

National Report to the Agency of Cooperation of Energy Regulators and to the European Commission

Iceland



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or the reporting period 2012 unless otherwise stated.

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1 FOREWORD

This report is prepared by the National Energy Authority in Iceland (NEA). It provides a comprehensive overview of the state of the electricity industry in Iceland and the regulatory framework surrounding the industry.

Iceland is member of EFTA and a party to the European Economic Area (EEA). Therefore EEA procedures, regarding the adoption of EU directives, are applicable to the Icelandic legislative process. The Electricity Directive 2003/54/EC and Regulation 1228/2003 passed through the EEA Committee in December 2005. Directive for the Internal Market in Electricity (2009/72/EC) has not yet been transposed into national legislation.

This report follows the common reporting structure created by the European Commission and the Agency for Cooperation of Energy Regulators as required by Article 37(1)(e) of the Directive for the Internal Market in Electricity (2009/72/EC) and Article 41(1)(e) of the Directive for the Internal Market in Natural Gas (2009/73/EC). Although Iceland has not yet implemented these directives into national legislation, this report fulfils the requirements set out in the directives.

The Icelandic Parliament, or Althingi, passed the Electricity Act, no. 65/2003, in 2003¹. The Act implements EU Directives 96/92 and 2003/54 concerning common rules for the internal market to electricity, but is broader in scope as it contains comprehensive legislation on the generation, transmission, distribution and sale of electricity. The Act combines legislation for various legal areas which were previously dealt with in separate Acts. The Electricity Act was implemented in stages, but has by now been fully implemented and amended several times.

The Act stipulates the generation and sale of electricity as competitive activities. They are, however, subject to public licensing. The transmission of electricity is carried out by a separate, independently managed enterprise. Six (seven at the time of adoption of the Act) distribution system operators have exclusive rights to distribute electricity in their areas of operation. The NEA supervises and regulates the transmission and distribution enterprises, which includes the regulation of revenue caps, tariffs and the quality of electricity and security of supply. In cases where integrated companies operate in generation, sales and distribution, separate accounts must be kept for each area of activity. The generation and sale of electricity are under the surveillance of the Icelandic Competition Authority, although the NEA issues and monitors operating licenses to the competing firms.

There are certain conditions currently present in Iceland which are unfavourable to a competitive electricity market. A single firm dominates electricity production as well as the wholesale of electricity, with 74% of market share in generation. Customer switching has been very low since 2006 when the electricity market was liberalised, as only 0 to 2.5% of customers have switched suppliers each year, with the majority of switching customers being industrial consumers. Despite these negative conditions, electricity prices have stayed fairly low since liberalisation began.

The Icelandic Parliament passed the amendments on Act on the guarantee of origin of electricity produced from renewable energy sources, no. 30/2008. With these amendments the EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources was implemented. According to the Directive, every Member State has to reach individual targets for the overall share of renewable energy in energy consumption. To meet these requirements Iceland has to reach 64% increase in share of renewable energy consumption.

¹ Re. English version: http://eng.idnadarraduneyti.is/media/Acrobat/raforkulog_enska.pdf

EEA Efta member states are in the process of implementing of the third package for the internal energy market. One of the important pending issues concerns the nature of EEA countries's participation within the Energy Agency, ACER, and the European network of transmission systems, ENTSOs. The third package will be implemented in Iceland after the EEA joint committee decision and subsequent approval by the Icelandic Parliament.

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National Energy Authority in Iceland

2 MAIN DEVELOPMENTS IN THE GAS AND ELECTRICITY MARKETS

Introduction – about NEA

The main statutory objectives for NEA concerning energy, and which the regulatory functions are a part of, is to promote the compliance with the Electricity Act No. 65/2003, which purpose is to promote an economic electricity system and thereby strengthening the Icelandic industries as well as regional development in Iceland. To this end a competitive environment shall be ensured for the generation and trade of electricity, with such restrictions, as may prove necessary, for the security of supply and other public interests, effectiveness and efficiency in the transmission and distribution of electricity shall be promoted, the security of the electricity supply system and consumer protection shall be ensured and finally the use of renewable energy sources and observance of other environmental criteria shall be promoted. According to Article 24 of the Electricity Act, NEA is nominated as the national regulatory authority (NRA) for electricity.

NEA is the national independent regulatory authority for the electricity market in Iceland. NEA has no ownership interests in the electricity industry and is independent from the economic interests in the electricity industry. NEA is an independent legal entity with its own budget adopted by Parliament and power to act in the scope of its competences.

NEA shall according to Article 24 of the Electricity Act, consult with the Competition Authority on the regulation of the operation and tariffs of transmission system operators and distribution system operators, as applicable.

For the NEA, both for regulatory tasks as well as for other tasks, the responsibility and field of work are defined in law, regulations and decisions from the Parliament and Government.

Administrative decisions made by NEA on the basis of the Electricity Act, regarding tariffs or the activities of the transmission system operator and distribution system operators, may be appealed to the Appeals Committee on Electricity. Other administrative decisions of NEA, grounded on the Electricity Act may be appealed to the Appeals Committee on Environmental and Natural Resources Matters.

NEA is a member of Council of European Energy Regulators and participates as an observer in the ERGEG procedures

About the electricity market

The Icelandic electricity system is an isolated system without any connection to other countries. There were 321.000 residents in January of 2013, living mostly along the coastline of 103 thousand square kilometres of land. Per capita electricity consumption is however among the highest levels in Europe, as energy-intensive industry consumes 80% of generated electricity. 99.98% of electricity produced in 2012 was from renewable sources.²

² National Energy Authority (2012). *Electricity Statistics*. Found at <http://www.orkustofnun.is/yfirflokkur/raforkutolfraedi/raforkuvinnsla-eftir-uppruna>

The electricity sector is regulated by the Electricity Act No 65/2003 and regulations established on the basis of that Act. The Act transposes the EU common rules for the internal market in electricity into Icelandic legislation. The Act fully opened the Icelandic electricity market to competition on 1 January 2006 and introduced third party access for transmission and distribution networks. Fees for transmission and distribution are based on published tariffs regulated by NEA. Furthermore, various acts and regulations in the field of environment apply to the construction and operation of electricity installations, such as the Planning Act No 123/2010, Act on Hygienic and Pollution Control No 7/1998 and Act on Environmental Impact Assessment No 106/2000.

The transmission system operator (TSO) is Landsnet hf., which owns and operates the whole transmission system, which consists of lines from 33kV up to 220 kV. The shareholders of the TSO (Landsnet hf.) are Landsvirkjun (64,73%), RARIK ohf. (22,51%), Orkuveita Reykjavíkur (6,78%) and Orkubú Vestfjarða (5,98%). According to the Electricity Act and the Act on the Establishment of Landsnet hf., No 75/2004, the board of directors of Landsnet hf. shall be independent of other companies engaging in the generation, distribution or sale of electricity, as further provided in the articles of association.

The competencies of the TSO are stipulated in the Electricity Act 2003 no. 65. Chapter III. The TSO is responsible for the development of the transmission system in an economic manner, taking into account security, efficiency, reliability of supply and the quality of electricity. The TSO possesses the exclusive right to construct new transmission facilities. According to the Electricity Act, Article 9, the TSO shall:

- Connect customers to the transmission system on request, provided that they fulfil the technical conditions required and provided also that they pay a connection fee according to the provisions of a tariff. However, new customers may be denied access to the transmission system on grounds pertaining to the transmission capacity, security and quality of the system. Such denial of access shall be in writing and reasoned
- Provide electricity in compensation for electricity losses in the system
- Provide reactive power for the system to utilise transmission capacity and ensure voltage quality
- Ensure reliability in the operation of the system
- Ensure the availability of a forecast of the projected demand for electricity and a plan for the development of the transmission system.

The TSO is responsible for the secure management of the electricity supply system and shall ensure the security and quality of delivery of electricity. Such system management includes, inter alia:

- Co-ordinating supply and demand as regards electricity so that discrepancies between agreed purchase and actual use can be met, and entering into contracts with producers in connection therewith
- Ensuring adequate supply of spinning reserves in the operation of the system
- Determining processes of use where power measurements are not conducted
- Measuring the delivery of electricity into and out of the transmission system in accordance with the applicable government regulation, documenting measurements and submitting records to the parties in question for the purpose of enabling financial settlement in relation to trade in electricity

- Supplying public authorities, customers and the public with the information necessary to assess whether the company is performing its obligations and to ensure non-discrimination in trade in electricity.

The TSO shall have access to all the information of producers, distribution system operators and suppliers necessary for the performance of his function. In the event of force majeure preventing the supply of electricity from meeting demand, the TSO shall take up rationing of electricity to distribution system operators and final customers. Rationing shall be non-discriminatory and based on objective criteria to be further specified in a government regulation.

Although liberalisation was introduced through the Electricity Act in 2003, retailers still purchase their supply through long term contracts, as no actual electricity trading hub yet exists in Iceland. However, the transmission system operator is currently developing such an exchange but progress has been slow due to lack of interest from participants. Most retailers are either also producers themselves, or closely connected through ownership or history to a corresponding producer.

Competition occurs in three distinct ways in the Icelandic market; wholesale competition, retail competition and competition for energy intensive industry. There is one dominant producer, with 74% of electricity generated, who does not participate in the retail market and sells largely directly to energy-intensive industry through long-term power purchase agreements. There are very low rates of customer switching in the retail market and the majority of customers buy from the same retailer which was once the vertically-integrated utility in the area, prior to liberalisation. Despite what remains to be a relatively stagnant market, electricity prices to Icelandic end-users are among the lowest in Europe.

There is a single transmission company and six distribution companies which are licensed by the NEA to distribute electricity in their designated areas. These aspects of the market are subject to revenue caps and tariff regulation by the NEA. There are six operating distribution companies in Iceland. The trend of mergers continues for Icelandic DSOs which have decreased from 8 to 6 since 2003 when the Electricity Act was passed.

Wholesale market

There are six major producers of electricity in Iceland; the national power company Landsvirkjun, Reykjavík Energy, HS Orka, Fallorka, Norðurorka, and Orkusalan. All of these companies are publicly owned except for HS Orka, which is owned by Magma Energy Sweden A.B and Jarðvarmi slhf.

The three largest companies generate 97% of total electricity produced and are active in the wholesale market. The dominant producer, Landsvirkjun, produces 71% of total electricity, a decrease of 2% from the year prior. Smaller producers either sell directly to their own retail division or enter 7-10 year contracts with retail sales companies. 80% of electricity consumption is by energy intensive industry. Energy intensive industry is supplied with electricity through long-term power purchase agreements (i.e. contracts valid for over 10 years) and therefore never directly enters the wholesale market to retailers.

Landsnet the Icelandic TSO has been developing a power exchange which will allow retailers to purchase electricity directly from producers. The opening was delayed due to the 2008 financial crises in Iceland, and has not yet taken place due to lack of interest in participants. The TSO has shown great interest in opening an electricity market but due to lack of consensus amongst electricity

producers the opening has not yet taken place and. Further measures are estimated in year 2013 towards fostering a wholesale competition.

Retail Market

a. Developments in market concentration

There were seven retail companies in year 2012 (Reykjavík Energy, HS Orka hf., Fallorka, Orkusalan ehf., Orkubú Vestfjarða, Orkuveita Húsavíkur, Rafveita Reyðafjarða and Eyvindartunga.). Four of them are inactive on the market, serving only their local area.

The electricity market is open for all users to select a sales company. The largest sales company supplies 37% of electricity to the general market, the second largest 33% and the third largest 17%.

b. Development of switching

All customers were granted the ability to choose their retail supplier in 2006. Since then, customer switching has been low.

Only 0.2% of residential customers switched supplier in 2012 while 2,5% of industrial and commercial customers switched a supplier. The reason for this low rate might be that published prices are very similar for all the companies. Information on new contracts with the same supplier is included in the figures above and is not available.

c. Price Development

The total price of electricity for households, services and light industry was ISK 17,20 per kWh inclusive of VAT (25,5%) and energy tax of 0,12 kr/kWh (the price is according to Reykjavik Electricity's tariff at the end of 2012, derived from utilization time = 4000 hours) which divides between distribution and supply thus: 11,65 and 5,54 per kWh.

No special measures have been taken to encourage competition. Several signs of competition can be seen e.g. through advertising. In addition, NEA, in cooperation with the Consumer Agency, operates a price comparison website. It compares available contracts of the market. The customer can easily carry out an evaluation and make the choice of supplier using a price calculator.

Public Service Obligations and Consumer Protection

Two complaints in total have been filed in 2012 related to connection charges, metering and energy tariffs.

Network tariffs

The tariff requirements and methodology are laid down in the energy act no. 65/2003. All tariffs are prepared in accordance with the revenue cap determined by NEA. The tariff applies to general consumers on the one hand and power-intensive industries on the other hand. All network companies are responsible for determining tariffs within their revenue cap pursuant to the Energy act no. 65/2003. The transmission fee is based mainly on the amount of power drawn from the grid by distributors and power-intensive industries at delivery points. There are two types of charges: a capacity charge and an energy charge.

The capacity charge is calculated on the basis of the average of the four highest 60-minute monthly power peaks of the year for each delivery point. The energy charge is calculated from each MWh transmitted via the TSO's grid. A fixed annual delivery charge is payable for all supply/delivery points connected to the grid, whether for power supplied into the grid or drawn from it.

There is also a charge for ancillary services and transmission losses, at a fixed amount per each kWh drawn from the grid. The purpose of this charge is to cover the expense of the TSO's purchasing of these services at any given time. The tariff for consumption by power-intensive industries is in US dollars. Other items are denominated in Icelandic krónur (ISK)

No changes in tariff structure have taken place. Each DSO increased its tariffs at least once during the year, after having previously sent it to the NEA for comments. Those tariffs were valid from the point where the NEA had no comments, and were therefore considered in accordance to the Electricity Act. Transmission rate structures, as defined in the Electricity Act, ensure that existing customers connected to the transmission system do not face an increase in prices when new entrants are connected to the system.

Infrastructure

Today virtually all inhabitants, except those living on small islands off the coast and remote farms, are connected to a single transmission system through a number of distribution networks. In 2012 the transmission system consisted of approx. 3.169 km of high voltages lines (33, 66, 132 and 220 kV) and around 70 substations and transformer stations. All power plants with a generation capacity of 10 MW or more must be connected to the transmission system. Electricity from the transmission system is fed to distribution system operators (DSOs) and power intensive industries at 77 delivery points. The largest part of the transmission system operates at a voltage between 30 and 220kv.

The transmission system operator (TSO), owns and operates the transmission system, consisting of lines from 33 kV up to 220 kV. Six companies are licensed to own and operate distribution systems. Each company has the status of distribution system operator (DSO) in their region and is responsible for distribution to that geographic area. The areas vary in size and population. The DSOs are all owned by either the Icelandic State or one or more municipalities. Most of the DSOs also operate hot and cold water distribution systems. The distribution networks are operated on 132 kV and lower.

Many tasks which are sometimes handled by European regulatory agencies are entrusted to the TSO under the close supervision of the NEA. The TSO issues and publishes a series of terms and conditions named the Grid Code³, which outlines various rules, guidelines and standards for the electricity system's development and use. This includes rules for electricity transmission, the transmission system's design, system management and various commercial matters. The Grid Code is subject to the approval of Ministry of Industry.

The Icelandic electricity system has expanded considerably during the last 15 years, mainly due to the expansion of existing power intensive industries and the commissioning of new ones. The total length of the TSO network in Iceland is approx. 3.169 km while the length of the DSO network (sum of all DSO) is approx. 22.565 km.

During the period of 1995 to 2012 the production capacity has increased from 1.049 MW to 2.657 MW and the generation from 4,976 GWh to 17,549GWh. The increase in electricity supply to power intensive industries has called for considerable investments in the transmission system.

³ Grid Code in English, <http://www.landsnet.is/index.aspx?GroupId=1125&TabId=1135>

The Electricity Act stipulates that the TSO and the distribution system operators (DSOs) are responsible for maintaining and developing the transmission and distribution systems in an economic manner, taking into account security, efficiency, reliability of supply and the quality of electricity.

The TSO is required to ensure the availability of a forecast on the projected demand for electricity and a plan for the development of the transmission system. The Energy Forecast Committee, which is a cooperation forum for the key ministries, agencies, companies and associations in the field of energy operated since 1976, each year issues a forecast for the increase in electricity consumption.

The Electricity Act stipulates that rate of return for both new and existing assets during their depreciation time shall be based on the weighted average cost of capital, to be determined by a committee of experts. The year 2011 was the first of the current five year regulation period.

As regards to electricity production, the long term investment needs in the electricity sector are primarily based on developments in the power intensive industry. The distribution system operators (DSOs) and the transmission system operator (TSO) make investment plans for the general market. The long term investment needs of the Icelandic electricity sector are heavily dependent on the developments of power intensive industry. The grid will undergo targeted upgrading in the next few years. The initial emphasis will be on ensuring security of supply in areas that have plans for power intensive projects.

Annual growth in the general public market is estimated at approximately 1% over the next ten years. The distribution system operators (DSOs) and the transmission system operator (TSO) create and publish investment plans for the general public market.

According to the TSO, medium and long-term investment and reinvestment needs for the transmission system are estimated at ISK 3 to 4 billion over the next three years. In the year 2012 investment in the grid amounted to just under ISK 2 billion. This is nearly double the figure for the preceding year but nonetheless far lower than envisaged at the start of the year. All investments in the transmission system are privately financed with cash flow generated from operating activities, issuance of bonds in the capital markets and borrowings in the loan market.

Construction began in Hvalfjörður fjord for reactive power compensator at Klafastaðir for the Grundartangi industrial site. This will increase the transmission capacity to Grundartangi and enable the TSO to meet increased power demand there without adding transmission lines. The compensator will also enhance the grid's voltage control significantly, which will have a positive effect on power quality and the operation of the whole grid.

In the summer 2012 the TSO began preparations for the procurement and installation of a new subsea cable to the Westman Islands- the VM3. Following a failure in the autumn in one of the two sub-sea cables currently providing the islands with power, every effort was made to expedite the project in an aim to energise the new cable in the autumn of 2013. The new cable is designed for a voltage of 66kV and intended to meet increased load demand in the islands. a new subsea cable to the Westman Island was installed. It will initially run at a voltage of 33 kV.

The substation at Ísafjörður is old and needs refurbishment, in addition to which the construction of avalanche barriers requires its relocation. The TSO has been preparing the construction of a new substation for a number of years in co-operation with the Westfjord Power Company (WPC). The project is scheduled for completion in the summer 2014.

Preparations continued for installing Sudurnesjalína 2 power line, which is a more than 32-km long, 220 kV overhead line, initially operating at 132 kV voltage. The TSO expects to start construction of tracts and foundations for the latter line in the summer of 2014. The power line will run from a substation at Hamranes in Hafnarfjörður, through Vogar, Reykjanesbaer and Grindavíkurbær municipalities. The aim of this project is to refurbish south-west Iceland's transmission system from the Hellisheiði Power Station to the Geitháls substation on Reykjavík's outskirts and onward to the Reykjanes peninsula. Once the project is complete, however, the system will be able to supply the region with electricity in decades to come.

NEA – competences

The main statutory objectives of the NEA are the promotion of compliance with the Electricity Act no. 65/2003, the purpose of which is the promotion of an economic electricity system and thereby the strengthening of Icelandic industry as well as regional economic development. To this end, a competitive environment shall be ensured for the generation and trade of electricity, with such restrictions, as may prove necessary, for the security of supply and other public interests, effectiveness and efficiency in the transmission and distribution of electricity shall be promoted, the security of the electricity supply system and consumer protection shall be ensured and finally the use of renewable energy sources and observance of other environmental criteria shall be promoted. Article 24 of the Act stipulates the NEA as the national regulatory authority (NRA) for electricity. Various acts and regulations relating to the environment apply to the construction and operation of electricity installations, such as the Planning Act no. 123/2010, the Act on Health and Pollution Control no. 7/1998 and the Act on Environmental Impact Assessment no. 106/2000.

The NEA has a total staff of 39 persons and the Competition Authority a staff of 26. Both authorities have a number of functions, not related to regulatory functions according to the Electricity Act. Only a small proportion of the staff is working on regulatory functions on a daily basis. Staff members for the electricity regulation at the NEA are 4. These have different educational backgrounds, such as technical, financial and legal education.

According to Article 31 of the Electricity Act the following fees are levied on electrical network companies for surveillance according to the Act:

- the transmission company is liable to pay 0,004 kr/kWh for all electricity
- the distribution companies are liable to pay 0,01 kr/kWh for all electricity from the transmission system or from power stations

The NEA is permitted to apply daily fines in the event that the NEA is of the opinion that an operation subject to regulatory monitoring does not conform to conditions such as the provisions of an agreement pursuant to Article 8 of the Electricity Act, the conditions of a licence or other authorisations, the NEA may require rectification subject to the imposition of daily fines. The nature of the negligence or violation may be taken into consideration in the determination of daily fines. The party in question shall be notified of a decision to impose daily fines by letter in a verifiable manner.

The administrative decisions made by the NEA regarding the activities and pricing policies of the transmission system operator and distribution system operators may be appealed to the Appeals Committee on Electricity Matters. Other administrative decisions of the NEA may be appealed to the Minister of Industry, Energy and Tourism.

The NEA is a member of the Council of European Energy Regulators and participates as an observer in ERGEG procedures.

Security of supply

Iceland is an island with no interconnections to mainland Europe and therefore no international trade in electricity. Nearly all of Iceland's electricity is produced from domestic and renewable sources. Production potential in Iceland is such that power intensive industries have been sought out to utilise Iceland's electric supply. Generation from the geothermal and hydropower sources used in Iceland is baseload and not subject to intermittency issues.

The Electricity Act stipulates that the TSO and the distribution system operators (DSOs) are responsible for maintaining and developing the transmission and distribution systems in an economic manner, taking into account security, efficiency, reliability of supply and the quality of electricity.

At the end of 2012, installed capacity of power plant was 2.665 MW. All electricity produced is renewable baseload electricity. The increase in installed capacity in 2012 was 5 MW, which constitutes a 0.2% increase in installed capacity. The increase in electricity production was 340 GWh; or a 1,9% increase. Total electricity consumption was 17,549 GWh in 2012. The maximum annual peak load of 2,22 MW occurred on December 17th.

Regulation/Unbundling

According to the Electricity Act there are two regulatory authorities; NEA, which is under the Minister of Industry and Innovation and the Competition Authority, which is under the auspices of the Minister of Economic Affairs.

Amendments to the Electricity Act, were passed by the Parliament in 2011. The major changes included the extension of the income cap period from three to five years, the capacity of plant required to connect directly to the transmission system and the way in which energy intensive users are defined was broadened.

The acquis concerning Third Energy Market Package are under review in the EFTA Working Group for Energy Matters. The EFTA Secretariat has sent Standards Sheets to the EFTA States regarding possible inclusion of these acquis into Annex IV to the Agreement on the European Economic Area. A decision by the Ministry of Industry on the possible incorporation of these acquis into the EEA Agreement has not yet been made.

3 THE ELECTRICITY MARKET

3.1 Network regulation

3.1.1 Unbundling

Prior to the adoption of the Electricity Act in 2003, there were no requirements in place regarding the separation of activities for electricity companies. Landsvirkjun was the primary producer of electricity. It also owned and operated most of the transmission system and had the exclusive right to supply electricity to power intensive industries. Other vertically integrated utilities operated distribution

systems and were engaged in the sale of electricity to end users, while they were also engaged in other activities, such as small scale electricity production and the distribution of hot and cold water.

After the adoption of the Electricity Act, in 2003, the first step was the unbundling of Landsvirkjun's production and transmission activities. In 2004 Landsnet was established as Iceland's TSO through the transfer of all of Landsvirkjun's transmission assets. As of January 1, 2005, Landsnet was entrusted with the transmission of electricity in accordance with Act no. 75/2004 on the Establishment of Landsnet. The company also took over all transmission assets owned by RARIK and Westfjord Power Company and the companies became shareholders in Landsnet. All of these companies are entirely under public ownership. At later stage the company also acquired transmission assets from Orkuveita Reykjavíkur and Hitaveita Suðurnesja. Orkuveita Reykjavíkur became a shareholder in Landsnet while Hitaveita Suðurnesja decided to sell their assets. The board of directors of the TSO shall be independent of other companies engaging in the generation, distribution or sale of electricity. The TSO is prohibited from engaging in any activities other than those which are necessary for the performance of obligations according to the Electricity Act. However, the company may operate an electricity market provided that accounts for such operations are kept separate from accounts relating to other activities.

There were no changes in the unbundling requirements for the Icelandic network companies in 2012. The Icelandic practice of legal unbundling follow the requirement in the electricity directive 2003/54/EC. Iceland's electricity market is already open, and foreign companies and capital already operate in the market. Iceland's electricity prices are regulated. With regards to unbundling, all vertically integrated companies serving distribution areas with 10.000 or more inhabitants are required to separate distribution from other activities according to the Electricity Act No. 65/2003. This goes further than the 100,000 inhabitants limit in the 2003/54/EC Directive. All the Distribution System Operators already comply with this provision and have carried out the unbundling of their operations. The last one to unbundle was Orkuveita Reykjavíkur which was unbundled as of January 1st 2014, when the law entered into force. All of the production companies in Iceland are state-owned or municipality owned, except for one. All Icelandic DSO's are under regulation concerning neutral and non-discriminatory behaviour when it comes to the DSO's management of the information to customers, metering data and billing, security and efficiency in distribution system, and these regulations are subject to supervision by NEA.

The 3rd internal energy market directive package requires that electricity transmission network operator shall be ownership unbundled from production and supply activities. Landsvirkjun ehf. the country's largest electricity generator owns 64,73% share in the Icelandic TSO, Landsnet. RARIK, a generator in Reykjavík owns 22,51% share in the TSO, Orkuveita Reykjavíkur owns 6,78% share and Orkubú Vestfjarða owns the remaining share 5,98%. Landsnet's board of directors is nevertheless independent of other companies engaged in the distribution, generation or supply of electrical power. The TSO is prohibited from engaging in any activities other than those which are necessary for the performance of obligations according to the Electricity Act. The article, implementing this requirement of the 3rd energy package, into the Electricity Act, has been postponed.

As regards the 3rd internal energy packet has not been incorporated into the EEA Agreement and negotiations for such an amendment are still ongoing. However Iceland has already transposed some of the obligations that are set out in the 3rd energy package. , Iceland plans to continue implementing the 3rd energy package to fulfil it's obligations as soon as discussion has come to an end.

3.1.2 Technical functioning

Quality of electricity supply

NEA has a wide legal power as regards to Quality of Voltage and Security of Electricity Supply regulation No. 1048/2004, which is enacted on the grounds of Article 28 of the Electricity Act. This includes setting requirements for all parties connected to the Icelandic power system including distribution companies, the TSO, power producers and end-users regardless of whether they hold a licence according to the Energy Act or not.

Voltage Quality

Regulation 1048/2004, on the Quality of Voltage and Security of Supply, stipulates the task of the TSO regarding monitoring of the voltage quality and security of supply according to which the companies shall report annually the results to the regulator. Article 11 indicates the minimum requirements for the voltage frequency, slow supply voltage variations, voltage dips, voltage swells, rapid voltage changes, flicker, voltage imbalance and harmonic voltages. According to the regulation the companies should set themselves certain goals in improving their security of supply. Regarding the quality of voltage, the companies shall fulfil the ÍST EN 50160:1999 standard on voltage characteristic of electricity supplied by public distribution systems.

NEA has been delegated power according to the regulation no. 1048/2004 to monitor the voltage quality and ensure that the TSO, and DSO companies fulfil their obligations according to the act.

Frequency in the electricity system was well within the tolerance margins defined in the Regulation No. 1048/2004. There were exceptions in January when frequency exceeded 52 Hz in 7 cases due to outages in the Brennimelur substation due to salt on insulators and in December when frequency exceeding 52 Hz in 3 cases due to tripping of energy-intensive industries.

The TSO's internal goals as regards frequency quality state that in each month, 99,5% of frequency measurements must be within limits that are 50 Hz +/- 0.2 Hz, taking account of a 10-second average value. The frequency during all the months of the year except January was within these limits, meaning that the target was not achieved. For the whole year, 99,7% of the frequency measurements were within those limits.

According to the regulation the companies should set themselves certain goals in improving their security of supply. Regarding the quality of voltage, the companies shall fulfil the ÍST EN 50160:1999 standard on voltage characteristic of electricity supplied by public distribution systems.

According to the same Regulation, delivery voltage must be within limits that are +/-10%. More stringent requirements are made to delivery voltage to power-intensive industries. The TSO has defined these limits as being -9% and +5%. These limits, therefore, are taken into account when voltage quality in the 220kV system is assessed. The results from measurements in the energy management system, which are continuous throughout the year, show that values exceeded limits in some cases. These deviations can all be traced to lack of voltage due to malfunctions or maintenance of the delivery location in question.

Interruptions

The TSO, publishes annually operational disturbance statistic report providing reliability levels for the system. According to the TSO's 2012 Performance Report grid disturbances increased in 2012 as compared to the preceding year. The number of grid disturbances was 49 in the year 2011, compared

with 85 in 2012. There was also an increased number of faults – from 54 in 2011 to 98 in 2012. The number of registered grid disturbances in substations increased, as did the number of grid disturbances in transmission lines. The 10 year average number of grid disturbances is 49.

The number of grid disturbances leading to curtailment of load was 55, as compared with 26 in the year before. Energy not supplied due to grid disturbances in the transmission system totalled 5,703 MWh in 2012, about seven times the total for the year before. Calculated outage duration was 180 minutes, much longer than in 2011, when outage minutes were 27. The year's goal was 50 minutes or less and was not achieved. Back up generators operated during disturbances in 2012 produced 1,174 MWh. As a result, energy not supplied to end users was less than the grid's total unsupplied energy by at least that amount.

Grid disturbance

A grid disturbance is an unexpected event that can cause automatic or manual disconnection of a unit in the transmission system or in the event of a failed reconnection after a malfunction. Each grid disturbance, therefore, may involve more than one fault. This means that the number of faults will always be equal to or greater than the number of grid disturbances. On registering grid disturbances, each fault is classified, e.g. according to type, unit that caused the failure and the cause.

There were considerably more grid disturbances in 2012 than in the preceding year, or a total of 85 disturbances involving 98 faults. The average number of grid disturbances over the last 10 years for the same size of transmission system are 49 involving 62 faults.

Figure 2 shows the number of grid disturbances in the transmission system over the past 10 years. The figure shows the division of cases according to the location of the disturbance, i.e. in substations, on lines/cables or whether system disturbances are involved. Figure 13 shows the division of grid disturbances by cause.

System disturbance are defined as follows:

A forced outage which results from system effects or conditions and is not caused by an event directly associated with the component or unit being reported. If, e.g., voltage fluctuations or deviations in frequency cause units to disconnect from operation or if users are disconnected for such reasons, then the event is a system disturbance. Non-selective trippings at customers for these reasons, however, are not considered system malfunctions.

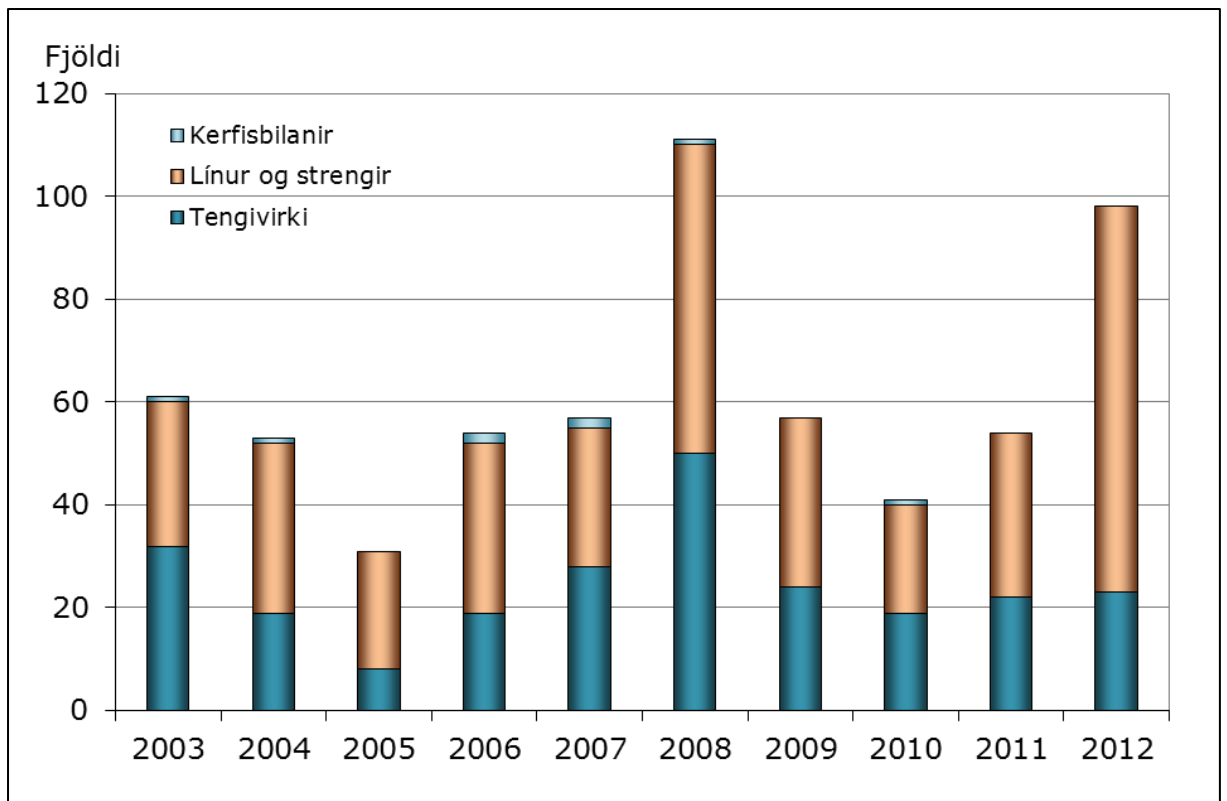


Figure 2: Number of disturbances in Landsnets transmission system 2003-2012

Transl: Kerfisbilanir – System failures. Línur og strengir – Lines and cables. Tengivirki – Transformers.

Average Outage Duration Index, outage minutes

Outage minutes have hitherto been one of the main indicators of the transmission systems' security of supply. Over the past few years, the TSO's goal has been to ensure that outage minutes do not exceed 50 minutes per year. Outage minutes in 2012 were 180,4 minutes and the goal therefore not achieved as this is the worst year over the last decade as can be seen in figure 2. Outage minutes are calculated as a ratio between a unsupplied energy and energy sales to each customer over the year.

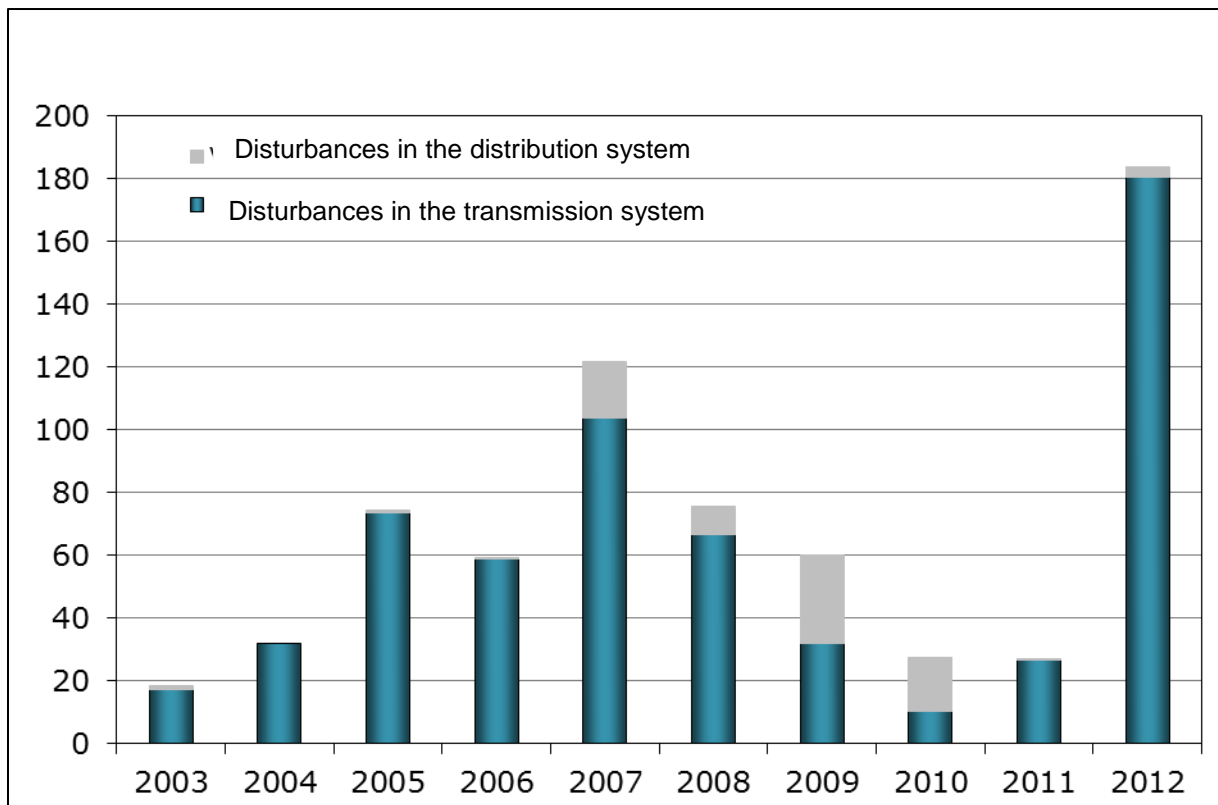


Figure 3: Outage minutes, caused by grid disturbances in the transmission system year 2003-2012.

The year 2012 saw an unusually high rate of grid disturbances and outage minutes. The weather played a central role in most cases as four severe storms struck the country during the year, each causing substantial damage to the grid as well as supply interruptions. The year's largest disturbances occurred in early January, September, November and late December. All of these were weather-related and caused extensive outages throughout the country. All of the disturbances were among the largest in Landsnet's history.

Number of grid disturbances at Distribution System Operators.

Figure 4 shows the average interruptions affecting individual customers due to grid disturbances in the year 2012, where the grid disturbances in the transmission system are included. Largest disturbances are in Orkubú Vestfjarða and RARIK which is related to long transmission lines, which are vulnerable against harsh weather conditions, such as icing and storm. That causes more disturbances in rural areas such as Westfjords, than in urban areas where underground cable system are present.

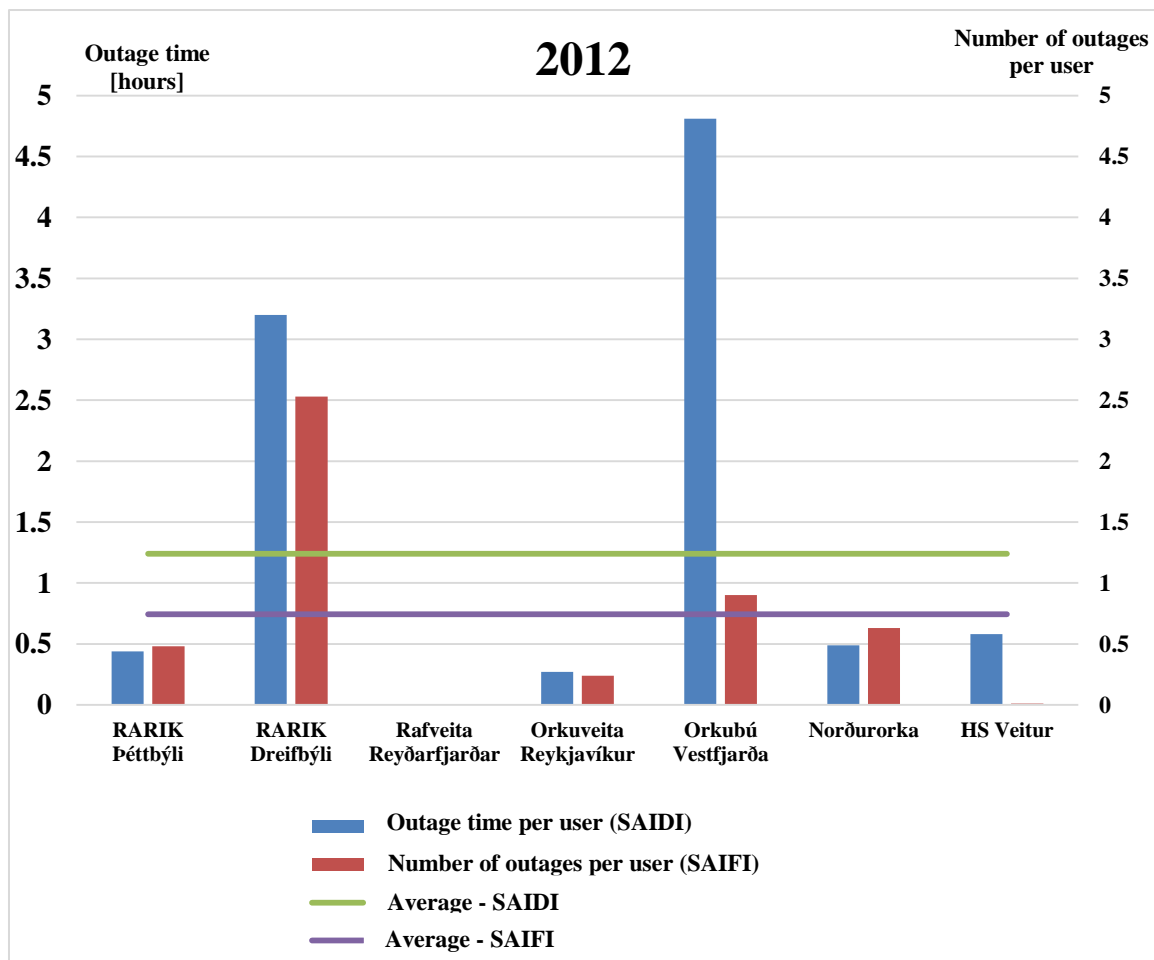


Figure 4: System average interruption duration index (average duration per end user) in the year 2012.

Common indices with reference to customers are presented in the table. The indices have the following descriptions:

- SAIFI: System average interruption frequency index (average number of interruptions per end user).
- SAIDI: System average interruption duration index (average duration per interruption).
- CAIDI: Customer average interruption duration index (average duration per interruption).

Balancing

The TSO, Landsnet is responsible for maintaining a balance between power generation and consumption in the electricity system. To be able to correct imbalances, the TSO operates a balancing energy market and may request generation companies to reduce or increase their output depending on whether the system has an excess or shortage of power.

To meet demand for balancing energy, Landsnet buys ‘regulating power’ in its own regulating power market.

Generating companies submit offers and bids in the regulating power market, either for up-regulation (increased generation) or down-regulation (reduced generation). Suppliers may also submit offers and bids

in the name of consumers, i.e. for upward or downward regulation. The bids and offers are valid for at least one hour. The actual demand only becomes clear in real time. Bids and offers are accepted in merit order

Offers for up-regulation specify a price to be paid by Landsnet to the offeror, while bids for down-regulation state a price payable by the bidder to Landsnet. For up-regulation, the lowest offer is accepted first, followed by the second lowest, etc. The opposite applies to down-regulation. The price of the last bid/offer accepted is set as the balancing energy price. This is the price at which all imbalances within the hour in question are settled. Those consuming less than they expected receive payment for the surplus energy at the balancing energy price, while those consuming more than expected pay for the deficit at the same price.

There have been minor developments in the market model, as balancing energy minimum bids have been significantly lowered to 1 MW per hour. This was done to ease access to the balancing market for smaller producers. The average price in 2012 was 2,25 ISK/kWh. Balancing energy is produced from hydropower in Iceland. As more than 95% of all hydropower reservoirs belong to Landsvirkjun, it has been the only active member on the balancing market so far, despite the lowering of minimum bids. However, there are expectations of more parties offering their services on the balancing market in the future.

3.1.3 Network tariffs for connection and access

The NEA determines a revenue cap for the transmission system operator for revenues earned from transmitting electricity to DSOs on the one hand, and to energy intensive users on the other hand. The revenue cap is based on criteria established by the Electricity Act. The revenue cap is set for a five year interval, but may be reviewed annually if the NEA determines that criteria have changed enough to warrant such a reassessment.

The TSO establishes a tariff for services determined by its revenue cap. There are two separate tariffs; one for the delivery of electricity to DSOs and another for the delivery of electricity to power intensive production. The published tariff on delivery to DSOs is for the delivery of electricity at 66 kV. If electricity from the transmission system is delivered at a higher voltage, the tariff is reduced accordingly. According to amendments to the Electricity Act that took place in 2011, the TSO is permitted to deliver electricity at a lower voltage to power intensive customers. When the customer requests a delivery at a lower voltage, a special charge must be paid for the service. All variations in the standard of delivery by the TSO are charged according to the reliability and quality at each point of delivery.

Transmission tariffs are based on a standing rate for injection, and a standing and usage rate for withdrawal. The same tariff applies for feeding into the transmission system from all power plants. In instances where plants are connected to the transmission system through a distribution system the DSO collects the charge. Individual final customers connecting to the transmission system shall enjoy more favourable terms of payment if they can demonstrate that their trade improves or has improved the efficiency and use of the system.

The NEA also sets a revenue cap for DSOs on income earned from distributing electricity. The revenue cap is based on a criteria established by the Electricity Act. The revenue cap is also set for a

five year period. However, the cap may be reviewed annually if criteria change materially, as determined by the NEA. The DSO charges a tariff for services in accordance with the revenue cap. The same tariff applies in the distribution zone of each DSO for the consumption of low voltage electricity, i.e. 230–400 V. If electricity from the distribution system is delivered at a different voltage the tariff may be adjusted accordingly.

Two DSOs have a dual tariff structure and charge a separate and higher tariff to customers in rural areas. Distribution system operators are required to apply to the NEA for permission to charge a separate tariff in rural areas where the cost of distribution is demonstrably higher than in urban areas. In order to charge the rural tariff, a minimum of 5% of the total use in the DSO's zone must be defined as a rural area as defined by Regulation 1050/2004.

All tariffs for transmission and distribution services as well as their applicable terms must be approved by the NEA. The TSO and the DSOs are required to submit any changes in transmission and distribution tariffs to the NEA for approval two months before their intended effect. The NEA then estimates the future income the new tariffs would generate with the assigned revenue cap for the corresponding company. If the NEA determines that the submitted tariff is in violation of the Electricity Act or its associated regulations, the Authority shall provide its comments to the TSO or DSO in question within two weeks of the submission. In case of conflict, the NEA may require rectification of the tariff which will not take effect until the matter has been rectified. The TSO and the DSOs are obliged to publish the tariff.

The first year of the five year regulatory period was 2011. The next revenue cap will be set in 2015, for the years 2016-2020. The rate of return on assets is determined by the weighted average cost of capital, as determined by a committee of experts.

The Electricity Act stipulates no other incentive measures or investment incentive schemes.

The NEA aims to introduce benchmarking projects for the TSO and DSOs, which will be used for the next regulatory period in the form of an efficiency requirement with a use of benchmarking of companies. An independent committee appointed by the NEA shall determine the efficiency requirement, according to changes that were made with the 2011 amendment.

3.1.4 Cross-border issues

The Icelandic electricity system is an isolated system without any connection to other countries. The Icelandic Government has for the last 20 years been conducting surveys on the possibility of connecting Iceland to other parts of Europe with a submarine electricity cable. Additional research is foreseen for at least 2 to 3 years before any decisions are made concerning such an undertaking. Preparation and construction time would be at least 8 to 10 years. The competent body for energy issues and related topics is the NEA under the Ministry of Industry and Innovation. In 2007, it concluded a preliminary study on the feasibility of connecting the electricity system of Iceland with that of the Faeroe Islands, but with no practical implications so far. Landsvirkjun has also been studying another alternative of an interconnection to Europe.

3.2 Promoting Competition

3.2.1 Wholesale markets

There was no power exchange or special facility for the wholesale electricity market in 2012. All major producers enter bilateral agreements with power intensive users and sales companies operating in the retail market.

Total electricity sales to power intensive industries were 13,545 GWh in 2012, the majority of which is used by the aluminium sector. Electricity contracts for power intensive users are long-term, or frequently of 20 years duration or more, with an option to renew. Furthermore, the electricity sales price stipulated in such contracts usually incorporates the output of the business in question, e.g., the price of aluminium. This results in power producers sharing in the risk/reward of the output market in question. The contracts are frequently structured on a “take-or-pay” basis.

It should be noted that energy prices for power intensive industries are not publicly available but all power contracts with power intensive industry, since the entry into force of the EEA Agreement, have been reported to the EFTA Surveillance Authority. ESA has concluded that the contracts are in line with the market investor principle and do not involve state aid. The fee for transmission to power intensive industries is determined by a tariff specific to such users. These bilateral contracts are fairly independent of activities in the wholesale market.

Three companies were known to be on the wholesale market in 2012. There were no mergers or acquisitions in the sector in 2012 and no effective changes in market concentration.

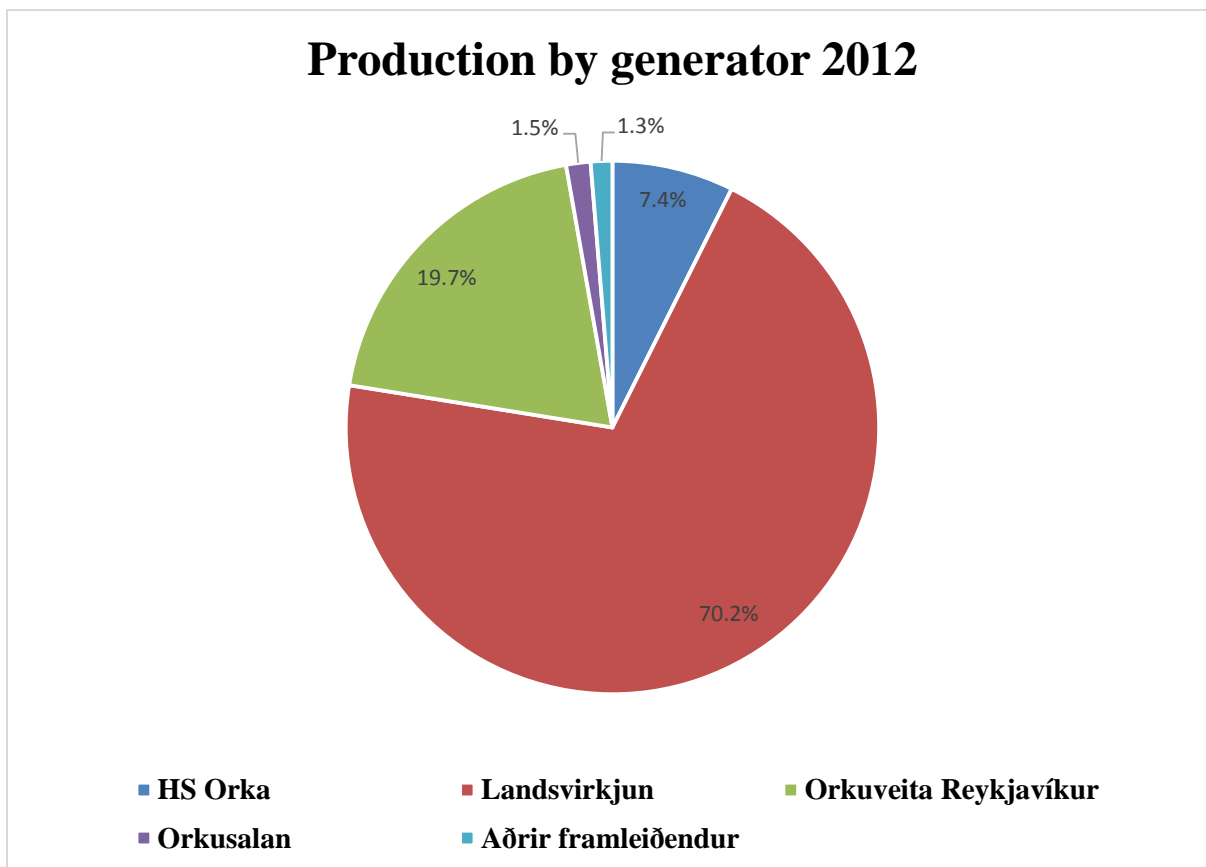


Figure 4: Production by generator and share of total production

3.2.1.1 Price monitoring

Landsvirkjun places bids to retail suppliers for the public but does not engage in the retail market itself. Landsvirkjun, as the dominant producer, is considered the price setting firm in the wholesale market. Price competition is believed to be active in the wholesale sector.

As access to the electricity market is based on the post-stamp system, there is no reason to suspect any discrimination in the market. However, initial cost of connection to the transmission system may vary between locations.

3.2.2 Retail markets

As stated earlier, competition has been introduced in the supply of electricity. Eight companies compete on the market and according to the interim provision no. IV, all parties are entitled to select the electricity supplier of their choice, effective as of 1 January 2006. Customers can therefore choose their supplier, free of charge; however the termination of services shall be made in accordance with Article 9 of Regulation No. 1050/2004, i.e. with at least 30 days notice. The NEA also posts on its website general information and guidance for customers on the electricity market, such as electricity prices, how to switch to a new supplier as well as giving guidance on how to proceed with a complaint.

In addition to the regulatory monitoring of the NEA, the Competition Act also applies to business activities subject to the Electricity Act. The Competition Authority is responsible for the enforcement of the Competition Act, the object of which is to promote effective competition in business activities.

The Competition Authority is charged with the task of achieving the objectives of the Competition Act by preventing unreasonable barriers and restrictions on freedom in business operations and preventing harmful oligopoly and competition restrictions. The supervisory work of the Competition Authority extends to all forms of business activity, regardless of whether such activity is conducted by individuals, companies, public entities or other parties.

There are six retail supply companies Reykjavik Energy, HS Orka hf., Fallorka, Orkusalan ehf., Westfjords Power Company (Orkubú Vestfjarða), and Reydarfjord Electric Supply Company (Rafveita Reyðafjarðar). Three of these retail suppliers are very small and have a limited amount of customers outside of the areas they were designated to operate in prior to liberalisation.

The sales companies advertise an indicative price for domestic and mid-scale users. The price of electricity for domestic use, inclusive of distribution services, is in the range ISK/kWh 14,93 to 15,26 for urban areas and ISK/kWh 20,75 to 21,09 for rural areas for 4.000 kWh of annual consumption.

Switching takes place on the first of the following month. Hence, the waiting period for switching is at minimum one month, but a maximum of two months. There is no charge for switching supplier. No known difficulties have been encountered by customers in switching a supplier. When competition was first introduced, the sales companies with the highest prices decreased their rates close to the lowest market price. This situation has remained and there is little difference between the rates of suppliers.

	2011			2012		
	Households	I&C customers	Total	Households	I&C customers	Total
No. of switches	471	239	710	417	234	651
No. of customers	141258	39986	181244	141478	41150	182628
Percentage of switchers (%)	0,334	0,600	0,39	0,295	0,575	0,36

Figure 5: Customer switching by households and/or industrial or commercial customers

The duration of contracts for general users is usually two years or less. A large portion of electricity supplied by retailers is bought from Landsvirkjun which dominates the market. The minimal price difference between retailers results in a fairly dormant market. Customers who fail to choose a supplier within 4 weeks of moving to a new location are meant to be charged a 50% surcharge by the supplier of last resort. The NEA suspects that this rule is not exercised as it should be and may have a negative effect on competition.

The cost of distribution services for industrial and commercial companies has developed in a very similar way. Although information on public tariffs of sales companies to midscale industries has been published, the NEA has not compiled data on discount levels received by larger companies. Prices of supply for large industries users (100 GWh or more) are not available, although transmission prices are public.

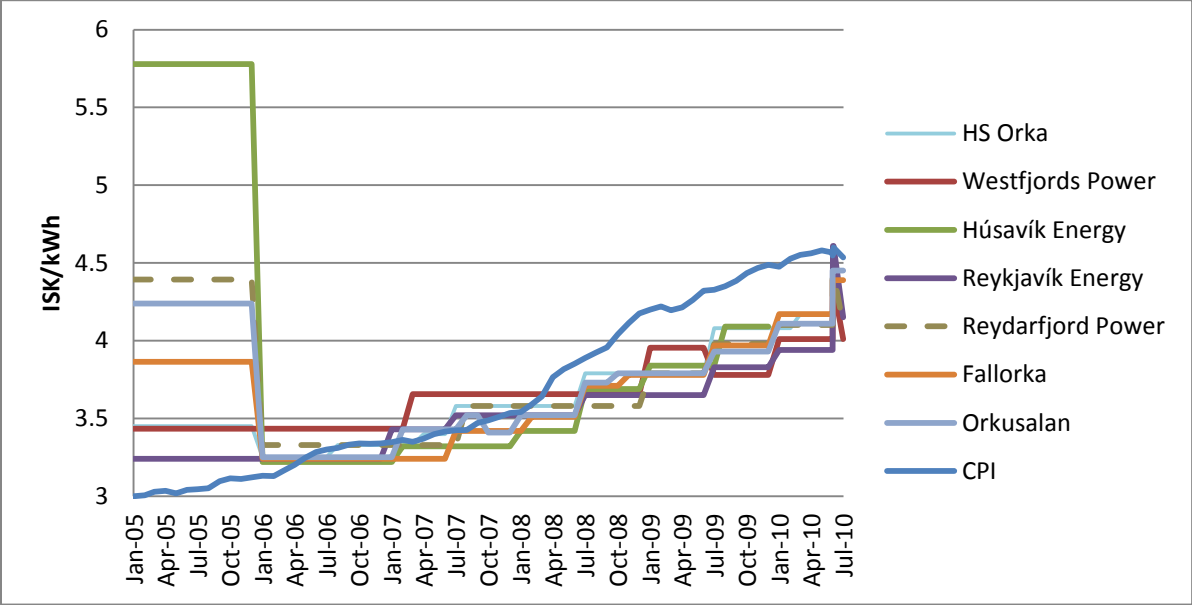


Figure 6: Supply price for households 2005-2010 for 4500 kWh of use (excluding VAT)

3.2.2.1 Monitoring the level of transparency, including compliance with transparency obligations, and the level and effectiveness of market opening and competition

Market surveillance is the responsibility of The Competition Authority, although in cooperation with the NEA when applicable.

Landsvirkjun, the dominant electricity producer, is required to publish the price of wholesale electricity. There were no indications market power abuse with respect to bid formation and potential withholding of technically available capacity.

Traders buy electricity according to fixed agreements for one to twelve years. In most cases the electricity suppliers have their own production capacity but some portion of their electricity supplied is purchased from Landsvirkjun or other producers. Regulation 1050/2004 stipulates that a standardized contract shall be the basis for the purchase of electricity between the consumer and the supplier. Any deviations from such contracts shall be in writing. Contracts between energy intensive users and suppliers shall always be in writing. Termination of contracts shall also be in writing. The structure of contracts is neither stipulated in the Electricity Act nor the derived regulations. The NEA is currently aware that contracts are not actually always in writing, and a change in Regulation 1050/2004 is

needed that would stipulate that electronic contracts suffice. The NEA is currently reviewing the structure and execution of contracts and will cooperate with the Competition Authority on this subject.

3.3 Consumer protection

According to Act no. 62/2005 on the Icelandic Consumer Agency, Article 2, the Agency shall supervise the execution of all acts that regard surveillance on invidious business methods and transparency of the market. Article 27 of the Electricity Act stipulates that the Icelandic Competition Authority is obligated to supervise the industry which operates according to the Act.

The NEA is obligated to supervise certain general aspects of consumer protection, regarding the profitability of the electricity system and general tariffs, according to the Electricity Act no. 65/2003.

The status on measures taken to fulfil universal service and public service obligations, including consumer protection are, among others, as follows:

There is no labelling scheme to identify primary energy sources of Icelandic electricity. There are no provisions regarding the implementation of Article 3(6) of the Directive. Recital 25 of the Directive states that the Commission has indicated its intention to take initiatives especially as regards the scope of the labelling provision and notably on the manner in which the information on the environmental impact in terms of, at least, emissions of CO₂ and the radioactive waste, resulting from electricity production from different energy sources, could be made available in a transparent, easily accessible and comparable manner throughout the European Union and on the manner in which the measures taken in the Member States to control the accuracy of the information provided by suppliers could be streamlined.

According to paragraph 4 of Article 7 of Regulation No. 1050/2004 all exchanges in electricity between a customer and a supplier shall be based on a standard contract. Such contract shall be applicable to all new customers. Paragraph 4 of Article 7 includes strict rules on the dismissal of the aforementioned agreements. Paragraph 7 of Article 7 it is reaffirmed that a customer and a supplier shall both sign a contract on the electricity exchange; although the NEA is aware that signed agreements are, in fact, rare. Customers can complain to the NEA in case of alleged discrimination, if they consider tariffs unjust or wrongfully applied (Articles 24, 25, 26 and 30 of the Electricity Act).

Supplier of last resort is neither defined in the Electricity Act nor regulations derived from the Act. In Article 44 of Regulation No. 1050/2004, on Exchanges in Electricity and Metering, the procedure for electricity disconnection is described, e.g. time limit prior to disconnection. Some companies extend the stipulated time limit prior to disconnection for vulnerable consumers to give them time to seek consult or assistance from their local welfare services.

In 2012 the total number of the DSOs customers was 182,628. The total number of disconnections in 2010 was 5,794, mainly due to non-payment. 3.2% of customers were therefore disconnected, provided each customer was only disconnected once.

There is no social tariff scheme in Iceland and fuel poverty is not a prevalent social issue. In cases where low-income individuals are unable to pay for electricity or heating, their local social services may be in direct contact with the supplier to pay the bill as determined on a case by case basis. There

are, however, three subsidy schemes that apply to the end-users of electricity. The total amounts for each scheme are determined by Parliament and administered by the NEA.

There is a direct financial transfer to DSOs providing electricity to homes without access to geothermal district heating. The subsidy is designed to equalise the cost of heating and encourage the development of rural areas (heavily populated areas have most often developed around geothermal resources in Iceland). The subsidy is paid directly to the DSO who then bills according to the subsidised price. There were about 37.000 residents living with subsidised electric heating in 2010.

The cost of distributing energy in rural areas is high due to scarce population and difficult terrain. Distribution costs are subsidised to residents who are designated as rural users according to Regulation no. 1040/2005. The amount of the 2010 subsidy was from 0.55 ISK/kWh up to 0.93 ISK/kWh depending on the region. The subsidy is paid directly to the retailer who then bills according to the subsidised price.

The last subsidy scheme applies to greenhouse operators and is administered entirely by the Ministry of Industry,

3.4 Security of supply

Iceland is an island with no interconnections to mainland Europe and therefore no international trade in electricity. Nearly all of Iceland's electricity is produced from domestic and renewable sources. Production potential in Iceland is such that power intensive industries have been sought out to utilise Iceland's electric supply. Generation from the geothermal and hydropower sources used in Iceland is baseload and not subject to intermittency issues.

At the end of 2012, installed capacity of power plant was 2.657 MW. All electricity produced is renewable baseload electricity. The increase in installed capacity in 2012 was 5 MW, which constitutes a 0,2% increase in installed capacity. The increase in electricity production was 340 GWh; or a 1,9% increase. Total electricity consumption was 17,549 GWh in 2012. The maximum annual peak load of 2,22 MW occurred on December 17th.

Currently, there is no significant shortage of available electricity and the long-term generation potential of economically viable renewable energy sources are more than adequate to meet the demand levels of the general public. A very small fraction of electricity customers rely on imported fuels. There are no connections to other markets although the technical capacity to connect to the European mainland does certainly exist. There are some transmission congestion issues that are localised to specific areas on the grid, but the major concerns of the European common electricity market such as interconnectivity, reliance on imported fuels and decreasing the levels of greenhouse gas emissions do not apply to the Icelandic electricity sector.

The TSO is responsible for the secure management of the electricity system and shall ensure the security and quality of electricity delivery. Such system management includes, inter alia:

- Co-ordinating the supply and demand of electricity so that discrepancies between contracted purchases and actual consumption can be met, and entering into contracts with producers in connection therewith
- Ensuring the adequate supply of spinning reserves as required for the operation of the system

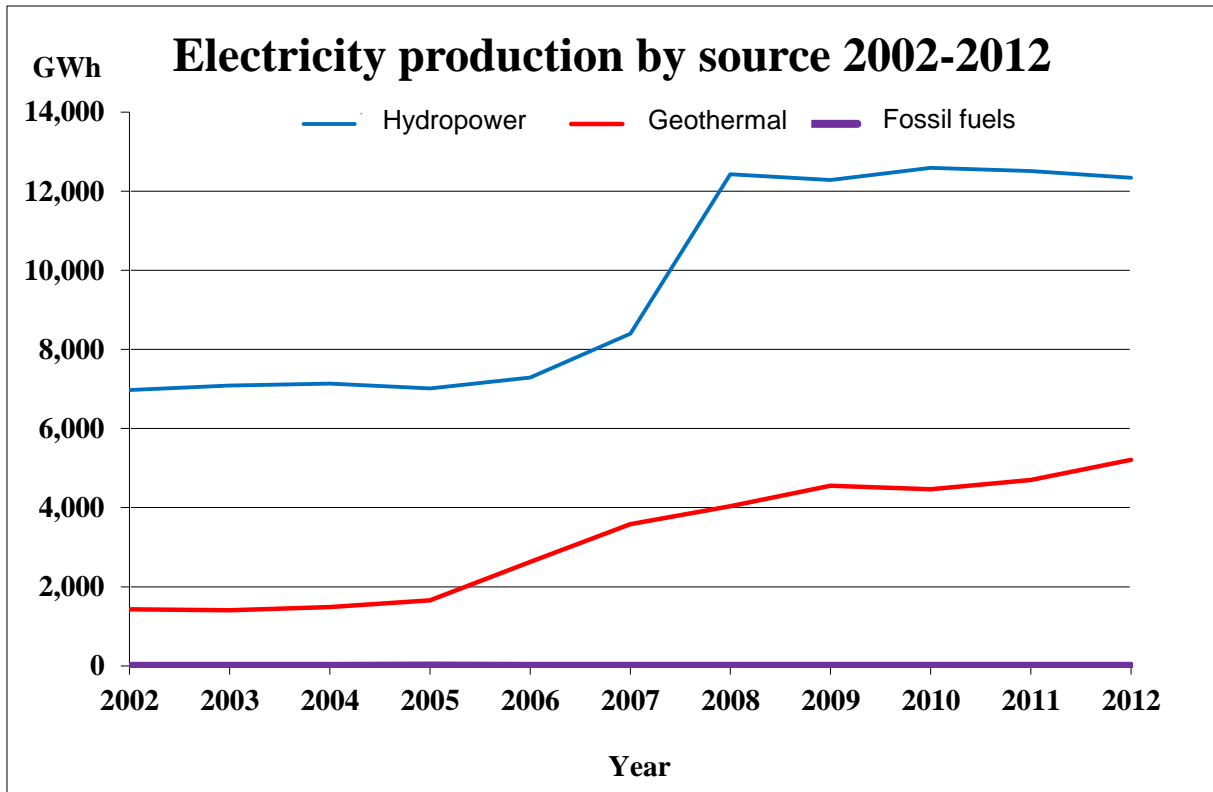
- determine system load profiles where power measurements are not conducted
- Measuring the delivery of electricity into and out of the transmission system in accordance with the applicable government regulation, documenting measurements and submitting records to the parties in question for the purpose of enabling financial settlement in relation to trade in electricity
- Supplying public authorities, customers and the public with the information necessary to assess whether the company is meeting its obligations and to ensure non-discrimination in the trade of electricity.

The TSO is required to ensure the availability of a forecast on the projected demand for electricity and a plan for the development of the transmission system. The Energy Forecast Committee, which is a cooperation forum for the key ministries, agencies, companies and associations in the field of energy operated since 1976, issues a forecast every year for the expected increase in electricity consumption.

Year	Electricity production	Peak demand
	GWh	MW
2012	17,549	2,221
2013	17,830	2,249
2014	18,399	2,318
2015	18,469	2,330

Figure 7: Electricity production forecast for 2012 – 2015

In 2012 99,98% of all electricity was produced by renewable sources, 70,3% by hydro and 29,7% by geothermal. Landsvirkjun produces 70% of the total, but the three largest companies produce 97% of the total production. The increase in electricity production in 2012 was 338 GWh, which constitutes 2.0% increase in electricity production. The total electricity consumption was 17549 GWh in 2012.



Several places with low populations are dependent on electricity generated from imported fuel, but import issues have not caused any electricity supply disruptions in the last 25 years. The highest risk factor to the import of fuel to these islands may be pack ice. Several areas are vulnerable to transmission disturbances because they are dependent on a single transmission line. The largest town supplied through a single transmission line has a population of 2,500 people.

The maximum estimated production capacity is 19,550 GWh, which indicates reserves of 14% for the year 2010. The, the maximum peak load for 2012 of 2,224 MW occurred on December 17th.

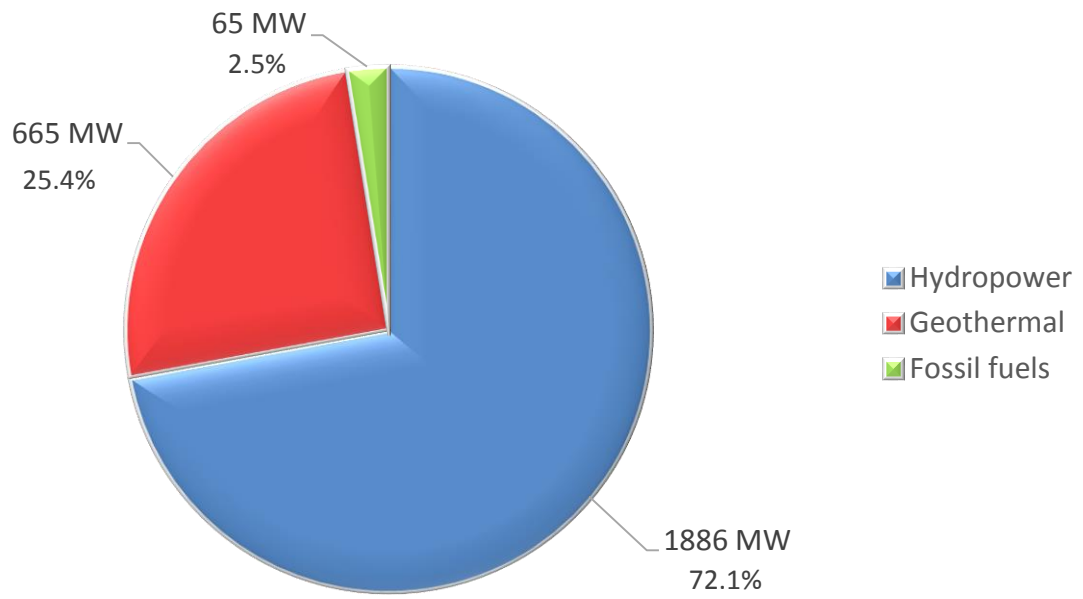


Figure 9: Installed capacity at year-end 2012

3.4.1 Monitoring balance of supply and demand

At the end of 2012 installed capacity in power stations was 2,667 MW. The decrease in installed capacity in 2012 was 7 MW, which is a 0.19% increase in installed capacity.

According to Landsnet's report on the electricity balance⁴ for the next 3 years, the likelihood of an electricity shortage is very low, or 1/10000. This calculation assumes that curtailable load is disconnected. The electricity balance report has not been updated since last the national report to ESA.

A license is required for the construction and operation of a power plant with 1 MW or more of installed capacity or less if the plant is connected to the distribution grid. The general conditions for such a license are designed to promote an adequate supply of electricity, security, reliability and efficiency of the electricity supply system and the utilisation of renewable energy sources. The conditions are set out in Regulation no. 1040/2005 and apply for all power plants that require a license. The regulation stipulates that licenses can only be issued for power plants that utilise renewable energy sources. The dominant electricity generator is Landsvirkjun, which is owned by the Icelandic State. Two other companies, Reykjavik Energy and HS Orka, also have significant electricity production, while there are also a number of companies with small levels of generation capacity, including small private hydro power producers.

3.4.2 Monitoring investment in generation capacities in relation to SoS

For all new projects a license to build and operate must be granted. For all projects NEA considers the project economy, public and private interests and environmental issues.

The TSO produces a five year investment plan for the transmission system which is presented to the NEA for their comments and consent. There are no legal provisions pertaining to the NEA's authority to alter the plan, although the NEA issues licenses for individual projects based on merit, economic effectiveness and the approval of other relevant authorities.

In the event of force majeure preventing the supply of electricity from meeting demand, the TSO shall ration electricity to distribution system operators and end users. Rationing shall be non-discriminatory and based on objective criteria to be further specified in a government regulation.

4 THE GAS MARKET

There is a single natural gas pipeline which has been used in Iceland since 2008. It delivers methane produced from the Reykjavík municipal landfill to a filling station for automobiles ten km away. Three km of the pipeline are under the ocean. The pipeline's capacity is 5 million Nm³ per annum, although

⁴ Orkujöfnuður 2011 og aljöfnuður 2011/2012 fyrir Ísland, September 2008; Landsnet-08128

it is still only using a fraction of its capacity. It transported 370.000 Nm³ in 2008, 427.000 Nm³ in 2009 and 567.000 Nm³ in 2010.

There are no other plans for the expansion of natural gas usage in Iceland and the gas directive has not been implemented. The NEA does not monitor its operation. The landfill gas production is owned by the municipal waste company in Reykjavík, Sorpa. The pipeline is owned by Reykjavik Energy and the filling station is operated by N1.

5 CONSUMER PROTECTION AND DISPUTE SETTLEMENT IN ELECTRICITY

According to Act no. 62/2005 on the Icelandic Consumer Agency, Article 2, the Agency shall supervise the execution of all acts that regard surveillance on invidious business methods and transparency of the market. Article 27 of the Electricity Act stipulates that the Icelandic Competition Authority is obligated to supervise the industry which operates according to the Act.

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the stipulated time limit prior to disconnection for vulnerable consumers to give them time to seek consult or assistance from their local welfare services.

In 2010 the total number of the DSOs customers was 181,163. The total number of disconnections in 2010 was 5,794, mainly due to non-payment. 3.2% of customers were therefore disconnected, provided each customer was only disconnected once.

There is no social tariff scheme in Iceland and fuel poverty is not a prevalent social issue. In cases where low-income individuals are unable to pay for electricity or heating, their local social services may be in direct contact with the supplier to pay the bill as determined on a case by case basis. There are, however, three subsidy schemes that apply to the end-users of electricity. The total amounts for each scheme are determined by Parliament and administered by the NEA.

There is a direct financial transfer to DSOs providing electricity to homes without access to geothermal district heating. The subsidy is designed to equalise the cost of heating and encourage the development of rural areas (heavily populated areas have most often developed around geothermal resources in Iceland). The subsidy is paid directly to the DSO who then bills according to the subsidised price. There were about 37,000 residents living with subsidised electric heating in 2010

The cost of distributing energy in rural areas is high due to scarce population and difficult terrain. Distribution costs are subsidised to residents who are designated as rural users according to Regulation no. 1040/2005. The amount of the 2010 subsidy was from 0.55 ISK/kWh up to 0.93 ISK/kWh depending on the region. The subsidy is paid directly to the retailer who then bills according to the subsidised price.

The last subsidy scheme applies to greenhouse operators and is administered entirely by the Ministry of Industry.