind energy net capacity and production of electricity in 2002 – 2015. Source: Estonian Wind Energy Association

In March 2007 the European Council adopted the European Union's (hereinafter EU) energy policy action plan for 2007-2009 (hereinafter the EU Energy Policy) aiming at:

- improving of security of energy supply;
- ensure competitive and affordable energy for Europe;
- favour environmental sustainability and fighting against climate change.

The most important measures of the package, the co-called climate package, worked out for the implementation of the EU Energy Policy, which were submitted on 23 January 2008 (comprises four directives and a decision), are the target values for energy efficiency, usage of renewable energy sources and biofuels, including environmental friendly carbon dioxide collection and disposal by the year 2020:

- reduce the emissions of greenhouse gases by at least by 20% compared to the base year of 1990 (by 2005 the reduction was 6 %);
- increase the share of renewable energy to 20% from the final consumption of primary energy (in 2005 an average EU share was 8,5 %);
- achieve higher efficiency in primary use of energy in the final consumption by 20%;
- increase the share of biofuels in the transport fuels to 10%, assuming that it will be succeeded to develop out the second generation biofuels.

Estonia undertook the commitment to achieve 25% share of renewable energy of the final consumption of primary energy by 2020. Below Figure 20 shows that the share of renewables has been steadily increasing from year to year.

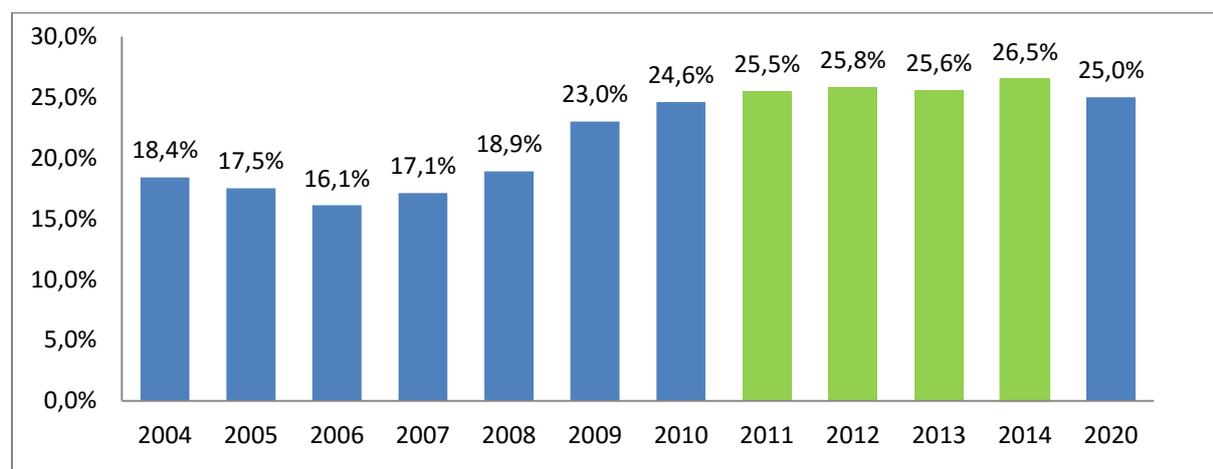


Figure 20. Sector specific (electricity, heating, cooling and transport sector) share of renewable energy in final consumption of energy. Source: Eurostat

It appears from Figure 20 that according to the Eurostat data the renewable sources in 2012 constituted 25,8% and in 2014 26,5% of the final consumption of primary energy. The domestic electricity production volume was 9 062 GWh, out of this 1 505 GWh (or 16,6%) was produced from renewable sources.

2.3.2 Means to cover peak load (Article 4 of Directive 2009/72/EC)

The load in the Estonian electricity system peaked on 7 January 2015 at 1 404 MW. The installed usable generation net capacity was 1 693 MW. This must ensure the coverage of peak load consumption and preparedness for a system peak load growth and supply in system

emergency situations (Table 14). Elering AS has projected an increase of peak load by 2026 of up to 1 639 MW and an increase of usable installed generation net capacity of up to 1 117 MW. In the projection presented by Elering AS it is assumed that energy units in the Narva Power Plants for which an exemption is provided by the Industrial Emission Directive (IED), will be closed down in 2020. In reality it is allowed to operate these units 17 500 hours in the period from the beginning of 2016 until the end of 2023. It is additionally assumed that the units equipped with flue gas desulphurisation will be gradually closed down in the period of 2020 – 2024. This is a conservative assumption as these units may operate longer from the point of view of environmental limitations.

Table 14. Electrical peak load, installed usable net capacity and projections until 2026. Source: Elering AS

Year	Consumption of electricity (incl. losses), MWh	Peak load, MW	Installed capacity, MW
2001	6 968	1 321	2 876
2002	6 944	1 336	2 726
2003	7 205	1 475	2 723
2004	7 438	1 318	2 675
2005	7 506	1 331	2 230
2006	7 978	1 555	2 059
2007	8 534	1 537	2 052
2008	8 557	1 525	1 960
2009	7 966	1 535	1 976
2010	8 478	1 587	1 871
2011	7 824	1 517	2 015
2012	8 139	1 572	2 278
2013	8 100	1 433	2 071
2014	8 400	1 505	2 049
2015	8 500	1 515	1 693
	Anticipated increase (incl. losses), TWh	Anticipated increase, MW	Installed net capacity, MW
2016	8,6	1 527	1 914
2017	8,7	1 539	2 064
2018	8,8	1 548	2 056
2019	8,9	1 560	2 047
2020	9,0	1 571	2 039
2021	9,1	1 582	2 030
2022	9,2	1 594	2 022
2023	9,3	1 605	2 014
2024	9,4	1 616	1 471
2025	9,5	1 628	1 117
2026	9,6	1 639	1 117

The security of supply in Estonia has been improved also through the construction of the two emergency reserve power plants of Elering AS on the territory of Estonia. The construction of

the first stage with the capacity of 110 MW was completed in spring 2013, while the second 140 MW stage was commissioned in September 2014.

Presently Estonia has interconnections with the neighbouring countries with the total capacity of 2 550 MW (500-650 MW with Russia, 500-900 MW with Latvia and 1000 MW with Finland. It is important to point out that due to temperature, electricity transits and repair works the transmission capacity of the connections may considerably decrease. In addition to the interconnections through Estonia the Baltic countries have also the connections between Lithuania and Poland and as well between Lithuania and Belarus and the new DC interconnection between Lithuania and Sweden, which was completed in the end of 2015.

Conclusively, in 2015 the installed generation capacity exceeded the system peak load and presumably this tendency will continue at least until 2023. From this point onwards the security of supply is ensured through the cross impact of production and transmission capacity.

2.3.3 Security of supply related investments in production capacity and network

(Article 37(1)(r) of Directive 2009/72/EC)

In this chapter the Competition Authority presents the results of the analysis of consumption capacity coverage by 2025 considering the production capacity analysis in the *Report on Estonian Electricity System Security of Supply* prepared by the transmission system operator Elering AS.

Security of supply report prepared by Elering AS

The TSO and the transmission network undertaking Elering AS has prepared *Report on the Estonian Electricity System Security of Supply* which deals with the security of supply in Estonia and the Baltic region until 2031, existing supply possibilities, quality of the networks and the level of their maintenance, measures for satisfying the maximum estimated (peak) demand and the measures undertaken in an event of capacity deficit, operational reliability of the networks, major investments in the Estonian transmission network, anticipated security of supply situation in the period from 5 to 15 years. The report is submitted to the European Commission, to the Ministry of Economic Affairs and Communications and to the Competition Authority. Thus, one of the objectives of the report prepared by the TSO is to provide estimates of the needed investments in generation capacity. Taken into account the analysis prepared by Elering AS the Competition Authority has the right to oblige the TSO to arrange competitive tendering for the procurement of new generation capacity. Table 15 presents the production equipment connected to the Estonian electricity system as of March 2016.

Table 15. Production equipment connected to Estonian electricity system. Source: Elering AS

Power plant	Installed net capacity, MW	Production capacity available during peak load, MW
Estonian Power Plant	1 355	1 057
Balti Power Plant	322	237

Iru CHP Plant	111	111
Auvere Power Plant	270	270
Kiisa Emergency Reserve Power Plant I and II	250	0
Northern CHP Plant	84	84
Southern CHP Plant	7	7
Sillamäe CHP Plant	16	10
Tallinn CHP Plant	21	21
Tartu CHP Plant	22	22
Pärnu CHP Plant	21	21
Enefit	18	18
Industrial and small CPH plants	62	49
Hydro power plants	8	4
Wind mills	375	0
Solar power Plants	0,8	0
Micro-producers	4,4	0
Total	2 677	1 641

Note: The production capacity of the emergency reserve power plant is used only in case of an emergency in the electricity system. In normal situation the plants do not participate in the electricity market. That is why its potential capacity is not taken into account. With the inclusion of the emergency reserve power plant the potential production capacity would be 1 891 MW.

From 1 November 2015 the following generation capacities have been connected or are planned to be connected to the transmission network during 2016:

- 2016 Imavere Energia cogeneration plant, 10 MW;
- 2016 Tooma wind mill park, 2nd stage connection, 7,05 MW;
- 2016 Second Vão heat and power cogeneration plant, 21 MW.

Compared to the previous production sufficiency report issued in November 2015 the biggest changes in the data submitted by electricity producers are the following:

Eesti Energia AS:

- In Eesti Power Plant one unit with the capacity of 173 MW in summer time till 2025, currently under planned maintenance and reconstruction;
- In Balti Power Plant one unit with the capacity of 192 MW in summer time till 2026, currently under planned maintenance;
- In emergency mode 215 MW as an average.

Wind mill parks:

- Increase in capacity by 69,6 MW due to the connection of new power plants.

The transmission network has been informed about the following production capacity close downs, reduction of capacity and mothballing:

- 2016-2023 limitations on the old power units working under the derogation measures provided by the IED⁴ 619 MW;
- 2024 Closing down of Eesti power plant units, 489 MW;
- 2024 Closing down of Balti power plant units, 130 MW;

- 2016-2026 capacity reduction of small power plants 10 MW.

The production capacity to be shut down by 2026 in total: 629* MW.

*includes the capacity usable with the limitations

Elering has been informed about the following additional new capacities:

- 2016-2017 Püssi Aidu wind mill park, 100 MW;
- end of 2017 Ebavere Graanul power plant, 10 MW;

Planned electricity production facilities that the system operator has been informed on, but which cannot be taken into account as assured projects, are the following:

- 2016-2026 other new plants (predominantly wind mill parks) up to 1426 MW.

Investments in transmission networks

In the coming years Elering AS pays attention to the investments concentrated on synchronisation with the frequency area of Continental Europe. In the end of 2014 Elering AS presented the plan for synchronisation with the frequency area of Continental Europe „Synchronisation 2025“, which was submitted to the Ministry of Economic Affairs and Communications. An anchor of the plan is close interweaving of the synchronisation activities and domestic electricity network developments. Re-directing the energy flows to north-south direction will considerably re-shape the load profile of the electricity network and make former less significant regions more important. In 2016 the first section of the planned reconstruction of existing Estonia-Latvia direction 330 kV overhead lines (the reconstruction of Tsirguliina-Valmiera line until the Latvian border). On the European Commission’s initiative an additional study will be conducted in which all scenarios of separation of the Baltic countries from the Russian electricity system are to be analysed. Based on this a decision can be made according to which scenario it would be most reasonable to move ahead.

National transmission network

Elering AS has allocated investments into for areas (Tallinn with outskirts, north-eastern Estonia, central and southern Estonia and western Estonia and the islands) and separately the 330 kV network. In the Tallinn area Elering AS concentrates in the renovation and transformation of the electricity network. In Tallinn it is planned to replace most of the urban overhead lines with underground ones and to replace existing oil filled cable lines with modern plastic insulated cables. It is planned to construction a Kiisa-Topi-Kvartsi connection and to change the electricity network configuration between Kiisa, Harku and Järve substations. It is also planned to reshape the electricity network between Aruküla and Tapa. In the north-eastern part of Estonia, the largest power plants and the converter station of the biggest direct current interconnection *EstLink 2* are located. The consumption in north-eastern Estonia is mainly concentrated in industrial areas and due to the transmission capacity limitations it is necessary to reconstruct the 110 kV network which links the industrial consumers. In connection with the increase of load in Rakvere town and its nearby areas it is necessary to reconstruct the Rakvere-Põhja substation and the lines linked to it in the Rakvere-Rakvere-Põhja-Püssi direction. In the area of southern Estonia, the highest consumption concentration is in Tartu and its surroundings where an increase in consumption is foreseeable. Related to this, limitations occur in transmitting electricity from the 330 kV network to the 110 kV network which interconnects

the supply substations. In order to avoid the limitations, it is necessary to invest in 330/110 kV transmission capacity increase and in the reconstruction of 110 kV network. It is also planned to replace existing overhead lines in the city with the underground cables, when the technical lifespan of the overhead lines is spent. The length of the 110 kV overhead lines in the southern region is a problem, which in certain N-1 situations may cause voltage problems (Tsirguliina substation).

The western and island's region of Estonia is a rapidly developing area due to wind energy. The 110 kV transmission network capacity is spent and the highly varying production of the generation equipment causes high voltage level fluctuations. Security of supply will be improved by the Harku-Ligula-Sindi 330 kV line which under construction now. In order to improve security of supply of the two big islands it is planned to construct by 2020a submersible 110 kV cable in the Suur väin strait between the Tusti and Rõuste substations. In order to improve security of supply of the islands also in the Väike väin strait a submersible cable will be built and directed from Muhu island directly to the Orissaare substation. Due to the load increase in Pärnu town it is planned to reconstruct a number of lines also in Pärnu area, as well as to make reconstructions in Riisipere-Turba area.

Foreseeable level of security of supply in the electricity network in a 15 years' perspective shall be good and the network development contributes to the addition of new electricity generation sources, general development of electricity market and integration with the neighbouring systems.

Interconnections with neighbouring countries

Today Estonia has altogether six essential electricity network direct connections with the three neighbouring countries: Russia, Finland and Latvia. With Russia the Estonian electricity network is connected through the three 330 kV overhead lines, with Latvia through two AC 330 kV lines, and with Finland Estonia is connected through two submarine DC cables with the capacities of 350 and 650 MW. The latter (*EstLink 2*) was commissioned in December 2013. Table 16 presents the cross-border interconnections' transfer capacity of the transmission network.

Table 16. Cross-border interconnections' transfer capacity and transmission reliability margin****. Source: Elering AS

Year	Technical transfer capacity MVA				Actual peak load, MVA			
	Lines from Narva towards Russia	Line from South-Estonia towards Russia	Lines from South-Estonia towards Latvia *****	Line towards Finland (two lines from December 2013)	Lines from Narva towards Russia	Line from South-Estonia towards Russia	Lines from South-Estonia towards Latvia	Line towards Finland (two lines from December 2013)
2001	1050/950 *	500/400* *	750	-	662	321	720	-
2002	1050/950 *	500/400* *	750	-	698	250	721	-
2003	1050/950 *	500/400* *	750	-	472	194	663	-

2004	1050/950 *	500/400* *	750	-	707	194	718	-
2005	1050/950 *	500/400* *	750	-	450	236	885	-
2006	1050/950 *	500/400* *	750	-	483	141	658	-
2007	1050/950 *	500/400* *	750	365	565	204	623	388
2008	1050/950 *	500/400* *	750	365	211	158	809	385
2009	1050/950 *	500/400* *	750	365	633	334	732	385
2010	1050/950 *	500/400* *	750	365	*630	190	811	384
2011	1050/950 *	500/400* *	750	365	584	176	679	386
2012	1050/950 *	500/400* *	750	365	683	213	740	385
2013	1050/950 *	500/400* *	750	1032	807	213	921	1029
2014	1050/950 *	500/400* *	750	1032	727	254	776	1018
2015	1050/950 *	500/400* *	750	1032	790	285	838	999

Notes:

* - Narva-Petersburg direction transfer capacity 1050 MVA; Petersburg-Narva direction transfer capacity 950 MVA

** - Tartu-Pskov direction transfer capacity 500 MVA; Pskov-Tartu direction transfer capacity 400 MVA

*** - the transfer capacity depends on the domestic grid of Russia, Latvia, Lithuania, and Belarus – precise data on the transmission network of these countries are not available

**** - maximum for a normal situation with the 20% transmission reliability margin is given

***** - commercially the capacity of the line between Latvia and Russia is added (currently maximum 1150 MVA)

Due to *EstLink 2* the congestion between Estonia and Finland has decreased, but in an event of high volume of import from Nordic countries limitations in the Estonia-Latvia-Pskov cross-section may take place also in longer perspective.

At the moment the planning of the construction of the third line between Estonia and Latvia is ongoing. In October 2014 this third line got support in the extent of 65% from the funds of the European Union. The Estonia-Latvia third connection shall be ready by 2020.

In 2013 the Competition Authority initiated supervisory proceedings related to the justification of investments that are planned by Elering AS for the provision of network services. The Competition Authority found that the network investments of Elering AS shall be made according to the actual technical condition of equipment. Elering AS shall enhance cooperation with Elektrilevi OÜ in order to determine the best and most optimal solutions for the network investments. Before making an investment decision for the replacement of overhead lines with the underground ones in the Tallinn area, an expert assessment which is independent from the company shall be ordered. The expertise shall evaluate the technical condition of the lines and determine how indispensable these investments are and what is the rational time period to implement them. The decision on investments in the network aimed at synchronisation with the Continental Europe's networks shall be made after full clarity in the synchronisation project is

achieved. Therewith the Competition Authority recommends to the owners of Elering AS and Elektrilevi OÜ, the Ministry of Economic Affairs and Communications and the Ministry of Finance to make it clear which installations of Elering AS, including substations should be justified to hand over to Elektrilevi OÜ in order to optimise the network systems. In 2009 unbundling of the transmission network operator from the Eesti Energia group took place. The transmission network was then established on the basis of existing assets and thereby Elering AS partly acquired to its ownership assets, which are needed for the provision of distribution service. Thus, the status of the assets of Elering AS shall be thoroughly analysed and the assets that are used for the provision of distribution service should belong to the distribution operator.

Conclusively, the Competition Authority is in the position that proceeding from the known data on the generation capacity and on the cross-border interconnections, as well as from the consumption projections made by the TSO Estonia has no security problems in electricity supply today and presumably until 2025 (10% reserve capacity is also considered for the case of exceptionally cold winters).

Beginning from 2014 large part of existing energy units in Narva Power Plants will be closed down. But, considering the investments in the interconnections with the electricity systems of neighbouring countries and the production capacity in the regional electricity market presumably, the production capacity is sufficient. In addition to the capacities available in the electricity market in emergency situations it is also possible to use the 250 MW emergency reserve power stations.

3. Functioning and regulation of natural gas market

3.1 Regulation of natural gas network

3.1.1 Ownership unbundling

(Articles 10, 11 and 26 of Directive 2009/73/EC and Regulation (EC) No 715/2009)

In the process of legislative proceedings of Directive 2009/73/EC of the European Parliament and of the Council, which treats of common rules for the internal gas market, Estonia applied for an exemption in the implementation of the obligation of the transmission system operator's ownership unbundling provision, considering the status of an isolated gas market with a single supplier. Article 49 of Directive 2009/73/EC sets out an exemption for Estonia and does not require ownership unbundling of the transmission system from the producer and/or seller until any of the Baltic countries or Finland is directly connected to the interconnected system of any Member State other than Estonia, Latvia, Lithuania and Finland.

On 8 July 2012 the amendment to the Natural Gas Act was enforced. By this Riigikogu (the parliament) made a decision not to apply in the future the exemption provided by Directive 2009/73/EC and choose the way of complete ownership unbundling. The Natural Gas Act is compiled so that the infringement of the system operator and the transmission network owner's rights were minimal. The system operator had three years' time period to bring itself into compliance with the requirements of law.

On 31 December 2012 the system operator, then named EG Võrguteenus AS, submitted to the Competition Authority the plan for fulfilment of the requirements of the ownership unbundling. According to the plan, by 1 January 2015 at the latest the system operator shall meet the requirements of the Natural Gas Act, including complete unbundling and certification by the Competition Authority pursuant to Article 3 of Regulation (EC) No 715/2009 of the European Parliament and of the Council.

The first step in the implementation of the plan was that the system operator acquired the transmission network and the metering systems on the state border from AS Eesti Gaas. To that end the contract of handing over of the non-monetary contribution between AS Eesti Gaas and EG Võrguteenus AS (from 10 April 2015 its business name is Elering Gaas AS) was signed on 31 May 2013. The contract did not include the 21,3 km long parts of Pskov-Riga and Izborsk-Riga transit pipelines (two parallel pipes) and the Misso gas metering station, as pursuant to the Natural Gas Act the assets needed for transit were not interpreted as part of the transmission network.

From 10 April 2014 the amendment of definition of transmission network in the Natural Gas Act was enforced. According to the new definition also the transit connections of gas belong to the composition of the transmission network. The 42,6 km long transit pipelines and Misso gas metering station were acquired by the system operator from AS Eesti Gaas on 19 December 2014. The second step was the unbundling of the distribution service provision from AS EG Võrguteenus into the new business entity AS Gaasivõrgud. In the result of the changes, from 1 August 2013 AS EG Võrguteenus provided only the transmission service. The third step was the establishing of the Elering Gaas AS' holding company AS Võrguteenus Valdus. In the result, from 2 January 2014 the sole owner of 100% shares of AS EG Võrguteenus is AS Võrguteenus Valdus.

On 10 November 2014 Elering AS concluded agreement with Fortum Heat and Gas Oy on the acquisition of 51,38% shares of AS Võrguteenus Valdus. On 2 January 2015 the state owned electricity network system operator Elering AS acquired 51,38% of the shares of Fortum Heat and Gas Oy in AS Võrguteenus Valdus.

In compliance with the amendments in ownership and statutes of AS Võrguteenus Valdus, by which Elering AS has acquired dominant influence over the system operator, the Competition Authority issued the preliminary authorisation to Elering Gaas AS for the provision of transmission service on 30 January 2015. The preliminary licence is valid till the issuance of the principal authorisation. In order to issue the principal authorisation, it is necessary to achieve a situation in which none of the owners of the system operator is involved the trading of gas.

On 2 April 2015 AS EG Võrguteenus was renamed to Elering Gaas AS. With the transaction that entered into force on 22 June 2015 Elering AS bought the 37% stake that belonged to Gazprom group in AS Võrguteenus Valdus as the owner of the transmission network. On 24 September 2015 Elering AS bought the 10% stake belonging to SIA ITERA Latvia in AS Võrguteenus Valdus as the owner of the transmission network. Together with the stakes acquired from Fortum, Gazprom and minority shareholders 99,14% of the shares of AS Võrguteenus Valdus belonged to Elering Gaas AS after the deal. On 3 November 2015 the general meeting of AS Võrguteenus Valdus shareholders as the mother company of Elering Gaas AS, which administers the Estonian gas transmission network, authorised the compulsory takeover of the shares belonging to minority shareholders. On 15 December 2015 Elering AS concluded the merger contract with its daughter company AS Võrguteenus Valdus and with Elering Gaas AS belonging to the latter. The merger entered into force after the decisions made by the general meetings of the merging companies and respectively entered in the Commercial Register on 1 March 2016. Prior to the conclusion of the merger contract 0,86% of AS Võrguteenus Valdus shares were taken over by Elering AS on 11 December. In the result all shares of AS Võrguteenus Valdus belong to Elering AS.

Thus, beginning from 1 March 2016 the complete ownership unbundling of the Estonian system operator has been settled and the operator of the Estonian gas system is Elering AS. At the moment the process of certification of the public limited company is ongoing.

3.1.2 Technical functioning

The system operator Elering AS owns the Estonian gas transmission network of 885 km (contains 43 km of transit pipes), including 36 gas distribution stations (GDS, *in Estonian abbreviated as GJJ*) and 3 gas metering stations (GMS, *in Estonian abbreviated as GMJ*) (Figure 20).

The Estonian gas transmission system has been rolled out from the gas network of the former Soviet Union and thus, is connected with the Russian and Latvian gas systems. A specific circumstance of the Estonian gas system is that it has no own compressor stations. All necessary pressure level for the functioning of the system is maintained by the Russian transmission system's compressor stations in summer and in winter by the output pressure of the Inčukalns underground Gas Storage (also in the Latvian gas system there is no compressor stations).



Figure 21. Transmission network of Estonian gas system. Source: Elering AS

An overview of the transmission system pipelines is given in Table 17.

Table 17. Data of transmission system pipelines. Source: Elering AS

No	Gas pipeline	Year of construction	Length	DN	Operation pressure (MOP)	Age
			km	mm	bar	years
1	Vireši - Tallinn	1991/92	202,4	700	55	25
2	Vändra - Pärnu	2005/06	50,2	250	55	11
3	Tallinn - Kohtla-Järve I	1951/53	97,5	200	38	65
4	Tallinn - Kohtla-Järve II	1962/68	149,1	500	38	54
5	Kohtla-Järve - Narva	1955	45,1	350/400	38	61
6	Tartu - Rakvere	1979	133,2	500	55	37
7	Izborsk - Tartu	1975	85,7	500	55	41
8	Pskov - Riga	1972	21,5	700	55	44
9	Izborsk - Inčukalns	1984	21,5	700	55	32
10	Branch pipelines	1951/2013	78,8	-	28/55	-
Total:			885			

The volumes of gas are metered and its properties are determined in the gas metering stations - GMS (in Estonian abbreviated as GMJ) in Värskas, Karksi, Misso and Ivangorod (Russia).

The Estonian gas transmission network, which is in the ownership of Elering Gaas AS, has the following connections:

□ With the Latvian transmission network:

1) Vireši - Tallinn (DN 700, MOP 55 bar)⁸ transmission pipeline and through the Karksi GMS/GMJ (max capacity 7 million m³/24h), which ensures continuous unidirectional gas flow transmission possibility from Latvia to Estonia (the transmission of gas from Estonia to Latvia is technically possible without metering).

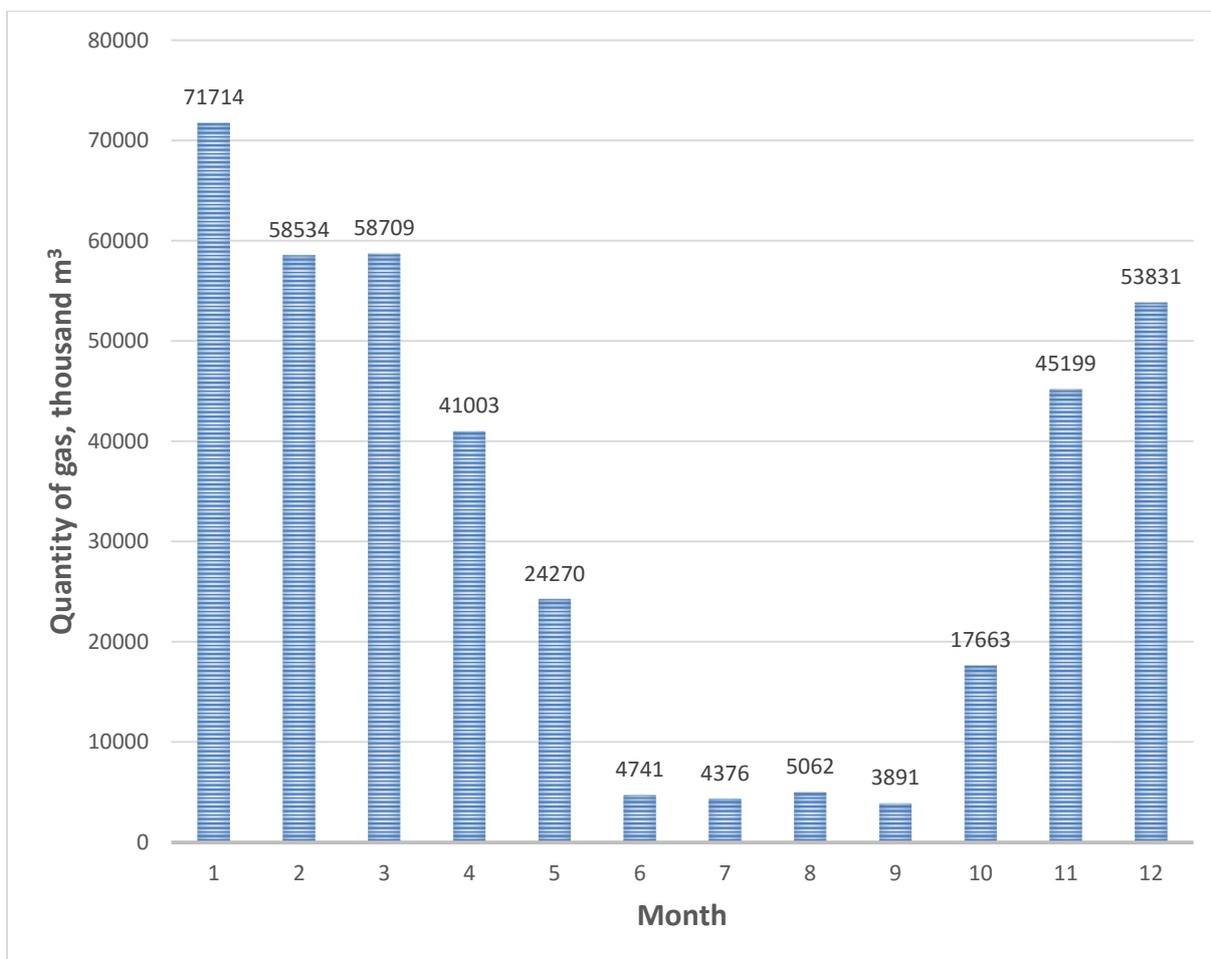


Figure 22. Gas flows through Karksi GMS/GMJ in 2015. Source: Elering AS

□ With the Russian transmission network:

2) Izborsk - Tartu - Rakvere (DN 500, MOP 55 bar) transmission pipeline and through the Värška GMS/GMJ (max capacity 4 million m³/24h);

⁸ DN – nominaal diameeter of gas pipe in mm;
MOP – max operating pressure.

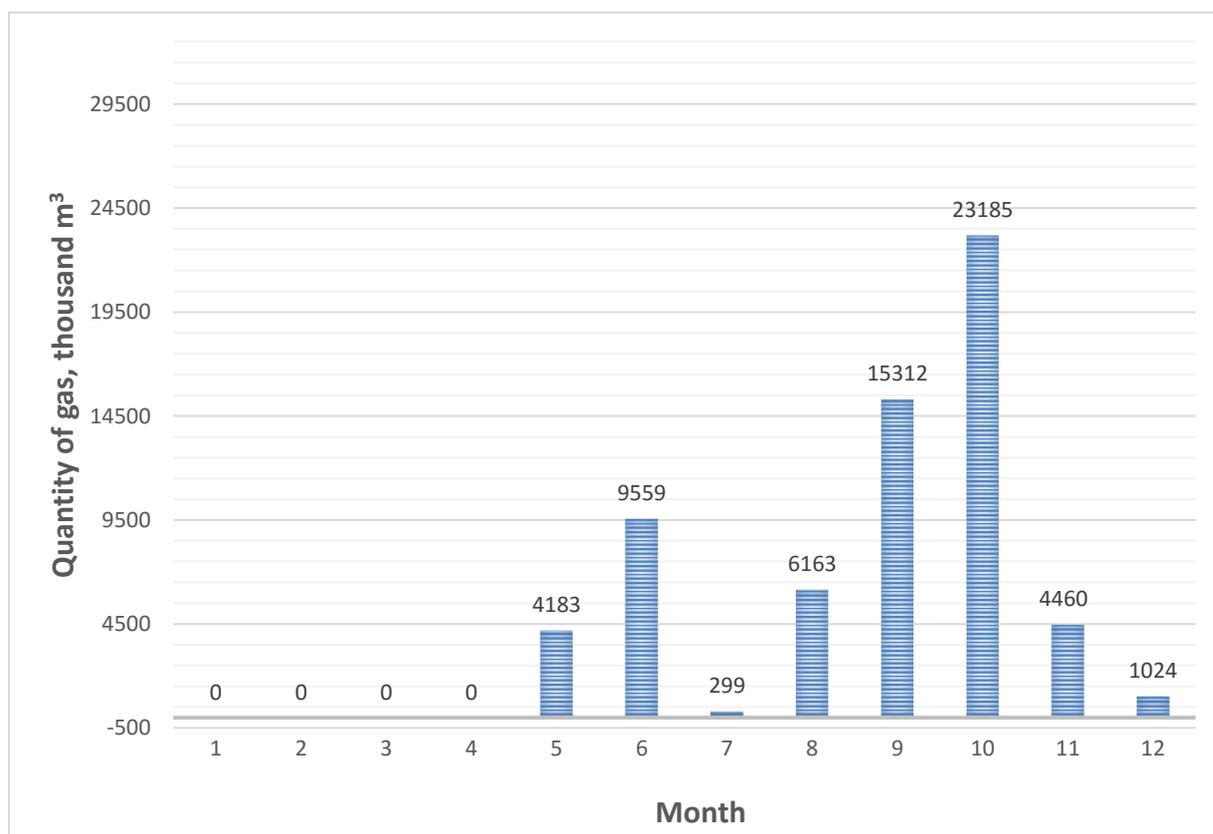


Figure 23. Gas flows through Väraska GMS/GMJ in 2015. Source: Elering AS

3) Narva border crossing: Kohtla-Järve-Narva double pipe (DN 400, MOP 30 bar, max capacity 3 million m³/24h) transmission pipeline and through the Ivangorod GMS/GMJ.

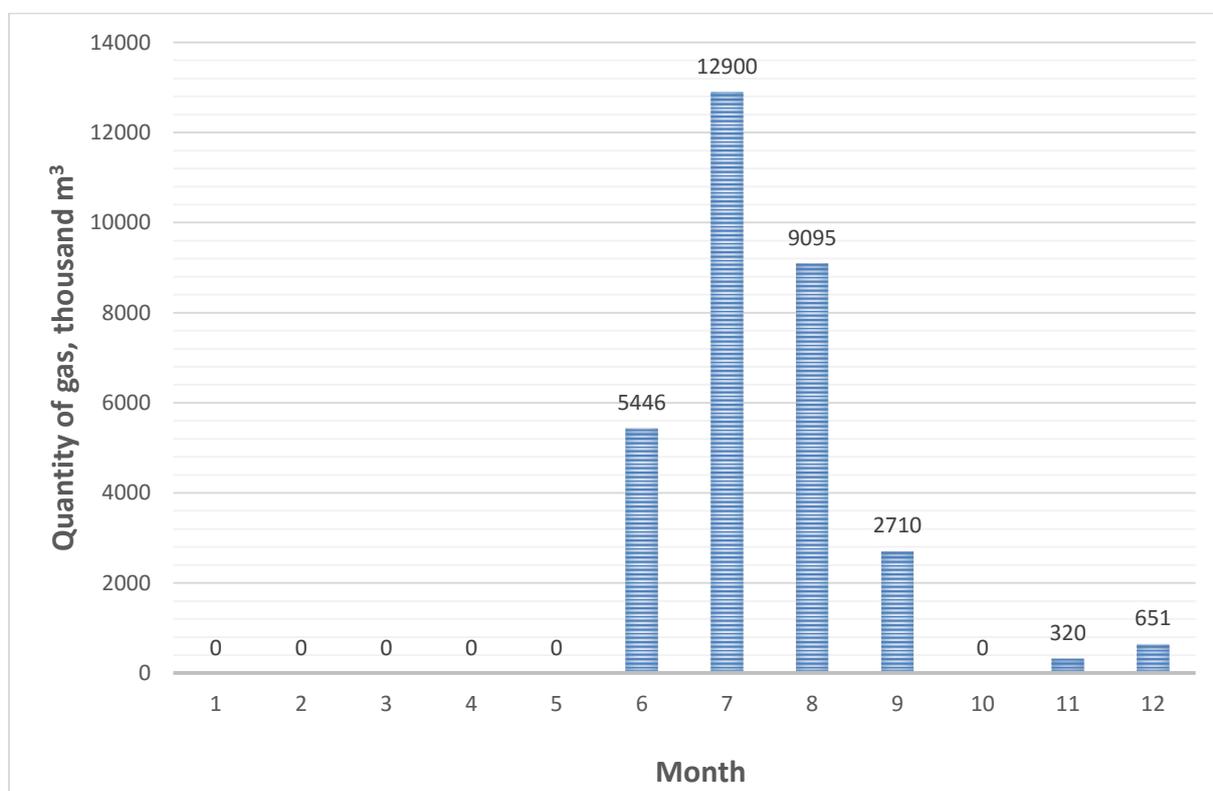


Figure 24. Gas flows through Narva border crossing in 2015. Source: Elering AS

Two other transit pipelines go through the southern part of Estonia (Izborsk-Inčukalns (DN 700, MOP 55 bar) and Valdai-Pskov-Riga (DN 700, MOP 55 bar), through which gas is transported from Russia to Latvia in the summer months and backwards in winter. This input has no connection with the Estonian transmission network. From this pipeline also the Misso area is supplied with gas (metering in the Misso GMS/GMJ and distribution from the Misso GDS/GJJ, 110 clients, distribution network of 3,7 km, max capacity 0,024 million m³/24h, consumption in 2015 was 0,094 million m³).

AS Gaasivõrgud, which separated from the system operator, has the biggest market share in the provision of distribution service. It uses the 1 475 km long distribution network, owned by AS Eesti Gaas, under the commercial lease contract. Besides AS Gaasivõrgud there are other 23 natural gas distribution network companies, which possess 648 km of natural gas distribution networks.

Balance services

(Article 41(6)(b) and (8) of Directive 2009/73/EC)

Pursuant to the regulation of the balance responsibility laid down by the Natural Gas Act every market participant is responsible for its balance. In order to maintain the balance a market participant may enter into respective contract with a seller or a balance provider. The balance provider of a household consumer is the seller. The system operator (Elering AS) is responsible for the balance of the whole system and there may be many balance providers which act on the market. The calculation methodology for the price of balance gas and standard conditions for balance agreements are subject to approval with the Competition Authority.

In 2014 the Commission Regulation (EU) No. 312/2014 was enacted, which establishes the grid code for balancing of gas supply in the transmission systems. In major part the Regulation took effect on 10 October 2015.

Article 2(2) of the Regulation provides that the Regulation is not applied in the balance areas of the Member States for which the exemption set out by Article 49 of Directive 2009/73/EC is valid.

Article 49 of Directive 2009/73/EC explains that the Directive is not applied to Estonia, Latvia and/or Finland until any of the countries in question is directly connected to the interconnected system of any Member State other than Estonia, Latvia, Lithuania and Finland.

The Competition Authority approved the price determination methodology for balance gas in 2008. It was in use also in 2015.

By its 15 January 2016 decision the Competition Authority approved the new standard terms and conditions for balance agreements of Elering AS. The system operator started to apply them from 1 April 2016.

Time spent for establishing new network connection and quality of gas supply

(Article 41(1)(h,m) of Directive 2009/73/EC)

Pursuant to the Natural Gas Act a network operator is required, within the technical limits of the network, to provide a network connection for all persons located within its network area who submit respective application. The Act does not limit the time for establishing a new connection but if a network operator cannot establish the connection, it shall provide reasons for refusal of an application from a connectee in writing within 30 days as of the receipt of the application. The Competition Authority is unaware of any case of refusal by the network operators to establish a new connection.

The gas supply quality requirements were established by amending of the Natural Gas Act in the beginning of 2007. Pursuant to the amendments a fault caused sequential duration of a disruption of gas supply may not last longer than 72 hours and an annual total duration of disruptions may not be longer than 130 hours. The records on the duration of disruptions shall be kept by network operators.

In 2015 no quality requirements' violations were recorded.

If the system operator has reliable information that an event may take place which could to a significant extent adversely affect the supply situation or that a supply disruption has already taken place, it shall notify the Ministry of Economic Affairs and Communications and the Competition Authority of the event or the disruption and of the market measures applied by the system operator.

The Ministry of Economic Affairs and Communications together with the Competition Authority shall analyse the information received and the market measures implemented by the system operator. If the analysis reveals that for the purpose of ensuring security of supply it is necessary to implement any of the measures of compulsory reduction of gas demand prescribed in the Natural Gas Act, the Ministry of Economic Affairs and Communications shall communicate this to the crisis committee of the Government of the Republic and then make a proposal to the Government of the Republic to allow the implementation of the measures of compulsory reduction of gas demand named in the plan of measures required to eliminate the supply disruption or to alleviate the effects of such disruption.

3.1.3 Access to network and network service price regulation

(Articles 41(1)(a, f), (6)(a), (8), (10) and (12) of Directive 2009/73/EC)

Pursuant to law the price regulation is uniformly applied to all network operators regardless of their size. In 2015 there were 24 distribution network undertakings in Estonia and a single transmission network undertaking (operator of the transmission network).

For the purpose of the Natural Gas Act a connection to the network is connecting to the network of a consumer installation, a gas production facility, a network, belonging to another network operator or a LNG terminal. Within the technical limits of the network, a network operator is required to provide a network connection for all persons located within its network area who have submitted respective application for connecting unless this endangers the security of supply for earlier connectees. A network operator must provide reasons to any refusal of an

application from a connectee in writing within 30 days as of the receipt of the application. On the basis of an application from a connectee, the network operator shall issue the conditions for connection to the network, which shall be transparent and unambiguous:

- comply with the principle of equal treatment of similar connectees;
- take into consideration the technical and economic conditions of each particular connection;
- take into consideration the interests of network development and stability;
- take into consideration the technical capacity of the network.

A connection fee shall not be collected upon replacement of a consumer installation connected to a network or in the event of a change of ownership of the consumer installation provided that the following conditions are met concurrently:

- connection to the existing consumer installation occurs such that the supply point remains unchanged;
- no application is made for a change in the combined usage capacity or consumption regime set out in the contract entered into by the former customer;
- technical conditions for connecting the connectee's consumer installation continue to exist.

Pursuant to law the Competition Authority shall approve the following network service price and methodologies separately for:

- the prices for transmission service;
- the prices for distribution service;
- the methods for calculating connection fees;
- the methods for determining the price for balancing gas.

Pursuant to the Natural Gas Act the charge for the transit of gas is not subject to approval.

Natural gas network charges

The amendments to the Natural Gas Act that took effect on 8 July 2012 prescribe the principles of price regulation already in the Act itself. The amending of the Act does not mean a change in the principles of regulation, as the same bases were consistently used by the Competition Authority in the regulation of prices also before, i.e. the fundamentals have remained the same after the introduction of the Act. The main principles are the following:

- In the calculation of the price for network service the arithmetic average sales volume of the three last calendar years is taken into account. If necessary, an additional analysis is carried out in order to determine the sales volume.
- The following cost components shall not be included in the price:
 - expenses related to monetary claims unlikely to be collected;
 - sponsorship, gifts and donations;
 - costs not related to the main business activities;
 - penalties and fines for delays imposed on the undertaking pursuant to law;
 - financial expenses;
 - income tax on dividends;
 - other cost that are not necessary for the fulfilment of legal obligations of the undertaking

- The cost included in the price shall be justified, guided by cost-efficiency and allow an undertaking to fulfil the obligations laid down on it by law.
- In the evaluation of justified operating cost the following principles are observed:
 - monitoring of the cost dynamics in time and comparison of it with the dynamics of consumer price index;
 - thorough analysis of justification of the cost (including expert opinions);
 - comparison of the cost of an undertaking and the statistical indicators calculated upon these with the cost of other similar undertakings.
- In the calculation of justified return and depreciation of fixed assets, as components of the price, only the assets which are necessary for the provision of network service are taken into account. The following are not included in the fixed assets:
 - long term financial investments;
 - intangible assets, excluding computer software licenses;
 - fixed assets acquired in the framework of grant aid (including targeted financing)
 - fixed assets acquired using connection charges paid by consumers;
 - fixed assets that are not used for the provision of network services.
- The accounting of the value of fixed assets is consistent and continues also in an event of change of the undertaking or ownership relations.
- The calculation of justified return takes place on the principle that the sum of the value of the fixed assets necessary for the provision of network service and working capital is multiplied by the weighted average cost of capital.
- The size of the working capital referred to in the previous point is five per cent of the arithmetic average of the turnover of the last three years. If necessary, an additional analysis is carried out in order to determine the size of working capital.
- The basis for the calculation of depreciation of fixed assets is the value of the fixed assets necessary for the provision of network service and the rate of depreciation which corresponds to the useful technical lifespan of the fixed assets.

Pursuant to section 23(4¹) of the Natural Gas Act the Competition Authority developed uniform method for calculating the prices of network services, which specifies the application of the principles laid down in the Act and serves as the basis for the formation of transmission and distribution service prices and their approval. The methodology is disclosed on the Competition Authority's web site. For the collection of input data for the approval process the Authority has elaborated and published on its web site respective tables together with the guidelines of filling out. The tables are comprehensive and include technical data and detailed accounts: profit and loss statement, balance sheet and data on acquired fixed assets. The undertakings also submit their investment plan and the previous years' and expected sale volumes of network services. Based on the data it is possible to verify whether cross-subsidising between various areas of activity is avoided, as pursuant to the Natural Gas Act undertakings are obliged to separate in their accounts the cost, income, liabilities and assets related to network service, sale of as and other activities.

On 27 May 2016 the Competition Authority approved distribution service price for the biggest gas distribution network undertaking in Estonia - AS Gaasivõrgud of 0,03941 €/m³ (3,75 €/MWh). The reason for the price change was mainly the considerable fall in the gas sales quantity due to conversion of large natural gas consumers (district heat undertakings) to alternative fuels, mainly wood chips.

On 14 December 2015 the Competition Authority approved the new distribution service price for AS Gaasivõrgud of 0,04306 €/m³ (4,10 €/MWh). The reason for the price increase was the inclusion in justified cost the cost of gas that is necessary for the functioning of the network.

From the small networks (23 undertakings) the distribution service price was changed by 16 natural gas distribution network undertakings. The prices of these companies laid within the range of 0,05983 €/m³ (5,70 €/MWh) to 0,13909 €/m³ (13,25 €/MWh).

The prices for network services shall be disclosed at least 90 days prior to their entry into force. In addition to the web site the prices shall be disclosed at least in one national daily newspaper. If a gas undertaking sells both network services and gas, it is obliged to separate in customer bills the data on the network service and the sale of gas. Besides network service prices an undertaking has to disclose on its own web site also the method for connection charge calculation and standard terms and conditions for the contracts.

The Natural Gas Act prescribes that the quantity of gas shall be given both in cubic metres and in parallel in kilowatt-hours. The quantities of gas shall be converted into the energy units of kWh according to the methodology established by a regulation of the minister responsible for the sector.

Network connection charges

A network operator has the right to collect justified connection fees from connectees. The basis for calculating the connection fee is ensuring of the coverage of justified expenses for the connection, including:

- investments, including the construction of metering system;
- compliance with environmental requirements;
- compliance with quality and safety requirement.

The connection fee shall be calculated by the network operator based on the method for connection fees' calculation, which the undertaking shall approve with the Competition Authority. More information on the connection fees approval can be found on the Competition Authority's web site <http://www.konkurentsiamet.ee/index.php?id=25789>.

3.1.4 Cross-border issues

(Articles 41(1)(g), (6)(c), (8), (9), (10) and (12) of Directive 2009/73/EC)

The Estonian national gas system has been configured in the way that in normal situation the gas streams of other Member States do not flow through the pipelines used for national gas supplies and the transit streams (between Russia and Latvia) are guided through separate transit pipelines from which in Estonia only Misso settlements is locally supplied (see also Figure 10 *Transmission network of Estonian gas system*). Arising from aforesaid and pursuant to the exemption provided for Estonia and Latvia by Article 49 of Directive 2009/73/EC, Estonia has not worked out rules for cross-border capacity allocation and congestion management.

The amendments to the Natural Gas Act that took effect on 20 June 2012 set out to the system operator the obligation to comply with the requirements laid down for the transmission network operator by Regulation (EC) No 715/2009 of the European Parliament and of the Council, including the principles of capacity allocation, the rules of congestion management, balancing

rules, trading with capacity, transparency requirements and storage of data, as well as the obligation to ensure third party access to the transmission network. The system operator can start fulfilment of these obligations after fulfilment of the conditions of the exemption (in essence, after commissioning of the Lithuania-Poland interconnection GIPL). In addition, the Natural Gas Act obliges the system operator to cooperate within the European framework of natural gas transmission system operator's network in the regional and the European Union level for effective functioning of the gas market.

The new system operator Elering AS plans to elaborate cross-border capacity allocation and congestion management rules before Regulation No 715/2009 takes effect. In 2016 Elering AS submitted to the Competition Authority for endorsement the method for cross-border capacity allocation and congestion management. On 22 June 2016 the Competition Authority agreed with the method of Elering AS for cross-border capacity allocation and congestion management.

Article 6(5) of Regulation (EC) No 994/2010 of the European Parliament and of the Council, which treats of measures to safeguard security of gas supply, lays down that the transmission system operators shall enable permanent bi-directional capacity on all cross-border interconnections between Member States as early as possible and at the latest by 3 December 2013, except:

- in the case of connections to production facilities, to LNG facilities and to distribution networks; or
- where an exemption has been granted in accordance with Article 7.

By 3 December 2013, the transmission system operators shall adapt the functioning of the transmission systems in part or as a whole so as to enable physical gas flows in both directions on cross-border interconnections. On 18 January 2013 the system operator submitted the Competition Authority and to the Ministry of Economic Affairs and Communications an application for making an exemption from the obligation to enable bi-directional gas flow. The application has been substantiated with the circumstance that physical bi-directional capacity would not increase security of supply in the Latvian gas system before the Estonian-Finnish pipeline interconnection *Balticconnector* is ready (in the list of projects of common interest planned to be commission in 2020) or before the liquefied natural gas (LNG) terminal in Estonia is ready (in the list of projects of common interest planned to be commission in 2019).

On 27 April 2015 Elering AS submitted to the Competition Authority its ten years' development plan 2015-2020. Pursuant to the 10 April 2014 amendments to the Natural Gas Act, which removed from the Act the right and obligation of the Competition Authority to approve the 10-years gas network development plan the regulator took the development plan under advisement. According to the plan the construction of bi-directional gas metering station and Puiatu gas compression station to be commissioning by the end of 2019 are scheduled. These measures would enable bi-directional gas flows between Estonia and Latvia.

On 19 June 2015 Elering AS submitted the investment request for *Balticconnector* to the Estonian, Latvian and Finnish regulators unilateral (without the Finnish system operator Gasum OY). The Estonian and Finnish regulators were in the opinion that the request is not in compliance with Regulation (EU) No 347/2013 of the European Parliament and of the Council. In order to promote the project, the Finnish government established the new company Baltic Connector OY, that replaced Gasum OY in the *Balticconnector* project. On 12 October 2015 the Competition Authority and Energiavirasto (the Finnish regulator) concluded agreement on

the allocation of cross-border costs of projects aimed at strengthening of the Estonian-Latvian interconnection (CBCA⁹). On 14 October 2015 Elering AS and Baltic Connector OY submitted to the European Commission the application for obtaining co-financing from the European Union to the *Balticconnector* gas interconnection between Estonia and Finland. In addition, Elering Gaas applied to the European Commission for co-financing to the project aimed at strengthening of the Estonian-Latvian gas interconnection in order to enable the transport of gas in both directions. On 2 December 2015 the project promoters withdraw the financing application in order to supplement and re-submit it again in the new stage of financing of projects of common interest that takes place in spring 2016. On 15 July 2016 the European Commission decided to co-finance the Estonian-Finnish gas interconnection Balticconnector with 75% and the related strengthening of the Estonian-Latvian gas connection with 50%, altogether in the extent of over 200 million euro.

On 19 May 2015 Balti Gaas OÜ (Alexela Group) submitted to the Estonian, Latvian and Finnish regulators an updated investment request for the Paldiski liquefied natural gas (LNG) terminal project. On 29 October 2015 the Competition Authority, Energiavirasto (Finnish regulator) and Public Utilities Commission (Latvian regulator) recorder the joint opinion in which it was declared that the regulators failed to reach an agreement on the allocation of cross-border cost (CBCA). Pursuant to the provisions of Regulation (EU) No 347/2013 on 8 December 2015 the meeting on the transition of the investment request to the ACER¹⁰ took place. On 11 January 2016 Balti Gaas OÜ withdraw the investment request from the ACER.

3.1.5 Fulfilment of relevant legally binding decisions by regulator and market participants

(Articles 41(1)(b, d, r), (3), (4)(d), (5), and Article 43 of Directive 2009/73/EC)

Pursuant to the Natural Gas Act the task of the Competition Authority is to fulfil and apply all relevant legally binding decisions of the Agency for the Cooperation of Energy Regulators (ACER). The same is provided for by Article 41(1)(d) of Directive 2009/73/EC.

In 2014 the ACER made a decision particularly related to Estonia – the 11 August 2014 ACER Decision No. 01/2014 on the investment request for the Poland-Lithuania gas pipeline together with cross-border cost allocation. According to the Decision the Estonian system operator has to compensate to the Polish system operator 1,5 million euro after commissioning of the project. The Competition Authority shall take the compensation amount into account in the approval of transmission charges as the justified cost.

Pursuant to the Natural Gas Act and legislation enacted on its basis the Competition Authority executes state supervision over the activities of market participants, including the functioning of the natural gas market in a manner prescribed in the Act and other legislation.

Obligations of the Competition Authority are prescribed in Chapter 5 „State Supervision“ of the Natural Gas Act. Amongst others the Authority has the following obligations:

- Scrutinise the price of the gas to be sold to household customers and the compensation of household customers for price differences;

⁹ Cross Border Cost Allocation

¹⁰ Agency for the Cooperation of Energy Regulators

- Scrutinise the terms and conditions of balance agreements and the prices for providing the balance responsibility service;
- Approve the methods for calculating connection fees;
- Approve the prices for network service;
- Issue and revoke authorisation (activity licences), establish and amend the conditions of activity licences, and monitor compliance with those conditions;
- Proceed applications for obtaining the temporary derogation from third party access, make the corresponding decisions and forward these to the European Commission;
- Prepare, publish and submit reports on security of supply to the European Commission by 31 July of the given year;
- Monitor compliance of the use and management of cross-border connections with the requirements of competition and effective functioning of the market;
- Scrutinise that market participants comply with the conditions set out in this Act and the legislation enacted on its basis, and perform the relevant obligations (separate accounts, independence of the network operator, publication of information, etc.);
- Prepare and publish annual reports on the results of supervision with regard to the obligations of the Competition Agency;
- Exercise supervision over compliance with the requirements established in respect of system operators and LNG terminal operators in Regulation (EC) No 715/2009 of the European Parliament and of the Council and with the guidelines established in Article 23 of the same regulation;
- Perform other functions imposed on the Competition Authority by Regulation (EC) No 715/2009 of the European Parliament and of the Council;
- Make sure that no cross-subsidisation occurs in the case of transmission, distribution and supply activities and the handling of LNG;
- Assess and monitor the investments made in order to implement the network development plan and provide recommendations for modifying the investment plan if necessary;
- Perform the duties imposed on the Competent Authority by virtue of Article 3 of Regulation (EU) No 994/2010 of the European Parliament and of the Council;
- Transmit to the European Commission the information described in Article 3 of Council Regulation (EU, Euratom) No 617/2010.

The Competition Authority is independent in exercising the functions entrusted to it by virtue of law. In an event of abuse of market dominant position or other competition related violation cannot be resolved pursuant to special law, it can proceed on the basis of the Competition Act. Pursuant to law the Competition Authority has the obligation and right to make decisions and issue mandatory enforcement orders within its competence, to put an end to the violation of the Natural Gas Act or other legislation enacted on its basis. In the event of failure to perform an obligation imposed by an enforcement order, a penalty payment may be imposed pursuant to the procedure provided in the Substitutive Enforcement and Penalty Payments Act. Both an enforcement order and a decision are administrative legislation acts that may be challenged with an administrative court. The latter may invalidate the decision or the enforcement order.

The independence of the Competition Authority is in greater detail described in point 3.1.5.

In 2015 no enforcement orders were issued by the Competition Authority.

3.2 Enhancement of competition in natural gas market

3.2.1 Wholesale market of natural gas

(Article 41(1)(i,j,k,l,u) and Article 47(3) of Directive 2009/73/EC)

The developments in the natural gas market in Estonia during the last 10 years are illustrated in Table 18. The table reflects only natural gas indicators as the bio methane that could be guided into the gas network is not produced in Estonia.

Table 18. Import of gas to Estonia

Period	Import of gas			
	Eesti Gaas AS	Eesti Gaas AS	Eesti Gaas AS	Eesti Gaas AS
	million m ³	million m ³	million m ³	million m ³
2005	780	216	0	996
2006	793	215	0	1008
2007	801	208	0	1009
2008	750	215	0	965
2009	631	24	0	655
2010	702	0	0	702
2011	633	0	0	633
2012	661	21	0	682
2013	566	124	0	690
2014	538	0	0,4	538
2015	382	0	97	479

The sale volume of imported gas in 2015 was 479,47 million m³ and compared to 2014 this a decrease by 11% (in 2014 the volume was 538 million m³). Behind decrease are the quite warm winter months both in the beginning and in the end of the year. From the imported gas 478,20 million m³ was sold to consumers, the difference of 1,27 million m³ was the loss in the system and the change in the volume reserve. Earlier biggest consumer Nitrofert AS did not consume gas in 2015.

District heat supplier Tallinna Küte plans to invest 100 million euro in the construction of a new power plant. Resulting from this the supply of district heating for Tallinn will not depend any more in gas¹¹. The target for Tallinna Küte is to take the share of gas down to 20% by 2017 (in 2013 it was 65%). According to estimates this will reduce the need for gas by further 60 million m³ annually.

The import of gas through the border crossing points in 2014-2015 is presented in Table 19.

¹¹ <http://www.aripaev.ee/uudised/2014/05/27/tallinna-kute-investeerib-100-miljonit-eurot>

Table 19. Import of gas in border crossing points of Estonian gas system in 2014-2015.
Source: Elering AS

Year	Import Karksi, m ³	Import Värskä, m ³	Import Narva, m ³	Import Misso, m ³
2014	406 959 113	87 661 271	43 797 074	108 965
2015	388 992 725	64 185 618	26 200 186	94 451

Wholesale prices of natural gas

Pursuant to the Natural Gas Act the wholesale prices and the prices of sale to non-household customers are not subject to regulation and the importers-wholesalers sell gas at negotiated price both to non-household customers connected to the network and for re-sale to other network undertakings

The largest wholesaler Eesti Gaas AS has gas a long term supply contract with the Russian company OAO Gazprom, which is effective until 31 December 2015. According to the contract the import price of gas for AS Eesti Gaas is generally calculated by the price formula that considers nine months heavy and light fuel oil average prices in USD/tonne proceeding to the accounting month, taking into account the USD/EUR exchange rate. In March 2016 OAO Gazprom and Eesti Gaas AS entered into a new three-year gas supply contract. The details of the contract are confidential.

The import contracts of other gas wholesalers are short term ones (with duration of a year or less). A precondition for the activity of such wholesalers is that they shall be able to offer better price than that of Eesti Gaas AS.

The Competition Authority monitors the situation in the wholesale market and if necessary, applies measures to bring the activities of market participants into compliance with law. Since AS Eesti Gaas is the undertaking in market dominant position, its activity as the wholesaler of gas is regulated both by the Natural Gas Act and by the Competition Act.

The Natural Gas Act gives a possibility to supervise a market participant over fulfilment of the rules provided for in the Act. In addition, the Competition Authority can apply supervision over market manipulation and abuse of market dominant position pursuant to the Competition Act.

Transparency of natural gas wholesale prices

As a rule, Eesti Gaas AS sells natural gas to larger consumers and to other natural gas network undertakings on the basis of a price formula. In the formation of the price formula for 2015 the following was taken into account: the volume of gas sold to customers in the period, type of supply, stability of consumption, security of supply and payment conditions. In addition, it is possible to conclude with AS Eesti Gaas AS a balance responsibility contract by which the responsibility for balance is delegated to the seller. In the gas price formula, the variable components are the world market prices of competitive fuels (heavy and light fuel oils), currency exchange rate and the actual upper calorific heat value of the gas.

The Competition Authority cannot influence the import price which is formed by the contract between Eesti Gaas AS and Gazprom, but can verify whether the gas seller fulfils legal requirements and sells gas at equal conditions to all customers. The process of the formation of price by a price formula (the calculation through an average of the nine months' fuel oils prices) is transparent and predictable.

Effective competition in wholesale market

In 2015 the situation in the Estonian wholesale market of gas changed when besides Eesti Gaas AS three new market participants started to import and sell gas. The other importers in 2015 were Baltic Energy Partners OÜ, Eesti Energia AS and Reola Gaas AS (from 21 December 2015 Alexela Energia AS). These undertakings supplied 20% of the gas consumed in 2015 (see Table 16).

Thus, for the first time real competition in the Estonian wholesale market took place in 2015. The source of competitive gas was the pipeline gas bought in the Lithuanian GET Baltic exchange (gas of OAO Gazprom) and the re-gasified gas led to the network from the Klaipėda liquefied natural gas (LNG) terminal.

Figure 25 presents the share of the gas supplied from Lithuania in the total import.

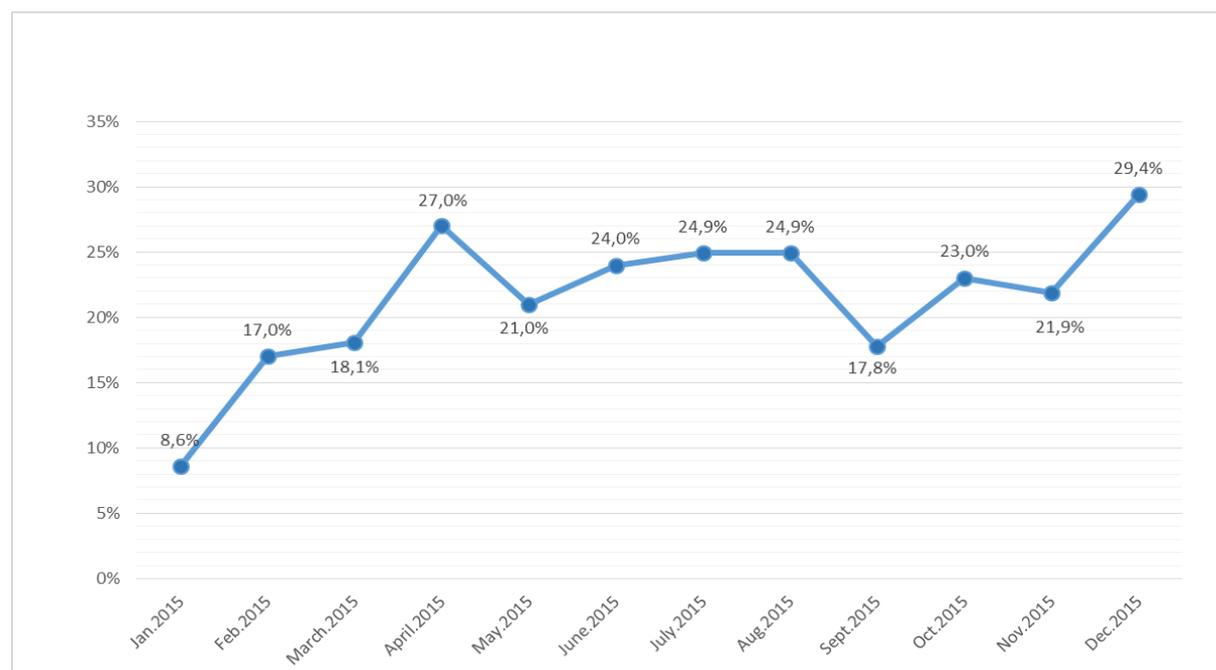


Figure 25. Share of gas imported from Lithuania in total gas import by months of 2015.

Unfortunately, due to the price differences in 2016 the share of supply of gas from Lithuania has decreased.

The smallness of the market and the declining consumption trend may hamper a long term success of gas sellers (importers). In order to fix the functioning wholesale market new projects in the framework of TEN-E (projects of common interest) have been initiated for creation of

new import possibilities (Baltic regional LNG terminal and interconnection of the Baltic countries' gas networks with the European gas networks).

3.2.2 Retail market of natural gas

The retail market is shared between the natural gas using activities according to Figure 26 (the 2015 data will be disclosed by Statistics Estonia in the end of summer 2016). The produced biogas is used locally for the production of electricity and heat.

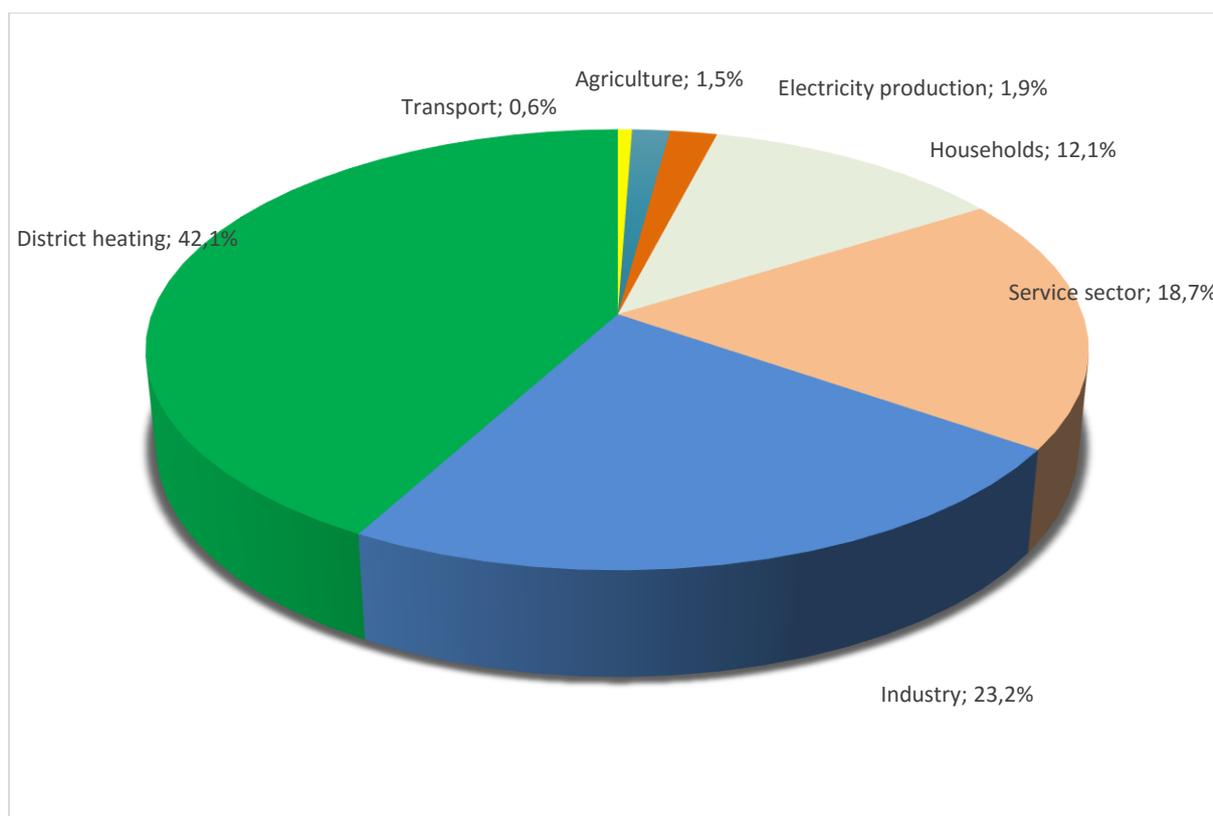


Figure 26. Use of natural gas in 2014. Source: Statistics Estonia KE061

It appears from Figure 26 that in 2014 42,1% of the whole gas was used in the district heating sector followed by 23,2% in industry, 18,7% in service sector, 12,1% in households and only 1,9% of natural gas was used in electricity generation.

Retail prices of natural gas

In 2015 the share of Eesti Gaas AS in the retail market decreased down to 77,7% (in 2014 – 93,4%). Pursuant to the Natural Gas Act Eesti Gaas AS is obliged to approve the sales margin included in the price of the gas sold to household consumers with the Competition Authority. The undertaking adds the approved sales margin to the import price of gas.

Data on an average price of gas sold to final consumers in 2015 in comparison with the 2014 price are presented in below Table 20.

Table 20. Final consumer average prices of gas. Source: Statistics Estonia, KE31 and KE32

Customer group	Price 2014,	Price 2015,	Change
	€/GJ	€/GJ	%
Household consumer, annual consumption < 20 GJ	13,15	9,59	-27,1
Household consumer, annual consumption 20 - 200 GJ	11,40	8,90	-21,9
Household consumer, annual consumption > 200 GJ	10,63	7,99	-24,8
Eligible consumer, annual consumption > 1000 GJ	11,15	8,59	-23,0
Eligible consumer, annual consumption 1000-10000 GJ	10,74	8,00	-25,5
Eligible consumer, annual consumption 10 - 100 TJ	10,03	7,54	-24,8
Eligible consumer, annual consumption 100 - 1000 TJ	9,80	7,24	-26,1
Eligible consumer, annual consumption 1000 - 4000 TJ	9,78	7,21	-26,3

Consumer expenses for buying natural gas are also influenced by the increase in the excise tax, which is presented in Table 21 (incl. projections for 2016 and 2017).

Table 21. Increase in excise tax imposed on natural gas planned by legislation v.

Year	Excise tax on natural gas €/1000m ³	Change compared to previous year, %	Change compared to 2014, %
2014	23,45	x	0,0
2015	28,14	20,0	20,0
2016	33,77	20,0	44,0
2017	40,52	20,0	72,8

Transparency of natural gas prices

In the retail market an undertaking (the seller of gas) itself forms the sale price of gas according to the purchase price from the importer and its sale margin. The gas sale price is not subject to regulation, except the sales margin of an undertaking in market dominant position

Pursuant to the Natural Gas Act household consumers have to be notified about changes in the price 30 days in advance. The retail sale prices of the gas sold to final consumers are disclosed on the web sites of the gas undertakings. Based on the published market prices consumers can decide whether they wish to switch the seller of gas.

Data on the formation of the price for natural gas (network service + natural gas) paid by household consumers are presented in below Table 22.

Table 22. Average prices of natural gas for final consumers in 2015.

Source: Eesti Gaas AS

Price components	Unit	Consumer
Network service (transmission + distribution)	€/m ³	0,04
Price of natural gas without network service	€/m ³	0,37

Excise tax on natural gas	€/m ³	0,03
Value added tax (VAT) 20%	€/m ³	0,09
Final consumer price including VAT	€/m³	0,54

Note: the basis for network service is the transmission service price of Elering AS and the distribution service price of AS Gaasivõrgud.

The price of natural gas in the final consumer price constitutes 69% (Figure 27).

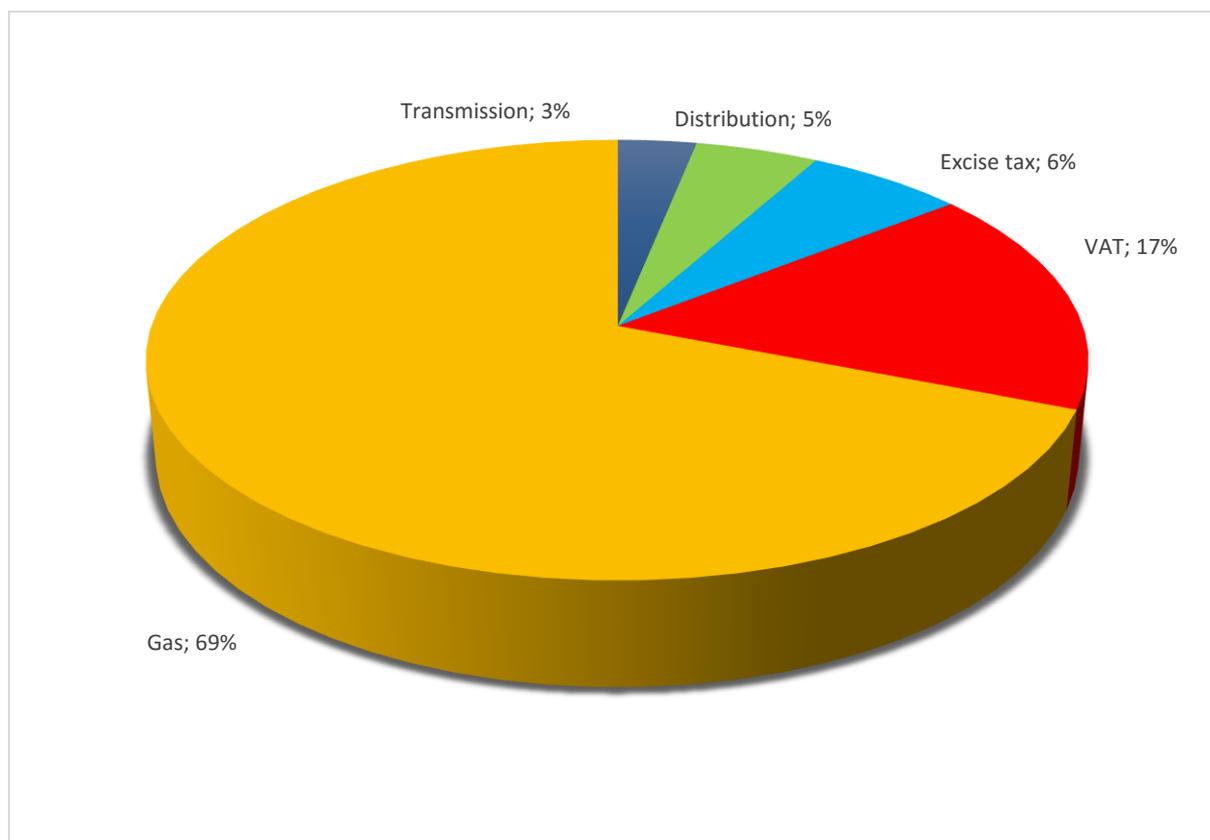


Figure 27. Final consumer price components. Source: Eesti Gaas AS

Effective competition on natural gas retail market

In connection with diversification of the import sources and importers the competition situation in 2015 has improved. It has improved first of all for large eligible consumers who can buy the gas supplied from Lithuania (in 2015 it was 20% of the total consumption in average). For small eligible customers and household consumers these opportunities were limited.

The number of customers in the retail market is approximately 47 thousand, almost 45 thousand of them are household consumers. In 2014 8381 customers switched the seller of gas (4729 of them were households), while in 2015 the number was 2883 (2706 of them were household consumers). Thus, 6,1% of customers switched their seller of gas in 2015.

The main direction of moving of the customers for eligible consumers was towards new importers, while for household consumers it was from small network undertakings / gas sellers towards the market dominant undertaking Eesti Gaas AS.

3.2.3 Enhancement of effective competition in natural gas market (Articles 41(1)(p) and 41(4)(b) of Directive 2009/73/EC)

Article 41(4)(b) of Directive 2009/73/EC provides that Member States shall ensure that regulatory authorities are granted the powers enabling them to carry out investigations into the functioning of the gas markets, and to decide upon and impose any necessary and proportionate measures to promote effective competition and ensure the proper functioning of the market.

The Natural Gas Act does not grant the regulatory authority (the Competition Authority) the powers pursuant to Article 41(4)(b) of Directive 2009/73/EC, but the Competition Authority can herewith apply the provisions of the Competition Act. However, as the Estonian gas system is supplied with natural gas to a large extent by only one supplier who does not belong to the European Union, neither whole sale nor retail market normal and effective functioning is possible and the regulatory authority has no possibility to give recommendations for the formation of prices pursuant to Article 41(1)(p) of Directive 2009/73/EC.

In 2015 it a consumer activity to switch the gas seller to a more favourable supplier was observable. In the result 20% of gas was bought from alternative sources (from Lithuania), and not from the market dominant undertaking AS Eesti Gaas.

The Competition Authority is in the position that due to the single market dominant natural gas supplier, who was at the same time also the retail seller in market dominant position, in 2015 there was no liquid retail market of gas in Estonia yet. However, due to the diversification of supply sources and suppliers in 2015 the competition situation in the retail market has remarkable improved but unfortunately, in the beginning of 2016 a setback occurred.

3.3 Security of natural gas supply

From the security of supply point of view, it is important to know what is the share of natural gas in the final consumption in Estonia. The share of gaseous fuels (natural gas, liquefied petroleum gas (LPG), oil shale gas) is 56% of the final consumption of energy (Figure 28), majority of this constitutes natural gas. Oil shale gas and petroleum gas cannot be considered as a source of common supply, as they cannot replace natural gas.

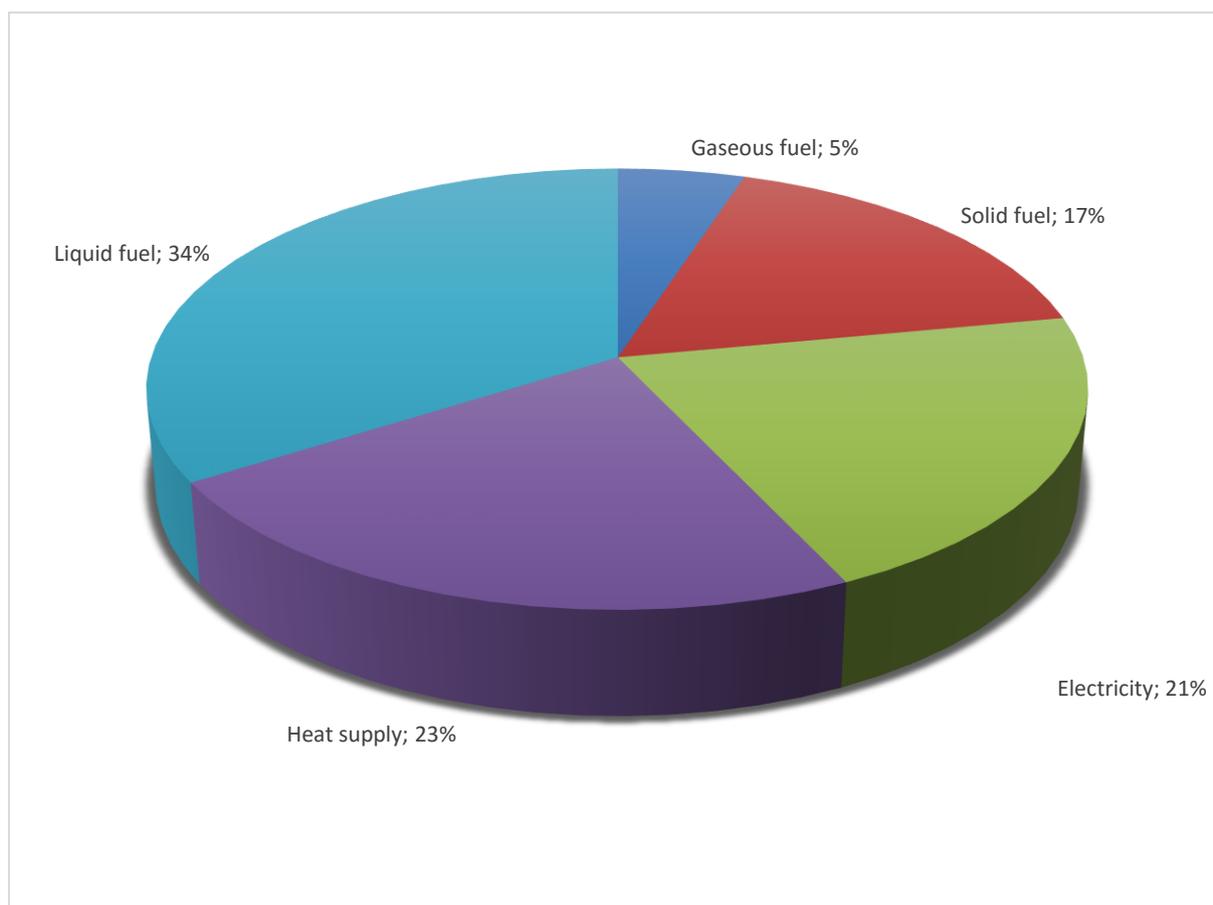


Figure 28. End consumption of energy in 2014. Source: Statistics Estonia KE05

It appears from below Figure 29 that for the production of heat in 2014 (Statistics Estonia will publish the 2015 data in the end of summer 2016) mainly natural gas and wood fuel were used (the share of both was 32%). Oil shale has also considerable share of in the production of heat (20% together with oil shale gas).

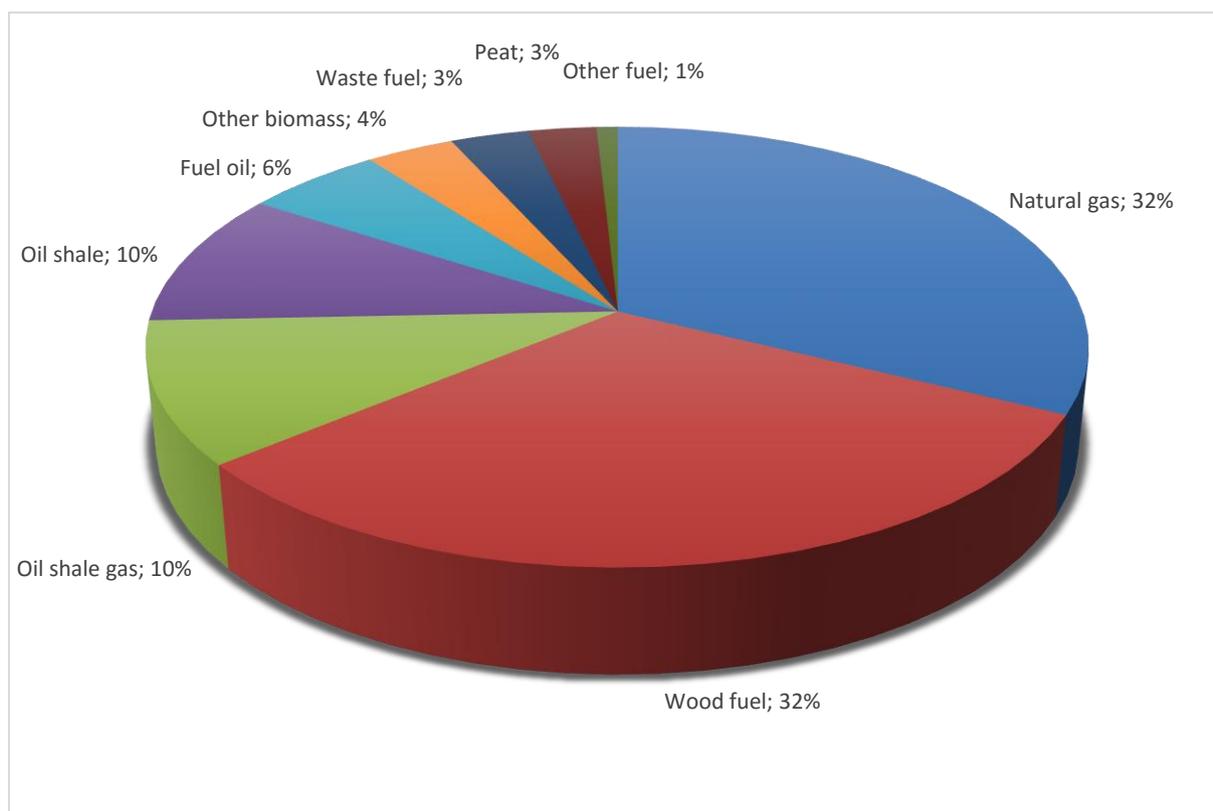


Figure 29. Fuels used for heat production in 2013. Source: Statistics Estonia KE024

3.3.1 Monitoring of balance between supply and demand

The environmental friendliness or, the low carbon emission level compared to other fossil fuels, comfort of use, high efficiency and the latest developments in the global gas market (emerging of liquefied gas market, introduction of usage of unconventional gas reserves) has made gas an attractive fuel in the world.

Gas is considered as a fuel which enables replacing of high carbon emission fossil fuels until the mankind will be able to go over to the use of fully climate neutral energy sources.

At the same time Estonia has not been able to support wider use of natural gas due to energy and supply security considerations. In the conditions of monopolistic market, it is not meaningful to have excessive energy dependence from the fuel sold by a single supplier of a non-member country. In the Estonian gas market a dilemma has occurred, where on the one hand, due to smallness of the market there is little interest to sell gas here, and on the other hand, due to a single supplier and a single supply chain a wider use of gas is limited. This has brought the gas consumption in Estonia to a falling trend. The gas demand history and projections for the years immediately ahead is presented in Figure 30.

The decrease in gas consumption projections for 2016 is first of all due to larger district heat supply companies which ever increasingly convert their facilities to the use of alternative indigenous fuels.

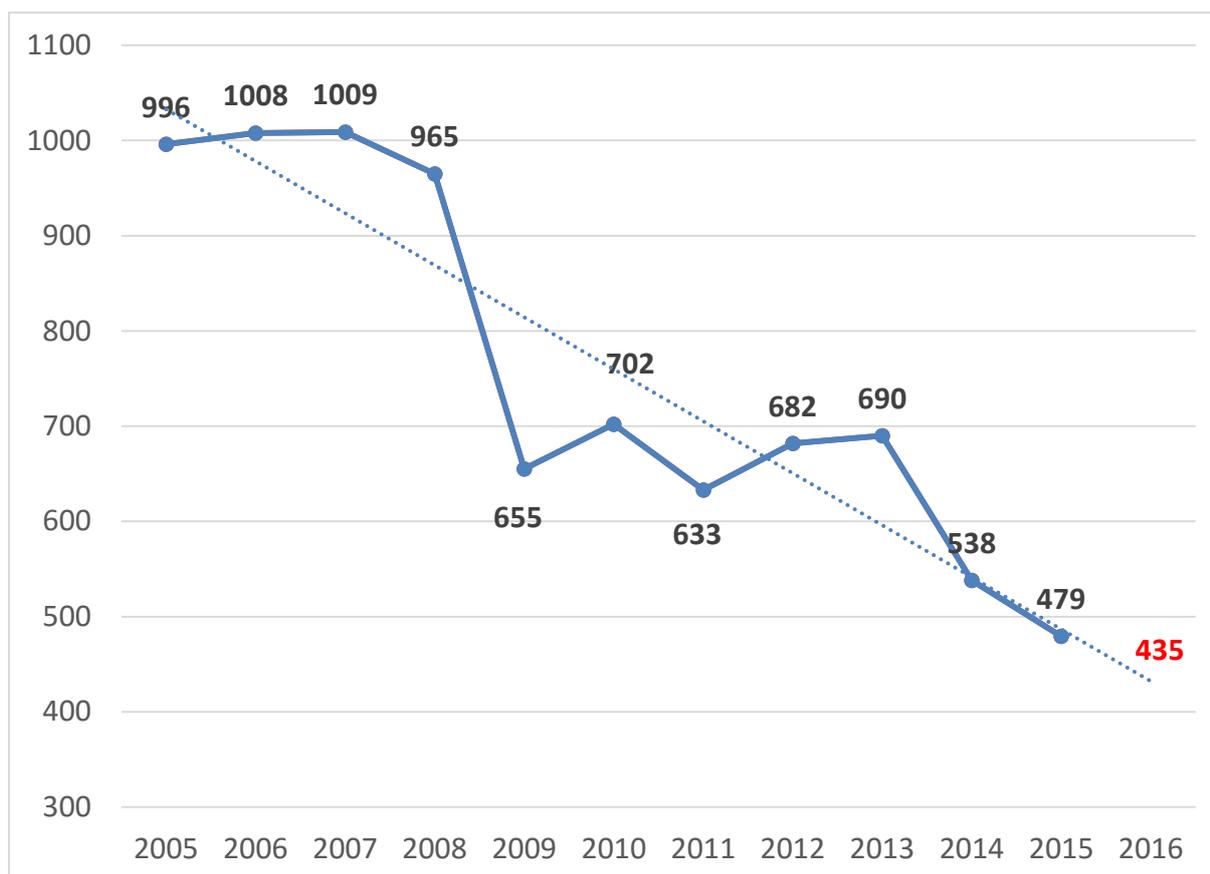


Figure 30. Consumption of natural gas in Estonia and projection by the Competition Authority in millions m³

There is no lack of import and supply capacity as the gas network has been built up to satisfy considerably higher demand. The Estonian transmission system capacity at 40 bar incoming pressure is up to 14,0 million m³ per day (24h). The capacities of individual connections are as follows:

- Karksi connection with Latvia 7 million m³ daily (at incoming pressure of 40 bar)
- Värška connection with Russia 4 million m³ daily (at incoming pressure of 40 bar)
- Narva connection with Russia 3 million m³ daily (at incoming pressure of 22 bar)

In the period from May to October the supply of the Estonian gas system with gas takes place mainly directly from Russia through the Värška and Narva connections. Such operational arrangement, when Estonia takes less gas during the non-heating season through the Värška or Karksi connections enables OOO „Gazprom Transgaz Sankt-Petersburg“ more efficiently pumping gas to the Inčukalns underground Gas Storage and by this improving security of gas supply during the season of peak consumption (in the period from November to April).

In the period from November to April gas is supplied also from the Latvian Inčukalns Gas Storage through the Karksi and Värška gas metering station (GMS). The actual capacity of connections during the last 5 years is presented in Table 23.

Table 23. Capacity of natural gas cross border connections. Source: Elering AS

Year	Technical transfer capacity, million m ³	Actual peak load, million m ³
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	Narva-Russia connection	Värskä-Russia connection	Narva-Russia connection	Värskä-Russia connection	Narva-Russia connection	Värskä-Russia connection
2010	0,5	4,0	7,0	0,3	2,6	4,5
2011	0,5	4,0	7,0	0,4	1,7	4,0
2012	3,0	4,0	7,0	0,3	2,6	5,0
2013	3,0	4,0	7,0	1,8	2,8	4,2
2014	3,0	4,0	7,0	0,6	2,1	4,2
2015	3,0	4,0	7,0	0,6	1,7	3,2

As it is known the Competition Authority, there have not been problems so far in the conclusion of natural gas import contracts between AS Eesti Gaas and OAO Gazprom for supplying Estonia with sufficient volumes of gas.

Conclusion: in Estonia the supply of gas has been in balance with the demand. Considering the capacity of the Estonian transmission system it is possible to import gas in considerably larger volumes, but due to the competitive positions of gas the consumption projection for 2016 is decreasing

3.3.2 Anticipated future demand and available free capacity together with planned additional quantities

The highest gas demand in the last 20 years was in 2006 when the annual consumption was 1009 million m³ (see Figure 30). Compared to 2006 the 2015 consumption was 47% lower.

The general decrease in the Estonian gas consumption projection is first of all related to the falling production volumes of industries and the termination of operations, as well as to the changes in the structure of the usage of fuels (expansion in the use of renewables). The current national energy sector development plan does not support investments in gas using installations and in connection with that it is estimated that also in the future the gas consumption trend in Estonia will be falling.

Further decrease in sales is foreseen also in the coming years. This is related to the conversion of district heat supply companies from gas to renewable fuels and higher efficiency energy use by heat consumers.

In 2013 the new municipal waste incineration cogeneration unit in Eesti Energia AS Iru Power Plant was commissioned. At its full load operation an annual reduction in gas consumption will be about 35 million m³. In 2014 the following district heat suppliers converted to biofuels the major part of their resources: Põlva Soojus AS, Eraküte AS' Jõgeva region and Rapla Küte. Considerable decrease in gas consumption has taken place also in Kiviõli Soojus AS and Kuusalu Soojus OÜ. According to estimates the reduction in gas consumption is about 10 million m³ per annum. Tallinna Küte is going to invest 100 million euro in the construction of a new power plant (to be commissioned in 2016). Resulting from this the supply of district heating for Tallinn will not depend any more in gas.¹² The target for Tallinna Küte is to take

¹² <http://www.soojus.ee/uudised/utilitas-on-alustanud-vaio-teise-jaama-ehituse-ettevalmistustoodega/>

the share of gas down to 20% by 2017 (in 2013 it was 65%). According to estimates this will reduce the need for gas by further 60 million m³ annually.

Arising from all these circumstances the Competition Authority estimates continuing decrease in import. The Estonian annual import volume of gas in the near future will be 450 million m³.

In order to stop the decrease in gas consumption and to support of new importers' coming to the market it is necessary to undertake parallel weighted steps both to find new spheres of using for gas, as well as the development of new supply chains. The Competition Authority sees possibilities for broader use of natural gas as the transportation fuel and also in local production of space heating.

AS Eesti Gaas has five filling stations for vehicles that use natural gas as the motor fuel. Two of them are in Tallinn, while Tartu, Pärnu and Narva – each has a single filling station. 3,4 million m³ of natural gas was used in 2015 for the production of pressurised gas (2014 volume was 1,9 million m³).

The market of natural gas can develop only through new gas consumers coming to the market and merger of markets, as the steadily decreasing Estonian market, if taken separately, is too small to attract serious investors. The solution could be interconnecting of the Finnish and Baltic countries' markets into a joint *entry-exit* area. In addition to establishing new cross-border connections and enlargement of existing ones Estonia and its neighbours have to create possibilities for access to the market of new gas sellers (importers), alternative to OAO Gazprom. The liquefied natural gas (LNG) terminal in Lithuania has had a positive impact on the gas market. Further developments are the establishing of new interconnections with other European countries (Lithuania - Poland connection *GIPL*, Estonia - Finland connection *Balticconnector*).

Conclusion: the supply of gas that corresponds to the demand in Estonia is ensured in the coming years. The key question of the Estonian gas market development is suspending of the downward trend in gas consumption through investing in infrastructure and coming of new suppliers to the market.

As in the development of the district heat supply sector the tendencies of converting to indigenous renewable fuels and reduction of the district heating areas is visible, one of the serious factors for creating demand for gas could be the development of natural gas based local heating systems. Secondly, gas offers a possibility for electricity production using modern combined cycle gas turbine technologies. The third opportunity could be using natural gas as the transport fuel.

3.3.3 Measures to cover peak demand and supply deficit (Article 41(1)(t) of Directive 2009/73/EC)

The measures to cover peak demand or shortage in supply can be related either to the infrastructure or to the supply chain.

Infrastructure measures to cover peak demand or supply deficit

The peak consumption of gas is characterised by Figure 31. The maximum transmission network capacity is 14,0 million m³/day.

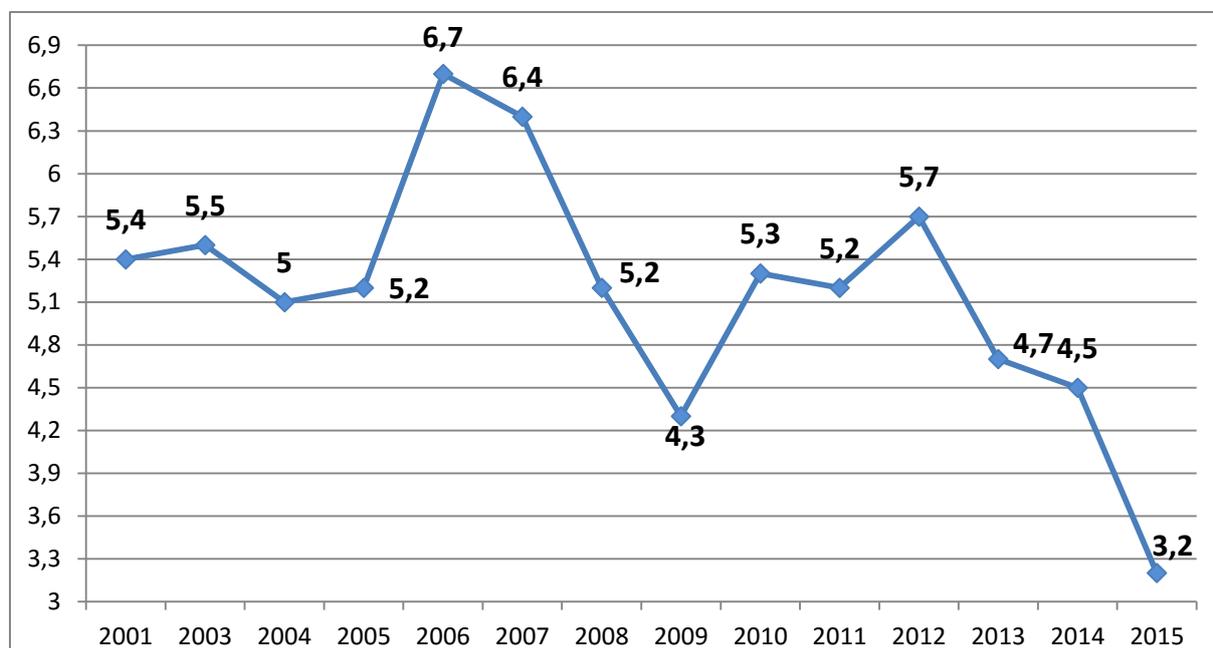


Figure 31. Peak consumption of natural gas in 2001-2015 in million m³/24h.

Source: Elering AS

Regulation (EC) No 994/2010 of the European Parliament and of the Council requires sustainability of a gas system in the event of disruption of the single largest gas infrastructure, i.e. the fulfilment of the so-called N-1 criterion also in the event if the disruption occurs during maximum load conditions.

Under the N-1 criterion an evaluation of the situation of disruption of the single largest gas infrastructure is considered. The N-1 criterion is fulfilled if in the event of disruption the supply of gas can be re-arranged so that supply disturbances are avoided.

The N-1 criterion, expressed as percentage shall be equal or higher than 100%. In such case the infrastructure corresponds to the security of supply requirements.

Article 9(1)(e) of Regulation No 994/2010 clarifies that in the evaluation of the security of gas supply the maximal interconnection capacity of each border entry and exit point shall be taken into account.

Thus the Estonian infrastructure norm N-1 can be found on the basis of the following calculation (Regulation No 994/2010, Annex I, sections 2 and 3):

$$N - 1 = \frac{EP_m + P_m + S_m + LNG_m - I_m}{D_{max}} \times 100 = \frac{14 + 0 + 0 + 0 - 7}{6,7} \times 100 = 104,5 \%$$

where

EP_m - Karksi connection with Latvia 7 million m³/24h + Värskä connection with Russia 4 million m³/24h + Narva connection with Russia 3 million m³/24h = 14 million m³/24h;

- P_m - 0 million $m^3/24h$;
 S_m - As the gas storage is located outside Estonia and the limiting factor is the capacity of the interconnecting pipelines, then for the purpose of N-1 criterion the gas from the Latvian storage or reserved gas cannot be taken into account: 0 million $m^3/24h$;
 LNG_m - 0 million $m^3/24h$;
 I_m - Karksi connection with Latvia 7 million $m^3/24h$;
 D_{max} - Consumption of gas in the last 20 years: 6,7 million $m^3/24h$ (19 January 2006.a).

Article 6(1) of Regulation No 994/2010 lays down that Member States or, where a Member State so provides, the Competent Authority shall ensure that the necessary measures are taken so that by 3 December 2014 at the latest, in the event of a disruption of the single largest gas infrastructure, the capacity of the remaining infrastructure, determined according to the N – 1 formula is able to satisfy total gas demand of the calculated area during a day of exceptionally high gas demand occurring with a statistical probability of once in 20 years.

Conclusion: as in Estonia the N-1 is higher than 100% the infrastructural peak demand or the coverage deficit in supply is ensured.

Supply related measures to cover peak demand or supply deficit

As the Estonia gas system is supplied with natural gas by only one supplier, which does not belong to the European Union, in the event of supply problems of that supplier Estonia has no possibility to compensate the deficit from alternative suppliers.

In such case the regulation laid down in the Natural Gas Act shall be applied. Section 26²(1) of the Act provides that if the system operator has reliable information that an event may take place which could to a significant extent adversely affect the supply situation, the system operator shall notify the Ministry of Economic Affairs and Communications and the Competition Authority of the event or the disruption and of the market measures implemented by the operator.

Currently valid legislation and the system of contracts of AS Eesti Gaas practically does not enable the implementation of market measures in case of supply disruptions for the reduction of gas consumption.

The Ministry of Economic Affairs and Communications shall analyse together with the Competition Authority the received information and the market measures implemented by the system operator. If the analysis reveals that for the purpose of ensuring security of supply it is necessary to implement any of the measures of compulsory reduction of gas demand listed in section 26²(3) of the Act, the Ministry shall communicate this to the crisis committee of the Government of the Republic and then make a proposal to the Government to allow the implementation of the measures of compulsory reduction of gas demand named in the plan of measures required to eliminate the supply disruption or to alleviate the effects of such disruption.

Pursuant to the Natural Gas Act the following measures, amongst others, can be implemented:

- reduction of the supply of gas to persons who use gas for purposes other than production of heat;
- authorisation of reduction of the supply of gas to undertakings producing heat;

- authorisation of a reduction in the temperature of the water released for the heating of residential buildings;
- obligating the undertakings producing heat to use back-up (reserve) fuel.

Conclusion: as long as alternative natural gas suppliers do not exist, in an event of supply disruptions Estonia can implement only non-market measures - the reduction of consumption.

3.4 Regional cooperation

According to the agreement between the prime ministers of the Baltic countries and Finland from the beginning of 2015 the Regional Gas Market Coordination Group (RGMCG) started work.

The established group comprises representatives of relevant ministries, regulators and system operators. Considering the small size of the Baltic gas market it is important that the legislators, market regulators and system operators be guided by possibly similar departure points in the implementation of investments and the development of market.

The main tasks of the Coordination Group are:

- to facilitate the opening of the national gas markets
- to prepare an Action Plan on regional gas market development
- to facilitate an effectively functioning common regional gas market in the Baltic States
- to develop measures in order to interconnect the Baltic States regional gas market and the Finnish gas market
- to contribute to the security of gas supply in the East-Baltic region using market measures

The specific tasks of the Coordination Group are related to seeking solutions to the following issues:

- development of a regional gas market model in the Baltic region
- an interconnected Baltic and the Finnish gas market
- creation of transparent and non-discriminatory access to gas infrastructure
- creation of a unified trading and data exchange platform for the regional gas market
- adoption of gas network codes and harmonization of the national rules
- creation of a common *entry-exit* zone and development of respective tariff methods
- development of other legal, economic and technical measures providing a level playing field in the Baltic States and Finland

The Coordination Group gas reached the following agreements in 2015:

On 17 July 2015 the Baltic States TSOs submitted proposals to national institutions for approval of harmonized gas quality requirements. In principle agreements have been achieved, that the countries will use harmonised gas quality indicators and these will be reflected in national legal acts.

On 10 September 2015 the Latvian regulator finalised consultations on the access to the Latvian gas storage. In the result of the consultations a common understanding was reached on the issues

of Third Party non-discriminatory access. According to the agreement the new access conditions will be applied in the beginning of 2016.

On August 2015, preparation of the study on the issues of common gas market was started. The study was ordered from consultancy *Frontier Economics*, and the final report was ready in the first quarter of 2016.

Further actions in connection with the submission of a request for financing necessary for the Estonia-Finland gas pipeline *Balticconnector* was also reviewed and passed hearing in the Coordination Group. The financing request was satisfied and it is expected to construct the gas pipeline, which will connect stronger the gas markets of the Baltic States and Finland, by 2019. In November 2015 it was agreed on further actions based on common grounds for harmonized implementation of requirements of the EU network codes into national legal documents.

4. Consumer protection and resolution of disputes in electricity and natural gas sectors

4.1 Consumer protection

4.1.1 In electricity sector

(Directive 2009/72/EC, Annex 1, implementation of consumer protection measures)

Article 37(1)(n) of Directive 2009/72/EC provides that the regulatory authority shall help to ensure, together with other relevant authorities, that the consumer protection measures, including those set out in Annex I “Measures on consumer protection”, are effective and enforced. Annex I lists the consumer protection measures which shall ensure general protection of consumers. The Estonian legislation is harmonized with the requirements laid down in the Directive.

Pursuant to the Electricity Market Act the protection of household consumer rights is shared between the Competition Authority and the Consumer Protection Board. The Act provides that supervision over the provision of network services, offer or sales of electricity or making electricity available in the market in another manner shall be exercised by the Consumer Protection Board to the extent of the authority granted to it by the Consumer Protection Act. In the case of a dispute which has arisen in relation to a connection contract, network contract or electricity contract, and which the parties have been unable to settle, the consumer is entitled to file a complaint with the Consumer Disputes Commission or another person or body or court which deals with similar complaints. As previously, the Competition Authority shall resolve complaints of one market participant about activity or inactivity of other market participant which contradicts the Electricity Market Act or other legislation enacted on its basis. Both the contract and the invoices shall include information on the consumer rights and resettlement of disputes.

Customer contracts

In the evaluation of the Competition Authority the field of customer contracts is a well-regulated and customer interests are sufficiently protected. Pursuant to the Electricity Market Act standard terms and conditions of contracts for the provision of network services, for connecting to the network and for universal service are subject to approval by the Competition Authority. In the approval of standard conditions the Competition Authority follows the principle of proportionality of contract conditions, aiming at balance of rights and obligations of both undertakings and customers. An important criterion in the approval of standard terms and conditions is also their compliance with the Law of Obligations Act.

Network contracts shall be made in writing, electricity contracts may be made by oral agreement, if both parties agree to do so. Network contract shall include the following information:

- the name, registration number in the Commercial Register, address and other contact details of the network operator;
- a description of the services;
- the principal parameters of the quality of the services provided or a reference to a document which is accessible and which sets out such parameters;

- the time of initial connection to the network pursuant to a connection contract entered into for connection to the network or for amendment of the consumption or generation conditions;
- a description of the maintenance services provided;
- the manner of obtaining relevant information concerning the charges payable on the basis of the contract;
- in the case that the delivery of an invoice submitted on the basis of a contract is delayed, or where an incorrect invoice is submitted due to an error of the network operator, or in the case of an advance payment by the consumer, information concerning the way in which the consumer may obtain a refund, set-off or compensation in the manner of a payment or any other manner;
- if the quality of services provided on the basis of a network do not conform to the terms and conditions of the contract, information concerning the way in which the consumer may obtain a refund or compensation in the manner of a payment or any other manner;
- at least two different payment options in the case of charges payable under a contract;
- information concerning the procedure for dealing with complaints;
- the term of the contract.

The following data shall be presented in an electricity contract:

- the name, registration number in the Commercial Register, address and other contact details of the seller;
- main parameters of the electrical energy;
- the manner of obtaining relevant information concerning the charges payable on the basis of the contract;
- in the case that the delivery of an invoice submitted on the basis of a contract is delayed, or where an incorrect invoice is submitted due to an error of the network operator, or in the case of an advance payment by the consumer, information concerning the way in which the consumer may obtain a refund, set-off or compensation in the manner of a payment or any other manner;
- at least two different payment options in the case of charges payable under a contract;
- information concerning the procedure for dealing with complaints;
- the term of the contract.

A network contract or an electricity contract may be made for an unspecified term or for a specified term. As a rule, contracts for an unspecified term are concluded. The network operator may amend the conditions of contract only if such amendments are objectively justified and necessary in order to take into account a change in the circumstances and provided the amendments have been approved by the Competition Authority. A network operator shall give notice of the cancellation of a network contract at least 30 days in advance. The notice shall set out the grounds for cancellation of the contract and the date of termination of the contract.

An electricity contract which is made for an unspecified term shall terminate upon termination of the network contract entered into in respect of the network connection through which electricity was sold on the basis of the electricity contract. An electricity contract may be entered into by a market participant who holds a valid network contract in respect of the metering point of his place of consumption.

A network operator may cancel a network contract and disconnect the place of consumption from the network if the network connection has been interrupted due to a breach of the network

contract and the interruption has lasted at least 180 consecutive days and the customer has failed, during that period, to eliminate the circumstances which served as grounds for the interruption. Similarly, or if the customer has materially breached the obligations arising from the network contract and has failed to remedy the breach within a reasonable period of time granted by the network operator, in view of which the network operator cannot reasonably be expected to continue performing the contract. A network operator is entitled to cancel a network contract also due to failure to pay an amount payable according to the contract.

A network operator shall give a notice of the cancellation of a network contract at least 30 days in advance. The notice shall set out the grounds for cancellation of the contract and the date of termination of the contract.

A seller shall be entitled to cancel an electricity contract if the consumer has materially breached obligations arising from the contract and has not remedied the breach within a reasonable period of time granted by the seller, or if the consumer has used electricity illegally or has intentionally or due to gross negligence damaged the seals or verification marks placed on the metering devices.

A consumer shall be notified of the cancellation of an electricity contract at least 30 days in advance. The notice shall state the grounds for cancellation of the contract and the date of termination of the contract.

A seller may cancel an electricity contract before the agreed due date, if the place of consumption stipulated in the contract has been the subject of a transfer of property and there is no legal basis for the consumer to use that place.

Customer information

Network undertakings are obliged to maintain a web site and disclose on it the following information:

- principles of the calculation of connection charges;
- data reflecting efficiency, quality and profitability of the network activity;
- charges for network services;
- standard conditions for the provision of network service;
- standard conditions for the provision of universal service.

The network charges shall be disclosed at least 90 days prior to their entry into force. In addition to web site the tariffs have to be published also in at least one daily national newspaper. The standard terms and conditions for provision of network services and for the selling of electricity shall be disclosed at least 30 days prior to their entry into force.

All electricity sellers shall submit an invoice for the electricity consumed to the customer once a month, unless agreed otherwise with the customer. The following information shall be presented together with the invoice:

- the distribution of energy sources which were used for the generation of electricity by the producer or which were purchased from the producer during the financial year preceding the period of the sale;
- the proportion of electricity purchased from a power exchange in the financial year preceding the period of the sale;

- a reference to a website which sets out information concerning the environmental impact caused by emissions of CO₂ and SO₂, the oil shale ash that must be deposited, and radioactive waste, which were released in the course of producing the electricity supplied by the seller during the financial year preceding the period of the sale;
- information concerning the customer's rights and the options for resolution of disputes;
- starting 1 April, the volume of electricity which was supplied in the previous calendar year and whose origin was certified by means of guarantees of origin;
- the volume of supplied electricity whose origin is not certified by means of guarantees of origin, using the residual mix value published by the transmission network operator.

In the case of a switch of seller, the seller shall submit its final invoice to the customer within six weeks as of the termination of the contract for the sale of electricity. If, after the final invoice has been submitted, a fault of the metering system is discovered or the submitted data differs from the actual consumption, the consumer's metering data shall be corrected on the information exchange platform and the seller shall submit an invoice to correct the final invoice. No additional fee shall be charged for the submission of the invoice.

Ensuring of access to customer data

Article 37(1)(p) of Directive 2009/72/EC provides that a regulatory authority shall ensure access to customer consumption data, the provision, for optional use, of an easily understandable harmonised format at national level for consumption data, and prompt access for all customers to such data under point (h) of Annex I "Measures on consumer protection". The requirement of the Directive is harmonized into the Estonian legislation.

In connection with the market opening in 2013 the information exchange platform (Data Store) was created in 2012, which is an important precondition for the Estonian electricity consumers that from 2013 they can choose and change electricity sellers. The system operator Elering AS developed the digital environment, which has the general task of ensuring efficient data exchange processes in fully opened market considering equal treatment principles and complying with the requirements arising from the Electricity Market Act. Through the Data Store information exchange on the electricity market takes place in order to change the open supplier, transmit the metering data and fulfilling the legal obligations imposed on the market participants (consumer, network undertaking, seller) and ensuring their rights.

The Data Store integrates data of all the contracts related to the sale of electricity and network services, as well as the metering data in electricity consumption. A customer has the right to get the following information by means the Data Store:

- name of the network undertaking with whom the consumer has entered into network contract and validity period of the contract;
- name of the seller with whom the consumer has entered into open supply contract for a connection point(s) and validity period of the contract;
- name of the network undertaking or the seller, who holds activity licence, designated by the network undertaking for the provision of universal service;
- electricity quantities measured at consumer related metering points, with the possibility to observe historical consumption data;

- names of those sellers to whom the consumer has given the authorisation to see its consumption data and who have inquired for the data.

Definition of vulnerable customer and interruption of electricity supply

Interruption of electricity supply is regulated in very detail. In the evaluation of the Competition Authority the protection of socially vulnerable customers in possible case of failure to pay in time is sufficient. A network operator may interrupt the connection of a customer to the network if the customer has failed to pay the amount payable on the basis of the contract entered into with the network operator or seller or, has in another manner materially breached an obligation arising from the contract. Before interrupting of a network connection a notice concerning the planned interruption of the network connection shall be sent to the customer. The notice shall set out the grounds for interrupting the network connection and the planned time of the interruption. The network connection of a customer may be interrupted after at least 15 days have passed since the notice was sent and if, during that period, the customer has failed to eliminate the circumstances which were the grounds for interruption of the network connection and has not notified the network operator or seller, as appropriate, thereof.

If a network connection is interrupted on the grounds that a customer, who is a natural person, has failed to pay an amount payable according to the contract due to the temporary insolvency of the customer because of his or her serious illness or unemployment, the customer may notify the network operator or seller thereof in writing. Evidence of those circumstances shall be annexed to the notice. On receiving the notice and the evidence, a network operator may interrupt the network connection of a customer, who is a natural person, after at least 30 days have passed since the notice was sent and if, during that period, the customer has failed to eliminate the circumstances which were the grounds for interruption of the network connection and has not notified the network operator or seller, as appropriate, thereof.

If a network connection is interrupted on the grounds that the amount due has not been paid, the connection may be interrupted during the period from 1 October to 30 April in a building or a part thereof which is residential space, used as a permanent residence and heated in full or primarily by electricity only when at least 90 days have passed since the notice and if, during that period, the customer fails to remove the circumstances which were the grounds for the interruption and has not notified the network operator or seller, as appropriate, thereof. A network operator may also limit the capacity of the network connection of a customer, if a customer has failed to pay for the consumed electricity in due time. The customer shall be notified of such limitation at least 15 days in advance.

A network operator may promptly interrupt the network connection of a customer if the customer increases, without authorisation, the limited capacity, uses electricity or network service without authorisation, uses electrical installations which do not meet technical requirements, are dangerous or interfere with the operation of the network as a whole or prejudice security of supply.

Regulation of universal service

Universal service is intended for household consumers, apartment associations, communities of apartment owners and such commercial consumers (small consumers) whose electrical installation is connected to the network by using low voltage and through a main circuit breaker of up to 63A, in the case if they do not choose any electricity seller for themselves. Universal

service shall ensure a price for consumers, which corresponds to the market price and avoids earning of unreasonably high income.

Universal service is the selling of electricity to household or small consumers by the network operator or by the seller designated by him on the basis of the standard conditions for universal service approved by the Competition Authority. The price for universal service is formed according to the market or power exchange price, to which justified cost and reasonable profit may be added by the seller. The Competition Authority is obliged to verify justification of the latter. The seller is required to publish the basis for price formation together with the calculation by the ninth day of the following month.

Intelligent metering systems

Article 37(1)(n,p) of Directive 2009/72/EC referring to section 2 of Annex I “Measures on Consumer Protection” provides that Member States shall ensure the implementation of intelligent metering systems that shall assist the active participation of consumers in the electricity supply market. The implementation of those metering systems may be subject to an economic assessment of all the long-term costs and benefits to the market and to individual consumers or, which form of intelligent metering is economically reasonable and cost-effective and which timeframe is feasible for their distribution.

The Grid Code lays down requirements for metering and provides that from **1 January 2017** all consumers shall have remote reading devices (including households). The Grid Code also prescribes that from 1 January 2013 a remote reading device shall enable at least once every 24 hours to forward to the network operator through the data communication network the measurement data registered during each trading period and ensure access of a person agreed between the market participant and the network operator to above said measurement data.

As of the end of 2015 Elektrilevi OÜ has installed the remote reading devices for 82,5% of the household customers, Imatra Elekter AS for 95,8% and VKG Elektrivõrgud to 96% of the household customers.

The Ministry of Economic Affairs and Communications plans to include the implementation of intelligent metering systems in the next energy sector development plan until 2030.

The Competition Authority is in the position that the “Measures on Consumer Protection” of Annex I referred to in Article 37(1)(n,p) of the electricity Directive 2009/72/EC are ensured by the Estonian legislation.

Conclusively, the Competition Authority is in the opinion that electricity consumers are well protected and the obligations of market participants are precisely prescribed. Sufficient information is available to consumers both related to the standard conditions of contracts, typical load curves, energy sources used for production and others. The network undertakings maintain well shaped and sufficiently informative web sites.

4.1.2 In natural gas sector

(Directive 2009/73/EC, Annex 1. implementation of customer protection measures)

Article 41(1)(o) of Directive 2009/73/EC provides that the regulatory authority shall help to ensure, together with other relevant authorities, that the consumer protection measures, including those set out in Annex I “Measures on consumer protection”, are effective and enforced. Annex I lists the consumer protection measures that shall ensure general protection of consumers. The requirements arising from the Directive are adopted into the Estonian legislation.

Customer contracts

In the estimation of the Competition Authority the field of customer contracts is a well-regulated field and customer interests are sufficiently protected. Pursuant to the Natural Gas Act both the standard terms and conditions for selling gas to household customers and standard conditions for the provision of network services are to be approved with the Authority. The Authority has to monitor whether network service user’s rights and obligations are balanced in the contract, as this forms the basis for the approval of prices for network services. An important criterion in the approval of standard terms and conditions is also their compliance with the Law of Obligations Act.

A connection contract, network contract or a contract for the sale of gas that is executed in a written or electronic form or a form that allows written reproduction or in any other form subject to stricter formal requirements, or the standard terms and conditions of such a contract, shall set out the following information:

- in the case of a network or connection contract, the name of the network operator, in the case of a contract for the sale of gas, the name and registration number in the Commercial Register of the network operator or the seller, as well as the address and other contact details of the network operator and the seller;
- a description of the services provided on the basis of the network or connection contract and the date on which the provision of services commences or the principal parameters of the natural gas sold under the contract for the sale of gas;
- a description of the services provided on the basis of the network or connection contract and the date on which the provision of services commences or the principal parameters of the natural gas sold under the contract for the sale of gas;
- the time of initial connection to the network in accordance with the connection contract entered into for connection to the network or for amendment of the consumption or production conditions;
- a description of the maintenance services provided;
- the manner of obtaining relevant information concerning the charges payable under the contract;
- the conditions for amendment of the contract and the conditions for cancellation of the contract, including cancellation without charge;
- information concerning the conditions under which the consumer may obtain a refund or a money or other compensation if the services provided under the network contract,

sales contract or connection contract do not conform to the terms and conditions of the corresponding contract;

- in the case of a network contract or a sales contract, the term of the contract and the conditions for renewal and termination of the contract;
- the procedure for estimating the amount of consumption by the network operator in the case that the customer has not provided that information;
- the options of payment for the service.

The standard terms and conditions of the contracts for the sale of gas shall, amongst other things, set out the following:

- the name, registration number in the Commercial Register, address and other contact details of the seller;
- a description of the services provided;
- the principal quality parameters of the services provided or a reference to a document which is accessible and which sets out such parameters;
- the procedure for notification of customers of the charges applied;
- the term of the contract, conditions for renewal, amendment and termination of the contract;
- conditions for cancellation of the contract without charge;
- the options of payment for the service.

Besides aforesaid the contract for the sale of gas shall set out the category of supply.

A contract for the sale of gas to a household customer may also include provisions of the contract for network services which deal with the provision of the network services necessary for the distribution of the gas to be sold.

The seller of gas shall allow termination of a contract for the sale of gas in the case of the customer's switching to another seller, within three weeks of submission of the corresponding application by the customer, provided the obligations arising from the contract to be terminated have been performed.

Pursuant to the Natural Gas Act the network operator or the seller shall transmit to the customer a corresponding notice at least 30 days prior to amending the terms and conditions of a contract, including prices and tariffs. The notice shall set out the envisaged amendments, the basis for the envisaged amendments and the date on which they are intended to take effect, as well as information concerning the fact that the consumer is entitled to cancel the contract if he does not agree to the amendments.

Customer information

Both the gas network undertakings and the sellers of gas are obliged to maintain a web site and disclose on it the following information:

- charges for network services;
- maximum prices for gas;
- method for the calculation of connection fees;
- standard terms and conditions for contracts.

The network charges shall be disclosed at least 90 days and the prices for the gas for household consumers at least 30 days prior to their entry into force. In addition to the web site the tariffs

have to be published also in at least one daily national newspaper. Besides the undertakings also the regulator is obliged to disclose all approved network service prices on its web site.

All gas undertakings are obliged to submit an invoice to a consumer for the consumed gas and network service at least once a month, unless otherwise agreed upon with the consumer. No additional fee shall be charged for the submission of the invoice.

In case of a customer's switch to another seller, the former seller submits to the consumer final settlement invoice in six weeks after the termination of sales contract.

Ensuring access to customer data

Article 41(1)(q) provides that the regulatory authority shall ensure access to customer consumption data, the provision for optional use, of an easily understandable harmonised format at national level for consumption data and prompt access for all customers to such data under point (h) of Annex I "Measures on Consumer Protection".

Some network undertakings have created their own web based environment where consumers can see their contractual and metering data (also historical ones).

Definition of protected customer and disruption of gas supply

From 10 April 2014 the Natural Gas Act provides that the *vulnerable customer* is a household customer to whom subsistence benefit has been awarded pursuant to section 22(1) of the Social Welfare Act.

The Natural Gas Act provides for suspension of gas supply. According to it network operators have the right to suspend a network connection without giving advance notice thereof to the final customer if there is a danger to the life, health or property of persons or to the environment. A network operator has the right to suspend a network connection immediately after it is established if there has been an unauthorised consumption of gas. Besides aforesaid, a network operator has the right to suspend gas supply, giving at least 7 days' advance notice, if:

- the consumer installation is adversely affecting the supply of gas to another final customer or damaging the technical parameters of the network;
- the network operator is prevented from accessing a metering system located within territory owned or possessed by a final customer in order to inspect or replace the system or to perform necessary work for the gas installation to operate;
- breach of the contract entered into on the basis of the Natural Gas Act or violation of the stipulated conditions.

If a household customer fails to pay the contractual charge in time and if the customer has a permanent residential space heated by gas, supply may be suspended during the period from 1 October to 1 May only when at least 90 days have passed since relevant notice.

Before the gas supply is suspended in events as described above, the network operator shall give the final customer a reasonable term to eliminate the deficiencies and shall notify the final customer of the pending suspension in writing. The notice shall set out the grounds for suspension of gas supply, the term for elimination of the deficiencies. A network connection or gas supply that has been suspended for the reasons explained above shall be restored after the

customer has paid for the justified costs of suspension and reconnection, unless the contract has been terminated.

Selling obligation and final consumer price regulation

Pursuant to the Natural Gas Act a seller of gas possessing the biggest market share within its network area is required to sell gas, within the technical limits of the network, to all household customers who have a network connection and are willing to buy. In addition to above the Act provides that a market dominant producers applies a principle in setting up prices for the gas sold to household consumers that a weighted average price for gas contains the import price and a sales margin added to it.

In the purchasing of gas an undertaking shall base on good business practice and buy gas at most favourable price and the sales margin added to the purchase price is subject to approval by the Competition Authority.

The ceiling rate of the sales margin must cover the costs incurred in the sale of gas and ensure justified profitability. The Authority has developed and disclosed in its web site a unified methodology for the calculation of the ceiling rate of the sales margin and relies on it in the approval process. According to section 6.3 of the methodology the sales margin consists of the sum of non-controllable costs, operating costs, capital expenditure and a justified return, which is divided by the sales volume.

The Authority applies *ex-post* regulation to the gas sold to households and this is first of all in relation to the market dominant seller of gas. If during a calendar year a weighted average price for sold gas differs from the weighted average purchase price with the added sales margin for the same period, then at the end of each calendar year the undertaking makes a settlement of accounts (equalization) with its consumers during three months period and submits a relevant report to the Authority each year by 1 May at the latest. The equalization shall be reflected on a separate line of the sales invoice. Small gas sellers (which are not in market dominant position) have no obligation to approve with the Competition Authority the sales margin as a component of the price of gas sold to household consumers.

Intelligent metering systems

Article 37(1)(o,q) of Directive 2009/72/EC referring to section 2 of Annex I “Measures on Consumer Protection” provides that Member States shall ensure the implementation of intelligent metering systems that shall assist the active participation of consumers in the electricity supply market. The implementation of those metering systems may be subject to an economic assessment of all the long-term costs and benefits to the market and the individual consumer or which form of intelligent metering is economically reasonable and cost-effective and which timeframe is feasible for their distribution.

The Competition Authority is in the position that unless the diversification of natural gas importers, who could ensure the functioning of the market, it is not reasonable in Estonia to start massive replacement of existing gas meters with intelligent metering systems as such cost would lead to considerable increase of the network service price.

Conclusively, the Competition Authority is in the opinion that natural gas consumers are well protected and the obligations of market participants are precisely prescribed. Sufficient information is available to consumers both related to the standard conditions

of contracts and the rights to switch the seller. Also, the Competition Authority has good possibilities to exercise supervision over the market.

4.2 Resolution of disputes

4.2.1 In electricity sector

(Articles 37(11), (5)(c) and (4)(e) of Directive 2009/72/EC)

Article 37(11) of Directive 2009/72/EC provides that any party having a complaint against a transmission or distribution system operator in relation to that operator's obligations under this Directive may refer the complaint to the regulatory authority which, acting as dispute settlement authority, shall issue a decision within a period of two months after receipt of the complaint. That period may be extended by two months where additional information is sought by the regulatory authority. That extended period may be further extended with the agreement of the complainant. The regulatory authority's decision shall have binding effect unless and until overruled on appeal.

Pursuant to Article 37(4)(e) of Directive 2009/72/EC the regulatory authority shall be granted the appropriate rights of investigations and relevant powers of instructions for dispute settlement.

The Estonian legislative basis can be considered a good one, as it gives the Competition Authority sufficient possibilities for exercising market regulation.

The Competition Authority has the right to get necessary information from a market participant and from state and local municipal authorities, right to enter their territory, premises and facilities for the purpose of on-site inspection, examine the documents necessary for supervisory activities and other information and circumstances and make extracts, transcripts and copies thereof. The Authority can also inspect the price formation practices applied by market dominant producers or sellers. The regulator can establish development obligation for an undertaking through the conditions of activity licence. For example, an obligation to invest in the electricity network can be imposed if the operator's former performance has not secured the supply of electricity to customers in accordance with requirements.

All market participants have the right to refer to the Competition Authority as to an extra-judicial body. A market participant may file a written complaint with the Authority against an action or an omission of another market participant, which is in conflict with the Electricity Market Act or legislation enacted on its basis. The Authority reviews the complaint and makes a decision thereon within 30 days as of the receipt of the complaint. If the Authority requests information necessary for resolving the complaint, the passage of the term shall be suspended, but not for longer than 60 days. The Authority's decisions can be challenged with an administrative court in 30 days since receiving of the decision.

In 2015 the number of consumer references to the Competition Authority was 66 (both complaints and inquiries), in order to establish violation of law by electricity undertakings or to get other electricity market related information. The consumer references were caused by the questions related to problems with entering into contracts, contract amending and connection (price and conditions). There were also complaints in connection with disruption of network connection due to customer related grounds, billing, failed meters, voltage problems and the topics of installation of remote reading devices.

4.2.2 In natural gas sector **(Articles 41(11) and (4)(c) of Directive 2009/73/EC)**

Article 41(11) of Directive 2009/73/EC provides that any party having a complaint against a transmission, storage, LNG or distribution system operator in relation to that operator's obligations under this Directive may refer the complaint to the regulatory authority which, acting as dispute settlement authority, shall issue a decision within a period of two months after receipt of the complaint. That period may be extended by two months where additional information is sought by the regulatory authority. That extended period may be further extended with the agreement of the complainant. The regulatory authority's decision shall have binding effect unless and until overruled on appeal.

Pursuant to Article 41(4)(e) of Directive 2009/73/EC the regulatory authority may require any information from natural gas undertakings relevant for the fulfilment of its tasks, including the justification for any refusal to grant third-party access, and any information on measures necessary to reinforce the network.

The Estonian legislative basis can be considered a good one, which gives the Authority enough possibilities for exercising market regulation.

The Competition Authority has the right to get necessary information from a market participant and from state and local municipal authorities, the right to enter their territory, premises and facilities for the purpose of on-site inspection, examine the documents necessary for supervisory activities and other information and circumstances and make extract, transcripts and copies thereof. The Authority can also inspect the accounts and price practices applied by gas undertakings and obtain necessary information concerning their economic activities. The Competition Authority can establish temporary prices for the transmission and distribution of gas for no longer than two months in situations where those prices are not justified or the gas undertaking fails to follow a precept issued by the Authority. The Competition Authority can establish development obligation for an undertaking through the conditions of activity licence. For example, an obligation to invest in gas network can be imposed if the operator's former performance has not secured stable gas supply to customers in accordance with requirements.

All market participants have the right to refer to the Competition Authority as to an extra-judicial body. A market participant may record a written complaint with the Authority against an action or an omission of another market participant which is in conflict with the Natural Gas Act or legislation established on the basis thereof. The Authority reviews the complaint and makes a decision thereon within 30 days as of the receipt of the complaint. If the Authority requests information necessary for resolving the complaint, the passage of the term shall be suspended, but not for longer than 60 days. The Authority's decisions can be challenged with an administrative court in 30 days since receiving of the decision.

In 2015 there were 16 natural gas related inquiries. The main topics were contractual and metering issues. In 2015 the Competition Authority did not receive any complaint on the activity of the system operator.