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**2016**





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# Chapter 1

## From the Board of Directors

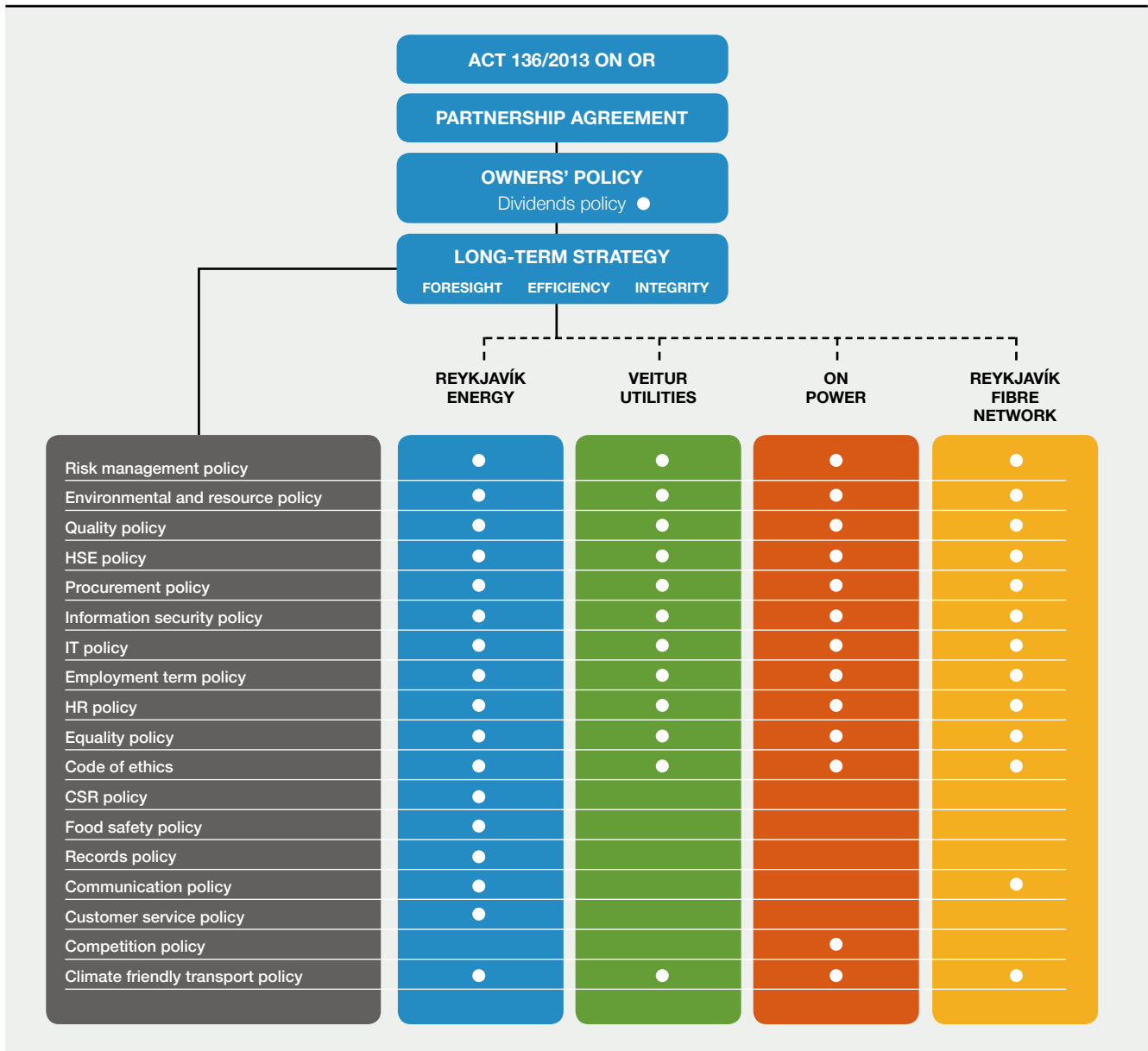
# From the Board of Directors

Reykjavik Energy is an environmental company which endeavours to ensure the communities it serves are sustainable. This is how the mayor of Reykjavik described his attitude to Reykjavik Energy at the opening of the company's Annual General Meeting in April 2016. That is certainly a honourable task. It is important to promote the sustainability of communities and, in order to do so, Reykjavik Energy and its subsidiaries, Veitur Utilities, ON Power and the Reykjavik Fibre Network need to be able to fulfil sustainability requirements in their own operations.

Reykjavik Energy is well equipped for this, since the owners of the company – the City of Reykjavik, Akranes and Borgarbyggð – have established an ownership policy for the company. On the basis of this and the partnership agreement, the Board of Directors of Reykjavik Energy has set a policy in the areas where the owners place a special emphasis on achieving results. Every year, the Board of Directors submits a report to the owners on the implementation of that policy.

One of the guiding principles of Reykjavik Energy's ownership policy is that the company should cultivate social responsibility. Since sustainability is not an all-encompassing factor, but one that is also dependent on how well the company is poised to tackle changes in society and the environment in the implementation of its social responsibility, Reykjavik Energy has placed an emphasis on defining the activities of the companies in the Group as accurately and precisely as possible. This annual reporting, which encompasses the annual report, environmental

## OVERVIEW OF POLICY INSTRUMENTS WITHIN THE OR GROUP



The graph provides an overview of the policy instruments that apply to the activities of the OR group, mother company and subsidiaries.





#### Board of Directors of OR

The Board of Directors of OR from left: Björn Bjarki Thorsteinsson, sits as an observer from Borgarbyggð, Áslaug Fridriksdóttir, Gylfi Magnússon, vice-chair, Valdis Eyjólfssdóttir, Sigríður Rut Júlíusdóttir, Kjartan Magnússon and Brynhildur Davídsdóttir, chairperson.

report and annual accounts, is conducted according to the Global Reporting Initiative (GRI) for the reporting of Corporate Social Responsibility. Reykjavík Energy Group's position in relation to more than a hundred indicators is therefore published in an official and transparent manner. Reykjavík Energy or its subsidiaries have not set objectives for all of the elements the reporting requires. The publication of the information, on the other hand, stimulates a discussion on Reykjavík Energy's position in the community and how the company can best fulfil its function in an economic fashion and in harmony with the environment and community.

The values of Reykjavík Energy and that of all its subsidiaries – **foresight, efficiency and integrity** – need to be reflected in our activities. This detailed reporting gives stakeholders an opportunity to evaluate whether we have succeeded in this in 2016.

At the beginning of 2016, we adopted the innovation of publishing documents from meetings of the Board of Directors on Reykjavík Energy's website along with the relevant minutes from the period. This gives the public a better idea of the premises on which the Board of Directors' decisions are

made. During the year, the Board of Directors of Reykjavík Energy held 13 meetings, in addition to convening the Annual General Meeting in April and the regular owner meetings in November. The board held one staff day.

The finances of the Group were an extensive part of the Board of Directors' work and, along with environmental issues, they are fixed items on the board meetings' agenda. The Beyond budgeting approach to financial management was pursued further and the risk policies and dividend payment policies were updated and revised. The quality policy was brought in line with other policy instruments and Reykjavík Energy's non-discrimination policy was revised with the aim of clearly establishing it as a human rights policy designed to prevent discrimination of any kind in the activities of the Reykjavík Energy Group. Gender equality is a priority issue for the Board of Directors and the fact that four women walked out of a Reykjavík Energy board meeting on Women's Day reflects its solidarity with the fight for equal pay. At the Annual General Meeting, Haraldur Flosi Tryggvason, who had been chairman of the board since 2010, stood down. At the meeting, the representatives of the owners

thanked him for his successful work in the company and his colleagues from Reykjavík Energy's Board of Directors would also like to express their gratitude to him here. At the owners' meeting in November, the board submitted a report on the implementation of Reykjavík Energy's ownership policy and it also expressed the wish that the municipalities of the owners be, as before, always kept informed of major issues, such as the finances of the Group and the resource issues of the Hellisheidi Geothermal Power Plant in each case.

The entire staff of the Reykjavík Energy Group, its management and board members are thanked for their contribution to the company in 2016.

**Brynhildur Davídsdóttir,**  
**Chairperson of the board.**





## Chapter 2

From the CEO



# From the CEO



Bjarni Bjarnason  
CEO

The needs which the owners of Reykjavik Energy have entrusted the company with the task of fulfilling are timeless. Water is an absolute necessity for all of us and hygiene is essential. In Iceland homes need to be heated and almost every device is powered by electricity. Our communications with each other are increasingly determined by powerful telecommunications networks. The operations of Reykjavik Energy and its subsidiaries Veitur Utilities, ON Power and the Reykjavik Fibre Network, therefore need to meet technological challenges and to be sustainable. Reykjavik Energy's services are founded on the utilisation of diversified natural resources, which the Group has secured access to. Foresight in their utilisation is one of the fundamental principles of its operations and Reykjavik Energy's Environmental Report provides a precise analysis of the scope and impact of the companies in our Group's utilisation of these resources. The objective is to ensure that the current generation's use of natural resources does not undermine the utilisation offered to future generations. To use no more than what nature offers at any given time is the balancing act, which Reykjavik Energy and its subsidiaries must strive to achieve. In 2016, this was successfully accomplished in most areas. Most of the discussion on this subject has revolved around the high-temperature geothermal resources in Hellisheidi where there is a need to combine a more sensible utilisation with the profits of these vast investments without, at the same time, neglecting the benefits of future generations. Our customers around the country care a great deal about how we tackle environmental issues, no less than the price levels of our services and their reliability. It is also important to the population that a company like Reykjavik

Energy, which is under public ownership, should always promote respect for people and their rights. In this regard we are now sharpening our focus on procurement and our obligations as a buyer. Reykjavik Energy cannot tolerate using supplies in its operations which are produced without taking into consideration the fundamental rights of the people involved in their production and ensuring their environmental impact is minimal. The same applies to contractors which Reykjavik Energy's subsidiaries engage for various tasks. The Reykjavik Energy Group needs to endeavour to ensure that rights, which are considered to be self-evident, are respected by our contractors and that the working conditions of their staff are the same as ours.

Various environmental impacts have been reduced in our operations. A great deal has been achieved in reducing the concentration of ambient hydrogen sulphide, the discharge of waste has been diminished, recycling has increased and during the year the Group publicly announced how it intends to go about halving the carbon footprint of its activities over the next thirteen years. This is certainly an ambitious but necessary target and updates on how the companies are progressing will be publicised on a regular basis. Reykjavik Energy has extensive experience in work procedures of this kind.

Over six years ago, the owners of Reykjavik Energy set themselves another ambitious principal objective: to improve the company's cash position by more than ISK 50 billion in about six years, before the end of 2016. To some that Action Plan seemed overly ambitious. In practice, though, the objective was reached as early as mid-2015 and, by the



VEITUR



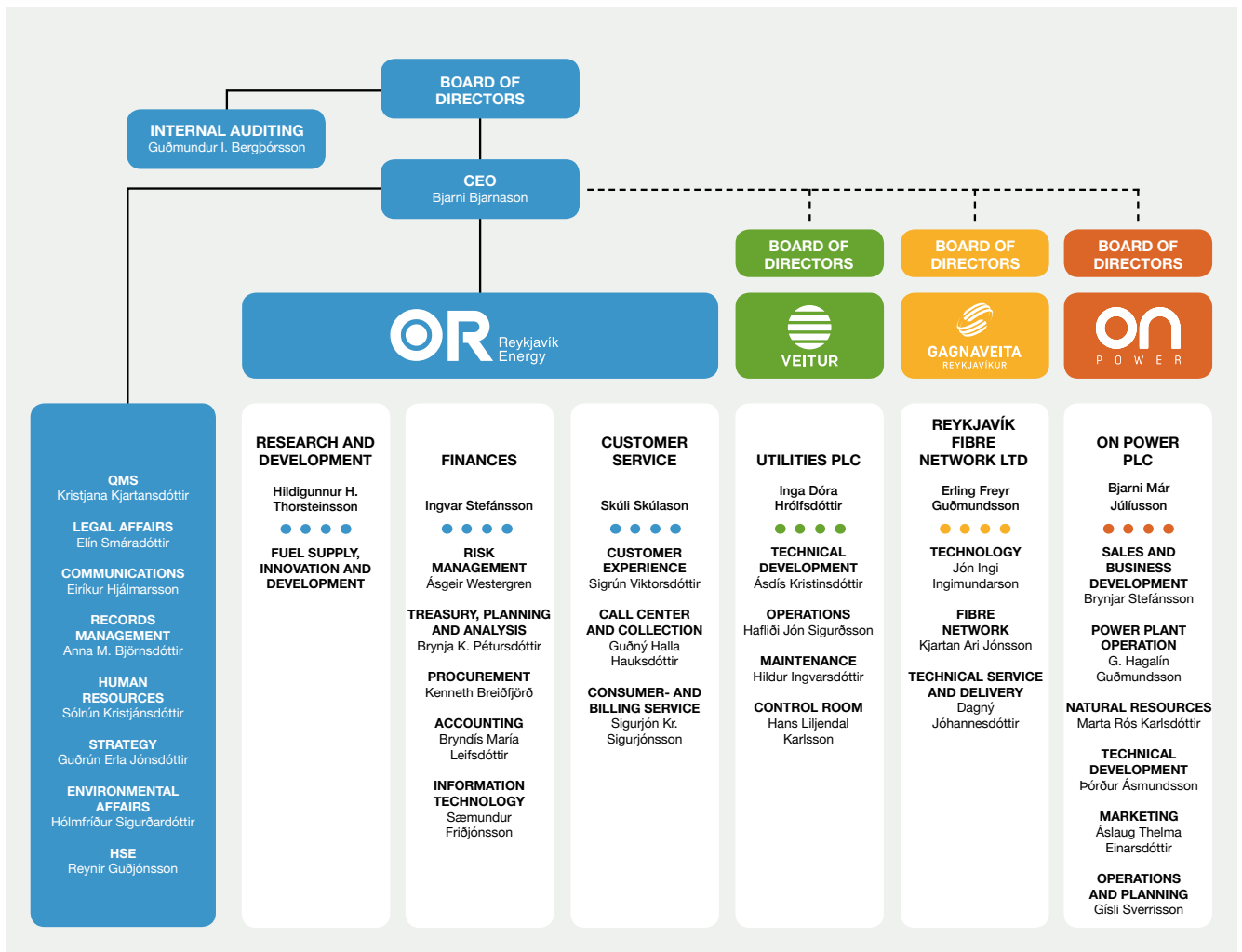
GAGNAVEITA  
REYKJAVÍKUR



ORKA NÁTTÚRUNNAR

**OR** Orkuveita Reykjavíkur





OR group's organisation chart as of March 2017.

end 2016, the result amounted ISK 60.2 billion. The key element was the owners' realistic assessment of the financial position and operations of Reykjavík Energy when the goal was proposed and then the strong support received from the company's Board of Directors, management and staff during the implementation phase of the Action Plan. Reykjavík Energy has endeavoured to publicise updates on its progress. Reykjavík Energy's quarterly reports on what worked well and what less so increased understanding of the Plan and trust in the companies.

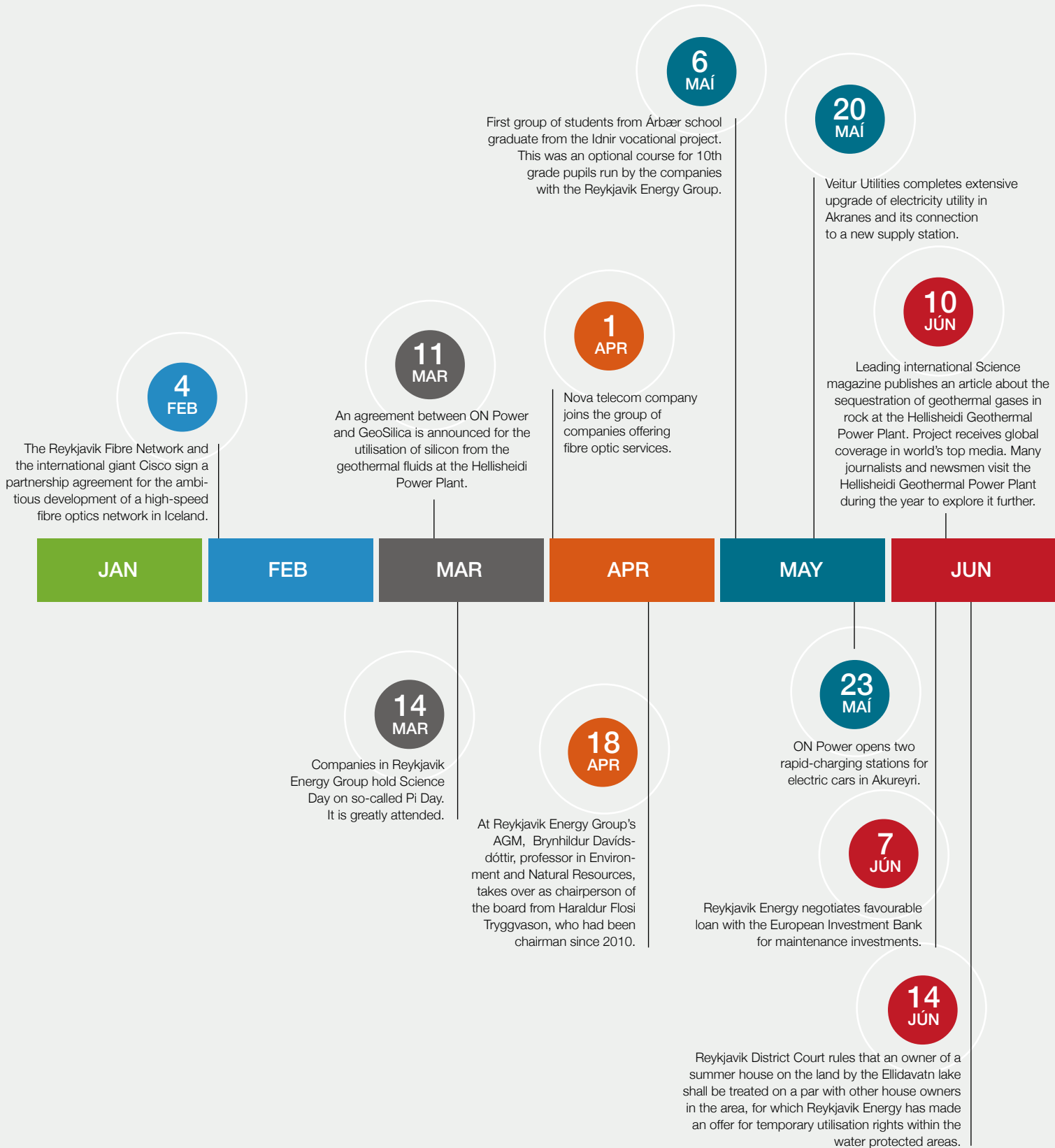
It took effort to reach the Plan's goals. Many things had to be changed in our operations, which affected the personnel's mood and performance in some way. Staff numbers decreased significantly, many jobs changed and many transferred to other posts inside the Reykjavík Energy Group. Cohesion increased during this period, however, and the work place analysis of working morale and job satisfaction, which has been

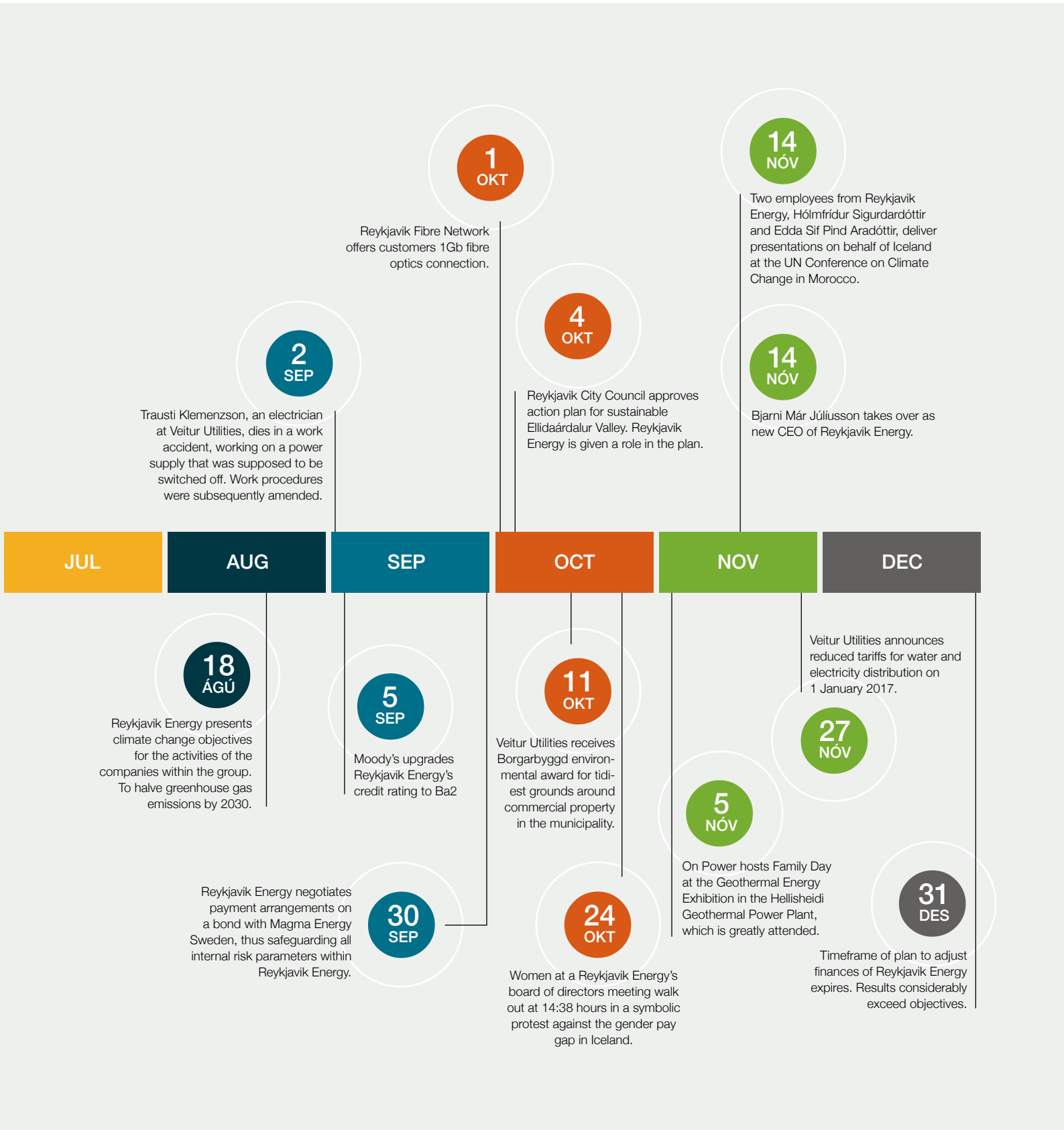
conducted annually for many years, shows that job satisfaction has steadily increased and never measured as high as it did at the end of the past year. Thus the changes that have been ushered in by the Plan have not only made the Reykjavík Energy Group financially sustainable, but also turned it into a popular workplace. There is still room for improvement. Our campaign to stimulate women's interest in the industrial sector has gone well, but Reykjavík Energy needs greater access to people with good working knowledge. The steady and even increase in the number of women in management in the Reykjavík Energy Group has improved the workplace and there are high hopes that the leading role Reykjavík Energy has played in the field of gender equality in male professions will enhance the appeal of the industrial and technical sector for women. With a more balanced gender distribution across job categories and worksites, the company will become a better and more attractive workplace.

We work according to the objectives which have been set for us or which we have set for ourselves and we measure the results regularly. The public can examine the progress of these activities from many of these yardsticks on, among other things, the websites of the companies in the Group. There are also international criteria which determine whether an activity is considered sustainable. For the second time, this Reykjavík Energy Annual Report and accompanying Environmental Report and the Group's Annual Accounts includes an appraisal of whether the Group works in compliance with corporate social responsibility standards. The situation is measured according to more than a hundred sustainability indicators set by the Global Reporting Initiative (GRI). We therefore strive to provide the public with information on most if not all the elements that are presented in the GRI Core for sustainability reporting.

# Chapter 3

## 2016 in Brief











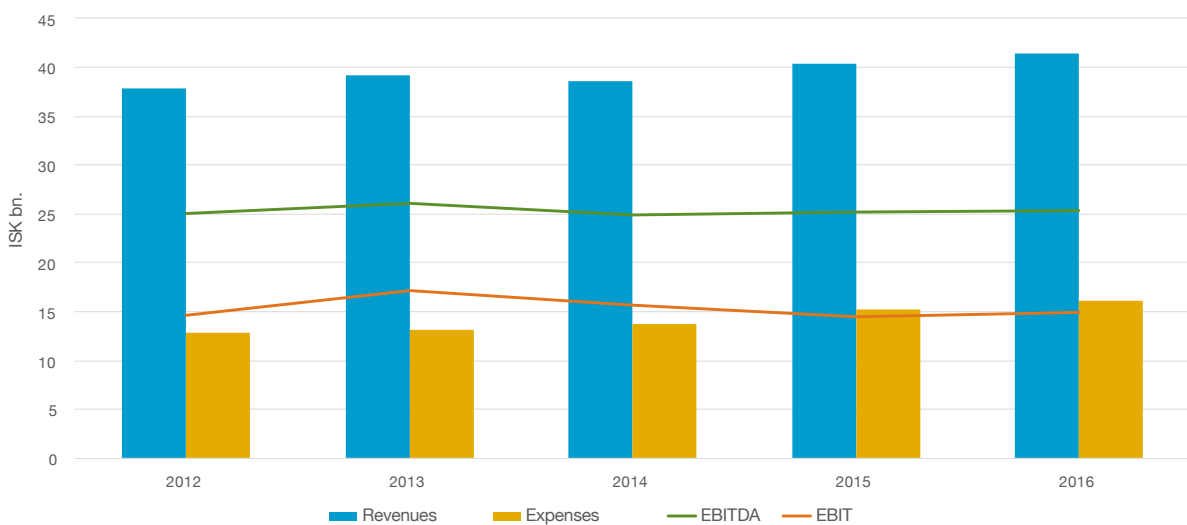
## Chapter 4

### Finances

# Finances

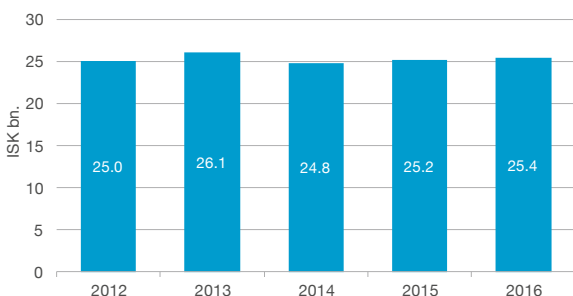
In the spring of 2011, the owners, Board of Directors and management of Reykjavik Energy agreed on an Action Plan to strengthen the company's financial position. No stone was left unturned in management and investments and measures were taken on all fronts. At the same time, focus on the company's role was sharpened in an ownership policy and partnership agreement. The Plan had run its course by the end of 2016, but its actions and pointed policies left enduring improvements in the company's procedures. The Plan achieved and even exceeded its set goals. Internal measures, the streamlining of operations and the sale of assets improved the cash position by ISK 37.6 billion by year-end 2016, while external measures, such as loans from owners and tariff adjustments, provided an additional ISK 22.6 billion. This amounted to a total of ISK 60.2 billion. The target was ISK 51.3 billion. This result therefore substantially exceeded that objective.

**REYKJAVIK ENERGY OPERATIONS 2012-2016**



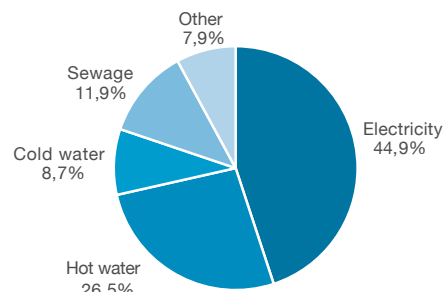
Reykjavik Energy's main components were characterised by great stability over the past years. Restraint has been exercised in operations and revenue has increased. The rise in expenditure in 2016 is primarily attributable to increased wage costs due to collective wage agreements and an increase in average equivalent positions in enlarged and new projects.

**EBITDA MARGIN**



Reykjavik Energy Group's operational margins have been stable and good over the past years.

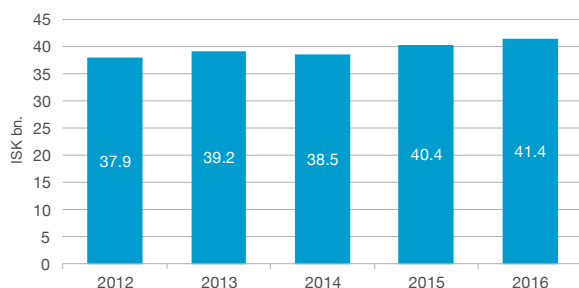
**BREAKDOWN OF INCOME ACCORDING TO AREAS OF ACTIVITY**



Reykjavik Energy's tariffs on licensed operations are limited by law and regulations and part of them decreased at the beginning of 2017. Electricity revenues comprise both income from distribution and sales and are then divided between sales to the private sector and industrial users. Reykjavik Energy's district heating is the company's most extensive utility service and it generates revenue that is needed to support large investments in the sewerage systems.

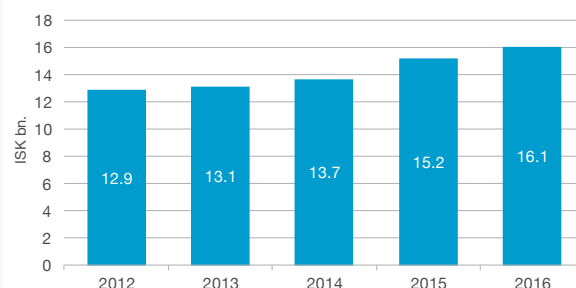
## OPERATIONS

### OPERATING INCOME



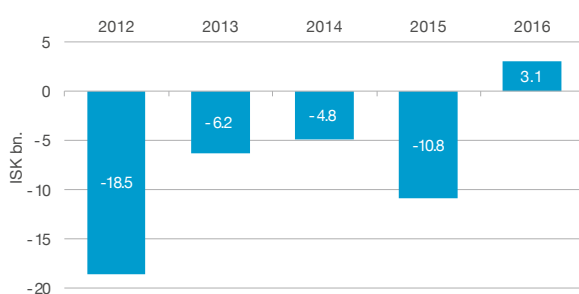
Reykjavik Energy's increase in income in the period between 2012-2016 is due to the fact that service prices have mostly followed price level changes and there has been a rise in the sale of hot water.

### OPERATING EXPENSES



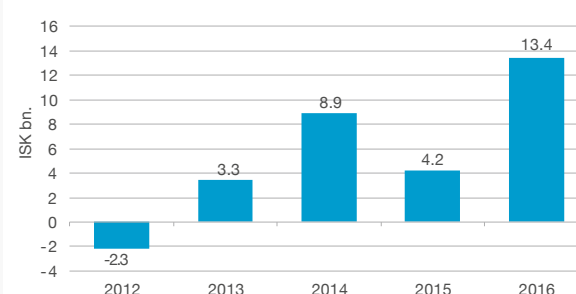
The increase in operating expenses in 2015 can primarily be attributed to a rise in the purchase of electricity to be resold. That component decreased in 2016, but on the other hand, wage costs rose as a result of collectively negotiated wage increases. The number of average equivalent position increased in 2016, due to new projects from Veitur Utilities and ON Power and increased activity at the Reykjavik Fibre Network.

### FINANCIAL INCOME AND EXPENSES



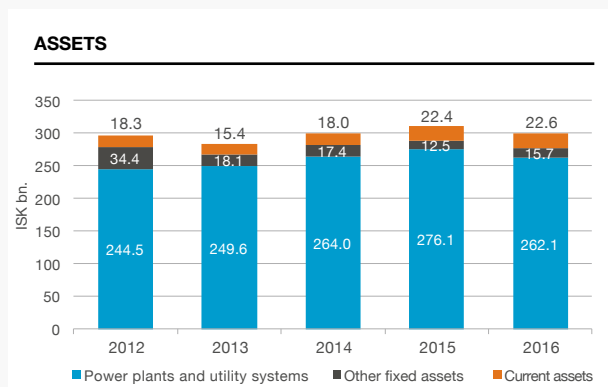
Aluminium prices on the global market and exchange rate developments have a substantial impact on calculated figures, which do not affect Reykjavik Energy's cash flow, but are entered in income statements. For the first time in a decade this impact was positive in 2016 and had a decisive impact on the total balance of Reykjavik Energy's operations in 2016.

### ANNUAL RESULTS

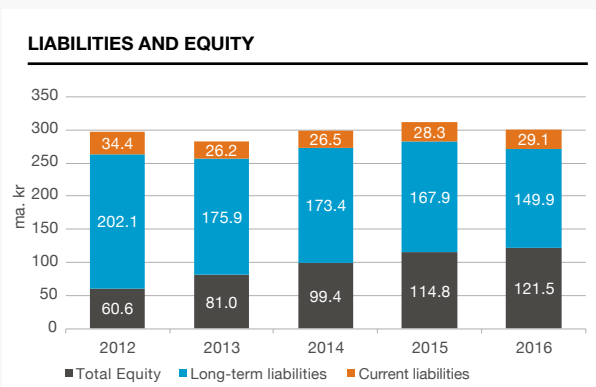


Reykjavik Energy Group's results before amortization have been good and stable. The favourable development of financial expenses had a substantial impact on improving the total results of the Group in 2016.

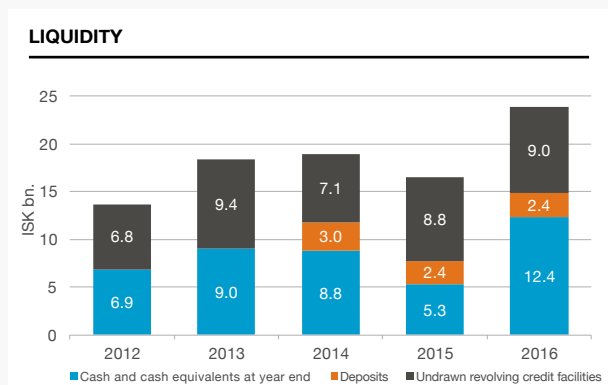
## BALANCE SHEET



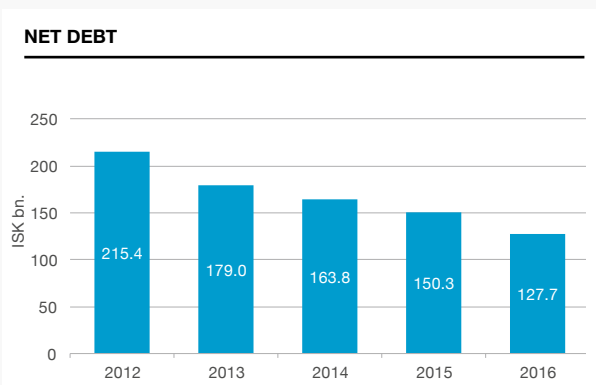
The trend that can be seen in the graph reflects the fact that Reykjavik Energy sold assets outside its core operations thus increasing the turnover. Since ON Power's accounts are calculated in US dollars, the book value of the power plants in Icelandic krónur decreases when the dollar depreciates.



The equity of Reykjavik Energy continued to grow in 2016 and at year-end 2015 amounted to ISK 121.5 billion. The company's long-term liabilities have decreased by ISK 52 billion during the period.



Reykjavik Energy's heavy debt position and large repayments in recent years have required the company to improve its cash position and the strengthening of its current ratio has become one of the key targets in the Group's finances.

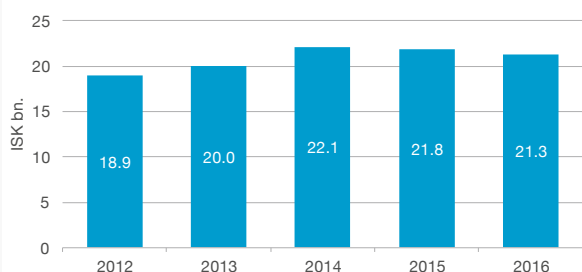


Reykjavik Energy's debt burden has decreased a great deal in recent years. At the end of 2016, net debt amounted to ISK 127.7 billion. The heaviest debt load was at the end of 2009. Net debt then amounted to ISK 226.4 billion and it has therefore decreased by ISK 98.7 billion.



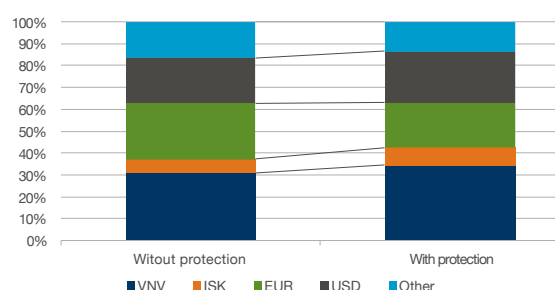
## CASH FLOW

### CASH FROM OPERATIONS

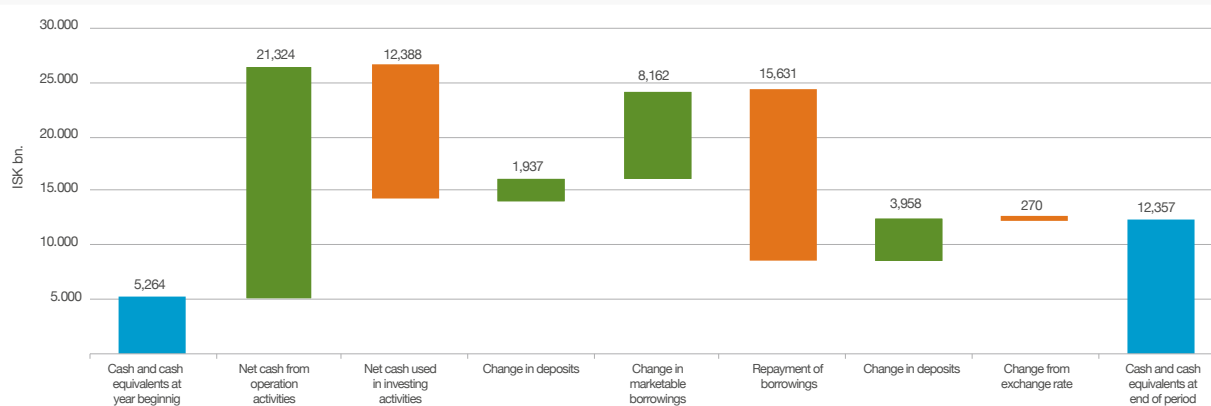


Reykjavik Energy needed more cash to pay down its debts and meet fluctuations in the external factors affecting results.

### DEBT PORTFOLIO WITH AND WITHOUT HEDGING

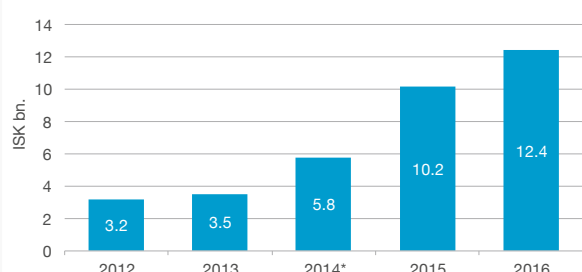


The currency composition of Reykjavik Energy Group's income differs from the composition of its liabilities. The objective of boosting currency hedges and issuing bonds denominated in Icelandic krónur in 2016 is to reduce the operating risk caused by this imbalance.



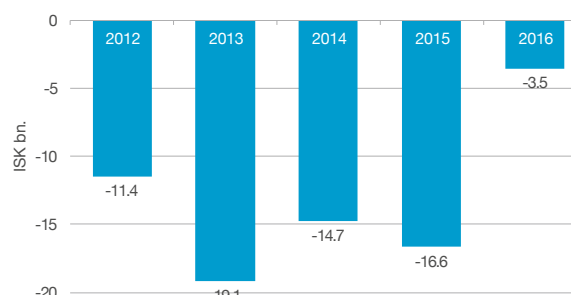
The graph shows the factors that had an impact on Reykjavik Energy's cash position in 2016. Furthest to the left one can see the position at the beginning of the year and, to the right, at the end of the year. Investments in power plants and utility systems have increased substantially over the past two years and debts will continue to be paid down.

### INVESTMENTS IN TANGIBLE ASSETS



Thanks to its restraint, Reykjavik Energy Group's investments were minimal between 2012-2014. Investments in mains of the utility systems and new sewerage systems in West Iceland and the Hverahlíd pipeline in Hellisheidi constituted Reykjavik Energy's most extensive investments in 2015 and 2016.

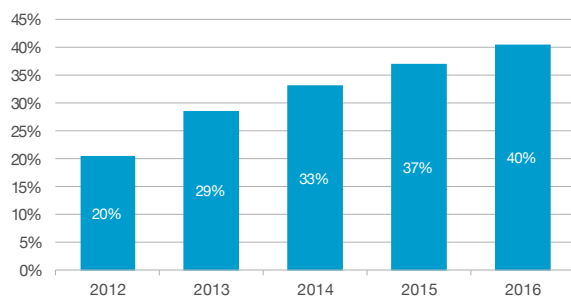
### FINANCING ACTIVITIES



The graph shows the difference between payments on loans and the new funding of Reykjavik Energy. In 2016, Reykjavik Energy issued bonds and bills on the domestic market. The difference between borrowing, repayments and investments creates a stronger current ratio since there is greater cash flow.

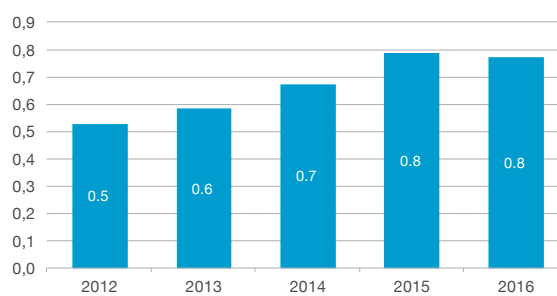
## OTHER INDICATORS

### EQUITY RATIO



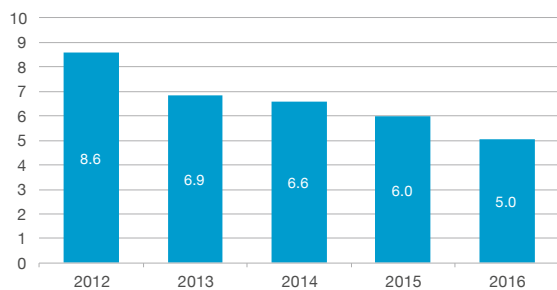
Reykjavik Energy's equity ratio hit its lowest point at 14% after the crash. With better operating results and the rapid repayment of loans, the equity ratio has strengthened and, at the end of the year, had exceeded the target by 40%.

### CURRENT RATIO



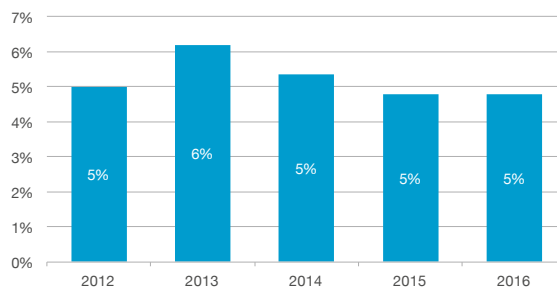
When the Plan was launched, Reykjavik Energy faced a critical cash position, not least because of the lack of access to financial markets. The Plan's success and other measures to bolster the company's cash position have enhanced the company's current ratio. Further efforts are being made to strengthen that.

### NET DEBT / EBITDA



The graph shows how many years it would take Reykjavik Energy to pay off all its debts, if all the EBITDA were allocated to that purpose each year. The vast repayment of loans and stable EBITDA have shortened that repayment period by more than a third since 2009.

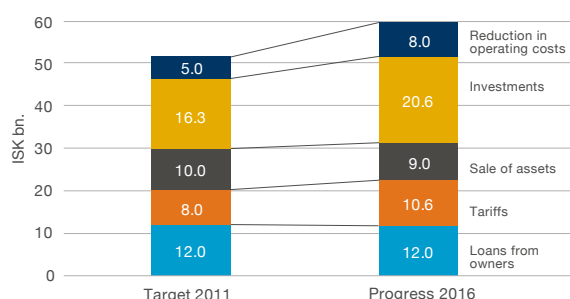
### RETURN ON CAPITAL EMPLOYED (ROCE)



Reykjavik Energy's Ownership Policy provides for the implementation of a yardstick that shows returns on the capital which the owners have invested in operations. It should, at the very least, exceed the company's financing costs in addition to a reasonable risk premium.

## THE PLAN

### RESULTS OF THE PLAN



The Action Plan was launched at the beginning of April 2011. Quarterly reports on its progress were issued during its lifespan which expired at the end of 2016. The goal of the Plan was to improve Reykjavik Energy's cash position by ISK 51 billion. That objective was reached by mid-2015. The total result of the Plan amounted to ISK 60 billion. That exceeds the target by ISK 9 billion, i.e. 17%.

### THE PLAN

Actions in ISK billions	The Plan	Actual
Decrease in investments in utility systems	15,0	17.9
Property sales	10,0	9.0
Decrease in operating costs	5,0	8.0
Decrease in other investments	1,3	1.4
Postponement of sewerage system investments	0,0	1.3
<b>Total - internal actions</b>	<b>31,3</b>	<b>37.6</b>
Subordinated loans from owners	12,0	12.0
Other income due to tariff adjustments	8,0	10.6
<b>Total - External actions</b>	<b>20,0</b>	<b>22.6</b>
<b>Total action plan</b>	<b>51,3</b>	<b>60.2</b>

### CREDIT RATING

Credit ratings are important for companies that do business with international financial institutions. The purpose of a rating is to give creditors an objective picture of a company's status and future prospects. The ratings of Reykjavik Energy and other Icelandic firms can never surpass the sovereign rating of Iceland. The owners' guarantees on Reykjavik Energy's loans have a positive impact on the company's rating. Reykjavik Energy is currently rated by three agencies: Moody's, Fitch Ratings and Reitun Rating Iceland.

	Moody's	Fitch Ratings	Reitun Rating
Long-term credit	Ba2	BB	i.AA3
Outlook	Stable	Stable	Stable
Date of issue	Sept 2016	Feb 2017	March 2016







## Chapter 5

### Veitur Utilities

# Veitur Utilities

Veitur Utilities handles the development and management of utility systems which are mostly operated with licences. It is the biggest utility company in Iceland and runs electricity, district heating and cold water utilities, as well as sewerage systems which serve, among other places, the most populated areas of the country. 2016 was Veitur Utilities' first whole year under its own brand name.

The sustainability of the communities which Veitur Utilities services therefore largely depends on how the company manages to fulfil its role:

- to supply a sufficient amount of quality water for consumption and fire protection,
- to deliver quality power with the greatest security to customers,
- to provide and distribute sufficient water at the right temperature,
- to treat and dispose of sewage from communities in a risk-free and eco-friendly manner.

This management needs to be financially viable with the lowest possible environmental impact so that the utility system and the communities it serves can be sustained in the long term. The following is an overview of the main issues tackled in these areas in 2016.

## Water utility

Veitur Utilities runs a water utility in Reykjavik and also supplies water to Mosfellsbær and Seltjarnarnes, although it does not have a distribution system in those municipalities. In addition to this, Veitur Utilities runs water utilities in Akranes, in the urban and rural areas of Borgarbyggd, Grundarfjörður, Stykkishólmur and a summer house utility in Biskupstunga.

It was another successful year for water utility operations. The biggest projects revolved around the renewal of the big new pipelines in Reykjavik, which ensure the transport of water between different parts of the city and valves were installed at the intersection between Kringlumýrarbraut and Miklubraut. Pressure and flow meters were installed at water sources in Akranes and the equipment is powered by a micro hydro plant that uses the flow of the water utility itself. This means the water source can be monitored around the clock from Veitur Utilities' control centre in Bæjarhál. During the year preparations were made to increase water extraction from the Vatnsendakrikkar plant, which is a water extraction zone in the upper Heidmörk area. The area utilises another mainstream of groundwater but lower in the water extraction area and it is therefore a security issue to increase the water supply there, should it be needed. Three boreholes, which were drilled in 1990, will therefore be built over and they will be activated. The arrangement of the project is determined by the fact that the work is being done in a water spring area where special care needs to be taken in all activities.

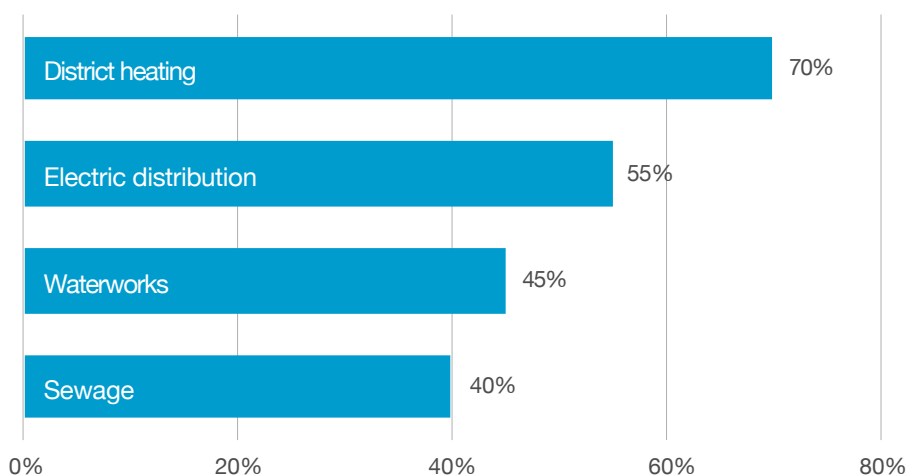
Water protection issues continued to be in the spotlight. A discussion arose around legal action taken by the owner of a house in a water protected zone of the capital area who

claimed utilisation rights for the land which exceeded what Veitur Utilities and Reykjavik Energy considered to be justified. The District Court ruled in favour of the claim, but the ruling has been appealed. There was a close shave towards the end of the year when a small plane performed an emergency landing near the top of Heidmörk. Fortunately, the pilot escaped uninjured and the water source was not contaminated.

Towards the end of the year, Veitur Utilities faced problems in two utilities. In Reykholtisdalur, where a water source came into use in 2014, there was an increase in demand, while at the same time, the water source seemed to be declining. There are plans to drill two wells for water supply. Then once more there was a problem of silt in the water in Grábrókarhraun, which is to be blamed on obsolete equipment. Remedies are being worked on in a collaboration between the technical staff of Veitur Utilities and the Development division of Reykjavik Energy.

The tenth consecutive Nordic Drinking Water Conference was held in Reykjavik in September 2016. It was hosted by Samorka (Icelandic Energy and Utilities) and the staff of Veitur Utilities played a substantial role in its preparation and execution, in addition to delivering several presentations. At the conference it was clear that Veitur Utilities had a

## PERCENTAGE OF ICELANDERS SERVED BY EACH OF VEITUR'S UTILITY



Around International Toilet Day in November Veitur Utilities raised awareness of how wet wipes fail to disintegrate in the sewerage systems and clog the pumps, causing them to break down.

lot to share and that it can also learn a great deal from neighbouring Nordic countries. It was also clear how well most of us live in this country with an abundant supply of clean water at our doorstep and the sturdy reception of most sewage systems, which should enable Iceland to perform well in this area.

### Electricity utility

Veitur Utilities distributes electricity to an area which stretches from Hraunholtslækur in Gardabær in the south, Kópavogur, Reykjavík, Seltjarnarnes and Mosfellsbær and Akranes in the west. Delivery security in 2016 was good, since there were only 23 minutes of power outages per user. Operational problems that lead to power outages are then evaluated in terms of the number of customers they have an impact on and the duration of the outage. This is then divided in relation to the total number of Veitur Utilities' customers and the result indicates the reliability of the service.

A new electrical supply station became operational in Akranes in 2016. It was built in collaboration with Landsnet, which is a transmission system network for power between different parts of the country and between power plants and users. In connection with the construction, Veitur Utilities' electricity grid in the town was upgraded and now has a tension level of 11 kilowatts instead of the previous six. This project increases the electricity transport capacity both to the town and within it. Demand has increased there, not least from the fish processing industry, which has switched from polluting oil fuel to electricity.

A sound management of the electricity grid will become increasingly important as electricity plays a bigger role in people's lives and it becomes indispensable to them. In October new hardware and software in a so-called system administrator came into use at Veitur Utilities' electricity grid control centre in Bæjarhóls. An overview of the electricity grid with its status and connection options at any given time is a dramatic improvement and we have shifted from sticking pins into a

map on the wall to an entire wall of computer monitors. Preparations for the acquisition of a new system administrator and its installation started in 2012.

At the beginning of September 2016, a fatal accident occurred when an electrician from Veitur Utilities died after receiving a shock from a power supply that was supposed to be switched off. This was a terrible trauma for the staff and the company itself. In response a meticulous revision of the procedures to be followed was conducted and amendments subsequently implemented. It is difficult to find a graver and more pitiful reminder of the need to improve the safety of staff than the loss of a good colleague.

### District heating

Veitur Utilities does its utmost to provide a good and reliable service and has developed yardsticks for hot water that correspond to the minutes of power outages in the electricity utility services. Water outage minutes in Veitur Utilities' district heating in 2016 amounted to 35. In 2015, when the index was first calculated, they only amounted to nine. This increase was due to big projects in urban areas where individual supply cuts had an impact on many customers. These include, for example, the renovation of the Reykir pipeline, which transports hot water from Mosfellsbær to Reykjavík. Since Veitur Utilities does not know of any other district heating utilities that calculate an index and this is only the second year in which it compiles its own, comparisons are difficult.

Reliable main pipelines for district heating utilities are important for their delivery security. The renovation of these pipelines formed a prominent part of investments in 2016. Pipelines were renovated in Ártúnsholt. They supply water from the geothermal production fields in Mosfellsbær to Reykjavík. Work continued on the planning of the renovation of the Deildartunga pipeline in Borgarfjörður and agreements were reached with landowners for the renovation of the main pipeline of the district heating utility in Thorlákshöfn where work is expected to start in 2017.



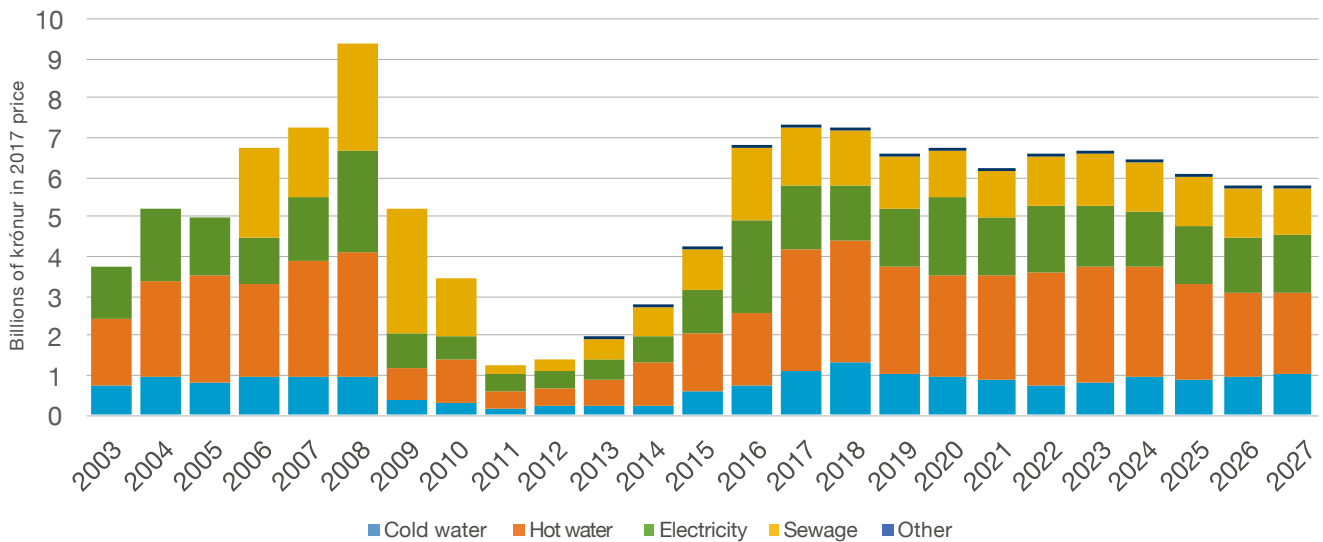
In a number of places, Veitur Utilities and scientists from the development division of Reykjavik Energy worked on boosting the short or long-term hot water supply. The geothermal production field in Hveragerði has been dynamic in recent years and individual boreholes have been volatile in their capacity. Work is being done to improve these and the Rangá Utility. The company needs to be on the lookout for further water supplies for the district heating utilities of Veitur Utilities, which service Akranes and Borgarbyggð. Reserves are in good shape in the biggest district heating utilities in the capital region, where low-temperature utilisation sites are well balanced, and it is foreseeable that the power plants of ON Power in the Hengill area will be able to meet demand for many years to come.

### Sewerage systems

A great deal of hard work was done during the year to develop the new sewage systems in Akranes, Borgarnes and Kjalarnes. Among other things, a pumping and treatment station was built in Akranes. Submarine pipelines were also laid by Borgarnes and Kjalarnes and in the new year these extremely important environmental projects should be completed to ensure the sewerage systems of these towns meet official requirements. It was also gratifying to see the results of the detailed research on the environmental impact of sewerage systems in the Reykjavik channel, which turned out to be non-existent.

The public seems to be increasingly aware of the importance of a good sewerage system for a healthy community and the importance

**INVESTMENTS IN VEITUR UTILITIES' DISTRIBUTION SYSTEMS 2003-2027**



Investments in Veitur’s utility systems declined sharply in the years following the economic crash in Iceland. The main reasons were general austerity measures within Veitur but also decline in the construction industry with fewer houses needing to be connected. Increased investments in the next few years constitute increased maintenance work and increased activity in house construction.

of the correct usage of toilets. Sewage experts from Veitur Utilities play a role in powerful campaigns launched around International Toilet Day, which the United Nations marks every year on 19 November. In collaboration with the Service Division of Reykjavik Energy, Veitur Utilities constantly seeks to find new ways of raising people’s awareness of sewerage systems.

The development of sewerage systems in the coming years will not least revolve around finding sensible ways of reducing the load on sewerage systems. This can be achieved by reducing the volume of water currently discharged in the system. So-called blue-green surface water solutions are now being developed. These entail designing the urban environment in such a way that surface water – rain or melted snow – which is currently channelled down drains into the sewer, is allowed to accumulate until the soil absorbs it. Veitur Utilities now works in dynamic collaboration with the City of Reykjavik on the development of solutions of this kind with the aim of reducing the tidal waves in the sewage system. These result in overflows in pumping or treatment plants with a consequent temporary impact on the neighbouring environment.

**Impact on climate**

Much remains unknown about the impact of foreseeable climate changes on Iceland. Scientific models either indicate a warming or even a cooling of the climate in Iceland. Whichever direction developments take, Veitur Utilities must be ready to respond to

them. Rising sea levels have an impact on the sewage system, melting glaciers can change the groundwater situation in neighbouring water sources, cooling weather places greater demands on district heating and extreme weather places a strain on the entire utility system.

Icelanders are accustomed to tackling many dangers and the community’s infrastructure for dealing with the various antics of the forces of nature are sound. Veitur Utilities regularly conducts emergency drills to rehearse responses to dangerous situations and is therefore well equipped to deal with risks of this kind. Persistent environmental changes such as climate changes are of a different nature. The uncertainty about them is high and, at this stage, it seems prudent to respond in two main ways: to ensure there are ample reserves in the utility system’s capacity and to reduce the climate impact of our own operations.

**Climate change declaration**

Along with the other companies in the Reykjavik Energy Group, Veitur Utilities is a signatory of the climate change declaration issued by the City of Reykjavik and Festa, and in mid-2016, the company announced how it intends to reduce the impact of greenhouse gases from its operations. Veitur Utilities’ opportunities lie in three main areas:

- Increasing the percentage of recycled waste.
- Reducing discharges from the construction and maintenance of utility systems.

- By using work vehicles that run on climate-friendly energy sources.

Veitur Utilities has set numerical targets for the reduction of greenhouse gas emissions and regularly publishes its results along with other companies in the Reykjavik Energy Group.

**Services**

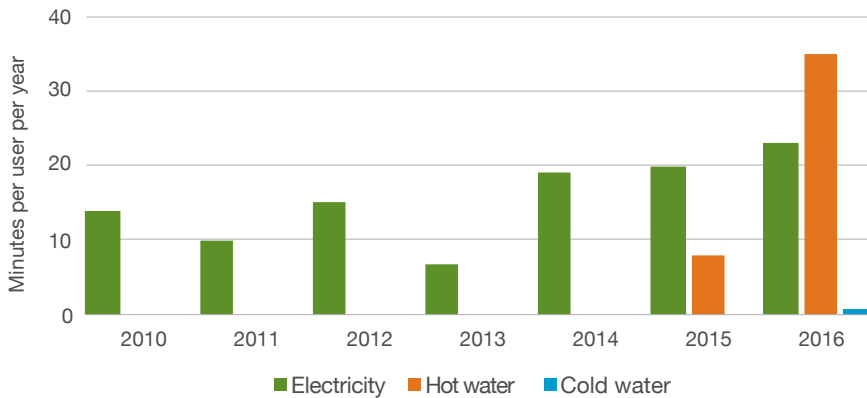
If one looks solely at how reliable customers’ access to the commodities, which the utility systems distribute, the company’s performance was good in 2016. The quality of service is determined by more factors, however: the reception from staff at the workplace, access to information on Veitur Utilities’ services and, not least, customers’ expectations of services, taking into account the price they pay for them.

The joint service division of the Reykjavik Energy Group handles general communications with customers and closely monitors opportunities in this area. Regular service surveys are conducted in order to be able to respond to aspects that can be improved. The general results of the surveys conducted in 2016 were that the overall score objectives were achieved, but there were various indications of what could be improved.

Changes in the logging of communications with customers in late 2016 provided the opportunity to better define their purpose. Almost half of the cases are about readings and changes of address. This service will be increasingly sought on the website’s service and customer page. The second biggest



## MINUTES OF SERVICE OUTAGE PER USER 2010-2016



The reliability of Veitur Utilities' services is, among other things, calculated on the basis of the combined length of outages each year divided by the number of the utility's customers. The operations of Veitur's electric grid has been monitored for reliability but in recent years Veitur have developed ways to measure the reliability of other utilities, such as hot and cold water. The increase in service disruptions can be traced to increase in constructions within the service area and decreased maintenance of the utility systems the years after the economic crash in 2008.

## CUSTOMER SATISFACTION SURVEYS IN 2016



Every quarter, a customer satisfaction survey is conducted on the customers who were in contact with the company in connection with its services. The results are processed in an organised fashion with a view to enhance the service and customer experience.

number of cases concerned bills and collection. There are many official requirements placed on the presentation of accounts and each one contains many figures on usage and prices. The interaction between estimated accounts and settlement accounts does not simplify the matter for many customers. It is to be hoped that with the Internet of Things (IOT) in meter readings, where only real usage is always charged for each period, cases of this kind will decrease.

During the year, a precise evaluation was made on the feasibility of Internet-enabling Veitur Utilities' metering system. Where systems of this kind have been internet-enabled it has been done with a view to facilitating consumers' energy savings. Many companies have tailored software or operating systems that utilise data on electricity and water usage to increase cost effectiveness. To make full use of this technology, in many cases there have to be power usage measurements in the home, which can be transmitted by the meters themselves.

### Development of investment in Veitur Utilities

The economic crisis in Iceland and its impact on the finances of Reykjavik Energy greatly affected investments in Veitur's utilities. There was a contraction in all areas and reforms were placed on hold until the situation became more favourable. The economic recovery of the past quarters has manifested itself in, among other things, a steep increase in the number of new buildings, particularly in the capital area, but also outside it, since tourism is extensive. Veitur Utilities' staff clearly felt that trend in 2016.

A particular challenge in the development of utility systems is that, in accordance with the regional plan for the capital area and the plans of many municipalities, a substantial proportion of the new constructions are inside old neighbourhoods. This densification of urban areas calls for an extensive analysis of the capacity of the existing pipes in these neighbourhoods and will cause significant disruptions if improvements have to be

made. All preparations therefore need to be thorough and timely for good and cost-effective solutions to be found for each location. This is one of the reasons why in 2016 the CEO of Veitur Utilities organised visits to the local authorities of the municipalities, which the company serves, with a view to increasing the understanding of the position of utility systems in relation to planning decisions and connect the staff from Veitur Utilities and the municipalities who need to work together on the development.

### Board of Directors of Veitur Utilities

The Board of Directors of Veitur Utilities was enlarged at the 2016 Annual General Meeting from three board members to five. This brings it in line with the other subsidiaries of Reykjavik Energy. Ingvar Stefánsson was elected chairman and the other board members are Guðrún Sævarsdóttir, Guðni Axelsson, Skúli Skúlason and Sólrún Kristjánsdóttir. Inga Dóra Hrólfssdóttir is the CEO of Veitur Utilities.





## Chapter 6

### ON Power

# ON Power

ON Power produces electricity and hot water, primarily from geothermal energy, sells the electricity to the competitive market and wholesales the hot water to Veitur Utilities. The company is a leader in the development of infrastructure for the electrification of transport in Iceland. In 2016, results achieved on the climate change front attracted global attention when the Hellisheidi Geothermal Power Plant managed to transform geothermal gases into rock.

Key factors in ON Power's performance are sustainable energy production, cost-effective management, good services and competitive prices. A number of challenges are posed by the utilisation of natural resources in the Hengill area. This year the boosting of steam production from Hverahlid started and this curbed the contraction in the capacity of the Hellisheidi Geothermal Power Plant. ON Power's development of its own machinery maintenance in Hellisheidi went well and the indications are that this not only saves

money, but that repairs are more thorough than when they were done abroad.

### Icelandic Customer Satisfaction Award 2016

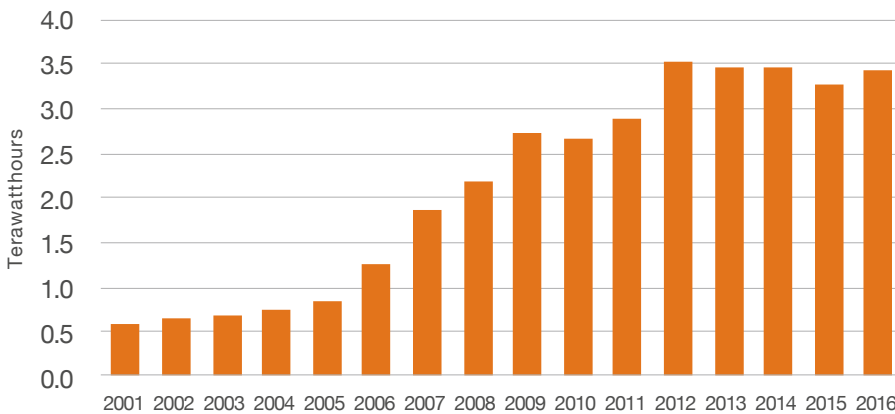
With the foundation of ON Power, the company took over from Reykjavik Energy as a participant in the Icelandic Customer Satisfaction Index. This is one of the most extensive surveys there is on how customers perceive Icelandic companies. In 2016, for the first time, ON Power was the holder of the

Icelandic Customer Satisfaction Award as the electricity supplier which customers liked the most and customer satisfaction took a huge leap from the previous year.

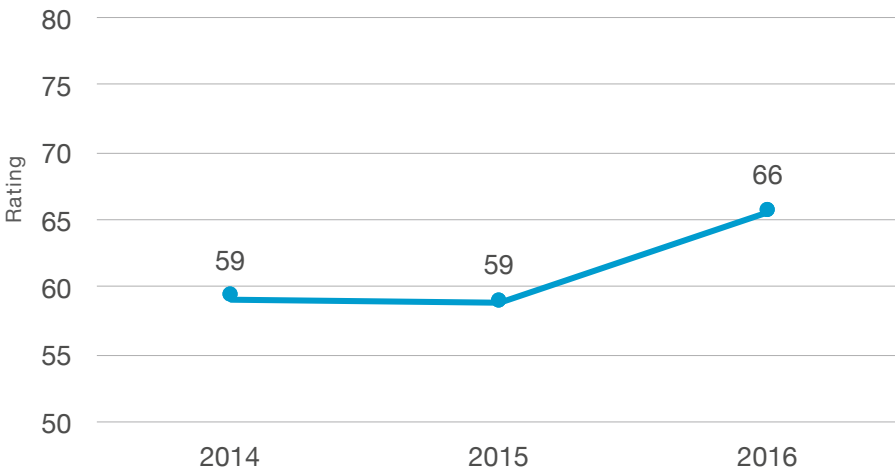
### Accident-free major projects

The laying of a steam pipeline from Hverahlid to the Hellisheidi Geothermal Power Plant was a major project. The pipeline came into use at the beginning of 2016 and the tidying up was completed in the summer. The innovation in this project was that in its prepara-

## ELECTRICITY PRODUCTION IN ON POWER'S PLANTS 2001-2016



## ICELANDIC CUSTOMER SATISFACTION INDEX







ON Power received the Icelandic Customer Satisfaction Award for the first time in 2016. Its customers rated the company's performance at 65.5 which is a substantially better rating than the year before. Photo: Jóhann Benjamínsson/Reykjavík Energy.

tion security and environmental issues were prioritised above the traditional yardsticks of project management: cost, time and quality. This resulted in an accident-free project which comprised a total of 460 thousand working hours put in by ON Power staff but also primarily the staff of contractors. By comparison the staff of the entire Reykjavík Energy Group puts in 800 thousand working hours each year. The project nevertheless remained on schedule and costs within acceptable limits.

"Accidents are off" is the slogan of a project ON Power worked on this year, which is aimed at boosting the safety culture within the company and among the contractors working on its behalf. The company's staff, particularly its power plant staff, work in risky environments where hot steam, high voltage electricity and hazardous geothermal air come into play. Constant vigilance on safety issues is required for the development of staff collaboration in which employees watch over each other, since this is a well known recipe for success. Notifications to colleagues are a positive element in the safety culture that is being implemented. The objective is to ensure that everyone benefits from the self-evident right to go home unharmed at the end of a working day.

### The mountain

During the year scientists and technicians from ON Power and Reykjavík Energy worked on a plan to tackle the challenges posed by the utilisation of geothermal energy in the Hengill area. The project was called "The Mountain". The main problem is that the utilisation site at the Hellisheidi Geothermal Power Plant is smaller than was initially thought. In addition to increasing steam

production outside this area, it is important to find a suitable reinjection field, so that the disposal of geothermal fluids does not create a bottleneck in energy production and reduce the thermal emission from the Nesjavellir Geothermal Power Plant. The issues are therefore all aimed at increasing production sustainability and reducing the environmental impact. This systematic review of new and older data resulted in ON Power's investment forecast being reduced at the beginning of 2017. Investment requirements remain substantial, however.

ON Power's electricity production increased in 2016 in relation to the previous year. The price ON Power gets for the electricity it sells to heavy industry is linked to aluminium prices and the US dollar. The dollar appreciated during the year, although it was still considered relatively low from a long-term perspective. On the other hand, the US dollar depreciated substantially in relation to the Icelandic króna. The company's results were therefore below expectations and the investment and management measures that are taken are aimed at rectifying that as soon as possible.

### Gas into rock

During the year, many of the world's top media covered the innovative development project which the staff of ON Power and Reykjavík Energy have been conducting at the Hellisheidi Geothermal Power Plant since 2007. The project was called Gas into rock this year. It is rooted in the CarbFix and Sul-Fix projects, which are both geared towards the sequestration of carbon dioxide and hydrogen sulphide in basaltic bedrock in the Hengill area. The reason for this interest are the pointers which the project can give on

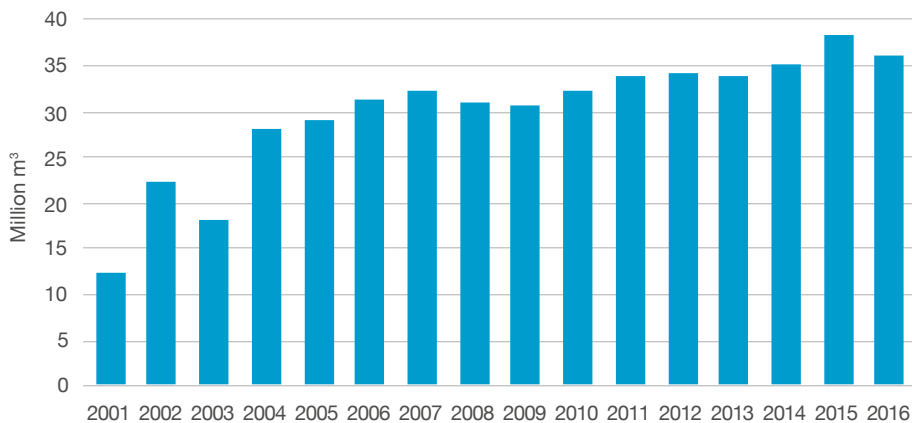
how to tackle the earth's climate change problems in a fruitful manner. In June, Science magazine published an article in which the scientists working on the Gas into rock project described how they managed to sequester about 95% of the carbon dioxide from the plant's steam into the bedrock in the space of two years. About 0.4% of the emissions from the plant are carbon dioxide, the rest is mostly water vapour.

In the summer of 2014 a hydrogen sulphide abatement unit came into use at the Hellisheidi Geothermal Power Plant. There carbon dioxide and hydrogen sulphide are separated from other geothermal gases that do not dissolve in water. The unit was operated on an experimental basis for one year before a decision was made to double its capacity. That task was completed in July 2016 and it can be said that the hydrogen sulphide problem in the utilisation of geothermal energy has now been eliminated.

In addition to global media coverage, the project attracted a great deal of attention at the UN Conference on Climate Change held in Marrakesh in Morocco in November where there was a special discussion on Iceland and other Nordic countries' struggle against anthropogenic climate change.

ON Power hopes it will be possible to utilise geothermal gases to, among other things, produce eco-friendly fuel. Business developments will continue since, in 2016, an agreement was made with the geoSilica start-up company for the utilisation of silicon at the Hellisheidi Geothermal Power Plant. Just like geothermal gases, silicon in geothermal fluids has been considered as one of the bad by-products of geothermal energy utilisation.

## HOT WATER PRODUCTION IN ON POWER'S PLANTS 2001-2016



### ON Power's Climate change objectives

ON Power is a signatory of the climate change declaration, issued by the City of Reykjavik and Festa, which was submitted to the United Nations Intergovernmental Conference on Climate Change held in Paris at the end of 2015. In mid-2016, ON Power and Reykjavik Energy set numerical targets for the reduction of their carbon footprint. The principal objective is to halve the footprint and in ON Power's case this primarily revolves around:

- Drilling for steam using electrical power instead of diesel oil
- Utilising geothermal gases
- Increasing the sequestration of geothermal gases in rock.

In accordance with the promises made in the climate change declaration, ON Power will regularly publish updates on the results of projects.

### Electrifying transport

ON Power has not only set itself the objective of reducing its carbon footprint but also of enabling others to do so as well, by playing a leading role in developing infrastructure for the electrification of transport. In 2016, three new rapid-charging stations for electric cars were set up; two in Akureyri and one in the Hellisheidi Geothermal Power. This brings the total number of stations in the country to 13.

Towards the end of the year, the ministry of Industries and Innovation announced it would be issuing over ISK 200 million in grants for the development of charging stations for electric cars. ON Power received the highest grant, which was ISK 57.1 million and announced it plans to complete the installation of rapid-charging stations around Iceland's Ring Road. So-called semi-fast

chargers will also be set up. It is more time-consuming to charge electric cars with these, but they are considerably cheaper than rapid-charging stations and therefore more popular among the entities that have approached ON Power to collaborate on the development of this service.

### Dissemination of knowledge

The flow of tourists to Iceland in 2016 was unprecedented and many of them focused their interest on the utilisation of geothermal energy. ON Power runs the most extensive operations in this field of all the Icelandic companies and, in 2016, it managed the Geothermal Exhibition at the Hellisheidi Geothermal Power Plant on its own for the first time. Like never before, visitors included ordinary tourists, journalists, scientists and influential people with an interest in geothermal energy and its utilisation. The exhibition received recognition from the global Trip-Advisor travel website as an outstanding destination.

Some 80 thousand registered visitors saw the Geothermal Exhibition in 2016. About 95% of them were foreigners. Service surveys conducted on the visitors reveal a very high level of satisfaction. ON Power intends to develop the Geothermal Exhibition to increase its appeal to Icelanders. For this reason an open Family Day at the Geothermal Exhibition was organised in November where a multitude of young and older Icelanders enjoyed the education and fun. The Hellisheidi Geothermal Power Plant is in a good position to become the outdoor activity centre of the Hengjill area since the company maintains 100 kilometres of way-marked hiking trails. The Geothermal Exhibition can play a key role in this regard.

The staff of ON Power not only presented their work on home ground, but also participated in many conferences abroad, where the subject matter concerned the activities of ON Power, particularly the utilisation of geothermal energy and the electrification of transport. These include its contribution to the IGC international geothermal conference on branding in the energy sector, Festa's climate change conference, Hekla's eco-friendly car days, the Iceland Geothermal Cluster workshop on energy and Samorka (Icelandic Energy and Utilities) and Íslandsbanki's meetings on transport, to mention but a few examples.

Changes in the logging of communications with customers provided the opportunity to better define their purpose. A substantial portion of them concerned street lighting, since ON Power manages it on behalf of municipalities, the Icelandic Road and Coastal Administration (IRCA) and private entities, without however determining the level of service. A substantial portion of the notifications are therefore passed on to the relevant contractee of the service, of which the City of Reykjavik is the biggest.

### Board of Directors

The Board of Directors of ON Power comprises Bjarni Bjarnason, chairman, Hildigunnur H. Thorsteinsson, deputy chairman, Bolli Árnason, Hólmfríður Sigurdardóttir and Sveinbjörn Björnsson.

There was a change of CEO at ON Power in 2016. Bjarni Már Júlíusson took over from Páll Erland in mid-November.



on

Самый лучший  
год за всю историю!









**GAGNAVEITA**  
REYKJAVÍKUR

## Chapter 7

### Reykjavik Fibre Network

# Reykjavik Fibre Network

The Reykjavik Fibre Network is a telecommunications network founded in 2007 with the aim of providing Icelandic households and businesses access to an open high-speed fibre optics network. The Reykjavik Fibre Network has never been connected to as many homes as in 2016, while at the same time competition in this market has tightened.

The 2015 Annual Report focused on some key elements, which would not only enable the network to actively keep up with the competition but to also to forge forward. In 2016 some major steps were taken in that direction. The table below defines those key elements and they are dealt with in greater detail later in the report.

## Fibre optics all the way

Fibre optics that are laid all the way into people's homes have become an accepted

technical feature of telecom services. Some felt this option was unnecessarily ambitious when, over a decade ago, the Reykjavik Fibre Network signed its first contracts for bringing fibre optics to homes in the populated areas of entire municipalities. Rapid social change has reinforced this decision and as result the Reykjavik Fibre Network has become a benchmark in the market. This has fuelled stiffer competition, particularly with the company that still occupies the dominant market position.

Technological developments in society in the field of telecommunications are rapid and companies like the Reykjavik Fibre Network need to be alert to them. Early in the year, the Reykjavik Fibre Network negotiated a development partnership with the global giant Cisco. The companies will promote and launch projects focused on high quality solutions that utilise the Reykjavik Fibre Network. The partnership will also enable companies that offer smart solutions and Internet of Everything technologies to utilise the Reykjavik Fibre Network to install, create case studies and pioneer other experiments in Iceland. When the agreement was signed in February, the Reykjavik Fibre Network promised its customers it would offer the option of a 1 gigabit per second connection before the end of the year. This was double the speed of what they were previously offered, which was 500 megabits per second.

Highlights	2016 Milestones
The competitive edge of fibre optics compared to other technologies.	The level of fibre optics services was substantially increased in 2016.
Capacity, up-time and secure connections.	The capacity was increased by one Gigabit per second and the company fulfilled its up-time and security requirements.
Broadening of the fibre network and household subscriptions to its services	Never before have so many households been connected as in 2016 and the rise in customers has never been greater.
Prices and services.	The "One Visit" initiative was launched. In 2016, the network changed its prices for the first time in over three years.
The eagerness of service providers to use the open Reykjavik Fibre Network.	The Nova telecom company joined the group of companies offering fibre optic services and collaboration was strengthened with former customers with new agreements.

## One gigabit delivered in October

The increase in the number of internet-connected devices in each home requires a sound infrastructure. Living up to its promise, the Reykjavik Fibre Network started to offer a 1 Gb/s connection in October. The initiative was well received by customers. Peter Karlströmer, one of Cisco's most senior executives for Europe, said that with this decision, the Reykjavik Fibre Network has become "a perfect test location for pioneers and innovators of all things smart, including the Internet of Everything."

## One visit

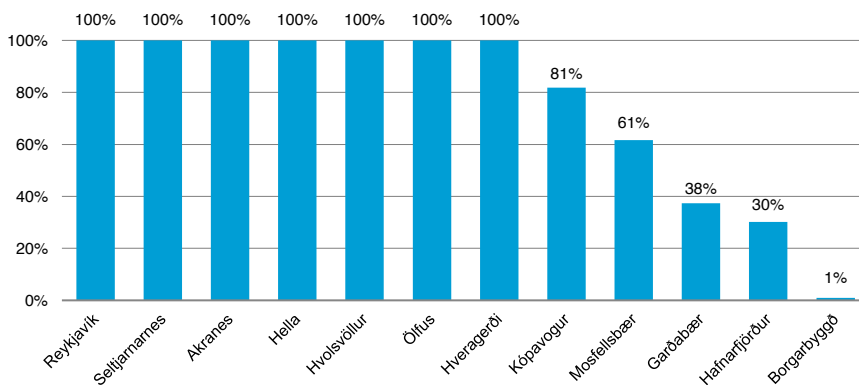
Collaboration has been developed between telecom providers who provided these quality connections so that in most cases one visit per home is sufficient to install the connection equipment and test it. This was a successful step towards improving our service to customers last year.

Another important milestone was reached when Nova joined the group comprising Vodafone, 365, Hringidan, Hringdu and Símafélag.



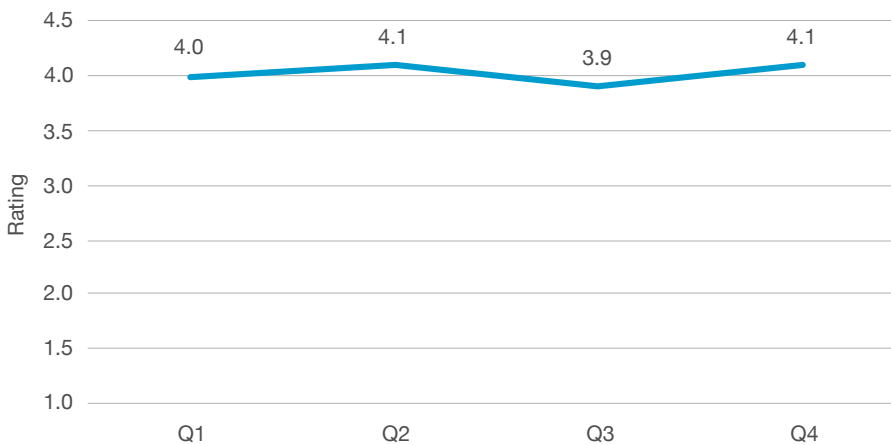
More than a decade ago Reykjavik Fibre Network started offering fibre internet connections in urban areas. Technology has advanced significantly since then and in 2016 the company offered its customers one gigabit connections. Photo: Valur Heiðar Sævarsson.

**PERCENTAGE OF HOMES CONNECTED TO FIBRE OPTICS NETWORK AT END OF 2016**



In 2015 the connection of households in Reykjavík’s urban areas to the Fibre Optic Network was completed and connections to the municipalities named in the chart will be completed by the end of 2108.

**TOTAL CUSTOMER SATISFACTION WITH THE REYKJAVÍK FIBRE NETWORK 2016**



The Reykjavik Fibre Network regularly conducts surveys to gauge customer’s satisfaction with the company’s services. The graph shows its development per quarter in 2016. Reykjavik Fibre Network’s goal is a score of 4 or higher.

**Climate Issues**

Since internet communication has supplanted other forms of more transport-dependent communication options in society and because the power fibre optics delivers is eco-friendly, it can be said that Reykjavik Fibre Network’s operations are eco-friendly by their nature. This does not diminish the demands the company places on itself to reduce the impact of its operations on climate change. The Reykjavik Fibre Network is a signatory of Reykjavik Energy Group’s climate change declaration. This includes measurable objectives for reducing greenhouse gas emissions from its operations wherever possible. The Reykjavik Fibre Network’s efforts in this area primarily revolve around ensuring:

- Work equipment is run on eco-friendly energy.
- Increased recycling of waste in the workplace.
- Increased recycling of waste in offices.
- Eco-friendly transport of staff to and from work.
- Increased use of electronic solutions for communications within the Reykjavik Fibre Network and with contractors and customers and therefore a reduction in the use of paper.

The operations of the Reykjavik Fibre Network form part of the numerical targets of the Reykjavik Energy Group for the reduction of greenhouse gas emissions and the company

regularly publishes its results along with those of the other companies in the Group.

**Board of Directors**

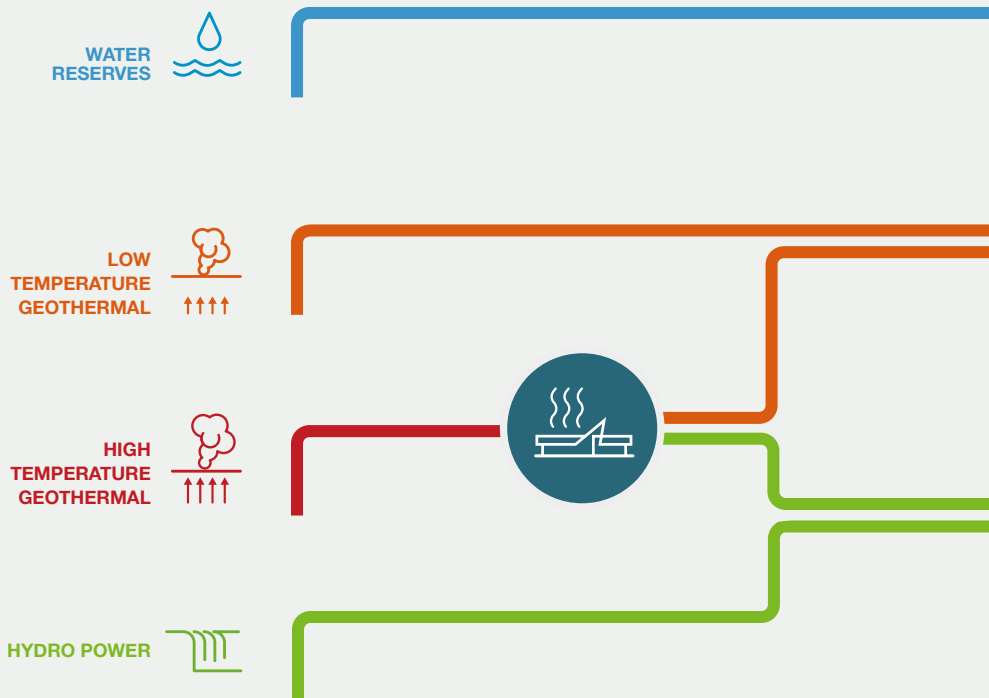
The Reykjavik Fibre Network increased the size of its board of directors at the 2016 Annual General Meeting from three to five members, in line with Reykjavik Energy’s other subsidiaries. The chairman of the board is Bjarni Bjarnason and other board members are Jóna Björk Helgadóttir, Ingvar Stefánsson, Magnús Hauksson and Ásdís Kristinsdóttir. The CEO is Erling Freyr Gudmundsson.

# Chapter 8

## Value Chain


### Dissemination of natural resources

The function of Reykjavik Energy is to ensure people's access to the natural resources the company is entrusted with. The graph shows how the production and utility systems of Reykjavik Energy and its subsidiaries are connected to the natural resources and communities they serve.



### Value Chain

Our tasks can thus be divided into several principal elements.

**RESOURCES** 

- Exploring and researching resources and obtaining the rights.
- Monitoring and management of utilisation.

**NEW PROJECTS** 

- Design and obtaining licences.
- Purchase of materials and equipment.
- Agreements with contractors.
- Monitoring projects and testing.

### Stakeholders

The Reykjavik Energy Group distinguishes the stakeholders in its activities in terms of their importance and impact.

**PUBLIC AUTHORITIES**  
Licensing, planning and supervision.

**PUBLIC**  
Licence applications and right of appeal.

**OWNERS OF REYKJAVIK ENERGY**  
Confirmation of plans in new areas.

**PUBLIC AUTHORITIES**  
Licensing, planning and supervision.

**CONTRACTORS AND SUPPLIERS**  
Construction, procurement of materials, advice, financing.

**PUBLIC**  
Applications and right of appeal.

**OWNERS OF REYKJAVIK ENERGY**  
Confirmation of largest investment and financing agreements.



VEITUR

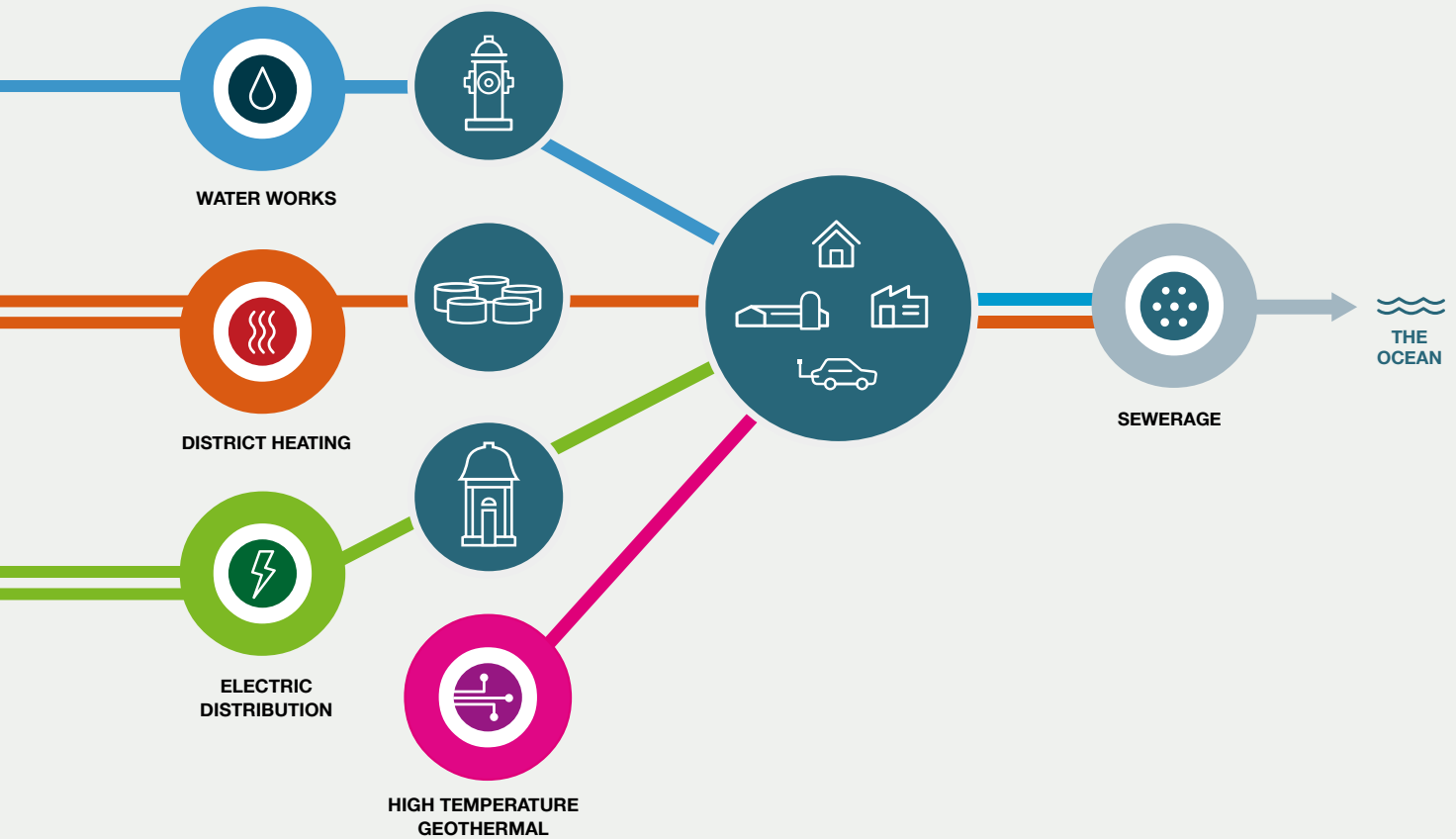


GAGNAVEITA  
REYKJAVÍKUR



ORKA NÁTTÚRUNNAR

OR Orkuveita Reykjavíkur



**PRODUCTION AND DISSEMINATION**

- Reception of new constructions in operations.
- Management and surveillance of production.
- Monitoring, maintenance and renovation.
- Purchase of materials and equipment.

**BUSINESS AND SERVICES**

- Obtaining and registering customers.
- Connecting households and businesses.
- Metre readings and billing.
- Responses to malfunctions.

**RESOURCES**

- Monitoring of sewerage systems.

**PUBLIC AUTHORITIES**  
Monitoring of management and utilisation of resources.

**PUBLIC**  
Notifications, information.

**CUSTOMERS**  
Information on delivery failures.

**CONTRACTORS AND SUPPLIERS**  
Construction, procurement of materials, advice, financing.

**CUSTOMERS**  
Payment of bills, metre readings.

**PUBLIC AUTHORITIES**  
Monitoring of delivery security, real usage and charges.

**PUBLIC AUTHORITIES**  
Monitoring of environmental impact.

**PUBLIC**  
Notifications, information.

**WORKERS, ASSOCIATIONS AND SOCIETIES** of people and businesses and the **SUPERVISING AUTHORITIES** of working facilities and the labour market are the stakeholders of all our activities.









## Chapter 9

### Human resources and safety

# Human resources and safety

Reykjavik Energy's ambition is to be an attractive workplace, where professional know-how and service orientation go hand in hand with the facilities and working conditions are competitive. In 2016 a special emphasis was placed on sound procedures for the recruitment of new staff, promoting solidarity and sharpening the personnel's common vision within the Group. Leadership development was bolstered with an emphasis on safety issues and Reykjavik Energy's non-discrimination policy was reviewed.

## Human Capital

For many years, Reykjavik Energy has been applying workplace analyses to monitor whether the objectives of the personnel policy are being achieved and whether the Group lives up to its name as an attractive workplace. The results of measurements for 2016 were particularly satisfactory. Job satisfaction increased and has not measured this high since measurements began. This happened despite considerable disruption in the largest working quarters in Bæjarháls, as a result of repairs being carried out on damage caused by humidity, which was discovered there. As before, systematic work is being done on specific elements that emerge from the results of the workplace analysis.

There was an unusually high number of new recruits in 2016, i.e. 77. This was mostly due to the increased activity of the Reykjavik Fibre Network and Veitur Utilities once more taking over the management of meter readings during the year, since this function had been outsourced for some years. It is important to

proceed with great care when new employees are recruited to the Group and work was done on improving the selection and reception of new recruits. The objective was to enhance efficiency and ensure the new recruits' first experience of the company is a positive one. One element in that context was to make informative videos for new recruits to sharpen their focus on the purpose of operations, the companies' principal function and how each one of us can work to contribute to the future vision of the Group.

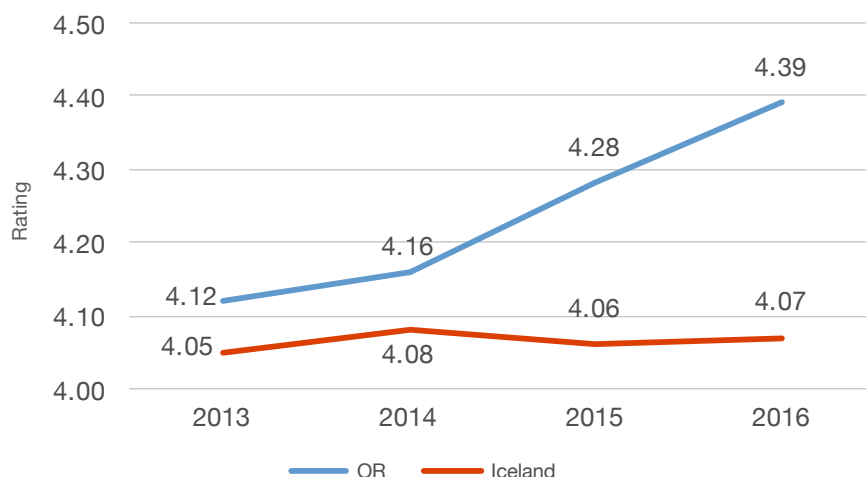
The personnel of Reykjavik Energy Group's satisfaction with its management was one of the gratifying pieces of news to emerge from the workplace analysis. Over the past years, projects have been conducted to strengthen and improve management. One example of this is the "Dream Workplace Project", which is a collaboration project between the management and staff, which yields a written statement on the elements that need to be respected in management and other com-

munications within the unit concerned. The various companies and divisions within the Group have all worked on similar projects with the aim of supporting sound management.

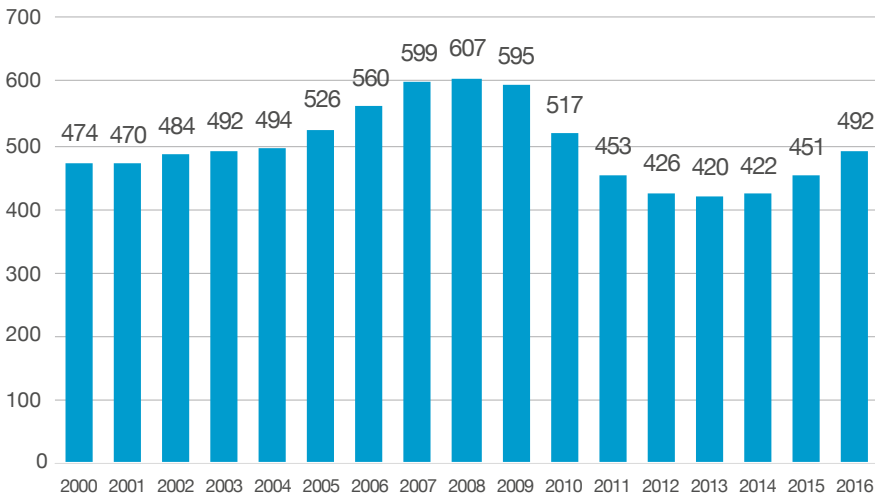
This year a special emphasis was placed on strengthening managers. A part of this was getting the managers themselves to define which characteristic qualities are required for good management in the Group. The conclusion was enthusiasm, integrity, encouragement and support. Work will continue, guided by these principles, and management will cultivate these qualities.

Reykjavik Energy is proud of the results the Group has achieved in the field of non-discrimination, but at the same time recognises that more needs to be done. Reykjavik Energy's non-discrimination policy was revised during the year with a view to ensuring it did not only cover gender equality, but also all the other elements, which are to be

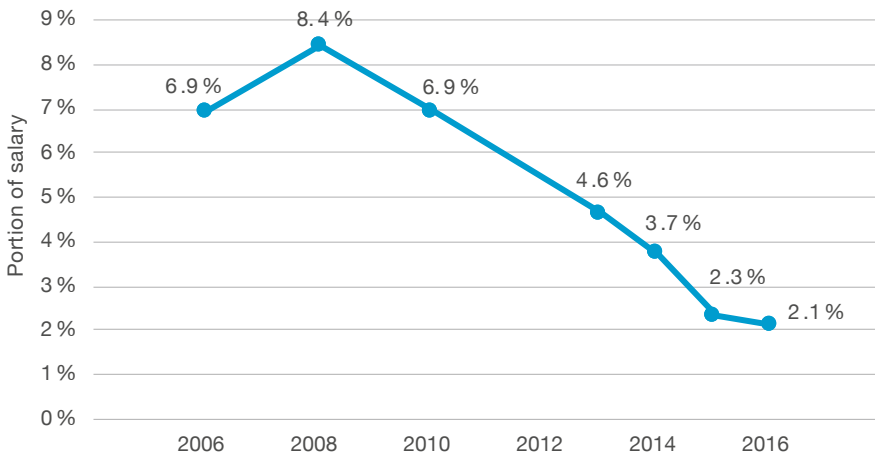
## JOB SATISFACTION



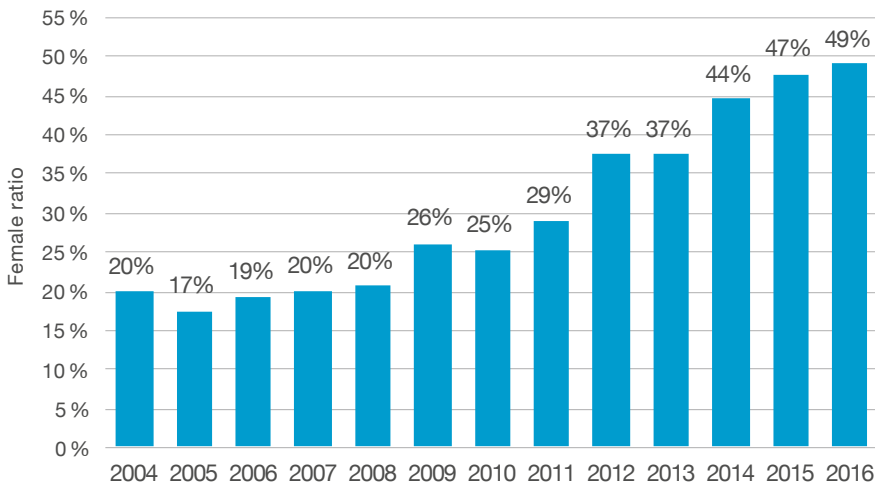
**NUMBER OF OR GROUP'S EMPLOYEES**



**UNEXPLAINED GENDER WAGE-GAP**



**PERCENTAGE OF WOMEN AMONG OR GROUP'S DIRECTORS**



found in the Constitution of the Republic: people's age, sexual orientation, religion, views, nationality, race, colour, and economic, birth and social status. Work is being done on implementing the policy and during the year PricewaterhouseCoopers confirmed Reykjavik Energy's gender pay equity certification.

At the end of 2016, three years had passed since the mandatory unbundling of Reykjavik Energy's management. It seemed like an appropriate time to sharpen the focus on the shared vision of the employees of all four companies within the Group. To that end, the CEO Bjarni Bjarnason convened meetings where each and every employee in the Group came to chat with colleagues in the other companies and the CEO of the mother company on the common roles of the companies within the Group and how the jobs of all employees are connected. As a follow up to the 27 meetings that were held, a Reykjavik Energy book was published. The book provides a clear and simple overview of the Reykjavik Energy Group: its projects, chain of delegation, organisation and working methods. The final edition of the book took into account the indications that emerged from the conversations between the staff and the CEO and is accessible to the public on the Reykjavik Energy website.

## Safety

Reykjavik Energy endeavours to be exemplary in safety, health and working environment issues and strives to protect and enhance the lives of those who work for the company by creating an accident-free workplace where the health of employees, contractors and the public is not jeopardised by our activities.

In light of the opening words of Reykjavik Energy's safety, health and working environment policy, 2016 was both a good and bad year. Absences due to accidents decreased considerably in 2016 and a major construction project, the laying of the Hverahlíd pipeline, was completed this year without any accident absences. September saw the first fatal accident in the utilities of Reykjavik to be witnessed in decades. An electrician from Veitur Utilities died after receiving a shock from a power supply that was believed to be switched off.

The accident called for a variety of reforms which have left their mark on the work of the companies in the Reykjavik Energy Group

this year, particularly electricians. Risk assessments were conducted on other jobs and old work risk assessments were revised. Work procedures were improved and employees produced formal descriptions of their work in order to better standardise working methods. Veitur Utilities also initiated support trips by the management to workplaces. On Power had previously conducted these as part of its Accidents are OFF project, the objective of which is to show direct support to staff in ensuring the safety of its working environment. This work continues and applies to more job categories than electricians.

Many employees of the group work in dangerous conditions, with powerful tools or in hazardous working environments. Improvements are being sought in all of these areas, which is where the extensive safety notification database which has been operating since 2013 can best be used. All employees are encouraged to log notifications of hazards they come across in their work in the database. These notifications are handled systematically and their processing is the responsibility of the senior management. If safety issues can be likened to an iceberg, it can be said that accidents are the tip that stands over the surface of the water, but that they are all rooted in some flaws which may not be blatantly clear. The safety database is a method for identifying dangers that are hidden below the surface. Each logged item indicates that more often than not there are signs of the imminence of an accident before it occurs. The database is therefore crucial to the safety of Reykjavik Energy's staff. Important work is conducted in the safety committees of the Reykjavik Energy Group. Any employee can participate in the selection of members to the committees of which there are four:

- Veitur Utilities' safety committee for the capital area and South Iceland
- Veitur Utilities' safety committee for West Iceland
- On Power's power plant safety committee
- Safety committee for office staff.

The presence of these committees and their main tasks are described in laws and collective agreements which Reykjavik Energy negotiates with the eight unions.

When construction projects are conducted, project managers base themselves on traditional criteria: the time the project takes, the quality of the work and its cost. In the laying of the Hverahlíd pipeline, which ended in early 2016, two objectives superseded those

three: staff safety and good orderliness. By placing safety issues in the foreground of communications between the contractee ON Power and the contractor LMS Saga the project was conducted without any accidents.

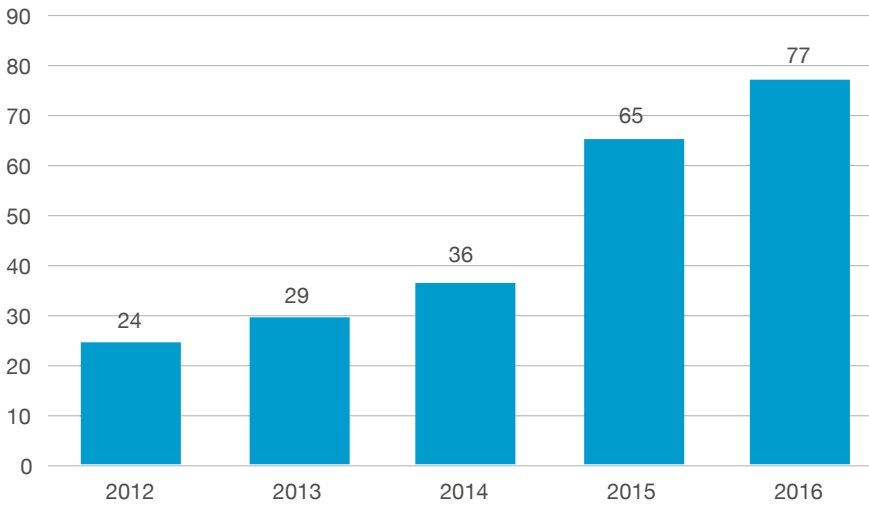
Reykjavik Energy demands that all contractors that work for the Group follow its safety handbook. To support this, the company has offered courses to the staff of contractors and in 2016 an agreement was made with an external training company to run the courses. In doing this, Reykjavik Energy both spreads the company's safety message and contractors receive extensive recognition for their courses.

On the working environment front, Reykjavik Energy is grappling with damage caused by humidity in part of the company's headquarters. A part of the staff faced inconveniences as many of them had to relocate to another part of the building. A survey on the extent of the damage and the progress of repairs in 2016 resulted in a decision towards the end of the year to evacuate a substantial part of the building while the repairs were in progress. They are not expected to be completed before 2018. Hearing tests on staff who work in noisy environments were also conducted this year. Work is also being done on mapping working environments in terms of their exposure to noise and offering those who work in the noisiest jobs special protective headsets. The 2016 measurements were a kind of assessment of the situation and will be followed up by further measurements and instruction.

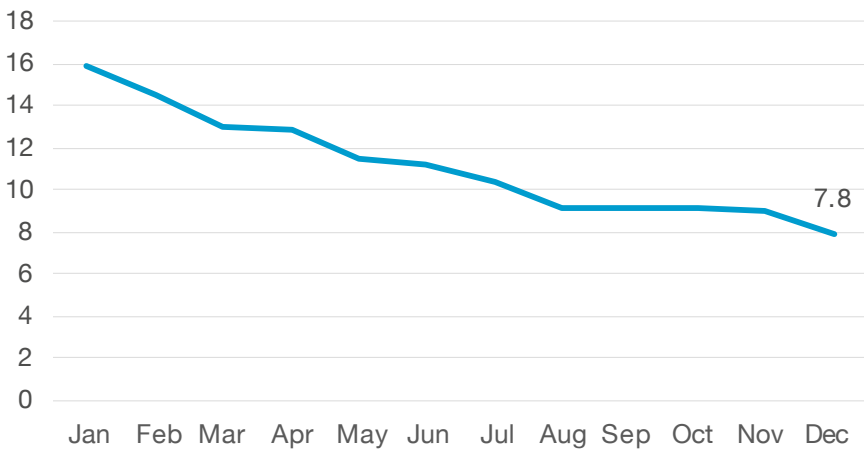
The personnel's transport agreements were reviewed during the year to further encourage healthier and more eco-friendly transport. At the end of the year, 30% of the staff had made transport agreements and committed themselves to travelling to work by eco-friendly means at least three times a week.



**NUMBER OF NEW RECRUITS**

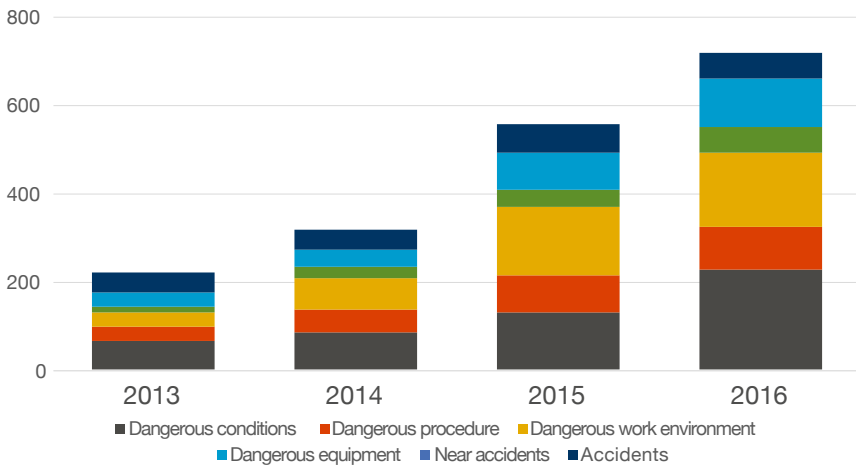


**FREQUENCY OF ABSENCE ACCIDENTS 2016 (H-NUMBER)**



Frequency of absences due to accidents on the basis of 1,000,000 working hours. An absence due to an accident refers to an accident which results in the person not being able to go to work for at least one of the seven calendar days that follow the incident.

**NOTICES INTO SAFETY DATABASE 2013-2016 BY TAPE**



The safety notification database has been operating for close to five years. The database has been so successful that it is now also used to log environmental and quality issue incidents, as well as information security issues.





## Chapter 10

Published reports  
and articles

# Published reports and articles 2016

## Reports by staff of OR and subsidiaries

### **Einar Gunnlaugsson 2016.**

Hellisheiði – Vinnsluskýrsla 2015. Afl, vatnsborð, vinnsla efnafraeði Yfirlit yfir rannsóknir. 2016-025.

### **Einar Gunnlaugsson 2016.**

Nesjavellir – Vinnsluskýrsla 2015. Afl, vatnsborð, vinnsla efnafraeði Yfirlit yfir rannsóknir. 2016-024.

### **Gretar Ívarsson 2016.**

Hitaveita í Reykjavík. Vatnsvinnslan og efnafraeði vatnsins 2015. 2016-006.

### **Guðrún Erla Jónsdóttir 2016.**

Skýrsla um framfylgd eigendastefnu OR á árinu 2016. 2016-028.

### **Hafsteinn Björgvinsson 2016.**

Fuglar og önnur dýr á verndarsvæðum vatnsbóla Reykjavíkur. 20. útgáfa. 2016-001.

### **Ingvar Stefánsson, Ásgeir Westergren, Björn Ágúst Björnsson, Brynja Kolbrún Pétursdóttir, Gísli Björn Björnsson, María Ósk Birgisdóttir og Sólveig R. Gunnarsdóttir 2016.**

Fjármálaskýrsla Orkuveitu Reykjavíkur. 2016-004.

### **Ingvar Stefánsson, Ásgeir Westergren, Björn Ágúst Björnsson, Brynja Kolbrún Pétursdóttir, Gísli Björn Björnsson, María Ósk Birgisdóttir og Sólveig R. Gunnarsdóttir 2016.**

Finance Report Orkuveita Reykjavíkur 2015. 2016-011.

### **Selma Olsen 2016.**

Vatnsvinnsla Austurveitu 2015. 2016-002.

### **Selma Olsen 2016.**

Vatnsvinnsla Grímsnesveitu 2015. 2016-003.

### **Selma Olsen 2016.**

Vatnsvinnsla Hitaveitu Akraness og Borgarfjarðar (HAB) 2015. 2016-019.

### **Selma Olsen 2016.**

Vatnsvinnsla Hitaveitu Rangæinga 2015. 2016-009.

### **Selma Olsen 2016.**

Vatnsvinnsla Hitaveitu Skorradals 2015. 2016-018.

### **Selma Olsen 2016.**

Vatnsvinnsla Hitaveitu Stykkishólms 2015. 2016-017.

### **Selma Olsen 2016.**

Vatnsvinnsla Hitaveitu Þorlákshafnar 2015. 2016-007.

### **Selma Olsen 2016.**

Vatnsvinnsla Hlíðaveitu 2015. 2016-005.

### **Selma Olsen 2016.**

Vatnsvinnsla Munaðarnesveitu 2015. 2016-015.

### **Selma Olsen 2016.**

Vatnsvinnsla Norðurárdalsveitu 2015. 2016-010.

### **Selma Olsen 2016.**

Vatnsvinnsla Ólfusveitu 2015. 2016-008.

## Reports for OR and subsidiaries

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar í Norðlingaholti og í Hveragerði. Skýrsla um mælingar árið 2015. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-102.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar í Norðlingaholti og Hveragerði. Skýrsla um mælingar fyrir janúar, febrúar og mars árið 2016. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-112.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar í Norðlingaholti og Hveragerði. Skýrsla um mælingar fyrir janúar til og með júní 2016. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-118.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar í Norðlingaholti og Hveragerði. Skýrsla um mælingar fyrir janúar til og með september 2016. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-114.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar við Hellsheiðarvirkjun og við Nesjavallavirkjun. Skýrsla um mælingar árið 2015. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-103.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar við Hellsheiðarvirkjun og við Nesjavallavirkjun. Skýrsla um mælingar fyrir janúar, febrúar og mars árið 2016. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-113.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar við Hellsheiðarvirkjun og við Nesjavallavirkjun. Skýrsla um mælingar fyrir janúar til og með júní 2016. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-117.

### **Andrés Pórarinnsson 2016.**

H<sub>2</sub>S loftgæðamælingar við Hellsheiðarvirkjun og við Nesjavallavirkjun. Skýrsla um mælingar fyrir janúar til og með september 2016. Unnið fyrir Orku náttúrunnar. Verkfræðistofan Vista. 2016-115.

### **Auður Agla Óladóttir 2016.**

Jarðhitasvæðið í Hverahlíð. Vöktun á yfirborðsvirkni haustið 2016. Unnið fyrir Orku náttúrunnar. ÍSOR-2016/088. Íslenskar orkurannsóknir (ISOR). 2016-119.

### **Birgir Tómas Arnar og Snorri Þórisson 2016.**

Skólphreinsistöðvar. Sýnataka og mælingar. Árleg yfirlitsskýrsla 2015. Borgarbyggð. Verkis. 2016-110.

### **Birgir Tómas Arnar og Snorri Þórisson 2016.**

Skólphreinsistöðvar. Sýnataka og mælingar. Árleg yfirlitsskýrsla 2015. Reykjavík. Verkis. 2016-101.

### **Eric M. Myer og Ágúst Guðmundsson 2016.**

Höfuðborgarsvæði. Grunnvatns- og rennslislikan. Árleg endurskoðun fyrir árið 2015. Skýrsla nr. 16.12. Vatnaskil. 2016-111.

### **Garðar Þorfinnsson 2015.**

Uppgræðsla vestan Hengils. Áfangaskýrsla 2015, áætlun 2016. Landgræðsla ríkisins. 2016-116.

### **Gunnar Steinn Jónsson 2016.**

Rannsókn á svifþörungum í Þingvallavatni 2015-2016. 2016-104.

### **Haraldur R. Ingvason, Finnur Ingimarsson, Stefán Már Stefánsson og Þóra Hrafnadóttir 2016.**

Vöktun á lífríki og vatnsgæðum Þingvallavatns. Gagnaskýrsla fyrir árið 2015. Fjólrit nr. 1-2016. Náttúrufræðistofa Kópavogs. 2016-106.

**Helga M. Helgadóttir, Sveinborg Hlíf Gunnarsdóttir, Hörður Tryggvason, Valdís Guðmundsdóttir, Anett Blischke og Magnús Á. Sigurgeirsson 2016.** Hellsheiði – Hóla HE-59. Forborun 1., 2 og 3. áfangi: Borun fyrir yfirborðsfóðringu í 115 m, öryggisfóðringu í 317 m, vinnslufóðringu í 800 m og götuðum leiðara í 1130 m dýpi. Dýpi holu er 2381 m. Unnið fyrir Orkuveitu Reykjavíkur. ÍSOR-2016/046. Íslenskar orkurannsóknir (ISOR). 2016-108.

### **Hörður Tryggvason 2016.**

Mælingaefirlit á Bitru árið 2016. Unnið fyrir Orkuveitu Reykjavíkur. ÍSOR-2016/083. Íslenskar orkurannsóknir (ISOR). 2016-107.



**Hörður Tryggvason 2016.**

Mælingaefitílit á Nesjavöllum árið 2016. Unnið fyrir Orku náttúrunnar. ÍSOR-2016/086. Íslenskar orkurannsóknir (ÍSOR). 2016-109.

**Hörður Tryggvason 2016.**

Mælingaefitílit í Hverahlíð árið 2016. Unnið fyrir Orku náttúrunnar. ÍSOR-2016/087. Íslenskar orkurannsóknir (ÍSOR). 2016-120.

**Ingvar Þór Magnússon 2016.**

GNSS- og þyngdarmælingar á Hengilssvæði árið 2016. Unnið fyrir Orku náttúrunnar. ÍSOR-2016/078. Íslenskar orkurannsóknir (ÍSOR). 2016-121.

**Magnús Jóhannsson og Benóný Jónsson 2016.**

Fiskrannsóknir á Ölfusvatnsá í Grafningi árið 2016. Hafrannsóknastofnun. 2016-105.

**Sveinborg H. Gunnarsdóttir, Bastien Poux 2016.**

3D modelling of Hellisheiði geothermal field using leapfrog. Data, workflow and preliminary models. Unnið fyrir Orku náttúrunnar. ÍSOR-2016/039. Íslenskar orkurannsóknir (ÍSOR). 2016-122.

**Peer-reviewed articles and lectures****Ármannsson, Halldór 2016 (ÍSOR).**

The fluid geochemistry of Icelandic high temperature geothermal areas. Applied Geochemistry, 66, 14-64.

**Gunnarsson, Gunnar and Mortensen, Anette K., 2016.**

Dealing with intense production density. Challenges in understanding and operating the Hellisheiði geothermal field in SW-Iceland. Proceedings, 41st Workshop on Geothermal Reservoir Engineering, Stanford, California, 22-24 February 2016.

**Gunnlaugsson, Einar 2016.**

Environmental impact assessment of geothermal projects in Iceland. Presented at „SDG Short course 1 on sustainability and environmental management of geothermal resource utilization and the role of geothermal in combating climate change“, organized by UNU-GTP and LaGeo, in Santa Tecla, El Salvador, 4-10 September 2016.

**Gunnlaugsson, Einar 2016.**

Environmental management and monitoring in Iceland. Reinjection and gas sequestration at the Hellisheiði power plant. Presented at „SDG Short course 1 on sustainability and environmental management of geothermal resource utilization and the role of geothermal in combating climate change“, organized by UNU-GTP and LaGeo, in Santa Tecla, El Salvador, 4-10 September 2016.

**Gunnlaugsson, Einar and Steingrímsson, Benedikt 2016.**

Environmental planning and permit process for the Hellisheiði power plant in Iceland. Presented at „SDG Short course 1 on sustainability and environmental management of geothermal resource utilization and the role of geothermal in combating climate change“, organized by UNU-GTP and LaGeo, in Santa Tecla, El Salvador, 4-10 September 2016.

**Kristjánsson, Bjarni Rey, Axelsson, Guðni, Gunnarsson, Gunnar, Gunnarsson, Ingvi and Óskarsson, Finnbogi 2016.**

Comprehensive tracer testing in the Hellisheiði geothermal field in SW-Iceland. Proceedings, 41st Workshop on Geothermal Reservoir Engineering, Stanford, California, 22-24 February 2016.

**Sigurðardóttir, Hólmfríður, Davíðsdóttir, Brynhildur and Gunnlaugsson, Einar 2016.**

Environmental and resource policy and significant environmental aspects at Reykjavík Energy. Development and structure. Presented at „SDG Short course 1 on sustainability and environmental management of geothermal resource utilization and the role of geothermal in combating climate change“, organized by UNU-GTP and LaGeo, in Santa Tecla, El Salvador, 4-10 September 2016.





## Chapter 11

### Overview of GRI

# Overview of GRI

Reykjavík Energy's (OR) owners' policy states that the company shall be socially responsible in its operations. It is OR's and its subsidiaries strategy to be at the forefront of corporate social responsibility and always to strive towards better results. Corporate social responsibility is an ongoing journey.

For the second year in a row, the basic criteria of the Global Reporting Initiative's (GRI) guidelines have been applied in compiling the Consolidated Financial Statement, Annual Report and Environmental Report with the objective of communicating CSR-related information in a transparent manner. The form that is used is called GRI G4 Core. The table below lists and describes the sustainability indicators. The adjacent column presents information pertaining to the relevant indicator or a reference to the page number where information can be found in the Annual Report (A), Environmental Report (E) or Consolidated Financial Statement (F). After the index comes additional information regarding the GRI sustainability index.

As mentioned on page 2 of the Annual Report, the activities of Reykjavík Energy are independently certified by ten external entities and are therefore internally and externally evaluated on a regular basis. Although the GRI overview has not been formally externally audited, this certified administrative system generally guarantees the reliability of the information presented in the GRI report. It should be noted that VSO Consulting reviews Reykjavík Energy's Environmental Report as a whole and KPMG audits the Group's Consolidated Financial Statement. External auditing entails analytical procedures, spot checks and the examination of data to verify information.

According to the Act on Annual Accounts, Reykjavík Energy's annual financial statement in the board of directors' Annual Report shall be accompanied by an overview of the necessary information to assess the development, scope, status and impact of the company in relation to environmental, social and human resource issues. It shall also explain the company's policy on human rights and how the company deals with corruption and bribery issues. These requirements are met with the making of this GRI report and the elements in the table below which are covered by the law are marked with an asterisk (\*).

STRATEGY AND ANALYSIS		Reference
G4-1	Statement from the CEO.	A 10-11
G4-2	Description of key impacts, risks, and opportunities.	A 6-7, 10-11; R 32-40
ORGANIZATIONAL PROFILE		Reference
G4-3	Name of the organization.	A front page
G4-4	Primary brands, products, and services.	A 10-11; F 16-17
G4-5	Location of the organization's headquarters.	On back page; F 16
G4-6	Countries where the organization operates.	F 16
G4-7	Nature of ownership and legal form.	F 5
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	F 17*; A 38-39
G4-9	Scale of the organization.	A 24, 30, 36, 42-43, tables in annex; F 5
G4-10	Number of employees by employment contract and gender.	Tables in annex with breakdown according to companies and gender
G4-11	Percentage of total employees covered by collective bargaining agreements.	98%
G4-12	Description of the organization's supply chain.	A 38-39; annex
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain.	F 43; A 16-17
Commitments to external initiatives		
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	E 8-9; A 49; F 35-40
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	E 7-8; A 30-32, 42-45, 48-49
G4-16	Memberships of associations.	E 7

Skilgreining á efnislegum þáttum skýrslunnar og mörkum þeirra		
G4-17	"List all entities included in the organization's consolidated financial statements or equivalent documents. Report whether any entity included in the organization's consolidated financial statements or equivalent	F 3
G4-18	documents is not covered by the report."	A 38 -39, 52
G4-19	"Explain the process for defining the report content and the Aspect Boundaries.	A 11, 38 -39, 52
G4-20	For each material Aspect, report the Aspect Boundary within the organization, whether the Aspect is material within the organization, any specific limitation regarding the Aspect Boundary within the organization.	An endeavour is made to account for all sustainability Indicators for the group as a whole, without excluding any companies within the group. A 7, 52
G4-21	For each material Aspect, report the Aspect Boundary outside the organization, report whether the Aspect is material outside of the organization, Report any specific limitation regarding the Aspect Boundary outside the organization.	An endeavour is made to account for all sustainability indicators concerning the external environment of the group as a whole, without excluding any companies within the group. A 7, 52
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	There are some repetitions from the 2015 GRI report but the 2016 information is more complete than before
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	No significant changes
Stakeholder engagement		
G4-24	Provide a list of stakeholder groups engaged by the organization.	A 38-39; E 7-8
G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	A 38-39
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	A 38-39



G4-27	Report key topics and concerns that have been raised through stakeholder engagement.	E 7-8, 44; A 24
<b>Report profile</b>		
G4-28	Reporting period (such as fiscal or calendar year) for information provided.	Year 2016
G4-29	Date of most recent previous report (if any).	18.04.2016
G4-30	Reporting cycle (such as annual, biennial).	Annually
G4-31	Provide the contact point for questions regarding the report or its contents.	A 2
<b>GRI overview</b>		
G4-32	Report the 'in accordance' option the organization has chosen.	A 52
<b>External audit</b>		
G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report.	E 61; A 2, 52
<b>GOVERNANCE</b>		<b>Reference</b>
<b>Governance structure and composition</b>		
G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	A 11; F 54
<b>ETHICS AND INTEGRITY</b>		<b>Reference</b>
<b>Standard disclosure of organization's values, principles, standards and norms</b>		
G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics.	F 53; A 6 -7, 42
G4-57	Report the internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines.	F 53
G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.	F 53
<b>ECONOMIC</b>		<b>Reference</b>
<b>Fjárhagsleg frammistaða</b>		
G4-EC1	Economic performance	F 5-13
G4-EC2	Direct economic value generated and distributed, including revenues, operating costs, employee wages and benefits, payments to providers of capital, payments to government, community investment and economic value retained.	A 31-32; E -8
G4-EC3	Financial implications and other risks and opportunities for the organization's activities due to climate change.	F 11
G4-EC4	Coverage of the organization's defined benefit plan obligations.	No public grants were received in 2016, but the gas project in Hellisheidi received a grant from the EU in the previous years
<b>Market presence</b>		
G4-EC5	Ratio of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	No group employees are on minimum wages, which are the same in all of Reykjavik Energy's areas of activity
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation.	100%
<b>Indirect economic impacts</b>		
G4-EC7	Development and impact of infrastructure investments and services supported.	A 24-27, 30-32, 36-37
G4-EC8	Significant indirect economic impacts, including the extent of impacts.	A 24-27, 30-32, 36-37

<b>Procurement practices</b>		
G4-EC9	Proportion of spending on local suppliers at significant locations of operation.	Annex
<b>ENVIRONMENTAL</b>		<b>Reference</b>
<b>Materials</b>		
G4-EN1	Materials used by weight or volume.	Not applicable
G4-EN2	Percentage of materials used that are recycled input materials.	Not applicable
<b>Energy</b>		
G4-EN3	Energy consumption within the organization.	E 56-59, 93*
G4-EN4	Energy consumption outside of the organization.	E 48-50, 58, 91-92*
G4-EN5	Energy intensity.	E 56*
G4-EN6	Reduction of energy consumption.	E 56*
G4-EN7	Reductions in energy requirements of products and services.	Not applicable
<b>Water</b>		
G4-EN8	Total water withdrawal by source.	E 14-15, 22-23, 72-75*
G4-EN9	Water sources significantly affected by withdrawal of water.	E 14-15, 22-23, 72-75*
G4-EN10	Percentage and total volume of water recycled and reused.	None, 0%*
<b>Biodiversity</b>		
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	E 15-17, 72-73*
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	E 15-17, 72-75*
G4-EN13	Habitats protected or restored.	E 15-17, 57-59*
G4-EN14	Report the total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk.	E 74-75*
<b>Emissions</b>		
G4-EN15	Direct greenhouse gas (GHG) emissions (scope 1).	E 37, 57-59, 84-85, 94-95*
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (scope 2).	E 58, 94*
G4-EN17	Other indirect greenhouse gas (GHG) emissions (scope 3).	E 48-50, 57-59, 91-95*
G4-EN18	Greenhouse gas (GHG) emissions intensity.	E 37, 57-59*
G4-EN19	Reduction of greenhouse gas (GHG) emissions.	E 37, 57-59, 92-95*
G4-EN20	Emissions of ozone-depleting substances (ODS).	E 52*
G4-EN21	NOx, SOx and other significant air emissions.	E 34-37, 84-87*
<b>Effluents and waste</b>		
G4-EN22	Total water discharge by quality and destination.	E 30-33, 39-40, 80-83, 88-90*
G4-EN23	Total weight of waste by type and disposal method.	E 48, 91-92*
G4-EN24	Total number and volume of significant spills.	E 7, 30-37, 39-40, 80*
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel convention annexes I,II,III, and VIII, and percentage of transported waste shipped internationally.	E 16-17, 52*
G4-EN26	Identity, size, protected status, and biodiversity value of water and related habitats significantly affected by the organization's discharge of water and runoff.	E 15-17, 30-33, 72-75*

<b>Products and services</b>		
G4-EN27	Extent of impact mitigation of environmental impacts of products and services.	Environmental report*
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category.	Not applicable
<b>Compliance</b>		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	0*
<b>Transport</b>		
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce.	E 49-50, 57-59, 93-95*
<b>Overall</b>		
G4-EN31	Total environmental protection expenditures and investments by type.	Environment protection projects have not been specifically distinguished from other investments or operations
<b>Supplier environmental assessment</b>		
G4-EN32	Percentage of new suppliers that were screened using environmental criteria.	Suppliers are not screened according to environmental indicators
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken.	The companies do not have any assessments of the potential or real risks posed by the negative environmental impact of their supply chain or responses to those impacts*
<b>Environmental grievance mechanisms</b>		
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms.	E 7,16, 31,35, 38,41, 51-52*
G4-EN35	Earthquakes potentially related to reinjection of geothermal water.	E 38*
<b>LABOR PRACTICES AND DECENT WORK</b>		<b>Reference</b>
<b>Employment</b>		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region.	Table in annex*
G4-LA2	Benefits provided to full-time employees.	Text in annex*
G4-LA3	Return to work and retention rates after parental leave, by gender.	All of the employees who took parental leave in 2015 returned to work*
<b>Labor/Management relations</b>		
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements.	The minimal notice of termination of employment at the end of the probationary period is 3 months. in accordance with collective agreements*
<b>Occupational health and safety</b>		
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advice on occupational health and safety programs.	100%*
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.	A 44-45*
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation.	A 44-45*
G4-LA8	Health and safety topics in formal agreements with trade unions.	A 44-45*

<b>Training and education</b>		
G4-LA9	Average hours of training per year per employee by gender, and by employee category.	Table in annex*
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	E 44; A 44-45*
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category.	Table in annex*
<b>Diversity and equal opportunity</b>		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	Tables in annex*
<b>Equal remuneration for men and women</b>		
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.	A 42-43*
<b>Supplier assessment for labor practices</b>		
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria.	>53%, see annex*
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken.	There is considered to be a risk of social dumping among contractors on construction projects and services. Responded to with requirements in the tender documents; annex*
<b>Labor practices grievance mechanisms</b>		
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms.	35 employees complained about the effects of humidity damage and were given new workplaces in 2016*
<b>HUMAN RIGHTS</b>		<b>Reference</b>
<b>Investment</b>		
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening.	100%*
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	Figures are not available but the CEO met with almost all the staff of the Reykjavik Energy Group in 2016 and handed them the Reykjavik Energy book, which, among other things, goes over the non-discrimination policy, which is founded on the human rights convention enshrined in the constitution. A 42*
<b>Non-discrimination</b>		
G4-HR3	Total number of incidents of discrimination and corrective actions taken.	No cases*
<b>Freedom of association and collective bargaining</b>		
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights.	There is considered to be a risk of social dumping among contractors on construction projects and services. Responded to with requirements in the tender documents; annex*
<b>Child labor</b>		
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.	There is considered to be a risk of social dumping among foreign suppliers. Responded to with requirements in the tender documents; annex*

<b>Forced or compulsory labor</b>		
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.	There is considered to be a risk of social dumping among foreign suppliers in addition to contractors in construction projects and services. Responded to with requirements in the tender documents; annex*
<b>Security practices</b>		
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations.	No-one is hired for security protection
<b>Indigenous rights</b>		
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken.	Not applicable
<b>Assessment</b>		
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments.	One complaint was received in 2016 regarding the staff member of a servicing contractor*
<b>Supplier human rights assessment</b>		
G4-HR10	Percentage of new suppliers that were screened using human rights criteria.	>53%, see annex*
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken.	None as far is known, annex*
<b>Human rights grievance mechanisms</b>		
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms.	No complaints*
<b>SOCIETY</b>		<b>Reference</b>
<b>Local communities</b>		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	Environmental report*
G4-SO2	Operations with significant actual and potential negative impacts on local communities.	E 4-5*
<b>Anti-corruption</b>		
G4-SO3	Total number and percentage of operations assessed for risks related corruption and the significant risks identified.	F 53*
G4-SO4	Communication and training on anti-corruption policies and procedures.	F 53*
G4-SO5	Confirmed incidents of corruption and actions taken.	F 53*
<b>Public policy</b>		
G4-SO6	Total value of political contributions by country and recipient/beneficiary.	F 53*
<b>Anti-competitive behavior</b>		
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	A 24*
<b>Compliance</b>		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	A 24*

<b>Supplier assessment for impacts on society</b>		
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society.	>53%, see annex*
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken.	E 7, 45*
<b>Grievance mechanisms for impact on society</b>		
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms.	E 7*
<b>PRODUCT RESPONSIBILITY</b>		<b>Reference</b>
<b>Customer health and safety</b>		
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	100%, all of the activities of the Reykjavik Energy Group are independently certified and monitored by public authorities, with regard to, among other things, health and safety
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.	No figures available
<b>Product and service labeling</b>		
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements.	All of the services of the Reykjavik Energy Group are subject to official requirements to provide information to consumers and make it available
G4-PR4	Total number of incidents on non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	No complaints were received in 2016
G4-PR5	Results of surveys measuring customer satisfaction.	A 27, 30, 37
<b>Market communications</b>		
G4-PR6	Sale of banned or disputed products.	No sales of this kind
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes.	No cases
<b>Customer privacy</b>		
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	No complaints
<b>Compliance</b>		
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	0 kr.

#### G4-EC9, G4-EN32, G4-LA14, G4-HR4, G4-HR5, G4-HR6, G4-HR10, G4-HR11, G4-SO9

The Finance Division of Reykjavik Energy deals with procurement and manages contracts with suppliers on the basis of Reykjavik Energy's procurement policy and applicable laws and regulations. On the basis of a new risk assessment, work is currently being done on tightening work procedures, primarily with regard to the indirect impact of procurement on the group. The objective is to, among other things, reduce the likelihood of the group doing business with suppliers who circumvent laws, regulations and Reykjavik Energy's criteria for corporate social responsibility and good business practices. This applies primarily to environmental and safety issues, working facilities, child labour and human rights in general.

All of Reykjavik Energy's tendering terms now include provisions which enable the company to terminate contracts if a supplier is guilty of breaching the provisions. Its terms and work contracts also contain provisions concerning joint liability, i.e. the contractor is liable for its sub-contractors in this regard. Foreign procurement is mostly conducted through calls for tender.

Reykjavik Energy demands that its contractors fulfil the conditions which Reykjavik Energy and its subsidiaries apply to their own tasks, and if they fail to do so run the risk of being excluded from the tasks for a set period. Many of these tasks are conducted by small contractors following price surveys and not calls for tender. Reykjavik Energy regularly evaluates the performance of contractors who work for the group. Reykjavik Energy does not screen contractors in advance, except to the extent that they have worked for the group before. This screening covers, among other things, their performance in safety and environmental issues.

Legal and regulatory provisions and Reykjavik Energy's procurement rules require all major projects and purchases to be tendered out. The figures in the GRI table are based on the proportion of Reykjavik Energy Group's procurement per calls for tender, but the examination of suppliers is more extensive than that, as outlined above. The work currently being conducted by the EU on the certification of suppliers will be of use to the group. This will reduce Reykjavik Energy's need for the independent screening of suppliers.

Procurement overview of Reykjavik Energy Group for 2016	Amount	Percentage
Call for tender	7,857,644,835	41%
Business term agreements (some made after the tendering)	4,745,368,294	25%
Price surveys	374,423,703	2%
Transactions below benchmark amounts	1,916,510,786	10%
<b>Transactions within the group (primarily electricity and hot water)</b>	<b>4,084,016,378</b>	<b>22%</b>
<b>Total procurement</b>	<b>18,977,963,997</b>	<b>100%</b>

#### G4-LA1 Total number and rates of new employee hires and employee turnover by age group, gender and region.

Staff turnover	All terminations	Quit of their own accord
Male	6.8%	4.6%
Female	10.8%	3.4%
Total	8.1%	4.5%

Staff turnover per workplace	All terminations	Quit of their own accord
Capital region	8.1%	4.4%
West Iceland	11.1%	5.6%
Power plants & South Iceland	6.5%	2.2%

Staff turnover per age	All terminations	Quit of their own accord
20-29	16.9%	13.6%
30-39	6.0%	1.7%
40-49	13.2%	7.9%
50-59	5.6%	3.2%
60-69	4.6%	1.2%



**G4-10** Number of employees by employment contract and gender (1-6).

	Permanent employment				Summer employment				Temporary employment			
	Number		Percentage		Number		Percentage		Number		Percentage	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Reykjavik Energy	92	103	47%	53%	6	10	38%	63%	8	10	44%	56%
Reykjavik Fibre Network	47	10	82%	18%								
ON Power	54	12	82%	18%	8	11	42%	58%	2		100%	0%
Veitur Utilities ohf	148	26	85%	15%	25	23	52%	48%	1	2	33%	67%
<b>OR Group</b>	<b>341</b>	<b>151</b>	<b>69%</b>	<b>31%</b>	<b>39</b>	<b>44</b>	<b>47%</b>	<b>53%</b>	<b>11</b>	<b>12</b>	<b>48%</b>	<b>52%</b>
	31.12. 2016				Total 2016				31.12. 2016			

	Male	Female	Male	Female
<b>Reykjavik Energy</b>	<b>92</b>	<b>103</b>	<b>47%</b>	<b>53%</b>
Industrial and manual workers	34	3	92%	8%
Unskilled workers	6	29	17%	83%
Specialists	33	22	60%	40%
Office clerks	10	38	21%	79%
Managers	9	11	45%	55%
<b>Reykjavik Fibre Network</b>	<b>47</b>	<b>10</b>	<b>82%</b>	<b>18%</b>
Industrial and manual workers	24	1	96%	4%
Specialists	14	4	78%	22%
Office clerks	6	4	60%	40%
Managers	3	1	75%	25%
<b>ON Power</b>	<b>54</b>	<b>12</b>	<b>82%</b>	<b>18%</b>
Industrial and manual workers	29	2	94%	6%
Unskilled workers	5		100%	0%
Specialists	12	4	75%	25%
Office clerks	4	4	50%	50%
Managers	4	2	67%	33%
<b>Veitur Utilities ohf</b>	<b>148</b>	<b>26</b>	<b>85%</b>	<b>15%</b>
Industrial and manual workers	99	4	96%	4%
Unskilled workers	24	3	89%	11%
Specialists	23	11	68%	32%
Office clerks		5	0%	100%
Managers	2	3	40%	60%
	31.12.2016			

	Male	Female	Male	Female
<b>Reykjavik Energy</b>	<b>92</b>	<b>103</b>	<b>47%</b>	<b>53%</b>
Capital region	89	97	48%	52%
South Iceland	1	2	33%	67%
West Iceland	2	3	40%	60%
Miscellaneous		1	0%	100%
<b>Reykjavik Fibre Network</b>	<b>47</b>	<b>10</b>	<b>82%</b>	<b>18%</b>
Capital region	45	9	83%	17%
West Iceland	1	1	50%	50%
Miscellaneous	1		100%	0%
<b>ON Power</b>	<b>54</b>	<b>12</b>	<b>82%</b>	<b>18%</b>
Capital region	44	12	79%	21%
South Iceland	8		100%	0%
West Iceland	2		100%	0%
<b>Veitur Utilities ohf</b>	<b>148</b>	<b>26</b>	<b>85%</b>	<b>15%</b>
Capital region	124	23	84%	16%
South Iceland	8		100%	0%
West Iceland	14	3	82%	18%
Miscellaneous	2		100%	0%

**G4-LA2** Benefits provided to full-time employees.

The main benefits enjoyed by full-time employees in the Reykjavik Energy Group are access to subsidised canteens, transport grants to boost eco-friendly transport, sport grants to enhance health, and membership of the employees' association which grants access to holiday home rentals.

**G4-LA9** Average hours of training per year per employee by gender, and by employee category.

	Male	Female	Total
Industrial and manual workers	12.3	7.0	12.0
Unskilled workers	9.5	10.4	9.9
Specialists	7.8	11.3	9.0
Office clerks	7.6	6.6	6.9
Managers	8.4	8.4	8.4
<b>Total</b>	<b>10.4</b>	<b>8.9</b>	<b>10.0</b>

**G4-LA11** Percentage of employees receiving regular performance and career development reviews, by gender and by employee category.

	Male	Female	Total
Industrial and manual workers	80%	80%	80%
Unskilled workers	57%	88%	72%
Specialists	85%	78%	83%
Office clerks	65%	82%	77%
Managers	78%	76%	77%
<b>Total</b>	<b>78%</b>	<b>81%</b>	<b>79%</b>

**G4-LA12** Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.

Reykjavik Energy does not store any of the background information mentioned above, other than age and gender.

	Industrial and manual workers	Unskilled workers	Specialists	Office clerks	Managers	Total
20-29	7%	10%	5%	13%	0%	7%
30-39	21%	18%	36%	28%	31%	26%
40-49	18%	24%	28%	18%	31%	22%
50-59	32%	24%	20%	24%	31%	27%
60-69	22%	24%	11%	17%	6%	18%
<b>Total</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>

	Male	Female
Industrial and manual workers	95%	5%
Unskilled workers	52%	48%
Specialists	67%	33%
Office clerks	28%	72%
Managers	51%	49%
<b>Total</b>	<b>69%</b>	<b>31%</b>









