

Iceland is one of the few countries in the world to generate all its energy from renewable sources such as water, geothermal energy and wind power.

Landsvirkjun is owned by the Icelandic state and generates and supplies two thirds of the electricity in Iceland. We operate thirteen hydropower stations and two geothermal stations across the country, within five operational areas. The latest addition to Iceland's fleet of hydropower stations is the Búðarháls Hydropower Station which began operations in March, 2014.

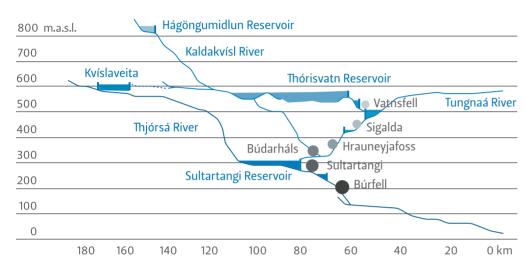
Landsvirkjun's vision for the future is to be a progressive international energy company within the field of renewable energy. There are 250 employees at Landsvirkjun and each one is committed to making Landsvirkjun a leader in the sustainable use and sale of renewable energy sources.

## **Newest hydropower station**

The Búðarháls Hydropower Station is the newest addition to Iceland's fleet of hydropower stations. The Station was started-up in March, 2014 and will generate approximately 585 GWh of electricity, per year, for the national grid. The Station is the 7th largest power station in Landsvirkjun's ownership, within the Þjórsá- and Tungnaá River water catchment area. The Station will create immense value by utilising the 40 metre head in the Tungnaá River, from the tailwater of the Hrauneyjafoss Power Station to the Sultartangi Reservoir.

The water source for the Þjórsá and Tungnaá water catchment area originates from the Hofsjökul and Vatnajökul Glaciers where the water drops from a height of 600 metres, supplying six hydropower stations, before making its final journey to the sea.

#### Head and power stations in the Þjórsá and Tungnaá area



The Búðarháls Hydropower Station utilises the 40 metre head in the Tungnaá River from the tailwater of the Hrauneyjafoss Power Station and to the Sultartangi Reservoir.



Water is stored for supply in the Þórisvatn, Hágöngulón and Kvíslaveita Storage Reservoirs. The Þjórsá and Tungnaá water system is characterised by the fact that each reservoir connects to the next and between reservoirs, there are power stations utilising the falling water to generate power.

The Búðarháls Power Station is part of a large-scale supply system in the Þjórsá and Tungnaá water catchment area which overall generates approx. 6,250 GWhr of energy annually. Locating the new station within this area meant less disruption than developing a power project in a new area. All aggregates for concrete work were available from sources in close proximity to the station and older quarries were utilised. These factors ensure efficiency in operations.

At the height of construction work, nearly 400 employees were involved in the construction of the Búðarháls Hydropower Station and nearly half of the workforce was provided by the main contractor. The measured labour force for the Búðarháls Project was approx. 900 man-years. Construction work on the Búðarháls Project was completed in 2013 and the next few months will see the removal of work camps and the clean-up and landscaping of the areas around the Station's structures.

## **Búðarháls Hydropower Station**

95 MW

585 GW

STEEL USED IN MANMADE STRUCTURES  $4.500 \, \text{TONNES}$ 

CONCRETE USED IN MANMADE STRUCTURES

65.000 m<sup>3</sup>

5IZE OF SPORĐALDA RESERVOIR

7 km²

LENGTH OF HEADRACE TUNNEL

 $4^{KM}$ 

# Our mission and objectives

At Landsvirkjun, our role is to maximise the potential yield and value of the natural resources we have been entrusted with, in a sustainable, responsible and efficient manner.

Ensuring efficient energy production and development, purposefully building an extensive and diverse client base and seeking out new business opportunities, by connecting with the European energy market, are all key factors in fulfilling this role.

Landsvirkjun encourages consensus and support by promoting open and informed communication and is committed to the professional development of its employees. Landsvirkjun's vision for the future is to become a progressive, international energy company, in the field of renewable energy.

Landsvirkjun's role is to maximise the potential yield and value of the natural resources it has been entrusted with, in a sustainable, responsible and efficient manner.

## Open communication and transparency

Landsvirkjun plays an important role within society and gaining an understanding of the views and interests of those affected by its operations is crucial to the Company. A survey conducted for Landsvirkjun in 2012 showed that approx. 45% of respondents believed that Landsvirkjun did not promote transparency and open communication, in its operations. The results encouraged the Company to do better and to make a concerted effort in creating effective communication strategies, with stakeholders, and to support open communication on issues pertaining to the Company's operations.

We launched the project "This is Landsvirkjun" last year, the aim of which was to facilitate public knowledge on Landsvirkjun's operations, their marketing priorities and research conducted on natural resources and the environment.

We responded to the call for better communication by opening up our Annual and Autumn Meetings and streaming them live via the Company website, where all the relevant information on the meetings was accessible. The Autumn Meeting also gave those unable to attend the opportunity to send questions, via Landsvirkjun's Twitter account.

Over 500 people attended Landsvirkjun's Autumn Meeting at Harpa last year. 1000 people watched the meeting live, via Landsvirkjun's website.





Landsvirkjun opened its doors to guests, once again, last summer. Visitors were given the opportunity to familiarise themselves with our operations and to gain insight on electricity generation from renewable energy sources. There were over 23,000 visitors to Landsvirkjun's Visitor Centres and the new wind turbines at Hafið received particular attention this year.

Last year, Landsvirkjun and the Institute of Economic Studies joined forces in an effort to support and encourage research within the field of business and economics, pertaining to energy generation. The objective is to advocate research within these particular areas and to subsequently increase public awareness on the significance of these factors with regard to the economy. Landsvirkjun will support the research by contributing 8 million ISK per annum for three years consecutively.

"This collaborative effort will give us the opportunity to be actively involved in supporting the development of expertise and professional discourse, with regard to energy matters and the energy market"

Dr. Hordur Arnarson, CEO of Landsvirkjun

# Awarded the Gold Standard by PWC for Wage Equality

Landsvirkjun has been awarded the Gold Standard by PWC, for wage equality. The results of the 2013 PWC audit showed that the fixed salary rate for women is generally slightly higher than that of men, whereas the overall salary is slightly higher for men. The difference is well below the 3.5% requirement set out by PWC, in order to achieve the Gold Standard. The number of women in management and specialist roles at Landsvirkjun has increased. We are proud of the fact that our policy on gender equality is proving successful and we intend to purposefully continue this work in order to ensure that both men and women enjoy access to a competitive and vibrant working environment.

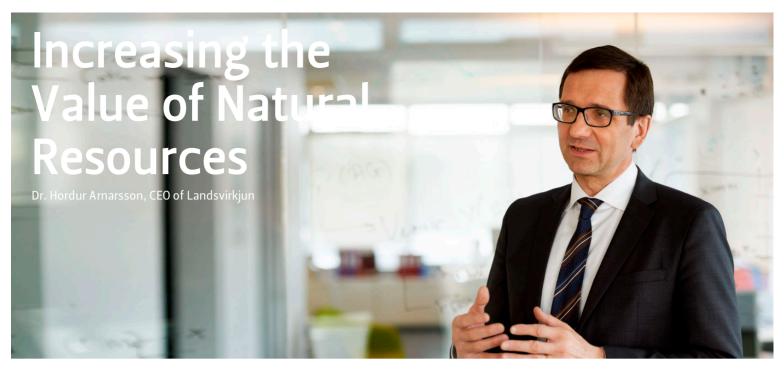


Landsvirkjun has an important role to play within Icelandic society and the Company is committed to fulfilling its responsibilities. We have defined our role as consistently endeavouring to maximise the potential yield and value of the natural resources we have been entrusted with, in a sustainable, responsible and efficient manner. The Board of Directors, the Executive Board and Landsvirkjun's employees make every effort to conscientiously fulfil this role.

The nature of energy generation means that energy companies often find themselves at the forefront of public discussion and projects being developed by these companies frequently inspire discussions on the fine line between the utilisation and protection of natural resources. Landsvirkjun must show its ability to tread the middle road on these matters and the initiative in seeking consensus on the Company's development of projects. In keeping with this approach, Landsvirkjun has held open discussions on matters pertaining to the Company and its operations in the last few years. Since 2010, the Company has held two large meetings annually; an Annual Meeting and an Autumn Meeting. These meetings have facilitated discussions on the Company's operations and various matters connected to energy generation in general. These meetings have been well attended and have likely contributed to the improved trust the Company has enjoyed in recent years. The Board of Directors and Executive Board of Landsvirkjun have also placed a great emphasis on effective corporate governance. It is important that state–run companies, just like private companies, understand the importance of operating on such a basis.

It is often thought that the operation of a state-run company is merely an extension of the political party policy at any given time, the shackles of which would prove an impossible environment for any Board of Directors to fulfil their legally defined role. The Board of Directors at state-run companies share the same responsibilities as those running and operating privately run companies, be they politically appointed or not. They are first and foremost responsible for fulfilling the legally binding role of the company and their loyalty is primarily bound to the company itself. Political conflict on utilisation should remain within the political arena and should not inhibit the boards of companies from retaining their professionalism as a guiding principle in their work. A part of this professionalism is assessing what the company represents to the outside world and what it stands for. In an attempt to strengthen the Company's position, Landsvirkjun has placed an emphasis on developing an ownership policy for the Company where the government's intentions for exercising its ownership rights are clearly outlined. The dividends policy and compensation policy for senior directors are normal aspects of such an ownership policy and are outlined to increase stability surrounding the Company. Stability, professionalism and open and honest discussion are all aspects that strengthen Landsvirkjun's position as one of the most dynamic companies in Iceland and can lay the foundation for its directors to fulfil their role with integrity and dedication.

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Landsvirkjun's operations were successful in 2013 and a historical high was achieved by the Company, this year, when electricity sales increased by 416 GWh. Revenue increased by 3.7% and the profit before unrealised financial items and EBITDA also increased.

Landsvirkjun suffered losses this year, despite the success of operations within a difficult market environment. This can mainly be attributed to decreasing aluminium prices worldwide and the effects of this on contractual energy prices. Landsvirkjun's performance will continue to rely on the unpredictable development of currently low aluminium prices, interest rates and exchange rates. The net debt of the Company has decreased by 395 million USD since year-end, 2009. However, the Company's debts are still substantial and the reduction of debt remains a key area of focus for Landsvirkjun.

A milestone was reached in Landsvirkjun's history when construction was completed on the Company's sixteenth power station, the Búðarháls Hydropower Station. Construction was successful, safety matters were exemplary and the project was on budget. The project was a unified effort and truly reflected Landsvirkjun's commitment to increasing societal consensus on the Company's operations.

Landsvirkjun is fully aware of the important role it plays within Icelandic society and has established a clear policy on social responsibility. Implementing the Social Responsibility Policy was a priority in 2013 and dozens of employees were involved in its development. Landsvirkjun's Policy outlines the Company's commitment to "take care when working with the natural resources we have been entrusted with and to share the knowledge we acquire to contribute to a better society."

Iceland is rich in natural resources and there are various opportunities to be found in the further development of energy intensive industries, creating value for Icelandic society.

The rapid development seen in recent decades is interesting and potentially an indicator of how Icelandic ingenuity could be utilised in the development of new ideas and technology in energy generation and the utilisation of energy resources.

The rapidly changing environment of the international energy market has created new business opportunities for Landsvirkjun. International corporations see Iceland as an attractive option and Landsvirkjun has been involved in discussions with a number of corporations within various industries. New business opportunities will enable the Company to further diversify its customer base and minimise risk factors for Landsvirkjun in the future.

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# Landsvirkjun's Board of Directors

Landsvirkjun is the largest energy company in Iceland, is owned by the Icelandic state and is under the auspices of the Ministry of Finance and Economic Affairs. The Board is appointed by the Minister of Finance and Economic Affairs, on an annual basis, and is responsible for the finances and the operation of the Company. Landsvirkjun's Board of Directors was appointed on the 10th of April, 2013. Bryndís Hlöðversdóttir was appointed as the Chairman of the Board and Sigurbjörg Gísladóttir as the Vice Chairman of the Board, at the first meeting held by the Board.



#### **Board of Directors**

Bryndís Hlöðversdóttir HR Director – The National University Hospital of Iceland

Arnar Bjarnason Managing Director of Reykjavík Capital

Stefán Arnórsson Professor at the University of Iceland

Ingimundur Sigurpálsson CEO of Iceland Post

Sigurbjörg Gísladóttir Chemist

#### **Reserve Members**

Magnús Árni Magnússon

Baldvin H. Sigurðsson

Jóna Jónsdóttir

Anna Dóra Sæþórsdóttir

Vigdís M. Sveinbjörnsdóttir

#### The Executive Board of Directors

Landsvirkjun's Board of Directors appoint the CEO. The Board and the CEO are responsible for the operation of the Company. The Deputy CEO oversees the joint affairs of the Company as well as directing policy development and ensuring the quality of corporate governance. There are currently five Directors at Landsvirkjun.



**CEO**Hordur Arnarson, Ph.D

Hordur Arnarson completed his electrical engineering studies at the University of Iceland in 1986 and went on to obtain a doctorate from the Technical University of Denmark, in Copenhagen four years later, in 1990. Hordur began working for the food processing developer Marel in 1985 and become CEO in 1999, a position he held for ten years. He was then appointed Managing Director at the Sjóvá insurance company, leading the restructure of the organisation.



**Corporate Office**Ragna Árnadóttir, Deputy CEO

ROLE To oversee the Company's joint matters of concern and policy formulation, as well as to ensure professional management practices. Support divisions handling Landsvirkjun's joint matters are located in the Corporate Office.



**Energy Division**Einar Mathiesen, Executive Vice
President

ROLE To ensure that electricity generation and delivery is secure and efficient and fulfills the terms of the agreements signed with Landsvirkjun's customers.



Marketing and Business
Development Division

Björgvin Skúli Sigurðsson, Executive Vice President

ROLE To maximise Landsvirkjun's longterm profit potential, through the innovative and effective promotion and sale of products and services, within the national and international energy sector.



Research and Development Division

Óli Grétar Blöndal Sveinsson, Executive Vice President

ROLE To manage the preparation of new power projects and to conduct research on the existing power systems. We ensure the efficient implementation of new power projects, increase the flexibility of energy production options and support innovation in energy production with a long-term view of future energy supplies.



Project Planning and Construction Division

Pálmar Óli Magnússon, Executive Vice President

ROLE To oversee Landsvirkjun's power station projects from the preparation stage to their completion. We monitor the costs and safeguard the quality and progress of the various projects, keeping them in accordance with the expectations, plans and needs outlined by the company.

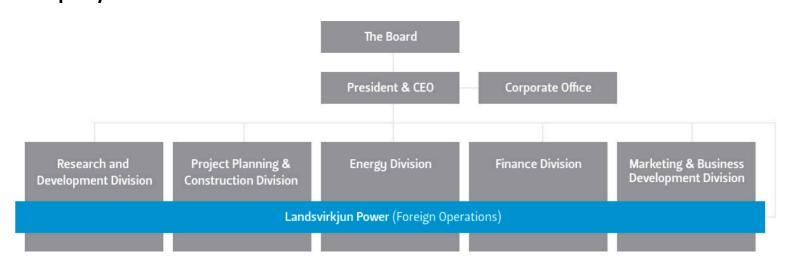


**Finance Division** 

Rafnar Lárusson, Executive Vice President

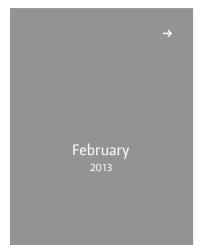
ROLE To create a foundation for efficient operations and to promote maximum results in all units of the Landsvirkjun Group.

# **Company Structure**



#### An Eventful Year

Landsvirkjun enjoyed a number of successes this year. Búðarháls Hydropower Station began operations, the new Policy on Corporate Social Responsibility was implemented, a cooperation agreement was signed with the various research universities and the Company was awarded the Gold Standard for Wage Equality by PWC. These events were shared, via the news link on the Company website, throughout the year.





Landsvirkjun Power Listed as an Outstanding Company

12.2.2013



Dr Bjorgvin Skuli Sigurdsson appointed Executive Vice president of the Marketing and Business Development Division Moody's

Moody's changes Landsvirkjun's outlook from negative to stable

18.2.2013



First Wind Turbines begin operation

18.2.2013

The New York Times

Iceland looks to Export Power Bubbling From Below

21.2.2013



Landsvirkjun Join Forces with Landsnet and the Fire Protection Association of East Iceland on Safety Issues

21.2.2013

18.2.2013



60 Million ISK Allocated from Landsvirkjun's Energy Research Fund

22.2.2013



Landsvirkjun's Consolidated Financial Statements 2012

22.2.2013





Landsvirkjun renews its cooperation agreement with the Reykjavík Arts Festival

11.4.2013



Landsvirkjun's Board Members Appointed at the Annual Meeting

15.4.2013





Agreement signed with Kolviður, the Iceland Carbon Fund

3.5.2013



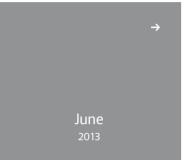
Change to the scope of the production upgrade project of Rio Tinto Alcan in Iceland

16.5.2013



Iceland positioned to become international datacenter hub

29.5.2013





Visitor centers at our power station open all summer

11.6.2013



Web of Science sponsorship renewed

12.6.2013



June 15 is Global Wind Day

14.6.2013



Roots of Geothermal Systems Researched

20.6.2013





Landsvirkjun, the University of Iceland and Reykjavík University promote university education and research on renewable energy sources

1.7.2013



Significant Milestone Reached with the Consensus of the Advisory Group on the Sub-Sea Electrical Cable

1.7.2013



Road Construction at Þeistareykir

18.7.2013



Standard and Poor's changes Landsvirkjun's outlook from stable to negative

29.7.2013



A New EMTN programme for Debt Issuance

2.8.2013



Over 10.000 guests have visited Landsvirkjun this summer

12.8.2013



Landsvirkjun issues a 10 year bond

14.8.2013



August

Cash flow from operating activities increases

23.8.2013





Hálslón Reservoir fills up

9.9.2013



81% of the Icelandic Public is in Favour of the Development of Wind Power in Iceland

9.9.2013



Landsvirkjun supports a review of the environmental impact assessment for the Bjarnarflag Power Station

11.9.2013

November 2013



Landsvirkjun Awarded the Gold Standard by PWC for Wage Equality

8.11.2013



Landsvirkjun and the Institute of Economic Studies Join Forces to Support Research

8.11.2013



Landsvirkjun signs the UN Global Compact

12.12.2013

December



Landsvirkjun restructures outstanding bonds

17.12.2013



Global business demands brought energy intensive industry to Iceland and powerful international corporations have built up their operations here, providing Landsvirkjun with a solid revenue base. The rapidly changing environment of the energy market has created new opportunities for Icelandic energy. Competitive, long-term, reliable contracts give Landsvirkjun a competitive edge in this changing environment and new business opportunities enable the Company to further diversify its customer base for the purpose of minimising risk factors for Landsvirkjun in the future.

# Competing at the international level

Landsvirkjun's main message to its current and prospective clients has been the availability of energy contracts, under market conditions, with an emphasis on the following factors:

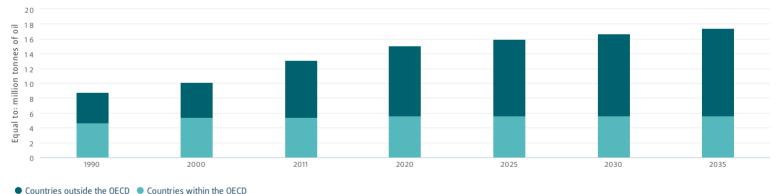
- The most competitive prices in Europe
- 100% renewable energy
- Reliable long-term contracts

Today Landsvirkjun offers 12 year, long-term energy contracts at \$43/MWh. These terms are amongst the most competitive in the world. Landsvirkjun is active in dynamic marketing abroad. This year the Company took the initiative of inviting potential clients, from energy intensive industry, to assess the option of moving their operations to Iceland and using Landsvirkjun as their energy supplier. Data centers, metallurgical grade silicon metal production and carbon fiber industries were the focus of Landsvirkjun's marketing efforts.

Landsvirkjun offers the most competitive electricity prices in Europe with long-term contracts at \$43MWh. In comparison, the average spot market rate for electricity in the period between 2010 and 2013 was \$66/MWh in the Netherlands, \$57/MWh in Scandinavia and \$59/MWh in Germany.

Energy demands have increased rapidly in the last few years and energy prices have reached a historical high worldwide. There are indications that demand will increase worldwide and many European countries are already prepared to pay high energy prices in order to ensure the security of supply.

#### Worldwide demand for energy



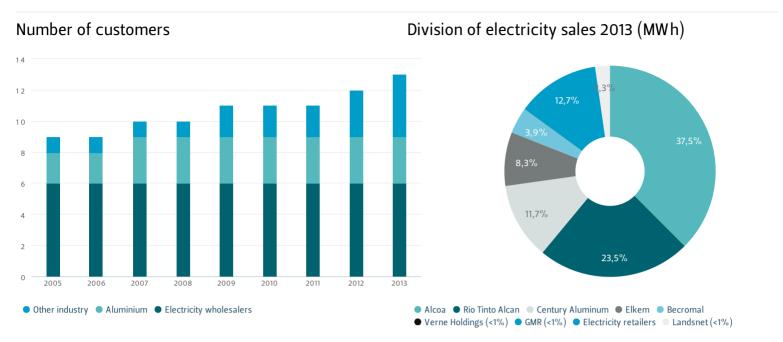
#### ries outside the OECD Countries within the OECD

## **New customers**

Landsvirkjun's customer base has expanded in the last few years. New industry fields have chosen Iceland as the location for their operations. This is because Iceland offers competitive, long-term energy contracts and the assurance of security of supply.

A new long-term agreement on energy supply was entered into with GMR Recycling ehf and took effect this year. GMR Recycling uses electricity to recycle waste from aluminium plants and other sources. Landsvirkjun will also sell its energy to the German company PCC who intend to construct a metallurgical grade silicon metal production plant at Bakki near Húsavík. Landsvirkjun signed Letters of Intent with regard to the main components of energy contracts with several other companies in 2013.

In 2013, Landsvirkjun sold 13.186 GWh of energy: the highest energy sales in Landsvirkjun's history.



# **Energy generation 2013**

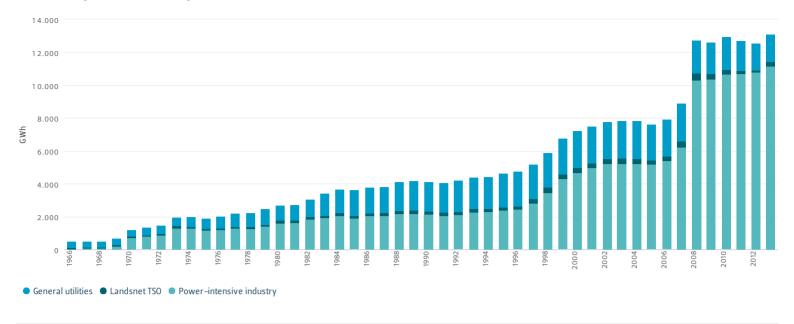
Landsvirkjun operates 13 hydropower stations, 2 geothermal stations and two wind turbines, in five areas of operation, all over Iceland. We believe in an integrated approach where prudence, reliability and the harmony of operations with the environment and society, are fundamental to our operations.

Landsvirkjun's total energy generation for 2013 was 12.843 GWh. Over 85% of the energy is utilised by energy intensive industry and nearly 15% is utilised by smaller companies and for domestic use. Landsvirkjun generated 12.712 GWh of electrical energy for the Landsnet transmission grid in 2013. Hydropower generates 96% of the energy and 4% of the energy is generated using geothermal energy.

TOTAL GENERATION 12.843 GWh

Hydropower: 12.337 GWh, Geothermal: 500.5 GWh, Wind power:5.5 GWh

#### Landsvirkjun's Electricity Sales 1966–2013

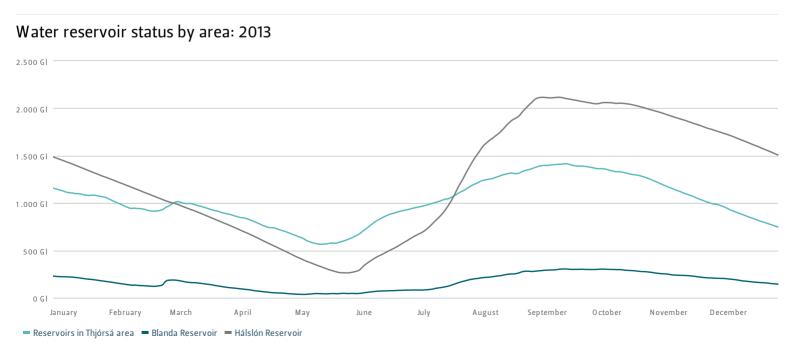


## How much water do we have?

Landsvirkjun generates electricity from renewable energy sources such as hydropower, geothermal energy and wind power. The natural cycle of water is utilised to produce electricity and is therefore dependent on the weather. The hydropower system utilises this natural cycle by collecting the glacial melt in its storage reservoirs to utilise over the winter period. Weather conditions in Iceland are unpredictable but energy consumption is similar between years. This means that much of the water can end up in the spillover of the stations during an average year.

The water inflow to Landsvirkjun's reservoirs in 2013 was unlike that of previous years. The summer was cold and dry and glacial melt was under average. Reservoirs did not fill in the Þjórsá, Tungnaá and Blanda water catchment areas. The Hálslón Storage Reservoir filled up towards the end of August and remained full for three weeks.

Reservoirs are an effective storage unit for electricity. Landsvirkjun has a storage capacity of 5150 GWh. The highest level reached was 4500 GWh, in 2013.



# Proven best practice

In 2013, an assessment of the Blanda Hydropower Station was conducted in accordance with the Hydropower Sustainability Assessment Protocol (HSAP).

The results of the assessment show that Blanda meets Proven Best Practice on 14 out of 17 topics assessed using the Protocol. The protocol assessed 17 differing topics, pertaining to the operation of Blanda, in order to assess the sustainability of the hydropower project when compared with international standards. Landsvirkjun will use the experience of the assessment to do even better in other areas of operations and to support the sustainable use of natural resources.



The rapidly changing international energy market has created a number of opportunities for Landsvirkjun. The demand for energy from international businesses is diverse and growing rapidly. Landsvirkjun has responded to this demand by offering competitive energy contracts. The Marketing and Business Development Division purposefully seeks new opportunities in power intensive industries with the aim of maximising long–term value creation. New business opportunities enable the Company to further diversify its customer base for the purpose of minimising risk factors for Landsvirkjun in the future.

# A clear message in international marketing

Landsvirkjun strives to offer its current and prospective customers the most competitive terms in Europe and long-term energy contracts. Renewable energy sources in Iceland allow the Company to offer its customers a clear advantage over its competitors who are more reliant on volatile fuel markets. Long-term energy contracts enable businesses to minimise risk factors and electricity generated from 100% renewable resources is rapidly becoming an important component in international business.

Landsvirkjun's main message to its current and prospective clients has been the availability of energy contracts, under market conditions, with an emphasis on the following factors:

- The most competitive prices in Europe
- 100% renewable energy
- Reliable long-term contracts

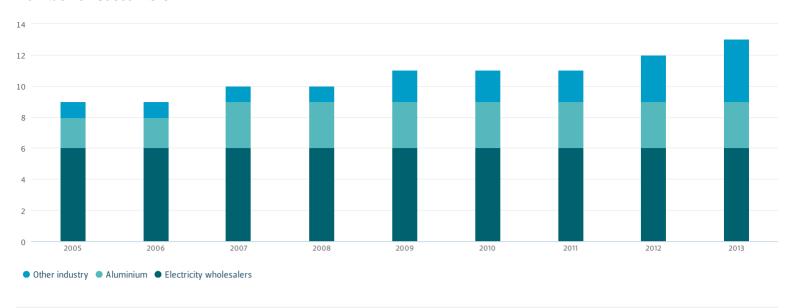
#### **New customers**

A new long-term agreement on energy supply was entered into with GMR Recycling ehf and took effect this year. GMR Recycling uses electricity to recycle waste from aluminium plants and other sources and is presently using 8MW of power during weekdays. The objective is to reach 10MW within three years. The energy contract was signed in June, 2012.

The German company PCC intends to construct a metallurgical grade silicon metal production plant at Bakki near Húsavík, capable of producing 32,000 tonnes per year. The facility will need 58MW and over 400 GWhr of electricity, annually. Landsvirkjun will provide the electricity for the project and has worked closely with PCC in the last few years. A power contract was signed in the first quarter of 2014, subject to conditions precedent. The construction of the silicon metal plant is scheduled to begin in 2014 and the facility will begin operations in 2017.

United Silicon hf. also intends to construct a metallurgical grade silicon metal production plant in Helguvik, capable of producing 21,000 tonnes per year. The facility will need 35MW and over 300 GWh of electricity, annually. Landsvirkjun signed a term sheet with United Silicon hf. in 2013 and a power contract subject to conditions precedent was signed in the first quarter of 2014. Construction of the plant is scheduled to begin in the summer of 2014 and operations in 2016.

#### Number of customers



Landsvirkjun signed Letters of Intent with regard to the main components of energy contracts with several other companies in 2013. Landsvirkjun is currently involved in serious discussions with a number of other companies.

The uncertain global economic environment has delayed the decision making process in businesses worldwide and has slowed down the development of numerous projects. However, many businesses are preparing to proceed with projects once the economic environment improves. The outlook for 2014 is unclear but Landsvirkjun is confident that the demand for energy will exceed supply, once the international economy recovers.

This year, work continued on marketing Iceland as an advantageous location for diverse power intensive industries. Landsvirkjun's customer base has increased in the last few years and new customers within new industries have chosen to begin operations in Iceland, as a result of long-term energy contracts and the security of supply.

The World Economic Forum has assessed the security of supply in Iceland as one of the most reliable in the world. Of the 148 countries assessed, Iceland achieved the 3rd-9th position.

Source: The Global Competitiveness Report 2013–2014.

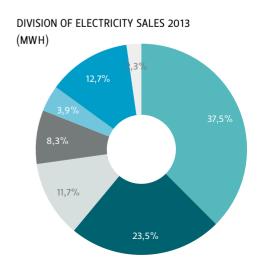
The marketing drive this year included advertising via the web and printed materials, participation in various conferences, meetings, a new website and more. Marketing measures also included the production and distribution of promotional videos, shown at various locations worldwide.

International data centers are a prime example of a new industry in Iceland and Landsvirkjun believes that Iceland is a particularly suitable location for this type of business. Competitive energy contracts, a continuously cold climate, a strategic location between Europe and the USA are just some of the advantages offered by Iceland. Two international data centers are already in operation in Iceland and Landsvirkjun's marketing efforts focused on expanding the customer base in this sector.

## Services to current clients

Energy contracts with current customers ensure a solid revenue base for Landsvirkjun. Landsvirkjun's largest customers are three aluminium companies that purchase approx. 75% of the Company's production.

This year, new conditions were outlined for wholesale electricity dealers. Landsvirkjun hopes to implement new conditions within the next three years. New contracts were signed with wholesale customers at the end of 2013.

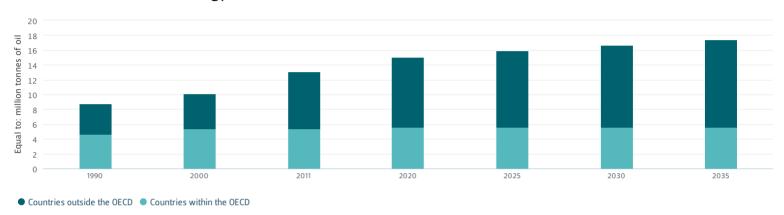


Rio Tinto Alcan in Iceland informed Landsvirkjun of a change to the scope of its upgrade project for the company's aluminium plant in Straumsvik, Iceland. The initial plan anticipated that the annual production capacity of the aluminium plant would increase to 230 thousand tonnes. However, an increase to 205 thousand tonnes is now anticipated. In light of this, it is likely that the power needs of the aluminium plant will be less than originally expected. Contract amendment discussions could take place with Rio TintoAlcan in the near future.

# New opportunities for Landsvirkjun

The changing landscape of energy markets has created new opportunities for Landsvirkjun. The demand for energy has increased rapidly in the last few years alongside historically high energy prices worldwide. The next few decades will see ongoing, increased demand especially in developing countries, seeking out a better quality of life.

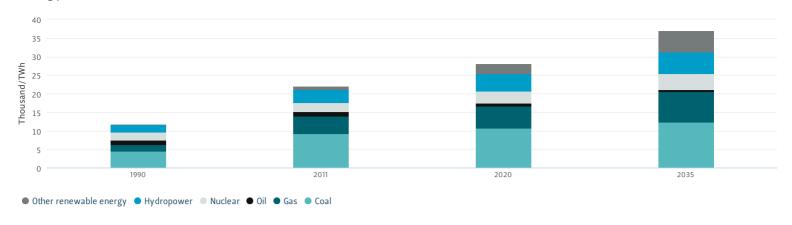
#### Worldwide demand for energy



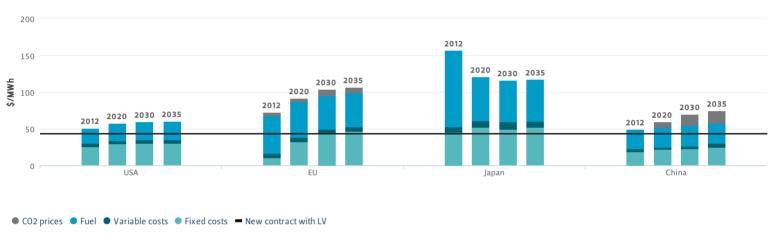
Over half of the electricity produced worldwide comes from burning coal and gas and the percentage is expected to remain high in the coming years. Coal and gas prices generally set prices within the electricity market. Increased demand will likely push the price of gas and coal upwards and subsequently increase electricity prices worldwide. More stringent measures on greenhouse gas emissions will also result in higher electricity prices.

The price of coal and gas is not uniform worldwide and this is evident in the competitive market for electricity. The relatively new technological advancement in American shale gas production is a prime example of this as gas prices have reached a historical low, resulting in lower electricity prices. However, the International Energy Agency believes that the technological advancements in the USA will not significantly affect markets elsewhere and the USA will be at a distinct advantage, with regard to cheaper gas and electricity, in the near future.

#### Energy sources worldwide



#### Average wholesale prices of energy



Rising electricity prices worldwide and persistent energy-price disparities between markets increase the demand for electricity in Iceland. Landsvirkjun generates all its electricity from renewable resources. The production costs for renewable energy are predictable and are generally independent of the price fluctuations associated with coal and gas. The Company's renewable energy production is also protected from the potential rise in costs related to greenhouse gas emissions. These factors enable Landsvirkjun to offer 12 year energy contracts at \$43/MWh (indexed) with the option of a reduced rate for new, long-term investments. These terms are amongst the most competitive in the world.

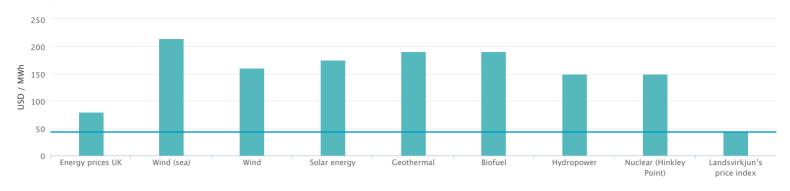
Landsvirkjun offers the most competitive electricity prices in Europe with long-term contracts at \$43MWh. In comparison, the average spot market rate for electricity in the period between 2010 and 2013 was \$66/MWh in the Netherlands, \$57/MWh in Scandinavia and \$59/MWh in Germany.

Source: www.montel.no →

## A part of the European electricity market

Analyses suggest that all-in electricity prices in the UK and mainland Europe will further increase in the next few years. Many countries within Europe are concerned with energy security and are willing to enter into long-term agreements to ensure their future electricity supply. Even now, the British government is open to negotiate fair prices for renewable and nuclear electricity generation for 15 to 35 years.

# The Department of Energy & Climate Change in the UK guarantees electricity prices for 15–35 years to energy producers

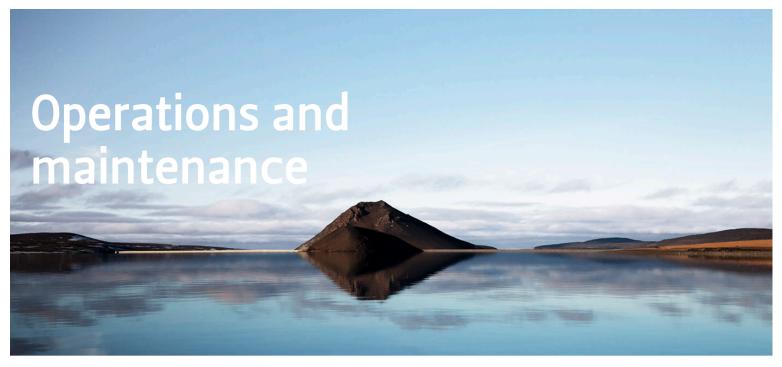


Electricity prices
 Landsvirkjun's price index
 Source Department of Energy & Climate Change, November 2013

Landsvirkjun has been involved in the process of assessing the feasibility of a sub-sea cable connection with the European electricity grid for some time. Recent research indicates that a sub-sea connection with Europe would in fact be both technically possible and financially feasible. Energy sales via a sub-sea cable could become an interesting addition to Landsvirkjun's business and could be complementary to increased energy sales and business development locally. This year was spent systematically increasing Landsvirkjun's understanding of the significance of the project for the Company and for Icelandic energy generation and society in general, should access to foreign markets be provided. Further and various investigations will continue in the near future. A detailed description of the sub-sea cable project can be found in the chapter on developing projects: <code>brounarverkefni Landsvirkjunar</code>

# Guarantees of origin and green certificates

Ensuring access to markets for Icelandic guarantees of origin remained a key focus in 2013. Trading began with the Netherlands this year and Germany approved Icelandic guarantees of origin in the autumn. Work continued on building Landsvirkjun's contact network in the sector. Subsequently a Company representative was accepted both into RECS International and the World Resource Institute, a non-profit and leading organisation in the field of worldwide renewable energy. The market prices for guarantees of origin have fallen consistently throughout the year despite increased demand, in part, because supply has increased due to an increasing number of companies offering guarantees within the market. The Marketing and Business Development Division will concentrate its efforts in the near future on strengthening Landsvirkjun's position within the international guarantees of origin market. The green certificate market is relatively new and limited to Europe. The market is still developing but preliminary assessments imply that the sale of green certificates could increase Landsvirkjun's profits considerably in the coming years.



Iceland generates 99% of its electrical energy from renewable hydroelectric and geothermal sources. Landsvirkjun generates over two thirds of this energy from hydroelectric, geothermal and wind power sources.

Landsvirkjun operates 13 hydropower stations, 2 geothermal stations and two wind turbines, in five areas of operation, all over Iceland. We believe in an integrated approach where prudence, reliability and the harmony of operations with the environment and society, are fundamental to our operations.

# Hydropower: 12.337 GWh

Landsvirkjun's water resources were poor this year. Water reservoir levels were low by the end of winter and spring and summer saw low temperatures and a dry climate. Approximately 600 Gl were needed in the reservoirs at the beginning of the winter period. The weather for the remainder of the year was unfavourable. Landsvirkjun's water reserves were low at the end of the year, or approx. 2,500Gl.

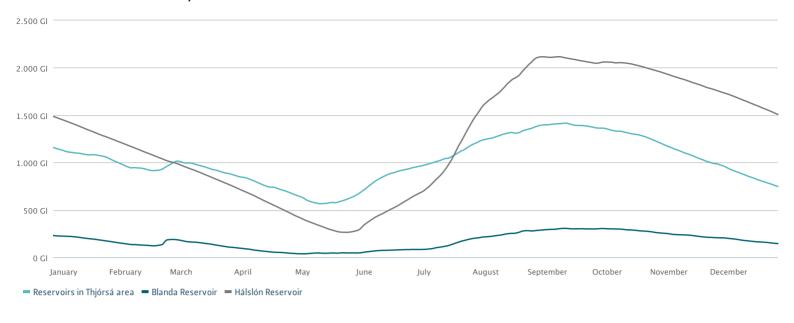
The water inflow to Landsvirkjun's reservoirs in 2013 was unlike that of previous years. There was high 'snow melt' in the water catchment areas in Þjórsá, Tungnaá and Blanda in February, most of the snow in the area thawed and the inflow rate was tenfold. Precipitation levels were low for the rest of the winter and there was no snow accumulation within the area. The spring floods were minimal as a result of these weather conditions and the 'snow melt' from the Langjökul, Hofsjökul and Vatnajökul Glaciers was below average. Reservoirs did not fill in the Þjórsá, Tungnaá and Blanda water catchment areas. Snow accumulation was high in eastern parts of the country and temperatures in the spring were initially low. The lowest water level on record was recorded on the 28<sup>th</sup> of May at Hálslón: 570 m as s 1/55 metres below the highest operation.

 $\underset{\text{generation 2013}}{\text{ENERGY}} \ 12.843 \\ \text{GWh}$ 

Water reservoir status by area: 2013

recorded on the 28<sup>th</sup> of May at Hálslón; 570 m.a.s.l (55 metres below the highest operating water level). Temperatures rose at the beginning of June and the water flow increased in rivers and lakes in the eastern part of the country. The Hálslón Reservoir filled up towards the end of August and remained full for three weeks.

#### Water reservoir status by area: 2013



# Geothermal energy: 500.5 GWh

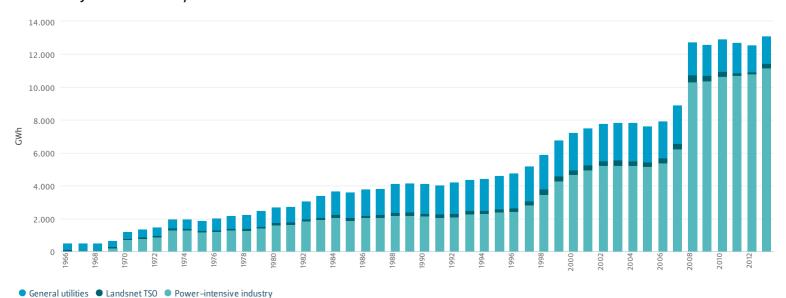
In 2013, energy generation at Landsvirkjun's geothermal stations at Krafla and Bjarnarflag was approx. 500.5GWh. Landsvirkjun is committed to utilising geothermal energy in a sustainable and responsible manner. An integral part of this approach is ensuring that a balance is maintained between the utilisation and the natural renewal of the geothermal reservoir.

Separated water not utilised directly for electricity production is injected back down into the geothermal reservoir. Since 2012, re-injection levels have been increased, gradually, from 80kg/s up to 140kg/s. Currently, only 32kg/s is not re-injected into the system but all separated water will be re-injected into the geothermal reservoir at Krafla.

## Wind power: 5.5 GWh

Landsvirkjun's first wind turbines became operational this year. The two wind turbines each have an installed capacity of 0.9 MW and operations have been successful this year, with minimum disruption. Safety issues pertaining to the maintenance of the wind turbines are a priority and specialist training is required for those employees involved, as a result of the height employees work at. Training has mostly been executed in Iceland where a special practice area was set up for training and drill purposes.

#### Landsvirkjun's Electricity Sales 1966-2013



## Operation of power stations

The operations of Landsvirkjun's power stations were successful throughout the year. There was one serious incident when a cable terminator failure occurred at the Búrfell Hydropower Station. There were 76 unforeseen interruptions at Landsvirkjun's power stations during 2013, compared with 77 in 2012.

Landsvirkjun's goal is to ensure that generating units in the power stations are available 99% of the year; not accounting for routine maintenance periods. The goal was achieved this year as units were available 99.7% of the time, compared with 99.9% in 2012. The monitoring, maintenance and operation of power stations was routinely carried out throughout the year. Landsvirkjun operates in accordance with an integrated, certified, Quality Management and Environmental Safety Management System, based on ISO 9001, ISO 14001, OHSAS 18001 and the Internal Electrical Safety Operation System (RÖSK), which fulfils the criteria set out by the Iceland Construction Authority, on electrical safety issues. Landsvirkjun has been certified as a producer of green electricity by the German company TÜV SÜD, who specialise in certification, testing and inspection. In addition, the Company's IT Division's safety management system is certified in accordance with ISO 27001.

## Investments in operational power stations

There were 79 maintenance and refurbishment projects carried out at Landsvirkjun's power stations in 2013. A contract was completed on the purchase of a new step-up transformer for the Búrfell Hydropower Station which is due to arrive in the country in the middle of 2014. An excitation system was upgraded at unit 3 at the Írafoss Hydropower Station and a 23 year station control system was upgraded at the Blanda Hydropower Station. The new station control system should be operational by the middle of 2014. The penstock at the oldest and smallest Landsvirkjun power station, Laxá 1, was removed and the power station was taken out of operation. Refurbishment work was executed on one of the cooling towers at the Krafla Geothermal Station, alongside preparation work for the repair of the spare turbine rotor. The wicket gates were replaced in one of the machine sets at the Fljótsdalur Hydropower Station.

# Asset management of power stations

Long-term plans are essential where the renewal and refurbishment of equipment is concerned. Projects must be prioritised in accordance with the overall interests of the Company. The implementation of new procedures for asset management, in line with the Asset Management Standard ISO 55001, continued this year and a special software system for asset management was taken into use. The objective of asset management is to optimise the management of assets, to ensure that they fulfil their designated role and requirements. Effective maintenance cannot prevent the need for the renewal and refurbishment of power stations, within the estimated lifetime, if the equipment ceases to fulfil its designated role or if it poses a danger.

Long term investment needs are identified on the basis of age and condition. Short-term investment need proposals are collected in a comprehensive database and are then prioritised according to a specialised evaluation, based upon risk assessment and the objectives of the Company at any given time.

The software used considers three key factors in asset management:

#### — Asset projections/plan

Assessment of investment needs: 15-20 years

#### Investment plan

Implementation plan: 1-3 years

#### — Management systems

Supervision of the management of investment projects

The software significantly simplifies the process of analysing how the different contributions to investments in operations will affect future risk factors for the Company and effectively keeps track of asset management.

# International assessment of the operation of Blanda Hydropower Station: HSAP

The results of the Hydropower Sustainability Assessment Protocol (HSAP) assessment of the Blanda Hydropower Station have been released. The assessment was based on the new international protocol on the sustainability of hydropower stations and is governed by a multi-stakeholder body with representatives from social and environmental NGOs, governments, commercial and development banks and the hydropower sector. A Protocol Governance Council been established to ensure multi-stakeholder input and confidence in the Protocol content and application. The International Hydropower Association (IHA) is responsible for day to day running of the protocol assessments.

# An international protocol for the sustainable use of hydropower

PERCENTAGE OF TOTAL ENERGY GENERATION

7%

The Protocol was first launched in 2011. The Protocol was developed between 2008–2010 by the Hydropower Sustainability Forum, comprised of "representatives of developed and developing country governments, the hydropower sector, social and

Blanda Hydropower Station is responsible for approx. 7% of Landsvirkjun's energy generation.

environmental NGOs, and commercial and development banks" (http://www.hydrosustainability.org) alongside the IHA who initiated the project. Landsvirkjun has given the project its full attention, via its membership, and has actively supported the development of the protocol. The Director General for The Icelandic National Energy Authority represented the Icelandic government throughout the project.

The Protocol assesses the sustainability of hydropower projects and is built on 20 clearly defined topics. The Protocol can be used for four main stages of hydropower development: Early Stage, Preparation, Implementation and Operation. The audit is executed by an accredited assessor who carries out an evidence-based objective assessment. Documents pertaining to the operation of a hydropower station are utilised for the assessment, the validity of which is confirmed via a number of interviews with a diverse range of stakeholders and input from other parties.

#### Results of the assessment



<sup>1.</sup> More than one significant gap against basic good practice 2. One significant gap against basic good practice 3. Meets basic good practice with more than one significant gap against proven best practice 5. Meets basic good practice and proven best practice

#### The results of the Blanda assessment

The Blanda assessment took place at the Blanda Hydropower Station and at Landsvirkjun's headquarters in Reykjavík in September, 2013. The assessment was carried out by three international experts. The assessment was comprehensive, including interviews with Landsvirkjun employees and over 30 individual representatives from the various stakeholder groups: agencies, municipalities, companies and organizations. The protocol assessed 17 differing topics, pertaining to the operation of Blanda, in order to assess the sustainability of the hydropower project Communications and Consultation; Environmental and Social Issues Management; Hydrological resource; Labour and Working Conditions; Biodiversity and invasive species. The results of the assessment show that Blanda meets Proven Best Practice on 14 out of 17 topics assessed using the Protocol. Blanda exceeds Basic Good Practice on all 3 remaining topics, each of these with only one significant gap against proven best practice.

#### **Documents**

Find and download enclosed documents at http://annualreport2013.landsvirkjun.com



HSAP – Blanda Power Station 8.25 MB PDF FILE



The Búðarháls Hydropower Station is located within the Þjórsá- and Tungnaá River water catchment area. The Station utilises the 40 metre head in the Tungnaá River from the tailwater of the Hrauneyjafoss Power Station to the Sultartangi Reservoir. The installed capacity of the Station is 95 MW and the generation capacity is estimated at 585 GWh/yr. The Station became fully operational in February 2014.

## **Continual improvement**

Two earthfill dams were constructed at the Búðarháls Hydroelectric Power Station, to the east of the Búðarháls ridge and a short distance upstream of the junction of the Tungnaá River and the Kaldakvísl River. One of the dams was built across the Kaldakvísl River and the other across the tailwater from the Hrauneyjafoss Power Station. The dams are both approximately 25 metres

at their highest point and have a combined total length of 1400 metres. The two dams form the intake reservoir for the Búðarháls Hydropower Station, given the name Sporðaldalón (the Sporðalda Reservoir). The reservoir's total surface area is approx. 7km2.

TOTAL INSTALLED CAPACITY

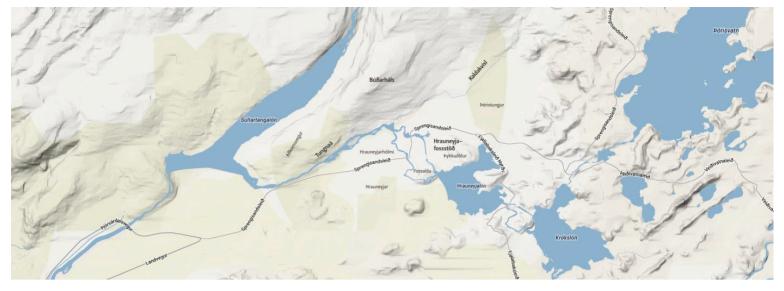
 $95^{MW}$ 

A headrace tunnel, approximately 4 km in length, conveys the water from the intake structure at the Sporðalda Reservoir, westward through the Búðarháls ridge, to a surge basin on the west side of Búðarháls ridge. Two steel penstocks convey the water from

The total installed capacity of the Búðarháls Hydropower Stationis 95MW and the generation capacity is estimated at585GWh/yr.

the intake to the Station's turbines. The powerhouse is mostly above ground, built into the western slope of the Búðarháls ridge. There are two generating units, each with an installed capacity of approx. 48MW.

### **Before**



#### **After**



## Overview of the development

Construction work for the Búðarháls Hydropower Station began at the end of 2001. The initial development of the area included the construction of a bridge across the Tungnaá River and an access road, across Búðarháls ridge, up to the construction site for the powerhouse and the Sporðalda Dam. In the summer of 2008 and 2009 more preparatory work was carried out, including the laying of a power cable from the Hrauneyjafoss Power Station to the proposed construction site. Work camps were also erected.

The first tenders were advertised in June, 2010. An agreement was reached with the construction company Ístak with regard to the construction of the tunnels, dams, powerhouse and other structures in connection with the development. In December, 2010, an agreement was reached with the German company Voith–Hydro for the supply of all mechanical equipment and electrical equipment for the power station. Tenders for other parts of the project were completed by 2012. A contract was signed with IAV Construction, with regard to the construction and installation of penstocks in 2011. A

CUBIC METRES OF 65

65,000 cubic metres of concrete and 4,500 tonnes of steelwere used in the construction of Búðarháls.

contract was signed with the French company Alstrom Hydro, with regard to the construction and installation of gate equipment in January, 2012. A contract was also signed with the Portuguese company Efacec with regard to the production of generator step up transformers in April 2012. All tenders were advertised in the European Economic Area.

The single largest project phase undertaken in the development of the Búðarháls Hydropower Station was the construction of the headrace tunnel through the Búðarháls ridge. The underground headrace tunnel is approx. 4 km in length and the total cross section area is 140 m2. The tunnel was excavated from both ends and in two phases, as a result of its height. Excavation work was completed in September of this year and water was released into the tunnel in November. The geological conditions were more challenging than originally anticipated and consequently the completion of tunnelling work was 60 days behind schedule. Work on the powerhouse and intake structure was fully completed by the end of 2013.

The filling of the Sporðalda Dam began in the summer of 2012 and was completed by late autumn, 2013. The filling of the Sporðalda Reservoir began in November 2013 and was completed within three weeks.

All the mechanical equipment and electrical equipment for the power station was supplied by the German company Voith-Hydro. The equipment was mainly manufactured in Heidenheim, Germany but also worldwide in Sweden, Brazil, China, Croatia, Italy and Spain.

The installation of equipment was successful and reached completion by the beginning of October, when the testing period began. Turbine 1 generated electricity for the transmission grid, for the first time, on the 16<sup>th</sup> of December, 2013. It officially came online on the 11<sup>th</sup> of January, once testing had been completed. Turbine 2 began generation, once testing had been completed, on the 8<sup>th</sup> of February, 2014.

Nearly all of Landsvirkjun's hydropower stations use Francis turbines. However, the Búðarháls and Steingrímstöð Stations use Kaplan turbines. Kaplan turbines are suitable for low head, high flow areas. The Kaplan turbine is similar to a ship propeller; the rotor blade pitch is adjustable in order to steer the power and efficiency of the turbine.

Francis Turbine
Suitable for high head

Solution Steingrímstöð

Francis Turbine
Suitable for high head

Kaplan Turbine
Suitable for low head

The gate equipment was provided by the French company Alstrom Hydro but the manufacture of the equipment was mostly completed by Pemel, their Portuguese subcontractor. The manufacture of the gates began in the middle of 2012 and work on the erection of gate frames and gate track equipment was completed alongside other construction work. The draft tube gates became operational in August of 2013 when water was channelled into the Station from the Sultartángi Reservoir. The erection of gates and gate equipment and finally the wheel gates for the

The penstocks for Búðarháls were designed and manufactured by an Icelandic company. Landsvirkjun has previously purchased penstocks for its stations from manufacturers abroad. The manufacture of the penstock parts began in the beginning of 2012 in the town of Garðabær at Teknís, a subcontractor for ÍAV. The first units were transported to the site in May of that same year. The erection of the penstocks was successful and was completed by the beginning of 2013 with the exception of sandblasting and paintwork which was completed in July.

On average, three hundred on-site workers were involved in the construction of the Búðarháls Hydropower Station. The measured labour force for the Búðarháls project by the end of the year, was approx. 900 man-years, not including those employees who worked on the manufacture of mechanical equipment and electrical equipment all over the world.

The penstocks at the Station are manufactured and designed in Iceland.

Safety issues were at the forefront of construction work carried out for Búðarháls and all necessary measures were taken to prevent accidents. The success rate was high and all employees were encouraged to remain 'safety aware' throughout the project.

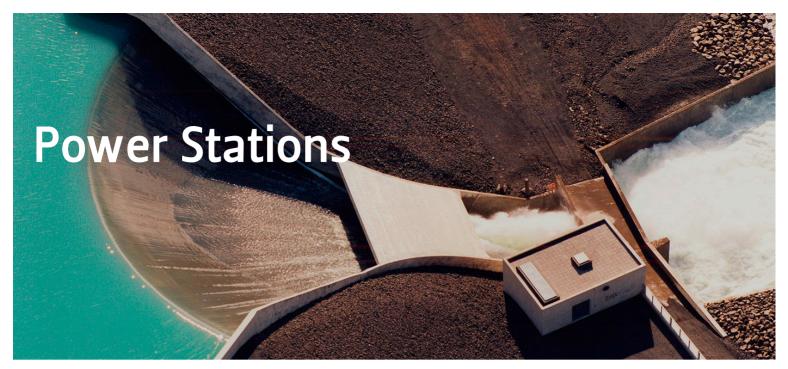
The Búðarháls Hydropower Station project reached completion by the end of 2013, with the exception of finishing work and mechanical equipment testing. The Station began operations in February, 2014. Work camps and contractor's equipment will be removed from the area in the near future. The summer will be spent completing work on the clean-up and landscaping of the areas around the station's structures.

# Design and supervision

intake structure was completed in November, 2013.

The design of the Búðarháls Hydroelectric Power Station was completed in cooperation with a number of Icelandic engineering consultants. Efla hf provided the civil and structural design for all components and was responsible for the project management of other design work. Mannvit hf predesigned the penstocks and gates and Verkís hf predesigned the mechanical equipment and electrical equipment. The architectural design of Búðarháls was undertaken by the firm OG Architects.

The supervision of the site was the responsibility of staff provided by Landsvirkjun, in cooperation with staff supplied by the engineering consultancy firm Hnit hf.



Landsvirkjun operates thirteen hydropower stations, two geothermal stations and two wind turbines, in five areas of operation, all over Iceland. The Búðarháls Hydropower Station is the sixteenth station to come online and began full operations in March, 2014. Landsvirkjun believes in an integrated approach, when it comes to the operation of its power stations, where prudence and reliability are held as core values alongside a commitment to growth, in harmony with the environment and in consensus with society.

Icelanders produce 99% of their electricity via renewable energy resources and Landsvirkjun generates 75% of this energy. The largest resource for this energy is hydropower but geothermal energy and wind energy are also utilised. Landsvirkjun generated 12.843 GWh of energy in 2013.



#### **Bjarnarflag Power Station** 1969 / Geothermal



#### **Blanda Power Station** 1991 / Hydropower



**Búrfell Power Station** 



CAPACITY

GENERATED

3 MW

18 GWh/year

CAPACITY

150 MW

GENERATED

990 GWh/year CAPACITY

270 MW

1972 / Hydropower

GENERATED

湿露到路里 圖圖

2.300

GWh/year



Fljótsdalur Power Station 2007 / Hydropower

GENERATED

690 MW

CAPACITY

5.000 GWh/year



Hrauneyjafoss Power Station

1981 / Hydropower

CAPACITY

210 MW

GENERATED

(F)

1.300 GWh/year



**Írafoss Power Station** 

1953 / Hydropower

GENERATED CAPACITY

48 MW

236 GWh/year

**®** 



### **Krafla Power Station**

1977 / Geothermal



60 MW

CAPACITY

GENERATED

500 GWh/year



Laxá Power Station I

1939 / Hydropower

CAPACITY

5 MW

GENERATED

3 GWh/year

(B)



Laxá Power Station II

1953 / Hydropower

CAPACITY **9** MW

GENERATED

78 GWh/year

**(B)** 



Laxá Power Station III

1973 / Hydropower

CAPACITY

13,5 MW



GENERATED

92 GWh/year



Ljósafoss Power Station

1937 / Hydropower



CAPACITY

16 MW

GENERATED

 $105\ ^{\text{GWh/year}}$ 



**Sigalda Power Station** 

1978 / Hydropower



CAPACITY

GENERATED

150 MW

920 GWh/year



Steingríms Power Station
1959 / Hydropower

CAPACITY

GENERATED

122 GWh/year 27 MW



Sultartangi Power Station
1999 / Hydropower

CAPACITY

120 MW

GENERATED

1.020 GWh/year



**Vatnsfell Power Station** 

2001 / Hydropower

CAPACITY

90 MW

490 GWh/year

GENERATED



Landsvirkjun is a leader in the sustainable use of renewable energy sources. We strive to seek out innovative and unconventional pathways in technological development, in cooperation with universities, research institutes and independent experts. Landsvirkjun is constantly looking to the future and exploring unique opportunities for ongoing success. A key factor in the Company's achievements is the dedicated team of employees who uphold prudence, progressiveness and reliability as core values in their work. Landsvirkjun has a clear policy on social responsibility and is committed to maximising the positive impact of business on society and the environment, and diminishing the negative.

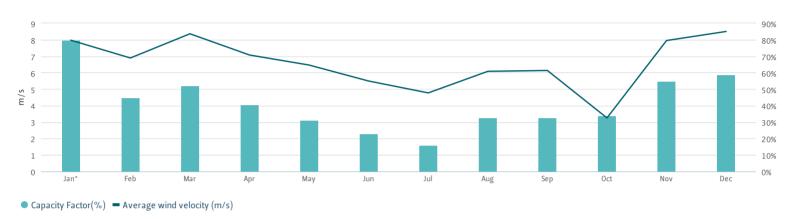
# Wind energy becomes a valuable resource

To the north of Búrfell, approx. 70km from the coastline, is a lava field by the name of Hafið. Landsvirkjun has erected two 900 kW wind turbines in the area, for research purposes. The wind turbines have been successfully operated since the end of January, 2013 and are the largest of their kind in Iceland.

This is the first time that the feasibility of wind energy has been investigated and there are clear indications that Iceland is an advantageous location for electricity generation, utilising wind power.

#### Wind turbine capacity in 2013

After nearly one year of operation, the average capacity factor for the wind turbines is approx. 40%, which exceeds all expectations. In comparison, the average capacity factor worldwide is approx. 28%.



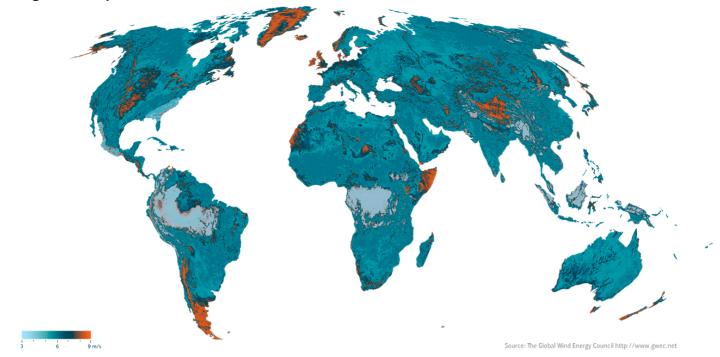
Wind velocity is relatively high, at a relatively low height in Iceland. This significantly reduces the cost of energy and operating costs as hub heights can be kept much lower than in other countries.

A natural wind tunnel forms in this area and wind speeds reach an average of 10–12 m/s, at a height of 55 metres. Elsewhere, wind turbines are usually raised by the sea or offshore where wind speeds are more consistent than in inland areas. The yearly average capacity factor for Hafið is approx. 40% which is unusually high. In comparison, the average capacity factor worldwide is approx. 28%.

## The wind turbines

THE MAST HEIGHT  77 METRES	BNERGY GENERATION BEGINS  3 m/s	1.800 KW
GENERATION CEASES  34 m/s	wind velocity at peak efficiency $15-28~\mathrm{m/s}$	ANNUAL ENERGY GENERATION  GWh

#### Average wind speed at 80 meters



Iceland is the one hundredth country in the world to utilise wind energy for energy generation purposes. The opportunities are extensive and wind energy could potentially become the third pillar in Landsvirkjun's electrical system. The installed capacity of wind energy worldwide now represents over 3% of all energy consumption, or 318 GW. Rapid technical advances within the field are making wind energy an increasingly feasible option. The World Wind Energy Association expects the installed capacity of wind energy worldwide to double by the end of 2016; it could reach one million MWs.

The installed capacity of wind energy worldwide now represents over 3% of all energy consumption, or 318 GW. There are clear indications that Iceland is an advantageous location for electricity generation, utilising wind power.

### How can we utilise the wind?

Wind energy and hydropower are generated using the same technology. A large magnetised rotor rotates within a copper wire covering, transforming kinetic energy into electrical energy. The turbine is located in the powerhouse behind the blades.

The wind turbines are manufactured by the German company Enercon and are gearless, direct drive mechanism wind turbines. The main advantages of this type of turbine include low maintenance costs, low energy losses, a longer life span and minimal noise emissions.

The wind turbines each have a 900 kW capacity and together their generating capacity could be up to 6 GWhrs per year. The energy generated would be enough to serve 1400 households.

### **Experience through operations**

Research on the wind turbines at Hafið will provide valuable information on the unique operational environment in Iceland, focusing on the effect of icing, snow drift, ash, sand drift and noise, as well as the impact upon wildlife and the Icelandic community. The Hafið area is particularly suitable for the project as it is not in close proximity to residential areas but close to the necessary infrastructure; lines and roads. Other wind turbines could be raised in the area if the project proves successful.

Wind energy is not reliable as this type of energy generation is reliant on the weather. Wind energy could work well in conjunction with hydropower; when the blades are at full capacity then water could be spared in the reservoirs and the reservoirs could be utilised when wind velocity is low. If the project proves to be a success then wind energy could become an important additional resource, alongside hydropower and geothermal power.

# Energy generation in harmony with the environment and society

Corporate social responsibility (CSR) is about maximising the positive impact of business on society and the environment, and diminishing the negative. Landsvirkjun has established a clear strategy on social responsibility that mirrors this. The Policy was a key project in 2013 and dozens of employees have been involved in its development throughout the last few years.



# 60 million ISK allocated by the Energy Research Fund

The Energy Research Fund's goal is to strengthen research in the fields of environmental and energy affairs. Since its establishment, in 2008, the fund has awarded grants in the amount of approx. 319 million ISK. The fund has awarded 30 grants at the doctoral level, over 60 grants at the master's level and approx. 130 grants for other research projects. In 2013, Landsvirkjun awarded 60 million ISK to 32 projects.

One of the objectives of the fund is to make Landsvirkjun's monetary contributions to research more efficient and transparent, and to ensure that the studies supported by the fund comply with Landsvirkjun's environmental policies.

Landsvirkjun also supports the universities in Iceland. Recently, the Company signed an agreement with Reykjavík University and the University of Iceland to support and encourage the development of expertise within the field of renewable energy. The collaboration will support the development of increased expertise in the field of renewable energy sources and their utilisation.

# Investing in innovation

Innovation driven projects in Iceland have resulted in the establishment of a number of start-up companies. The companies cover a wide range of fields and have thrived in the last few years. Iceland is rich with natural resources and there is tremendous potential to create value by supporting this type of innovation.

Startup Energy Reykjavík (SER) is a mentorship-driven investment programme for seed stage, energy related business ideas. The programme was established in 2013 and the founders of the program are Landsvirkjun, Arion Bank, GEORG and Innovation Centre Iceland. The program offers its participants the opportunity to be mentored by a group of 50 experts from the science and business world and the opportunity to present their ideas to potential investors. The goal of the programme is the creation of shared value for the energy industry and society.



Landsvirkjun is intent on becoming a leader in the sustainable use of renewable energy sources and resolute in pursuing and supporting innovation and technological development within the field. In order to achieve this, extensive research is conducted in a diverse variety of disciplines, including research on ecosystems, meteorology, hydrology, glaciers and geology, to name but a few. The impact of power projects on ecosystems, water systems and various other factors are monitored, as well as the effectiveness of mitigation measures. A number of different parties, universities, research institutes, companies, individuals and scientists, both national and international, conduct this research.

### **Connecting with Europe**

Landsvirkjun has been involved in assessing the feasibility of a sub-sea cable connection with the European electricity grid for some time. Preliminary assessments, carried out up until the turn of the last century, suggested that a sub-sea cable was technically possible but not economically feasible. However, changing conditions in the European energy market indicate that a sub-sea connection with Europe could in fact prove to be a lucrative project.

Connecting the Icelandic electricity grid to the European grid would have a substantial effect on Icelandic society and the Icelandic economy. It would therefore be crucial to assess both the negative and positive impact of such a project before moving forward. The prerequisites for a project of this scale would be the achievement of a broad consensus within society and effective cooperation with stakeholders.

In light of this, the Icelandic Ministry of Industries and Innovation appointed a 15 member, cross-party committee to assess the macroeconomic and social implications of a sub-sea cable and they returned their verdict to the Minister in June, 2013. The report was put forward for debate within the Icelandic parliament and then referred to the Industrial Affairs Committee of the Icelandic parliament. The committee returned its findings in February, 2014, recommending the further development of the project. They also stated the importance of raising public awareness and a broad perspective on the potential impact of the project.

### Competitiveness of the project

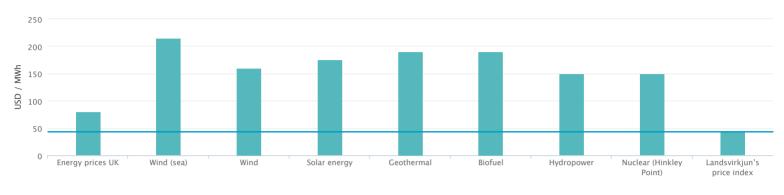
The changing landscape of the energy market and technological advancement are perhaps the strongest indicators that power exchange via a sub-sea cable could prove to be competitive within the international market. Sub-sea cable projects are becoming increasingly large-scale as new technology allows for longer and more powerful connectors, at greater depths, across difficult sea terrain.

The increasing demand for 'fossil fuel based energy' has resulted in historically high energy prices worldwide. Electricity prices are no exception as over half of the world's electricity is produced by utilising coal and natural gas. There is also increased awareness on the negative environmental impact of burning fossil fuels.

The International Energy Agency predicts that the demand for energy in 2035 will be 73% higher than what it was at the beginning of the century.

In light of this, Europe has developed a support mechanism to ensure the long-term profitability of renewable electricity generation and the reduction of GHG emissions. It is entirely possible that Icelandic electricity, generated via sub-sea cable, would be eligible for such support.

# The Department of Energy & Climate Change in the UK guarantees electricity prices for 15-35 years to energy producers



Electricity prices = Landsvirkjun's price index
 Source Department of Energy & Climate Change, November 2013

#### **Economic and societal effects**

The latest assessments indicate that electricity sales via a sub-sea cable could prove to be profitable for Icelandic energy producers and competitive in price for electricity purchasers in the rest of Europe. However, the profitability of such a project would be dependent on bilateral agreements, addressing not only energy prices but the responsibility taken on by both parties with regard to the potential risk factors involved. Landsvirkjun has been purposefully involved in an informed discussion of the underlying risk factors involved, and this work will continue.

The large scale of the project would demand the broad consensus of Icelandic society for it to proceed. Further research would be required on the macroeconomic, societal and environmental impact of the project and an open and informed discussion, within Iceland, on the relevant factors would be necessary. Work has been ongoing on these issues, including the assessment carried out by the cross–party advisory committee appointed by the Icelandic Ministry of Industries and Innovation and an analysis conducted by Gamma (GAM Management) on the potential effects of the cable on Icelandic households.

### Where would the energy come from?

A sub-sea cable supplied by hydropower in Iceland would offer the possibility of exporting and importing energy. Renewable energy within Europe is mostly reliant on intermittent energy sources such as wind and solar power. However, the demand for energy fluctuates on an hourly and seasonal basis and Europe needs to guarantee more reliable sources of electricity supply, in order to compensate for the unavoidable intermittency of solar and wind power.

A sub-sea cable would give Icelanders the opportunity to better utilise the country's energy resources and would increase the revenue created by these resources for the national economy.

The Icelandic grid can offer this reliability and a sub-sea cable would mean that Iceland could dispatch electricity, via the cable, according to need. The sub-sea cable would enable Iceland to better utilise the value of dispatchable, renewable energy.

The export of electricity would allow for the more efficient utilisation of resources in Iceland and generating more electricity, via currently operational hydropower stations. The inflow rate to the hydropower reservoirs in Iceland is variable between years but is, on average, higher than the amount required to fulfil current energy contracts. In isolated

electricity systems, excess water flows in spillways could be used, in part, if the system were connected with larger markets. Moreover, Icelandic consumers do not always fully utilise available energy resources and energy is therefore often wasted within the closed national grid. Connecting to a larger grid would mean more effective utilisation. In dry years or in the case of unforeseen circumstances, Iceland could reduce the energy export level and even import energy temporarily.

The exported electricity would be partly supplied by new power projects from already utilised areas and new areas. The prospect of new projects in hydropower, geothermal and wind energy would be reliant on the framework set out by the government on energy utilisation, including the Master Plan for Hydro and Geothermal Energy Resources in Iceland.

Preliminary assessments on investment costs and the length of the construction period show that the shortest distance possible would be the most economical option, under present conditions. The shortest distance for a sub-sea cable between Iceland and the UK would be approx. 1000km and appropriate locations at either end are presently being assessed, as well as different cable routes.

Potential connection areas in Iceland, for the sub-sea cable, are being considered as well as a number of other factors, including sea depth, sea terrain, wave height, fisheries and sailing routes. The project would also require necessary reinforcements of the electricity grid. The UK has focused on the issue of accessing the UK national grid. The next step involves further research on the feasibility of different landing locations, the impact on other industries such as fisheries and oil production, and of course the impact on the environment.

Statnett and National Grid, the owners and operators of the national grids in Norway and the UK, are developing a 1, 400 MW, 700 km sub-sea cable connecting the two countries.

# Wind power in the future

To the north of Búrfell, is a lava field by the name of Hafið. Landsvirkjun has erected two 900 kW wind turbines in the area, for research purposes. The wind turbines have been successfully operated since the end of January, 2013 and there are clear indications that Iceland is an advantageous location for electricity generation, utilising wind power.

The yearly average capacity factor for Hafið is approx. 40% which is unusually high. In comparison, the average capacity factor worldwide is approx. 28%. Landsvirkjun's wind turbines are relatively small (approx. 55 metres hub height), and this makes the high capacity factor even more remarkable. This is explained by the fact that wind velocity is relatively high, at a relatively low height in Iceland due to low surface roughness. This significantly reduces the cost of energy as hub heights can be kept quite low.

The wind turbines at Hafið have so far generated 5,900 MWh in the eleven months they have been in operation which is higher than the annual 5,400MWh initially predicted.

### Wind turbine capacity in 2013

After nearly one year of operation, the average capacity factor for the wind turbines is approx. 40%, which exceeds all expectations. In comparison, the average capacity factor worldwide is approx. 28%.



#### The third pillar in the power system

Landsvirkjun has made the decision to conduct further research on the wind power capacity at Hafið, via extensive wind velocity and scenario studies. Proposals for the size and location of potential wind farm sites will also be analysed. The project is innovative as the potential of wind power has not been researched in Iceland before. Research areas will include the impact of the project on the environment, on society, the feasibility of development and operations and opportunities in utilising the interaction of wind power and hydropower. The legal framework and regulations will need to be reviewed as well as an analysis of the advantages of utilising wind farms for the electrical grid. An agreement has been reached with the engineering companies Efla and Mannvit who will provide consultation on the project. The project will be ongoing for the next two years.

The objective of the project is to ensure that Landsvirkjun has enough supportive evidence in the form of advanced analyses and data, to make an informed decision with regard to potential wind farms. Further research and preparation supports effective procedures in the development of wind power as the third pillar in the electrical system.

In Iceland, wind velocity is generally at its highest during the winter period when there is minimum water flow to Landsvirkjun's storage reservoirs. In addition, hydropower backed by storage is ideal for load balancing. Consequently, the possible synergy of wind-and hydropower electricity generation is high.

### **Environmental Research**

Environmental research is a crucial part of Landsvirkjun's operations. Research provides insight into the decades ahead and monitors a variety of environmental and societal factors affected by the Company's operations. Research provides baseline information as well as supplying crucial information on future scenarios which could prove important in the development and design of specific power projects.

Landsvirkjun works in accordance with a certified environmental management system. A detailed discussion of environmental monitoring and the Company Policy on environmental matters can be found in Landsvirkjun's Environmental Report.

### Research, monitoring and mitigation measures

Extensive information on the natural environment and society are important in the development of potential power projects. Research is essential in acquiring new knowledge in the many areas possibly affected by the Company's operations. Research is conducted on ecosystems, geology, archaeology, geography, tourism and many other areas.

Once the decision has been made to utilise a resource, research monitoring begins. Initially the focus is on mitigation measures, executed for the purpose of minimising the environmental impact of development. Once the construction period reaches completion and operations begin, then research monitoring focuses on the impact of particular environmental aspects and the success rate of mitigation measures.



### Glacier monitoring

Landsvirkjun operates an extensive research and monitoring program for glaciers which provide runoff to the Company's hydropower plants. The programme is run in cooperation with the Institute of Earth Sciences at the University of Iceland and the Icelandic Meteorological Office. The mass balance of the glaciers is measured on an annual basis, in order to assess surface accumulation and surface ablation. The results show that the glaciers, providing the water resources for Landsvirkjun, have in fact diminished in the last two decades and this is believed to be a direct result of climate change. The increase in glacial melt results in increased runoff to hydro power stations and therefore creates opportunities for increased and improvedenergy generation. Landsvirkjun is already accounting for 'climate change impact' in the development and design of potential power projects.

### 2 Hydrology

Extensive knowledge on water flow characteristics is the key to better utilisation of the water resource. Landsvirkjun monitors all factors pertaining to the water cycle, from the moment a water drop hits the earth as precipitation, until it is returned to the sea to begin the cycle again. Analyses show the fluctuations in water flow and the factors influencing these changes. The water flow in rivers increases with high precipitation and long warm summers increase glacial melt.

### Reservoir monitoring

Landsvirkjun's energy reserve is stored in the storage reservoirs of the Company and water surface levels are measured continually. The results are the basis for the management of the water resource and the storage reservoirs, the transfer of energy between different parts of the country and the implementation of contingency plans in the case of unusual water surface level changes. Other monitoring measures are commonplace in Landsvirkjun's reservoirs, including the erosion of reservoir banks and reservoir shoreline evolution. Bathymetric measurements are conducted in order to monitor the levels of sediment and glacial till deposited in the reservoirs by the glacial rivers and the corresponding changes in reservoir volumes.

### 4 SDam monitoring

All of Landsvirkjun's dams are closely monitored. The condition, movement and any leakage in the bedrock (in close proximity) is monitored. The ground water pressure in the actual dams, in the bedrock underneath them and the groundwater level in the proximity of the dams is monitored. These data are collected annually and the overall status of the dams is assessed. If results from the Sigalda Dam are assessed then it is clear that the leakage below the dam has decreased by 70% since operations began. This is due to extensive manmade sealing measures and natural sealing created by the sediment from the Tungnaá River.

### 5 Discharge

Extensive knowledge with regard to the discharge below the hydropower stations is essential as the discharge from the stations affects both humans and wildlife, in and around the rivers. Landsvirkjun has carried out thorough research on the discharge beneath Irafoss in the Sogið area in order to secure salmon migration in the river.

### 6 Meteorology

Meteorology has a significant impact on the water flow within the water resources utilised by Landsvirkjun, for energy generation. Landsvirkjun owns and operates numerous weather monitoring stations in the highland areas. They monitor air temperature, air pressure, wind speed, precipitation and sunlight. The results are submitted to the national meteorological database and to the Icelandic Meteorological Office, where they are further utilised for meteorological forecasts and as real time information on weather conditions. The results are therefore not only used by Landsvirkjun but also by the entire country.

### Groundwater monitoring

Groundwater is closely monitored by Landsvirkjun at all of their power stations. The development of groundwater within geothermal areas is particularly significant and can indicate the need for mitigating action, in the case of utilisation affecting the groundwater. Results from the monitoring systems in the Mývatn area have so far shown that geothermal utilisation at Bjarnaflag has not affected the groundwater flow and water quality in Lake Mývatn.

### **8** Seismic Activity and land mass changes

Landsvirkjun monitors activity in geothermal areas by using a powerful network of seismic sensors and GPS monitoring systems. This enables the Company to recognise the layout of fractures in the subsurface, elevation changes, tectonic activity and volcanic activity. This information is also crucial in supporting successful borehole drilling in the area. The fact that subsidence in the Krafla area has been measured at 10cm, over the course of two decades, is a clear example of the value of such information.

#### 9 Emissions

Emission records for the geothermal stations are kept and published in Landsvirkjun's Environmental Report. Landsvirkjun has also set up three hydrogen sulphide monitoring stations in Reykjahlíð, the results of which can be accessed in real time via the Landsvirkjun website.

#### Geothermal well monitoring

Geothermal wells are monitored regularly at Landsvirkjun's geothermal stations. Well temperature logs, pressure logs and the chemical composition of geothermal fluid are analysed as these provide information on the energy content and quality of the geothermal reservoir. Amongst other things, these observations have shown changes in the steam composition from the Krafla Geothermal Station, since the end of the Krafla Fires in 1984, where the level of carbon dioxide in the steam has decreased substantially.

#### Noise levels

The noise from geothermal areas can be decreased by using the correct type of mufflers for boreholes. Landsvirkjun closely monitors the noise levels, within the geothermal areas utilised by the Company in the northeast of Iceland, in order to assess the need for increased noise reduction measures and to monitor those already in place. Landsvirkjun is committed to keeping noise levels in areas close to popular tourist spots at the maximum noise level recommended for inhabited areas, that is 50db (A). The maximum noise level for energy production areas is 70dB (A).

#### Reindeer

The distribution and number of reindeer in the east of Iceland, in the Snæfellsöræfum wilderness, is monitored: in Brúaröræfi, Vesturöræfi, Fellum, in Múla and Hraun. Reindeer numbers are estimated via basic counting measures and aerial photographs of the area. The EIA conducted for the Kárahnjúkar Hydropower Station predicted changes to the distribution and number of animals. However, the affects were measurably less than initially predicted. Ongoing monitoring will show the long-term effects of the power project on the reindeer population.

#### Birdlife

Landsvirkjun's operations can have a diverse effect on birdlife. The construction of reservoirs and changes to the course of the river channel can affect their habitat. New roads, transmission lines, wind turbines and other manmade structures can also disturb the population. Research has shown, amongst other things, that the Hálslón Reservoir did not cause a decrease in the Pink – footed Goose population in the area, despite a reduction in grazing land. However, the decrease in the Long – tailed Duck could be attributed to increased turbidity in the river and water in the Hálslón Reservoir. Landsvirkjun is involved in monitoring birdlife in all current and new areas of operation, in order to better understand the effects on birdlife.

#### 13 Freshwater ecology

Hydropower stations can have a significant impact on fish and other river biota. Landsvirkjun closely monitors river biota in all areas of operation in order to implement timely mitigation measures in the case of any measurable changes. Monitoring the fish population is mainly threefold: the analysis of fishing data to acquire information on changes to the fish stock, net fishing data to acquire information on the condition, diet, maturity and size distribution of fish and finally juvenile counts to acquire information on the density and recruitment of juveniles. Results in the Þjórsá area have shown that the construction of the power station and the resulting changes to water flow have improved conditions for the salmon population, thus supporting its growth.

### Research and monitoring projects in 2013:

- A review of the vegetation map for the area affected by the Fljótsdalur Hydropower Station was completed. The vegetation map was utilised for various purposes, including research on reindeer routes, grazing and habitat within the area. The area originally covered by the vegetation map was extended and is now over three thousand kilometres in size. The project was completed in cooperation with the Icelandic Institute of Natural History. Other projects now underway in the area affected by the Fljótsdalur Hydropower Station include fish research in the water catchment area of Lagarfljót and Jökulsá in Dal.
- The warm groundwater stream at Mývatn was researched in connection with the impact of utilising the geothermal resources in the Bjarnarflag area. Air quality monitoring was increased in the Mývatn area and the results for three of the stations were published on the Landsvirkjun website. The EIA report on the Bjarnarflag Station, now ten years old, was reviewed in order to assess the need for a partial or total re-assessment of the report.
- Work was ongoing on projects pertaining to the visual impact of geothermal stations, including issues of design and landscape integration. The objective is to focus more on the surrounding landscape of sites in the structural design process and to seek out new landscaping measures, designed to minimise the negative impact of unavoidable disturbances to land, in the power project preparation process. This year, procedures and guidelines for landscaping measures and clean-up work at power project sites were developed. An audit was completed on the location for ground material disposal and clean-up work as a result of work completed on the Blanda waterway.

#### Greenhouse gas emissions and carbon sequestration

Landsvirkjun aims to be a carbon neutral company and works systematically to reduce carbon emissions and other greenhouse gas emissions in its operations.

Carbon dioxide emissions from geothermal boreholes in Krafla, Bjarnarflag and Peistareykir have been monitored for years. However, information on the natural emissions from geothermal fields is limited and a decision was made this year to increase research and therefore knowledge in this area. Carbon levels in the soil and vegetation at the Búðarháls Hydropower Station were measured, as a direct result of an assessment on GHG emissions in the Sporðalda Reservoir site area. Efforts to neutralise carbon emissions included an agreement with the Iceland Forest Service and the Icelandic Soil Conservation Service on carbon capturing in two new areas. An agreement was also reached with Kolvið on the neutralisation of all carbon emissions as a result of Landsvirkjun's use of petroleum and diesel for transportation purposes, the air travel of employees, and the disposal of waste.

#### Information dissemination

Landsvirkjun is committed to successful cooperation with society by supporting transparent working methods and knowledge dissemination. Extensive information on environmental research can be found in Landsvirkjun's Environmental Report. Research reports can presently be accessed at Landsvirkjun's library but the objective is to make all these available via the web at Gegnir.is. The success of research carried out in the affected areas of the Fljótsdalur and Kárahnjúkar Stations can be accessed on the sustainability web run by Landsvirkjun and Alcoa www.sjalfbaerni.is ...

Summaries and real time information on the monitoring of various environmental aspects can be accessed annually at Landsvirkjun's website.

#### **Download documents**

Find and download enclosed documents at http://annualreport2013.landsvirkjun.com/





In 2013, Landsvirkjun was in the process of assessing twenty potential power projects all over the country. The proposed parliamentary resolution on the Master Plan for Hydro and Geothermal Energy Resources in Iceland was approved in January, 2013. The Master Plan ranks energy projects and divides them into three main categories: 'appropriate for development', 'under consideration', and 'protected', in accordance with Act No 48/2011 on the Conservation and Energy Utilisation Plan. There are presently 67 projects under consideration; 16 of these have been placed in the appropriate for development category, 31 are under consideration and 20 are in the protected category. The parliamentary resolution is expected to be reviewed on a four year basis, or less.

Landsvirkjun is considering potential power projects in various locations around the country. Each one is at a different stage in the preparation and licensing process.

### Second phase of the Master Plan

The parliamentary resolution on the Master Plan, proposed by the Minister for the Environment and the Minister for Industry and Commerce, was approved in January, 2013. Amendments were made to the initial ranking system, outlined in the original proposal for a parliamentary resolution. Five potential power projects were moved from the appropriate for development category to the under consideration category. These included three potential power stations in the lower region of the Þjórsá River and the Skrokkalda and Hágöngur power projects. Out of the several hydropower proposals put forward by Landsvirkjun only one potential power project, in the Blanda water catchment area, was considered appropriate for development. Potential power projects in the Jökulsá River in Skagafjörður, in Skjálfandafljót, in the lower regions of Þjórsá and in Skrokkalda (along the Kaldakvísl waterway between Hágöngulón and Kvíslaveita) were placed in the under consideration category. Two alternative proposals put forward by Landsvirkjun (in conjunction with Orkusalan) for the Hólmsá River were also placed in the under consideration category. The proposed power projects at Norðlingaalda, Tungnárlón and Bjallar were all placed in the protected category, despite the fact that these were three of the most feasible proposals put forward by Landsvirkjun.

Three of the geothermal projects proposed by Landsvirkjun; the Bjarnarflag, Krafla and Þeistareykir power projects were placed in the appropriate for development category. The Hágöngur and Fremrinámar projects were placed in the under consideration category and the Gjástykki project was placed in the protected category.

### Review of potential power projects within the Master Plan

A new Steering Committee was given the priority task of completing the review of the five potential power projects whose status was changed by the Ministries and the Icelandic parliament and two other projects where the prior

committee had reached a conclusion without considering all the available documentation. The projects under review were the three potential power projects in the lower regions of the Þjórsá River (moved to the under consideration category due to uncertainty surrounding the impact on salmon), a hydropower project at Skrokkalda and a geothermal project at Hágöngur (as a result of concerns with regard to the buffer zone in the Vatnajökul National Park), the Hólmsá hydropower project and the Hagavatn hydropower project.

The Steering Committee came to the conclusion that only three power projects in the lower regions of the Þjórsá River could be reviewed without appointing new expert committees and this work could not be completed before the end of the year.

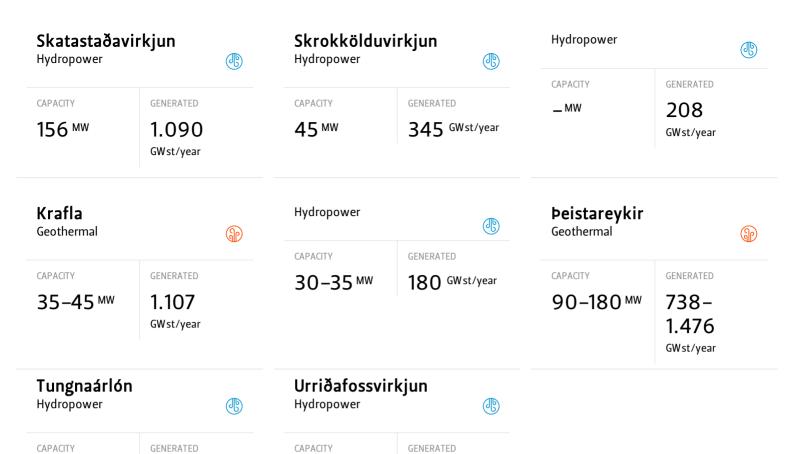
The Steering Committee put forward a proposal in December, recommending that the Hvammur project should be moved into the appropriate for development category and that the Holta and Urriðafoss projects would remain in the under consideration category. A resolution is expected from the Icelandic parliament this spring but there is some uncertainty as to how the review of the other power projects will be conducted.

#### Third phase of the Master Plan

In November, 2013 the National Energy Authority requested information on the proposed power projects put forward for consideration, for the third phase of the Master Plan. Landsvirkjun outlined its intention of putting forward documentation pertaining to 24 power projects for consideration. These include three new proposals: The harnessing of Stóra Laxá and two wind farms (one in Hafið, to the north of Búrfell and another within a new waterway at the Blanda Hydropower Station). Landsvirkjun has announced plans for a review of some of the proposed power projects placed in the protected category. The proposals for the Norðlingaalda diversion, Bjallar project, Tungnaá diversion and Gjástykki project will be reconsidered by Landsvirkjun with the aim of lessening the environmental impact.

#### **Power Projects**

<b>Bjallavirkjun</b> Hydropower			Bjarnarflag Geothermal				
CAPACITY	GENERATED	CAPACITY	GENERATED	CAPACITY	GENERATED		
46 <sup>MW</sup>	340 GWst/year	45-90 MW	45-90 MW 369-738 GWst/year		194 GWst/year		
<b>Gjástykki</b> Geothermal		<b>Hágöngur</b> Geothermal			Hólmsárvirkjun, Atley Hydropower		
CAPACITY	GENERATED	CAPACITY	GENERATED	CAPACITY	GENERATED		
135 <sup>MW</sup>	1.107 GWst/year	135 <sup>MW</sup>	1.107 GWst/year	65 MW	480 GWst/year		
Holtavirkjun Hydropower			Hvammsvirkjun Hydropower		Norðlingaölduveita Hydropower		
CAPACITY	GENERATED	CAPACITY	GENERATED	CAPACITY	GENERATED		
53 MW 415 GWst/year		82 MW	665 GWst/year	_ MW	605 GWst/year		



980 GWst/year

270 GWst/year

130 MW

\_ MW



Landsvirkjun has a clear policy on social responsibility and is committed to maximising the positive impact of business on society and the environment, and diminishing the negative.

Corporate social responsibility (CSR) is about maximising the positive impact of business on society and the environment, and diminishing the negative. It is about creating a business environment where transparency facilitates stakeholder engagement. Landsvirkjun has set clear objectives in fulfilling its CSR Policy. Landsvirkjun's policy on CSR was a key project in 2013. The Policy has been developed over a two year period with the involvement of dozens of employees. There was particular focus on specific measures and employee awareness with regard to social responsibility. The work completed in 2013 was successful with many significant milestones achieved.



### The UN Global Compact

In December, 2013 Landsvirkjun signed the UN Global Compact on social responsibility and committed to implementing the ten principles outlined by the UN in the areas of human rights, labour, the environment and anti-corruption. Our hope is to gain valuable input from this partnership in order to make our CSR Policy more transparent and effective.

Our CSR Policy is to create value, take care when working withthe natural resources we have been entrusted with and to sharethe knowledge we acquire to contribute to a better society.

#### Investment in innovation

Startup Energy Reykjavík (SER) is a mentorship-driven investment program for seed stage, energy related business ideas. The program, which offers its participants the opportunity to be mentored by a group of 50 experts from the science and business world, was launched in March 2014 and was active for a 10 week period. The founders of the program are Landsvirkjun, Arion Bank, GEORG and Innovation Centre Iceland. An investor assembly was held on the last day to give participants the opportunity to present their ideas to potential investors. The goal of the program is the creation of shared value for the energy industry and society.

#### **Knowledge Saves Lives**

Landsvirkjun's employees have shown initiative in social responsibility matters by utilising their expertise for good causes. Oscar H. Valtýsson, Head of Telecommunications at Landsvirkjun, has designed and developed an airborne search and rescue system in cooperation with Landsvirkjun, the software company Rögg and the Icelandic Coast Guard.

The new device has been funded by a number of companies including Landsvirkjun and the insurance companies VÍS, TM and Vörður. The engineering firm Héðinn voluntarily designed and manufactured the host and antenna mount for the Icelandic Coast Guard's helicopter. Vodafone lent out frequencies and experts at the Icelandic Institute for Intelligent Machines developed the mathematical and modelling software utilised in the positioning and navigational part of the search system.

The system is able to locate cell phones with great precision and can serve as a crucial tool for rescue and search parties. The Icelandic Coast Guard successfully utilised the device in September, 2013 during a search for a lost tourist at the Skaftafell Glacier. The final product will be handed over to the Icelandic Coast Guard for future operation during search and rescue missions.

SATISFIED EMPLOYEES

91%

According to a recent survey conducted at the Company, 91% ofLandsvirkjun's employees believe that a CSR Policy is animportant aspect of Landsvirkjun's operations.

### **Achievements 2013**

Landsvirkjun's CSR Policy outlines six key areas. Every year, Landsvirkjun defines key objectives (within each area) to focus on. In 2013, eight objectives were set and the results of this work can be seen below:

● Indicates that the objective has been achieved Shows that we are progressing well Shows that we are at an early – stage of meeting the objective

#### **Corporate Governance**

#### **Objectives 2013**

Verification and implementation of a code of conduct for Landsvirkjun

Landsvirkjun's Code of Conduct was published and implemented in December, 2013. There are nine categories, including the health and safety of employees, the importance of integrity and respect in communication and the handling of confidential information and conflicts of interest. The first three months of 2014 will give employees the opportunity to provide feedback on our Code of Conduct which will then be made public.

#### Objectives 2014

Implementation of the UN Global Compact in Landsvirkjun's operations

Implementing an ownership policy in operations

#### **Objectives 2013**

Re-evaluating our policy on contractors and suppliers with a view to our new policy on corporate social responsibility

Landsvirkjun's value chain includes service providers, suppliers, consumers and other stakeholders. In 2013, we re-evaluated our value chain policy. The scope of the policy was discussed, as were the methods utilised by other companies in implementing such a policy, performance criteria and the relevant standards and guidelines. Work on the re-evaluation of the policy could not be fully completed this year and will therefore continue throughout 2014.

#### **Objectives 2014**

Developing and implementing a policy on ethical business practices

Implementing a code of conduct for suppliers and service providers

#### **Environmental Issues**

#### Objectives 2013

Improving communication and consultation at all stages of preparation, development and operations pertaining to the environment, ensuring that our practices meet the requirements of good practice, in accordance with the HSAP and the GRI

In 2013, the International Hydropower Association conducted an assessment of the Blanda Hydropower Station utilising the HSAP (Hydropower Sustainability Assessment Protocol). The Protocol places particular emphasis on environmental and social aspects. The report showed that Landsvirkjun fulfils the highest standards of practice in 14 of the 17 topics. Landsvirkjun was awarded the second highest rating for the three remaining topics. Topics evaluated during the assessment included responsible governance, environmental and social issues management, public safety and labour and working conditions. The report is available on Landsvirkjun's website.

In 2013, preliminary work began on connecting the key sustainability indicators outlined by the GRI (Global Reporting Initiative G4) to the environmental aspects outlined by Landsvirkjun. Work will continue throughout 2014.

Increasing expertise on the environmental impact of geothermal energy utilisation, to further decrease the effects of geothermal power stations on the environment

Monitoring and environmental surveillance was increased on hydrogen sulphide levels, the climate and on air quality. Measurements on the concentration of hydrogen sulphide in the air are now accessible in 'real time' on the Landsvirkjun website.

Last year, Landsvirkjun took part in a number of research projects in order to further their expertise on the environmental impact of geothermal utilisation. Amongst these projects were the following:

Cooperation with ISOR on a report on sustainable energy production at Bjarnaflag.

A research project at Krafla initiated to map the "arteries" of the geothermal system. The results could be utilised to improve the energy utilisation of the system.

Participation in a number of research projects in connection with the utilisation of geothermal energy including the Deep Roots of Geothermal Systems Project which focuses on increasing expertise on geothermal systems and IMAGE: Integrated Methods for Advanced Geothermal Exploration, a European project which aims to improve research methods used to map geothermal systems.

Research on the impact of geothermal utilisation on the warm groundwater streams flowing into Mývatn.

Monitoring the chemical composition of borehole fluid, gasses and steam from boreholes and the geothermal system.

Research on the effective utilisation of the energy stream of water, steam and gas for further energy production or other uses. There are indications that it would be possible to produce pure carbon dioxide from geothermal gasses to be used for industrial purposes; thus transforming pollutants into raw material.

Research into methods for lowering the concentration of hydrogen sulphide from geothermal power stations. Part of this drive is the collaboration with SulFix, a collaboration of Icelandic energy companies working together in order to better understand the implications of re-injecting hydrogen sulphide into the geothermal reservoir.

Reducing the release of greenhouse gasses (GHG) and carbon neutralisation via larger scale carbon capturing measures than those in current use

Important steps were taken to reduce or neutralise greenhouse gas (GHG) emissions, including soil conservation and reforestation. An agreement was reached with the Iceland Forest Service and Soil Conservation Agency on two new areas of carbon sequestration. It is estimated that carbon binding will reach 2.5 T carbon / ha per year, within a decade.

An agreement was reached with Kolvið on the neutralisation of all carbon emissions as a result of Landsvirkjun's use of petroleum and diesel for transportation purposes, the international and national air travel of employees and finally the disposal of approx. one thousand tonnes of waste.

Research has also been conducted on the extent of natural emissions from geothermal areas.

#### **Objectives 2014**

Better use of resources – analysis of the diverse nature and uses of geothermal energy and the increased utilisation of hydropower

Developing a comprehensive plan of action with regard to the binding and emission of GHG

Establishing a transport strategy and developing energy exchange measures in transportation

#### Society

#### **Objectives 2013**

Shaping communication strategies with stakeholders in the Northeast

One of the cornerstones of Landsvirkjun's Policy is building a strong collaborative alliance with society, with a view to their interests, ensuring that society and the environment enjoy benefits from our operations.

Early on in 2013, Landsvirkjun committed to developing a communication plan for stakeholders in the Northeast of Iceland. Communication strategies for the area include two proposed project sites: Bjarnarflag and Þeistareykir. The Communication Plan is a development project created to minimise uncertainty and to prevent any breakdown in communication between Landsvirkjun and its stakeholders.

#### **Objectives 2014**

At least five open meetings with stakeholders in 2014

Dividends paid to owners

#### **Human Resources**

#### Objectives 2013



Review of Human Resources Policy in view of the new role and values at Landsvirkjun

We set the objective of reviewing our staff policy with respect to the major changes made to the policy and role of Landsvirkjun. This goal has been partially achieved and a draft of the policy has been completed. The implementation of the policy will be finalised in early 2014.

#### Objectives 2014

Increasing the proportion of female managers

Accident free operations

#### Knowledge dissemination

#### **Objectives 2013**



Promoting cooperation with the university environment to support and encourage the development of expertise within the field of renewable energy

Landsvirkjun signed three cooperation agreements with various academic institutions with this objective in mind.

In July, 2013 Landsvirkjun joined forces with Reykjavik University and the University of Iceland to support and encourage the development of expertise within the field of renewable energy. Landsvirkjun has pledged 80 million to university education, over a five year period, to promote university education and research in geochemistry, electric power engineering and other academic disciplines within the universities.

In October, 2013 Landsvirkjun and the Institute of Economic Studies joined forces in an effort to support and encourage research within the field of business and economics pertaining to energy generation, subsequently increasing public knowledge and awareness on the significance of these factors with regard to the economy. Landsvirkjun will contribute an overall total of 24 million ISK to the Institute of Economic Studies over a three year period.

Extensive efforts were made to share audits and reports executed for and by the Company by connecting with the electronic search engine gegnir.is. In 2013, approx. 300 reports were made available via this source.

#### **Objectives 2014**

Promoting access to our research

Promoting innovation by supporting innovative ventures in energy-related industries

Promoting knowledge via the Energy Research Fund



At Landsvirkjun, we strive to provide a progressive working environment in order to engage people who are the best in their field. The Company has a diverse and dynamic work force where differing cultures and ideas nurture innovation and creativity. The role of the Human Resources Division is to provide employees and management with the support they need and effective human resource management.

#### **Continuous improvement**

A number of productive improvements were made to Human Resources (HR) matters at Landsvirkjun in 2013. These included the development of HR procedures and improvements to management systems within the Company. Two discussion panels were held, where current orientation procedures for new employees and retirement procedures were reviewed by current employees. Work also began on developing employee interview procedures into performance interviews (appraisals). Approximately 100 employees participated in workshops and focus groups addressing these issues. Performance interviews (appraisals) will be implemented in the first quarter of 2014.

SATISFIED EMPLOYEES

91%

According to a workplace survey, conducted in 2013, approx.91% of Landsvirkjun's employees say that they are satisfied orvery satisfied at work.

A number of changes were implemented with regard to the organisation of Landsvirkjun in the middle of last year. The HR Division was made responsible for the Services Division; previously the responsibility of the Finance Division. The operation of the reception area, canteen, travel booking services and headquarters building management are now under the supervision of the HR Division. Last but not least, the HR Division took responsibility for developing internal marketing at Landsvirkjun, with a particular focus on social media and alignment with strategic initiatives and projects.

### **Professional Development**

One of Landsvirkjun's main objectives in human resources management is a commitment to the professional development of their employees. Each year, Landsvirkjun invests in a comprehensive range of professional educational and training avenues and in inspiring and reinforcing management in their leadership roles. At the beginning of last year, all management teams were offered extensive management training where the main focus was on 'change management'. All employees took part in a prevention workshop on bullying and communication in the workplace.

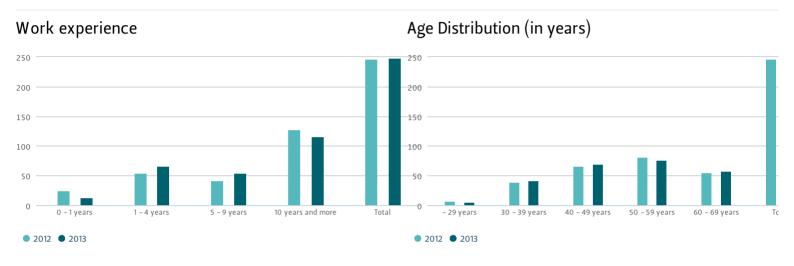
HOURS OF EDUCATION 11, 00

In 2013, Landsvirkjun invested approx. 11 thousand hours in theeducation and training of employees. This is equal to 275working weeks.

## A dynamic workforce

There were 247 full time employees at the beginning of the year with the exception of board members, students and other temporary employees. The average number of employees during the year was 298 but this total is heavily influenced by the temporary staff members employed for the summer duration. The total number of employees on the payroll at year end was 248, filling 242.25 full time positions. A total of 516 employees were paid salaries during the year, including summer staff and students.

Dedication and loyalty are the main characteristics of the Landsvirkjun work force. The average age of permanent employees at year-end was 50.4 years and the average length of service was 13.2 years. The turnover rate was 4% compared with 8.35% last year. Last year, 40 employees were recognised for length of service, the longest service period being 35 years.



### Health and safety

The health and safety of employees is a key issue at Landsvirkjun and the occupational health and safety management system utilised by the Company is certified in accordance with OHSAS 18001. Working methods are specifically designed to prevent accidents and a so-called "zero accident policy" is adhered to. The Company does everything in its power to ensure no accident related absences. Unfortunately this goal was not met last year when two accidents occurred on site, leading to the absence of the employees involved. Safety issues remain a priority for Landsvirkjun and an accident-free operation is one of the main targets outlined by the Company.

### Summer employment for young people

The number of employees at Landsvirkjun doubles during the summer period when approx. 230 young people and university students join our work force for summer employment. There were 780 applications last year and 154 young people between the ages of 16–20 were accepted; 82 young men and 72 young women. They attend to various maintenance and environmental projects for Landsvirkjun's sites, all over the country.

Out of the successful applicants, 70 were university students; 32 men and 38 women and they also attended to various projects at Landsvirkjun's sites all over the country. Landsvirkjun seeks to employ talented individuals with a view to the relevant education/experience and to ensure gender equality.

In recent years Landsvirkjun has run an enterprise that goes by the name of "many hands make light work" where they offer their partnership (and summer staff) to any local projects, promoting the development of tourism and environmental issues in the areas involved. There were 28 applications, from all over the country, from NGOs, individuals, sports clubs, government agencies, municipalities and national parks.



Landsvirkjun's energy production in the year 2013 was successful. The sold volume amounted to 13,186 GWh in the year, which is a record high in the Company's history. This year, construction work on Budarhals Hydropower Station was for the most part concluded and the new power station will result in increased production capacity for the Company in 2014.

# Good return from core operation

Revenue increased between years due to the increased sale of electric power and increased transmission income. However, the world market price of aluminium decreased during the year. The return from core operation, profit before unrealised financial items, has increased in the last few years and 2013 was the most profitable year in the Company's history. Despite these results, there was a loss on the Company's operation after tax. The loss can be traced to the decrease in world market aluminium prices, reflected in the significant decrease in the carrying amount of embedded derivatives, on which the Company can have a limited effect.

Cash flow from operations amounted to USD 258.5 million, which is the second highest in the Group's history. Investments increased from the previous year but due to good cash flow the Company continued to decrease debt and improve its financial standing.

Landsvirkjun has in the past years been systematically working on reducing its exposure to risk. Its main financial risks are related to aluminium prices, interest rates and foreign exchange rates against the USD.

OPERATING REVENUE

§423M

**PROFIT BEFORE UNREALISED FINANCIAL ITEMS** 

\$122M

**EBITDA** 

\$329M

**NET LIABILITIES** 

<sup>5</sup>2,429M 36.3%

**CASH FROM OPERATION** 

\$258M

**EOUITY RATIO** 

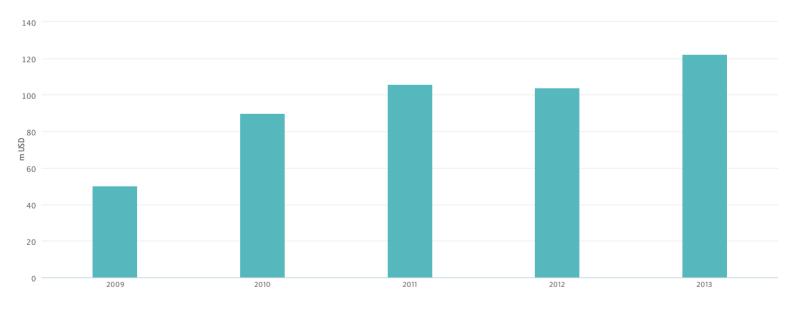
FREE CASH FLOW

\$248M

SOLD VOLUME

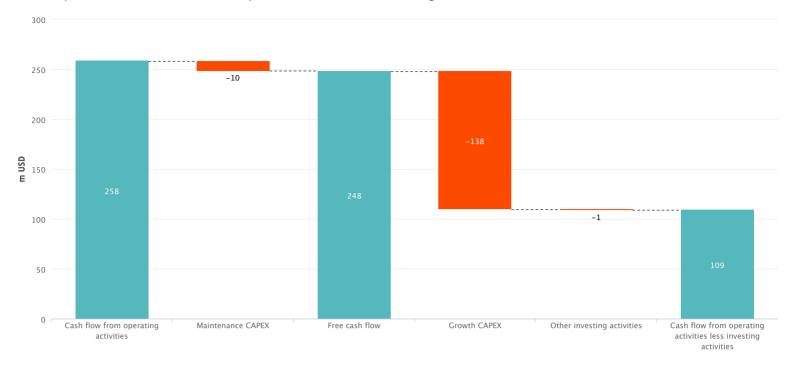
13,186<sup>GWst</sup>

#### Profit before unrealised financial items



Profit before unrealised financial items is the criterion used by Landsvirkjun in evaluating the Company's core operation. Profit before unrealised financial items amounted to USD 121.8 million in the year 2013 compared to USD 103.7 million in the previous year. The Company uses this criterion as unrealised financial items do not affect cash flow.

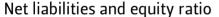
#### Development in cash and cash equivalents before financing activites

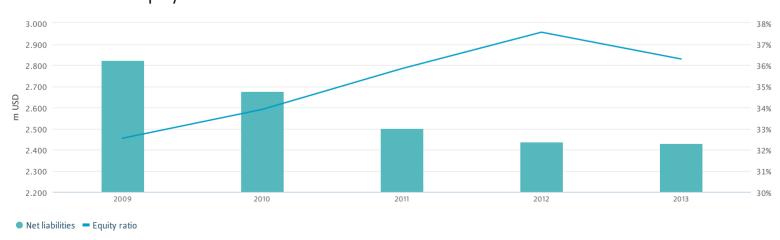


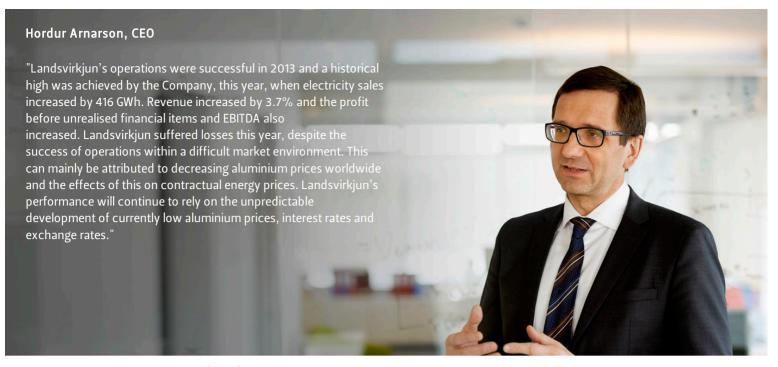
Investing activities in the year 2013 amounted to USD 149.5 million but only USD 10 million were due to maintenance investments related to power stations and the transmission system, i.e. investments which are necessary for the Company to continue its current operation. The Company's free cash flow therefore amounted to USD 248 million in the year. The Company's free cash flow can be utilised for new investments (which amounted to USD 138 million), amortisation of debt or dividend payments to owners. Cash and cash equivalents before financing activities amounted to USD 109 million in the year.

The Company's net debt amounted to USD 2,429 million at year-end, 2013 and remain unchanged despite the fact that cash from operation, taken into account investments, amounted to USD 109 million. This is mainly due to calculated foreign exchange loss on loans in other currencies than USD and indexation. The weighted average maturity time of the loan portfolio was around 6.3 years.

The Company's equity decreased slightly during the year and amounted to USD 1,658.1 million at year-end. Equity ratio also decreased and was 36.3% at year-end, 2013 compared to 37.6% at year-end, 2012.







# **Operating outlook**

Landsvirkjun will continue to place an emphasis on decreasing leverage and work on improving efficiency and decreasing risk exposure in the Company's operation. Landsvirkjun's results will for the most part be subject to the development in aluminium prices, interest rates and foreign exchange rates. The Company's income is partly linked to aluminium prices and changes in worldwide market aluminium prices therefore continue to have an effect on Landsvirkjun's future income. Currently, the price of aluminium is low and there is uncertainty with regard to its development in the next months. The majority of the Company's loans are on floating interest rates and continued low interest rates are therefore important for operations.

The last water year (which is from the 1<sup>st</sup> of October to the 30<sup>th</sup> of September each year) was unfavourable due to the lack of precipitation and cold weather in the highlands. Subsequently, Landsvirkjun's reservoirs did not fill last autumn and the inflow to the reservoirs was well below average. Landsvirkjun therefore made an announcement on reduced residual energy. Pending reductions are in full accordance with electricity power contracts and are assumed to amount to up to 2% of estimated electric power sales in the year 2014. However, the situation could change rapidly and reductions would then be cancelled.

Budarhals Hydropower Station was formally launched and taken into full operation in March 2014. Landsvirkjun's next potential power station projects are located in North-East Iceland but their progression is contingent upon power sales agreements and the relevant authorisation.

### Continued emphasis on decreasing debt

Landsvirkjun will continue to place an emphasis on decreasing the Company's extensive debt. Landsvirkjun's mortgages on foreign loans (until the year 2018) are estimated at around ISK 128 billion. The greatest part of the Company's cash from operation will therefore (as has been the case in past years) be utilised to pay mortgages on debts.

From year-end, 2009 net liabilities have decreased by USD 395 million but that notwithstanding Landsvirkjun is still greatly leveraged. Net liabilities are now 7.4 times EBITDA, which is around twice as high as in comparable energy companies in neighbouring countries. Landsvirkjun aims to decrease this rate to below 5 within a few years, which would create more space for refinancing foreign debt, in the long term, at favourable interest terms.

#### **Download documents**

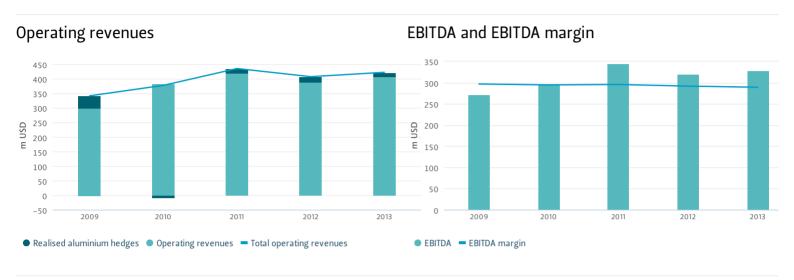
Find and download enclosed documents at http://annualreport2013.landsvirkjun.com





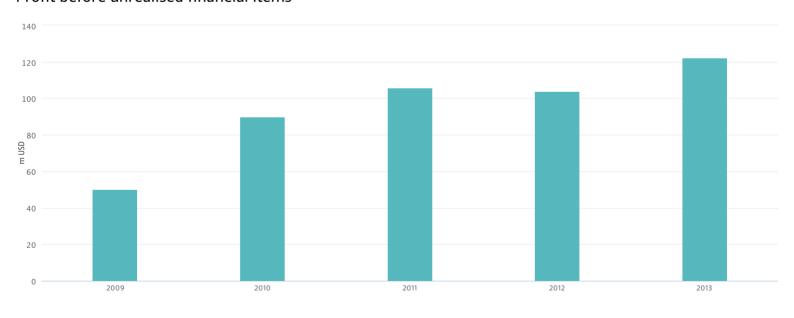
#### Income statement 2013

Operating revenues of Landsvirkjun Group increased by USD 15.1 million between years, or from USD 407.8 million to USD 422.9 million. The increase is mainly explained by the increase in sold volume and higher transmission income. The average wholesale price to retail sales companies (excluding transmission cost) was 4.0 ISK/kWh during the year compared to 3.9 ISK/kWh the previous year. The average price to industrial users was 25.8 USD/MWh compared to 26.2 USD/MWh in the previous year. The average price to industrial users here includes transmission cost, where appropriate. Transmission income increased between years from USD 44.4 million to USD 56.5 million which is mainly explained by an increase in the tariff. The Company hedges part of its aluminium price risk. Recognised income from realised aluminium hedges for the year amounted to USD 15 million in the year 2013 compared to USD 18 million in the year 2012.



Operating expenses less depreciation and impairment loss amounted to USD 93.8 million in the year 2013 compared to USD 86.5 million in the previous year. The Group's EBITDA amounted to USD 329.1 million and increased between years. EBITDA ratio as a proportion of revenue is 77.8% compared to 78.8% in the year 2012 but the ratio has been in a similar range since 2009. EBIT amounted to USD 211.5 million compared to USD 209.0 million in the previous year.

#### Profit before unrealised financial items



Profit before unrealised financial items is the criterion used by Landsvirkjun in evaluating the Company's core operation. Profit before unrealised financial items amounted to USD 121.8 million in the year 2013 compared to USD 103.7 million in the previous year.

The realised foreign exchange difference was positive by USD 7 million in the year 2013 (negative by USD 5 million in the previous year) and is partly the reason for better operating results of core operations. The average nominal interests on long-term loans were approx. 3.5% compared to 3.3% in the previous year, taking into account the state guarantee fee. A low world market interest rate and decreased debt in the last years has had a positive effect on the Company's return.

A part of the parent Company's electric power sales agreements are related to aluminium price development. International Financial Reporting Standards require that the aluminium price link be calculated as embedded derivatives. Calculated change in the value of the embedded derivatives is recognised in the income statement in the amount of USD 174.6 million as an expense in the year 2013 compared to USD 3.4 million in the previous year. Foreign exchange differences and fair value changes are mostly unrealised, which must be kept in mind in the evaluation of the Company's results. Unrealised financial items are therefore recognised as a separate item in management's presentation.

The return of the year, after tax, is contingent on changes in unrealised financial items, on which the Company has limited effect. Due to decreased world market energy prices in the year 2013 there was a loss on Landsvirkjun's operation in the amount of USD 38.5 million compared to a profit in the amount of 55.3 million in the previous year.

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#### **Balance Sheet**

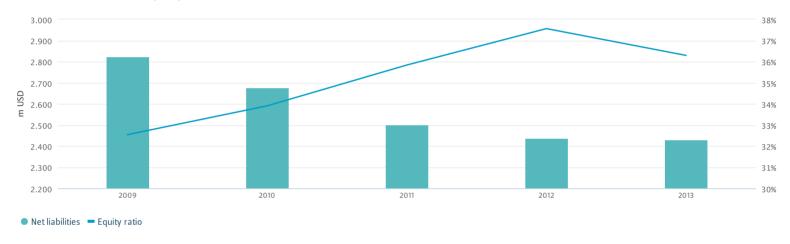
Landsvirkjun's total assets amounted to USD 4,569 million at year-end 2013. Landsvirkjun's liquidity balance is good but cash and cash equivalents at year-end 2013 amounted to USD 288 million. The Company has access to Revolving Credit Facilities, the undrawn amount of which is USD 291 million. In addition, undrawn long term loans amount to USD 10.7 million. Liquid assets and undrawn loans, therefore, amounted to a total of USD 590 million.

Interest bearing liabilities amounted to USD 2,717 million at year-end, 2013, or an increase by USD 93 from year-end, 2012 when they amounted to USD 2,625 million. Taking into account cash and cash equivalents and restricted cash Landsvirkjun's net debt amounted to USD 2,429 million at year-end compared to USD 2,436 million at year-end, 2012 and decreased by USD 6.4 million.

The Company's net debt amounted to USD 2,429 million at year-end 2013 and remain almost unchanged despite the cash from operation taken into account investments amounted to USD 109 million. This is mainly due to calculated foreign exchange loss on loans in other currencies than USD and indexation. The weighted average maturity time of the loan portfolio was around 6.3 years.

The Company's equity decreased in the year and amounted to USD 1,658 million at year-end. Equity ratio also decreased and was 36.3% at year-end 2013 compared to 37.6% at year-end 2012.

#### Net liabilities and equity ratio



# **Key ratios**

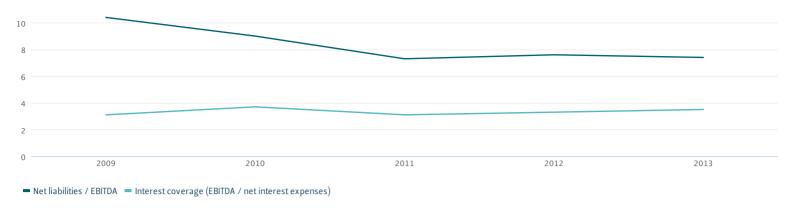
Landsvirkjun is still leveraged but in the last years the Company has systematically decreased its debt and improved the criterion that affects the Company's credit rating.

The Group's leverage measured against operating revenue before depreciation and amortisation (net liabilities / EBITDA) decreased from 7.58x at year-end 2012 to 7.38x at year-end 2013. The ratio of funds from operations (FFO) to net debt went from 9.9% at year-end, 2012 to 10.6% at year-end, 2013.

The interest spread (EBITDA/net interest expense) increased to 3.51x from 3.27x at year-end, 2012. The ratio of funds from operations (FFO) to interest expenses increased from 2.36x at year-end, 2012 to 2.66x at year-end, 2013.

As return on equity is calculated on return, embedded derivatives and unrealised foreign exchange differences can have a considerable effect on the results. The return on equity was 3.3% in the year 2012 but negative by 2.3% in the year 2013.

### Interest coverage and net liabilities / EBITDA



### **Download documents**

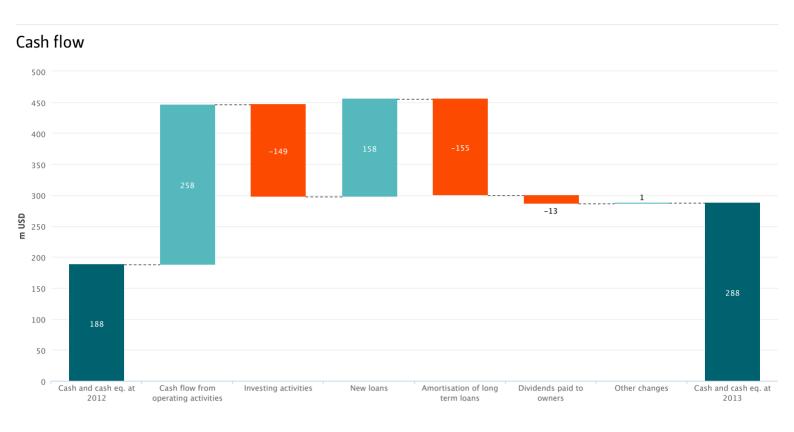
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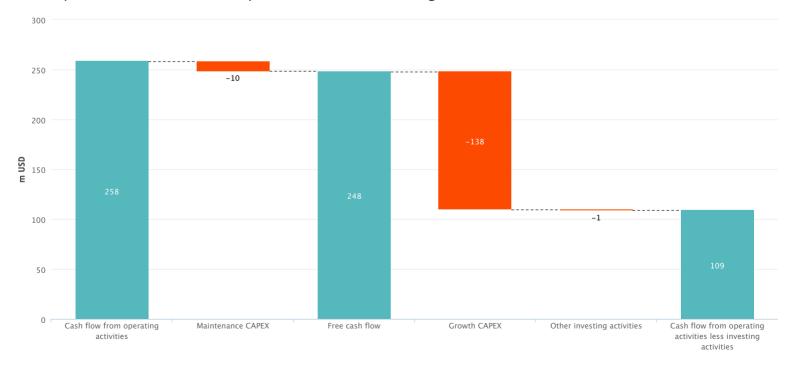


### Cash flow statement

The Group's cash and cash equivalents increased by USD 100.1 million in 2013 and amounted to USD 288.0 million at year—end. The development is presented in the following chart. Cash flow from the Group's operations amounted to USD 258.5 million, which is the second best result in the Company's history. Investing activities increased between years and amounted to USD 149.5 million, whereof the project at Budarhals Hydropower Station weighs the most. Amortisation of loans and currency swaps in excess of borrowings amounted to USD 0.8 million and dividends paid amounted to USD 12.8 million for the operating year 2012.



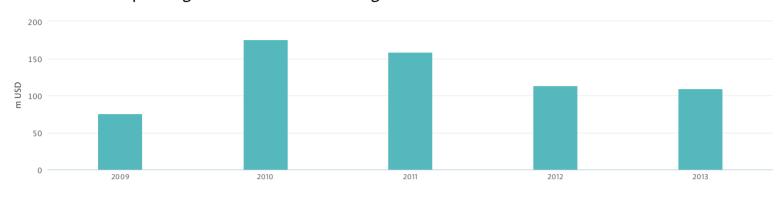
### Development in cash and cash equivalents before financing activites



Investing activities amounted to USD 149.5 million but only USD 10 million are due to maintenance investment related to the Company's power stations and transmission system. Free cash flow therefore amounted to USD 248 million. The Company can utilise free cash flow for new investments, which amounted to USD 138 million, amortisation of debt or dividend payment to owners. Cash and cash equivalents before financing activities therefore amounted to USD 109 million.

Cash flow from operating activities has sustained investments in the last years, i.e. after taking into account investments the remaining cash flow from operation has been positive. Landsvirkjun has therefore been able to decrease its net debt in the last years.

### Cash flow from operating activities before financing activities



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### Risk management

The objectives of risk management are to analyse, manage, and monitor Landsvirkjun's risks in order to stabilise operating return by reducing operating fluctuations. Financial risk is divided into market risk, liquidity risk and counterparty risk. The Company's market risk consists mainly of three risk categories: aluminium price risk, interest rate risk and foreign exchange risk.

#### Aluminium price risk

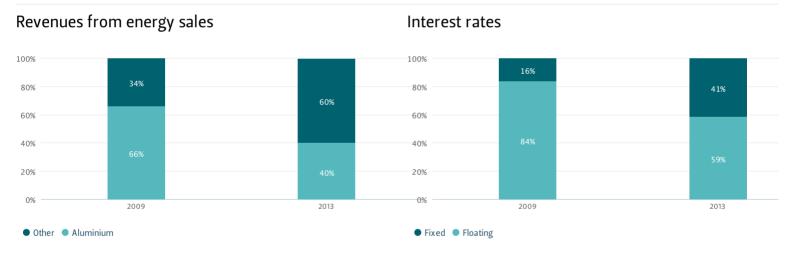
The Company is exposed to substantial risk due to possible aluminium price fluctuations as around 40% of its income is linked to aluminium prices. The Company has therefore entered into derivative agreements in order to secure its income base and reduce fluctuations. Around 50% of the 2014 estimated cash flow and 25% of 2015 estimated cash flow has been hedged.

Aluminium price risk has reduced significantly since 2009, the proportion of revenue linked to the price of aluminium has decreased from 66% to 40%.

#### Interest rate risk

Landsvirkjun is exposed to interest rate risk as the Company has interest bearing assets and liabilities. The Company's liabilities carry both fixed and floating interest rates and interest rate derivatives are used in order to hedge against interest rate risk. Interest bearing financial liabilities are higher than interest bearing financial assets and the Company's risk therefore consists of a possible increase in interests and increased interest expenses. At year-end 2013, the proportion of loans with floating interest rates was 59% compared to 64% at year-end 2012.

In the past years, interest rate risk has decreased significantly as the proportion of fixed interests has increased from 16% to 41% in the years 2009 to 2013.

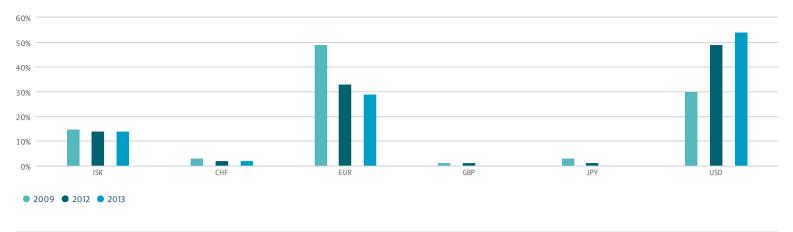


### Foreign exchange risk

Foreign currency risk is the risk of loss due to unfavourable changes in foreign exchange rates. Landsvirkjun's foreign exchange risk is due to payment flow, assets and liabilities in addition to all general transactions in other currencies than the functional currency. The Company's functional currency is the USD and therefore a foreign exchange risk arises from cash flow and open balance in currencies other than the USD.

Landsvirkjun aims to reduce the foreign exchange risk by increasing the weight of USD in the Company's loan portfolio. In the past two years, Landsvirkjun has been systematically reducing foreign exchange risk and has for that purpose entered into agreements to change the terms of loans from EUR to USD, in the amount of EUR 190 million. Since 2009, the USD proportion in the loan portfolio has increased from 30% to 54%.

#### Interest bearing long-term debt



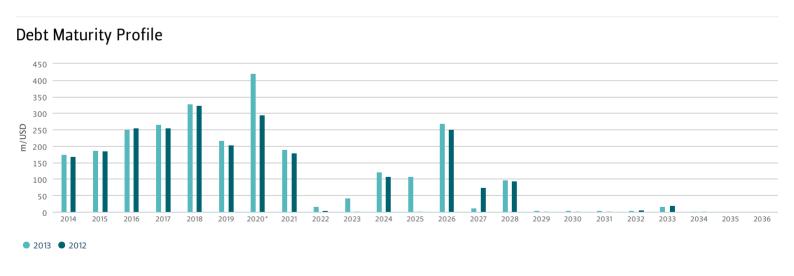
The Company's income flow is mainly in USD. Other income is in ISK and NOK but foreign exchange risk due to those currencies is limited, due to netting in the cash flow in ISK and income in NOK is relatively low. Currency risk due to amortisation and interest payments in EUR over the next years has been limited with derivative agreements.

#### Liquidity risk

Liquidity risk consists of risk of losses should the Company not be able to meet its obligations at maturity date. The Company limits liquidity risk with effective liquidity management by ensuring that there is sufficient cash flow at each time in order to be able to meet with the Company's obligations. In order to limit such risk, the Company's liquidity balance is monitored and emphasis is placed on having a sufficient cash position and access to Revolving Credit Facilities.

In order to ensure access to capital and maintain flexible funding possibilities, Landsvirkjun has used different types of funding. In past years, financing has mostly been facilitated via a Euro Medium Term Note Programme (EMTN). At yearend, the balance of loans under the EMTN was USD 1.82 billion but the total amount that the Company can borrow under the programme is USD 2.5 billion.

In the year 2013, Landsvirkjun signed a new EMTN framework agreement on international bond issue, without state guarantee. The total amount of the framework agreement is USD 1 billion. At year-end, the balance of loans under the EMTN without state guarantee was around USD 30 million.



The Company's risk related to refinancing is reduced with a well distributed maturity profile and long terms of outstanding loans. The weighted average life of the loan portfolio was 6.3 years and the proportion of loans with maturity within 12 months was 6.5%.

In the year 2013, an agreement was reached with the holder of a bond to abolish a provision which granted the holder the annual right to call in the bond. Landsvirkjun had up until then defined the bond as short –term loans, due to the provision but following the change it will be recognised among long term debt. The bond amounts to EUR 50 million and final maturity is in March 2020.

The Company's cash and cash equivalents amounted to USD 288 million at year-end, 2013 but when taken into account undrawn credit facilities (USD 200 million and ISK 10,500 million) and undrawn long-term loans in the amount of USD 10.7 million the Company has access to a total of USD 590 million. Takeing into consideration cash flow from operation the Company believes that access to liquid assets is ensured until year-end, 2015.

#### Counterparty risk

Counterparty risk is the risk that a counterparty to an agreement does not comply with provisions of the agreement. Landsvirkjun's counterparty risk arises first and foremost due to the Company's energy contracts and derivatives entered into for hedging purposes. Though the amounts involved are considerably high, the risk is limited with the Company's requirements for counterparty quality. Landsvirkjun has set a benchmark for derivatives which involves that no derivative agreements are made with financial companies that have a lower rating than A-from Standard and Poor's or a comparable rating from other recognised credit rating agencies. Before energy contracts are made the financial standing of the relevant companies and their parent companies are thoroughly reviewed, if applicable.

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Group

**Consolidated Financial Statements 2013** 

Landsvirkjun Háaleitisbraut 68 103 Reykjavík

ld.no. 420269-1299

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# **Key figures**

### Management's presentation of the operation of Landsvirkjun

<b>Amounts are</b>	in USD	thousand
--------------------	--------	----------

Amounts are in OSD thousand	2012	2012	2011	2010	2000
Operation	2013	2012	2011	2010	2009
Operation Operating revenues	407,676	200 400	410 700	383,991	200 700
Realised aluminium hedges	15,228	389,499 18,325	419,708 16,488	( 6,342)	299,788 42,526
Total operating revenues		407,824	436,196	377,649	342,314
Operating expenses	( 93,768)		90,993)		( 70,655)
EBITDA		321,336	345,203	298,085	271,659
Depreciation and impairment loss			108,200)	-	( 114,321)
EBIT		209,048	237,003	190,827	157,338
Financial items	( 86,988)	· ·	126,877)	-	( 96,102)
Associated companies	( 2,647)		4,014)	( 1,581)	( 11,193)
Profit before unrealised financial items		103,726	106,112	89,971	50,043
Unrealised financial items:					
Fair value changes in embedded derivatives	( 174,641)	( 3,391) (	93,197)	( 55,583)	253,304
Fair value changes in other derivatives	5,014	13,653	6,959	( 39,438)	
Unrealised foreign exchange difference	•		22,711	87,619	( 39,752)
	( 186,285)		63,527)		159,897
	, , ,	( 2,113) (	03,327,	( ,,.02)	133,037
Profit (loss) before income tax	. ( 64,454)	101,313	42,585	82,569	209,940
Income tax	25,913	( 45,995) (	16,135)	( 9,653)	( 16,944)
Profit (loss)	( 38,541)	55,318	26,450	72,916	192,996
Balance sheet					
Total assets	4,568,965	4,518,534	4,635,989	4,850,037	4,807,970
Equity	1,658,134	1,697,152	1,661,312	1,644,322	1,564,487
Liabilities	2,910,831	2,821,382	2,974,677	3,205,715	3,243,483
Net liabilities *	2,429,176	2,435,571	2,502,873	2,673,966	2,823,872
Cash flow					
Funds from operations (FFO)	257,704	241,584	255,592	218,582	202,142
Cash flow from operating activities	258,485	236,178	267,172	229,595	197,023
Investing activities	( 149,455)	( 122,979) (	107,689)	( 53,517)	( 120,533)
Financing activities	( 12,893)	( 151,670) (	185,328)	( 106,294)	( 4,572)
Liquidity					
Cash and cash equivalents at year end	287,987	187,916	229,942	265,532	194,248
Undrawn loans	301,947	409,979	415,767	307,676	281,600
Total liquidity	589,934	597,895	645,709	573,208	475,848
Key ratios					
Return on equity	(2.3%)	3.3%	1.6%	4.7%	14.0%
Equity ratio	36.3%	37.6%	35.8%	33.9%	32.5%
Interest cover (EBITDA/net interest expenses)	3.51x	3.27x	3.06x	3.68x	3.14x
FFO / net liabilities	10.6%	9.9%	10.2%	8.2%	7.2%
FFO / interest expenses	2.66x	2.36x	2.19x	2.58x	2.19x
Net liabilities / EBITDA	7.38x	7.58x	7.25x	8.97x	10.39x
Credit rating at year end	_				_
Standard & Poor's	ВВ	ВВ	BB	BB+	BB
Moody's	Baa3	Baa3	Baa3	Baa3	Baa3

<sup>\*</sup> Net liabilities are interest bearing long-term liabilities less cash and restricted deposits.

# Quarterly statement 2013

Management's presentation of the operation of Landsvirkjun, contd.

	Q1	Q2	Q3	Q4	Total
Operating revenues					
Power sales	91,104	81,618	81,642	92,116	346,480
Realised aluminium hedges	3,106	4,341	3,792	3,989	15,228
Transmission	12,150	12,546	12,723	19,112	56,531
Other income	697	1,151	1,028	1,789	4,665
	107,057	99,656	99,185	117,006	422,904
Operating expenses					
Energy production costs	7,660	8,679	8,489	9,514	34,342
Transmission costs	3,410	4,761	4,209	8,091	20,471
Cost of general research	1,495	1,601	1,808	2,041	6,945
Other operating expenses	•	•	=	-	-
Depreciation and impairment loss	7,191	6,663	6,688	11,468	32,010
Depreciation and impairment loss	25,871	34,732	26,209	30,858	117,670
	45,627	56,436	47,403	61,972	211,438
Operating profit	61,430	43,220	51,782	55,034	211,466
Financial income and (expenses)					
Interest income	1,381	568	540	542	3,031
Interest expenses	•	21,020) (	23,041) (	25,789) (	96,760)
Realised foreign exchange difference	3,521	6,692 (	2,403) (	1,069)	6,741
	( 22,008) (	13,760) (	24,904) (	26,316) (	86,988)
Associated companies	( 1,969)	160 (	223) (	615) (	2,647)
·		100 (	223) (	013) (	2,047
Profit before income tax and unrealised items	37,453	29,620	26,655	28,103	121,831
Unrealised financial items:					
Fair value changes in embedded derivatives	( 114,681) (	54,778)	45,522 (	50,704) (	174,641)
Fair value changes in other derivatives		6,362	464	3,986	5,014
Unrealised foreign exchange difference		17,839) (	22,823) (	10,345) (	16,658)
	( 86,130) (	66,255)	23,163 (	57,063) (	186,285)
Profit (loss) before income tax	, , ,	36,635)	49,818 (	28,960) (	64,454)
Income tax	18,132	14,957 (	17,119)	9,943	25,913
Profit (loss)	( 30,545) (	21,678)	32,699 (	19,017) (	38,541)
Attributable to:					
Owners of the parent company	( 32,399) (	24,059)	30,771 (	19,157) (	44,844)
Subsidiaries minority interest	1,854	2,381	1,928	140	6,303
	( 30,545) (	21,678)	32,699 (	19,017) (	38,541)
- 10	· · · · · · · · · · · · · · · · · · ·		<del></del>		· · · · · · · · · · · · · · · · · · ·
From cash flow	74.005	-0 - 4 -		66.440	250 405
Cash flow from operating activities	74,885	59,545	57,606	66,449	258,485
Other key metrics for Landsvirkjun (parent company)	2013	2012	2011	2010	2009
Installed power at year end (MW)	1,862	1,860	1,860	1,860	1,860
Average price for industrial users (incl. transm.) USD/MWh	25.8	26.2	28.7	25.7	19.5
Average price for retail sales comp.(excl. transm.) ISK/kWh.	4.0	3.9	3.6	3.4	3.2
Sales in Gwh	13,186	12,770	12,778	12,926	12,546
Research and development	26,799	32,514	17,203	19,575	23,601
Accident frequency: H200*	0.7	0.0	0.4	1.4	1.1
	0.7	0.0	0.4	1.7	1.1

 $<sup>\</sup>ensuremath{^{*}}$  H200 is the number of absence accidents per each 200,000 working hours.

## Endorsement by the Board of Directors and CEO

Landsvirkjun's objective is to operate in the energy sector and to engage in other business and financial operations according to the decision of the Board of Directors at each time. The Company's consolidated financial statements include, in addition to the parent company, four subsidiaries, Landsnet hf., Orkufjarskipti hf., Icelandic Power Insurance Ltd. and Landsvirkjun Power ehf., in addition to two subsidiaries of Landsvirkjun Power ehf.

The financial statements of Landsvirkjun for the year 2013 are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU. The functional currency of the Company is USD and amounts in the financial statements are rounded to the nearest thousand USD.

The Group's operating income amounted to USD 422.9 million in the year 2013 compared to USD 407.8 million in the previous year. Income thus increased by USD 15.1 million. The increase is mainly explained by the increase in sold volume and higher transmission income. Revenue recognition due to realised aluminium hedges amounted to USD 15.2 million in the year 2013 compared to USD 18.3 million in the previous year. Operating expenses amounted to USD 211.4 million in the year 2013 compared to USD 198.8 million in the year 2012. The Company's operating profit thus amounted to USD 211.5 million in the year 2013 compared to USD 209.0 million in the previous year.

Financial expenses in excess of financial income amounted to USD 273.3 million in the year 2013, compared to USD 105.5 million the previous year. The change between years amounts to USD 167.8 million. The main reason for this difference between years is fair value changes in embedded derivatives. Fair value changes in derivative financial instruments are mostly unrealised, which must be kept in mind in the evaluation of the Company's results for the year. Profit before unrealised financial items amounted to USD 121.8 million during the year compared to USD 103.7 million in the year 2012. According to the income statement the loss of the year amounted to USD 38.5 million compared to a profit of USD 55.3 million in the previous year.

Landsvirkjun has entered into derivative agreements in order to manage risk. Agreements have been made due to interest rate risk and foreign currency risk. In addition, derivative agreements have been made in order to hedge risk due to fluctuations of aluminium prices in the global market as a part of revenues is based thereon. Positive fair value of aluminium hedges, which ensure the Company's revenue, amounted to USD 10.0 million at year end 2013. Fair value of currency and interest rate swap derivative agreements at year end 2013 was negative by USD 28.0 million. Fair value of embedded derivatives in Landsvirkjun's electric power sales agreements with aluminium companies after deducting the fair value of embedded derivatives in electric power purchase agreements is positive and the fair value is measured at USD 96.2 million at year end 2013.

Equity at year end 2013 amounted to USD 1,658.1 million compared to USD 1,697.2 million at year end 2012 according to the balance sheet and the Company's Board of Directors proposes that the loss of the year be recognised as a decrease in equity. The Company's Board of Directors will during the Annual General Meeting propose a dividend payment to the owners of the company but otherwise refer to the notes to the financial statements and statement of equity for further changes in equity. Landsvirkjun is a partnership owned by the State and Eignarhlutir ehf. The State owns 99.9% in the Company and Eignarhlutir ehf. 0.1%.

The financial position of the Company is acceptable and its liquidity position solid due to a cash balance and undrawn loans. Cash and cash equivalents at year end amounted to USD 288.0 million and undrawn Revolving Credit Facilities to USD 291.3 million. Furthermore, undrawn long-term loans amount to USD 10.7 million. Liquid assets amounted thus to USD 590.0 million at year end. Cash flow from operations amounted to USD 258.5 million. Landsvirkjun borrowed USD 158.1 million in the year and paid down debt and currency swaps by USD 158.9 million. Cash and cash equivalents increased by USD 100.1 million during the year. It is the evaluation of the management of Landsvirkjun that access to liquid assets is ensured until year end 2015. The construction of Budarhals power plant is on schedule and the power station will be taken into operation in the year 2014.

## Endorsement by the Board of Directors and CEO, contd.:

#### **Corporate Governance**

The Board of Directors of Landsvirkjun endeavours to maintain good corporate governance having regard to the Guidelines on Corporate Governance issued by the Iceland Chamber of Commerce in collaboration with the Confederation of Icelandic Employers and Nasdaq OMX Iceland. The Board of Directors has laid down comprehensive guidelines wherein the competences of the Board is defined and its scope of work vis-à-vis the CEO. The Board of Directors has appointed an Audit Committee. In the year 2013, 13 Board meetings were held and 4 meetings in the Audit Committee. Meetings have been attended by the majority of the Board of Directors and the majority of the Audit Committee. Landsnet hf. has disclosed information on corporate governance in an appendix in its financial statements. Further information on the parent company's corporate governance is included in notes 28 to 37 and appendix to the financial statements.

#### Statement by the Board of Directors and the CEO

According to the best knowledge of the Board of Directors' and the CEO, the financial statements are in accordance with International Financial Reporting Standards as adopted by the EU and it is the opinion of the Board of Directors and the CEO that the financial statements give a fair view of the Company's assets, liabilities and financial position as at 31 December, 2013 and the Company's results and changes in cash in the year 2013.

Furthermore, it is the opinion of the Board of Directors and the CEO that the financial statements and the Endorsement by the Board of Directors for the year 2013 give a fair view of the Company's results, financial position and development and describe the main risk factors faced by the Company.

The Board of Directors and the CEO hereby confirm these consolidated financial statements with their signature.

Reykjavik, 21 February 2014.

The Board of Directors:
Bryndís Hlödversdóttir
Sigurbjörg Gísladóttir
Arnar Bjarnason
Ingimundur Sigurpálsson
Stefán Arnórsson

The CEO: Hördur Arnarson

## **Independent Auditor's Report**

To the Board of Directors and owners of Landsvirkjun

We have audited the accompanying financial statements of Landsvirkjun, which comprise the balance sheet as at 31 December, 2013, and the income statement, statement of comprehensive income, statement of changes in equity and cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory notes.

#### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards as adopted by the EU. This responsibility includes: designing, implementing, and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatements, whether due to fraud or error.

#### **Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Auditing Standards. Those standards require that we comply with relevant ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting principles used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Opinion**

In our opinion, the financial statements give a true and fair view of the financial position of Landsvirkjun as at 31 December, 2013, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the EU.

#### Confirmation of the Endorsement by the Board of Directors and the CEO

In accordance with provisions of Paragraph 2 of Article 104 of Act no. 3/2006 on financial statements, we confirm according to our best knowledge that the Endorsement by the Board of Directors and the CEO accompanying these financial statements include the information that according to the Financial Statements Act shall be provided and are not stated in the notes to the financial statements.

Reykjavik, 21 February 2014.

### KPMG ehf.

Árni Claessen Auður Þórisdóttir

# Income Statement for 2013

	Notes		2013	2012
Operating revenues			246 400	220.242
Power sales  Realised aluminium hedges			346,480	338,242
Transmission			15,228 56,531	18,325 44,357
Other income			4,665	6,900
Other meonie			422,904	407,824
			422,304	407,024
Operating expenses				
Energy production costs			116,936	115,770
Transmission costs			39,850	41,244
Cost of general research			19,007	13,941
Other operating expenses			35,645	27,821
			211,438	198,776
Operating profit	3		211,466	209,048
Financial income and (financial expenses)				
Interest income			3,031	4,014
Interest expenses		1	96,760) (	102,269)
Foreign exchange difference		(	9,917) (	17,513)
Fair value changes in embedded derivatives	30	(	174,641) (	3,391)
Fair value changes in other derivatives	30	'	5,014	13,653
Tuli value changes in other derivatives	6	1	273,273) (	105,506)
	Ü		273,273	103,3007
Associated companies	13	(	2,647) (	2,229)
Profit (loss) before income tax		(	64,454)	101,313
Income tax	7		25.012 /	4E 00E)
income tax	7		25,913 (	45,995)
Net profit (loss) for the year		(	38,541)	55,318
		<u>`</u>		,-
Attributable to:				
Owners of the parent company		(	44,844)	53,057
Subsidiaries minority interest			6,303	2,261
		(	38,541)	55,318

# Statement of Comprehensive Income for the year 2013

		2013	2012
Profit (loss) for the year	(	38,541)	55,318
Operating items moved to equity:			
Translation difference due to subsidiaries and associated companies		13,432 (	4,145)
Pension obligation after income tax, change	(	1,088) (	1,112)
Total operating items moved to equity		12,344 (	5,257)
Total comprehensive income (loss) for the year	(	26,197)	50,061
(, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,			
Profit (loss) attributable to:			
Owners of the parent company	(	37,230)	49,631
Subsidiaries minority interest		11,033	430
	(	26,197)	50,061

# Balance Sheet as at 31 December 2013

Assets	Notes	2013	2012
Non-current assets			
Property, plant and equipment	8	3,495,611	3,476,284
Projects under construction	9	221,820	151,509
Intangible assets	10	239,038	233,563
Derivative financial instruments	12	112,451	270,076
Associated companies	13	20,717	20,103
Other non-current assets	14	3,610	3,224
Deferred tax asset	7	89,536	56,218
Total non-current assets		4,182,783	4,210,977
Current assets			
Inventories	16	4,827	4,186
Accounts receivables and other receivables	17	67,630	72,896
Derivative financial instruments	12	25,738	41,591
Restricted deposits		0	968
Cash and cash equivalents	18	287,987	187,916
Total current assets	10	386,182	307,557
Total assets		4,568,965	4,518,534
Total assets		4,300,303	4,510,554
Equity and liabilities			
Equity			
Owners' contributions	19	586,512	586,512
Revaluation account	20	94,898	98,281
Translation difference	20	( 28,531) (	
Other equity		957,845	1,013,216
Equity of the owners of the parent company		1,610,724	1,660,776
Minority interest		47,410	36,376
Total equity	:	1,658,134	1,697,152
Long-term liabilities			
Interest bearing liabilities	21	2,541,806	2,416,004
Accrued pension liabilities	23	27,007	23,228
Deferred income tax liability	7	21,076	14,550
Obligation due to demolition	24	6,739	5,704
Prepaid income		3,210	2,336
Derivative financial instruments	12	50,029	60,232
		2,649,867	2,522,054
Current liabilities			
Accounts payable and other payables	25	75,701	71,845
Interest bearing liabilities	22	175,357	208,451
Derivative financial instruments	12	9,906	19,032
		260,964	299,328
	•		
Total liabilities		2,910,831	2,821,382
Total equity and liabilities		4,568,965	4,518,534

# Statement of Equity for the year 2013

					Equity attrib- utable to the		
	Owners'	Revaluation	Translation	Other	owners of the	Minority	Total
	ontribution	account	difference	equity	parent company	interest	equity
Changes in equity year 201	2						
Equity at 1 January, 2012	586,512	101,983	(34,919)	971,791	1,625,367	35,945	1,661,312
Translation difference			(2,314)		(2,314)	(1,831)	(4,145)
Pension obligation, change				(1,112)	(1,112)		(1,112)
Profit for the year		_		53,057	53,057	2,261	55,318
Total profit for the year			(2,314)	51,945	49,631	430	50,061
Revaluation transferred							
to other equity		(3,702)		3,702	0	0	0
Dividend paid to owners				(14,221)	(14,221)	0	(14,221)
Equity at 31 December							
2012	586,512	98,281	(37,233)	1,013,216	1,660,776	36,376	1,697,152
Changes in equity year 201							
Equity at 1 January, 2013	586,512	98,281	(37,233)	1,013,216	1,660,776	36,376	1,697,152
Translation difference			8,702		8,702	4,730	13,432
Pension obligation, change				(1,088)	(1,088)		(1,088)
Loss for the year		<u>-</u>		(44,844)	(44,844)	6,303	(38,541)
Total loss for the year			8,702	(45,932)	(37,230)	11,033	(26,197)
Revaluation transferred							
to other equity		(3,383)		3,383	0	0	0
Dividend paid to owners				(12,822)	(12,822)	0	(12,822)
Equity at 31 December							
2013	586,512	94,898	(28,531)	957,845	1,610,724	47,410	1,658,134

# Statement of Cash Flow for 2013

	Notes		2013		2012
Operating activities					
Operating profit			211,466		209,048
Adjustments for:			447.670		442 200
Depreciation and impairment loss		,	117,670	,	112,288
Pension obligation, change		(	748)	(	629)
Obligation due to demolition, change			334		306
Other changes			466		1,359
Working capital from operation before financial items			329,188		322,372
Operating assets and liabilities, change			975	(	1,605)
Cash flow from operating activities before financial items			330,163		320,767
Interest income received			2,183		4,629
Interest expenses and foreign exchange difference paid		(	73,757)	(	89,150)
Taxes paid		(	104)	(	68)
Cash flow from operating activities	27		258,485		236,178
Investing activities					
Hydropower stations in operation		(	4,719)	(	7,217)
Hydropower stations in construction		(	74,680)	(	68,131)
Transmission		(	49,417)	(	16,005)
Development costs for power plants		(	19,777)	(	29,687)
Purchased shares			0	(	1,740)
Dividend received from associated company			0		12
Other capital expenditure		(	8,354)	(	10,684)
Assets sold		-	2,188	-	2,090
Unpaid construction cost, change		(	861)		2,432
Other receivables, change		·	6,165		5,951
Investing activities		(	149,455)	(	122,979)
· ·				•	<u> </u>
Financing activities					
Dividend paid to owners		(	12,822)	(	14,221)
New loans		`	158,105	•	16,640
Amortisation of long-term debt		(	155,299)	(	155,516)
Currency swaps		ì	3,601)	`	0
Prepaid income, change		`	724		1,427
Financing activities		1	12,893)	(	151,670)
Time to the control of the control o			12,000,	`	202,0:07
Change in cash and cash equivalents			96,137	(	38,471)
Effect of exchange difference on cash and cash equivalents			3,934	(	3,555)
Cash and cash equivalents at the beginning of the year			187,916		229,942
			·		<del> </del>
Cash and cash equivalents at end of year			287,987		187,916

## **Notes**

#### **Reporting entity**

#### 1. Landsvirkjun

Landsvirkjun is a partnership having its place of business in Iceland and its headquarters at Háaleitisbraut 68, Reykjavik. Landsvirkjun operates on the basis of the Act on Landsvirkjun no. 42/1983. The Company's main objective is to engage in operations in the energy sector. The financial statements include the consolidated financial statements of the Company and its subsidiaries (referred to as "the Group") and the share in the return of associated companies.

#### 2. Basis of preparation

### a. Statement of compliance

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the EU.

The Company's Board of Directors approved the financial statements on 21 February 2014.

Note no. 40 includes information on the Group's accounting policies and changes therein in the year.

#### b. Basis of measurement

The financial statements have been prepared on the historical cost basis except for the following assets and liabilities, which have been measured at fair value: derivative financial instruments, trading financial assets and shares in other companies. Asset groups available for sale are recognised at the lower value of either the book value or the net fair value. Fixed operating assets of the subsidiaries, Landsnet hf. and Orkufjarskipti hf. are recognised at revalued cost value.

### c. Presentation and functional currency

The financial statements are presented in USD, which is the parent Company's functional currency. All financial information presented in USD has been rounded to the nearest thousand, unless otherwise stated.

### d. Use of estimates and judgements

The preparation of financial statements in conformity with the IFRS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised and the effect of the changes are entered in the periods that the changes are made and in subsequent periods if the change also affects those periods.

Information on the management's estimates and decisions made in relation to the application of accounting methods that significantly affect the financial statements are presented in the following notes:

- notes 8 and 49 property, plant and equipment
- notes 10 and 50 intangible assets
- notes 12, 28, 30, 31, 32 derivative financial instruments
- notes 7 and 48 income tax
- note 23 accrued pension liabilities
- note 30 aluminium price risk

#### 2. Basis of preparation, contd.:

#### e. Determination of fair value

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities.

To the extent possible the Group uses market information in determining fair values but if such information is not available management's evaluation is used.

For derivatives, other than embedded derivatives, counterparty information is used to measure fair values. Then risk management assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of IFRS, including the level in the fair value hierarchy in which such valuations should be classified.

Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

- Level 1: quoted prices in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- · Level 3: inputs for the asset or liability that are not based on observable market data.

If the inputs used to measure the fair value of an asset or a liability might be categorised in different levels of the fair value hierarchy, then the fair value measurement is categorised in the lowest level.

If the categorisation of fair value during the accounting period changes it is transferred between levels at the end of the period.

Further information about the assumptions made in measuring fair values is included in the following notes:

- note 30 embedded derivatives
- note 12 other derivatives
- note 49 property, plant and equipment
- note 35 long-term loans

#### 3. Statement of segments

Segment information is presented according to the nature of the operation and is based on the Group's organisation and internal disclosure.

Landsvirkjun Group's operating segments are specified as follows:

#### **Electricity production**

The operations of the parent company fall under the segment electricity production but Landsvirkjun's objectives according to law is to operate in the energy sector and operate other business and financial operations according to the decision of the Board of Directors at each time. Landsvirkjun's electricity production is based on hydroelectric power and geothermal heat. Landsvirkjun sells all its electricity production in Iceland, on the one hand to retail sales companies, and on the other, to industrial users. Furthermore, the operation of Icelandic Power Insurance Ltd. falls under this segment. The purpose of Icelandic Power Insurance Ltd. is to take care of the insurances of Landsvirkjun's power stations.

#### **Electricity transmission**

The operations of Landsnet hf. fall under the segment electricity transmission, but the company was established in August 2004 on the basis of the Energy Act approved by the Parliament in spring 2003. The purpose of Landsnet hf. is to operate electricity transmission and system management in Iceland according to provisions of Chapter III of the Energy Act no. 65/2003 and may thus not carry out other operations than are necessary in order to fulfill its obligations according to the Energy Act.

### 3. Statement of segments, contd.:

### Other segments

Other segments include the operation of the companies Orkufjarskipti hf. and Landsvirkjun Power ehf. together with Landsvirkjun Power ehf.'s subsidiaries. The purpose of Orkufjarskipti hf. is to own and operate a telecommunications system throughout the country and to rent access thereto. Landsvirkjun Power ehf. takes care of sales of technical and operational advisory services to third parties and general research work, harnessing researches and projects for Landsvirkjun and related companies.

Almost all the operations of the Group are based in Iceland.

	Electricity	Electricity	Other	Adjustments	
Operating segments year 2013	production	transmission	segments		Total
Income from third party	362,940	56,954	3,010	0	422,904
Income within the Group	12,729	56,556	3,386	( 72,671)	0
Segment income	375,669	113,510	6,396	( 72,671)	422,904
Segment operating expenses	( 123,157)	( 38,818)	( 4,464)	72,671 (	93,768)
EBITDA	252,512	74,692	1,932	0	329,136
Depreciation and impairment loss	( 95,829)	( 21,293)	( 990)	442 (	117,670)
Segment earnings, EBIT	156,683	53,399	942	442	211,466
Segment assets 2013	4,386,118	668,862	19,354	( 526,085)	4,548,248
Associated companies	20,224	5,815	492	( 5,815)	20,717
Total assets 2013	4,406,342	674,677	19,846	( 531,900)	4,568,965
10tal assets 2013	4,400,342	074,077	13,040	( 331,300)	4,300,303
Segment liabilities 2013	2,769,722	540,397	4,743	( 404,031)	2,910,831
Total liabilities 2013	2,769,722	540,397	4,743	( 404,031)	2,910,831
Investing activities	104,081	52,448	1,280	0	157,809
Operating segments year 2012					
Income from third party	359,608	44,483	3,733	0	407,824
Income within the Group	9,676	54,234	2,932	( 66,842)	0
Segment income	369,284	98,717	6,665	( 66,842)	407,824
Segment operating expenses	( 111,652)	( 36,862)	( 4,816)	66,842 (	86,488)
EBITDA	257,632	61,855	1,849	0	321,336
Depreciation and impairment loss	( 92,004)	( 19,732)	( 944)	392 (	112,288)
Segment earnings, EBIT	165,628	42,123	905	392	209,048
Segment assets 2012	4,348,535	576,581	16,392	( 443,076)	4,498,431
Associated companies	19,734	5,001	368	( 5,001)	20,103
Total assets 2012	4,368,269	581,582	16,760	( 448,077)	4,518,534
<del>-</del>	, ,	, , , , ,			,,
Segment liabilities 2012	2,683,744	478,562	3,788	( 344,712)	2,821,382
Total liabilities 2012	2,683,744	478,562	3,788	( 344,712)	2,821,382
_		•			
Investing activities	109,104	18,357	1,832	0	129,293
Total number of employees					
	a fallows:			2013	2012
Total number of employees is specified as	s ioliows:			2013	2012
Average number of employees during the	year, full-time	eguivalents		430	414
Full-time equivalent units at year-end	-	-		381	361
,				301	301

4.

5.	Total salaries of employees		
	Total salaries of employees are specified as follows:	2013	2012
	Salaries	33,791	30,087
	Pension premium payments	4,134	3,619
	Defined pension benefit payments	1,397	1,415
	Other change in pension obligation		629)
	Other salary related expenses	3,647	3,219
		42,221	37,711
	Salaries are divided as follows in the income statement:		
	Energy production costs	12,781	11,753
	Transmission costs	8,970	8,176
	Other operating expenses	20,470	17,782
		42,221	37,711
	Salaries of the Board of Directors, CEO, Deputy and Executive Directors are specified a	as follows:	
	Salaries of the Board of Directors of the parent company	95	84
	Salaries of Boards of Directors of two subsidiaries (same as in 2012)	82	75
	Salaries and benefits of the CEO of the parent company, Hördur Arnarson	168	140
	Salaries of fives Directors and the Deputy (same as in 2012)	991	948
	Salaries and benefits of the CEO and three Man. Dir. of subsid. (same as in 2012)	552	467

The Director of the Marketing and Business Development Division resigned at the beginning of the year 2013 and another person was hired to fill that position later in the year.

### 6. Financial income and (expenses)

Financial income and (expenses) are specified as follows:

Interest income		3,031	4,014
Interest expenses Guarantee fee Indexation Capitalised interest costs Total interest expenses	(	78,826) ( 12,422) ( 13,793) ( 8,281 96,760) (	78,338) 9,587) 18,531) 4,187 102,269)
Realised foreign exchange difference		6,741 ( 16,658) ( 9,917) (	4,838) 12,675) 17,513)
Fair value changes in embedded derivatives	(	174,641) (	3,391)
Fair value changes in other derivatives		5,014	13,653
Financial income and (expenses)	(	273,273) (	105,506)

Capitalised finance cost amounted to 3.5% of restricted cash in hydropower stations in construction in the year 2013 (2012: 3.5%) and 7.0% of restricted cash in transmission under construction (2012: 7.6%).

Income tax					
Income tax is specified as follows:				2013	201
Change in income tax asset / liability				26,792 (	45,48
Current tax			(	37) (	13
Income tax due to pension liability recognised among con	mprehensive in	come	(	612) (	62
Foreign exchange difference			(	230)	11
Adjustment due to previous year with subsidiary				0	12
Income tax recognised as income (expensed)				25,913 (	45,99
Effective tax rate		2013			20:
Profit (loss) for the year		( 38,541)			55,31
Income tax for the year		( 25,913)			45,99
Profit (loss) before income tax	- -	( 64,454)	<del>-</del> -		101,31
Income tax acc. to the parent company's curr. tax rate	36.0%	( 23,203)		36.0%	36,47
Effect of different tax rates within the Group	6.2%	( 4,002)		(3.5%) (	3,49
Effect of merger of subsidiary with parent company	(0.2%)	97		12.2%	12,19
Non-deductible items	(0.6%)	358		0.2%	15
Other items	(1.3%)	837		0.7%	66
Effective income tax	40.2%	( 25,913)		45.6%	45,99
Income tax due to items recognised among other compre as follows:	ehensive incom	e is specified		2013	20
			,		
Income tax due to pension liability recognised among cor	•		(	612) (	62
	•		•	612)( <sup>F</sup> erred income t	
Income tax due to pension liability recognised among cor	fied as follows:		Def	, ,	tax liabili
Income tax due to pension liability recognised among cor	fied as follows: Deferred t	ax asset	Def	erred income t	tax liabili <b>20</b>
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci	ified as follows: Deferred t <b>2013</b> 56,218	ax asset <b>2012</b>	Def	ferred income t	tax liabili <b>20</b>
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci Balance at the beginning of the year	ified as follows: Deferred t <b>2013</b> 56,218	ax asset  2012  100,716  0	Def	erred income t <b>2013</b> 14,550) (	tax liabili <b>20</b> 13,56
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci Balance at the beginning of the year Change from asset to liability between years	Deferred t 2013 56,218 ( 20) 32,945	ax asset  2012  100,716  0 ( 35,551)	Def	Ferred income t 2013 14,550) ( 20	tax liabili <b>20</b> 13,56 2,27
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci Balance at the beginning of the year	Deferred t 2013 56,218 ( 20) 32,945	ax asset <b>2012</b> 100,716 0 ( 35,551)	Def	erred income t <b>2013</b> 14,550) ( 20 863	tax liabili <b>20</b> 13,56 2,27 3,94
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci Balance at the beginning of the year	Deferred t 2013 56,218 ( 20) 32,945 ( 1,852)	ax asset  2012  100,716  0 ( 35,551) ( 8,144)	Def	Terred income t <b>2013</b> 14,550) ( 20 863 5,394) (	tax liabil <b>20</b> 13,56 2,27 3,94
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci Balance at the beginning of the year	Deferred to 2013 56,218 ( 20) 32,945 ( 1,852) 2,245 89,536	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803)	Def	ferred income t <b>2013</b> 14,550) ( 20 863 5,394) ( 2,015)	tax liabil <b>20</b> 13,56 2,27 3,94
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specion balance at the beginning of the year	Deferred to 2013 56,218 ( 20) 32,945 ( 1,852) 2,245 89,536	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218	Def	Ferred income t 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (	2,27 3,94 68 14,55
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specified as for Change in the beginning of the year	Deferred to 2013 56,218 ( 20) 32,945 ( 1,852) 2,245 89,536  Illows: 19,289	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218	Def	Ferred income t 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (	20 13,56 2,27 3,94 68 14,55
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specified as the beginning of the year	Deferred to 2013 56,218 ( 20) 32,945 ( 1,852) 2,245 89,536  Illows: 19,289 83,303	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677	Def	Terred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) (	20 13,56 2,27 3,94 68 14,55
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specified at the beginning of the year	Deferred to 2013 56,218 ( 20) 32,945 ( 1,852) 2,245 89,536  Illows: 19,289 83,303 ( 26,883)	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948)	Def	Terred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0	2,27 3,94 68 14,55 6,61 23,54
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specified as the beginning of the year	Deferred to 2013 56,218 ( 20) 32,945 ( 1,852) 2,245 89,536  Illows: 19,289 83,303	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677	Def	Terred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) (	2,27 3,94 68 14,55 6,61 23,54
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specified at the beginning of the year	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536	ax asset  2012  100,716  0 ( 35,551) ( 8,144) ( 803)  56,218  17,618 115,677 ( 87,948) 10,871 56,218	Def	Ferred income t 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) (	2,27 3,94 68 14,55 6,62 23,54 2,38 14,55
Income tax due to pension liability recognised among corchanges in the tax asset / liability during the year is specified as the beginning of the year	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536  ears from where	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	Terred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) (  I is specified as	2,27 3,94 68 14,55 6,63 23,54 2,38 14,55 follows:
Income tax due to pension liability recognised among core Changes in the tax asset / liability during the year is specified as specified as for the degree of the year specified as for the group's deferred tax asset / liability is specified as for the Group's deferred tax asset / liability is specified as for the Group's deferred tax asset / liability is specified as for the Group's deferred tax asset / liability is specified as for the Group's deferred tax asset / liability is specified as for the Group's carry forward losses may be utilised for 10 years of the Group's carry forward losses may be utilised for 10 years forward loss of the year 2008, usable until the year carry forward loss of the year 2008, usable until the year carry forward loss of the year 2008, usable until the year 2008.	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536 ears from where  2018	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	ferred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) ( I is specified as 9,317	2,27 3,94 68 14,55 6,61 23,54 2,38 14,55 follows:
Income tax due to pension liability recognised among core Changes in the tax asset / liability during the year is specified as specified as for the defense of the gear defense of the gear asset / liability between years and interpretation of the gear defense of the gear end of the gear defense of the gear end of the	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536 ears from where  2018	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	ferred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) ( I is specified as 9,317 40,733	2,27 3,94 68 14,55 6,61 23,54 2,38 14,55 follows:
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is speci.  Balance at the beginning of the year	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536  ears from where  2018	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	ferred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) (  I is specified as 9,317 40,733 975	2,27 3,94 68 14,55 6,61 23,54 14,55 follows:
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is specification of the year	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536  ears from where  2018	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	Terred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) (  I is specified as  9,317 40,733 975 958	20, 13,56 2,27 3,94 68 14,55 6,61 23,54 2,38 14,55 follows: 37,78 40,11 87 85
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is specification of the year	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536  ears from where  2018	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	Ferred income t 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) ( I is specified as 9,317 40,733 975 958 9,908	2,27 3,94 68 14,55 6,61 23,54 2,38 14,55 follows:
Income tax due to pension liability recognised among cor Changes in the tax asset / liability during the year is specification of the year	fied as follows:  Deferred t  2013  56,218 ( 20)  32,945 ( 1,852)  2,245  89,536  Illows:  19,289  83,303 ( 26,883)  13,827  89,536 ears from where  2018	ax asset  2012 100,716 0 ( 35,551) ( 8,144) ( 803) 56,218  17,618 115,677 ( 87,948) 10,871 56,218  n it is incurre	Def	Terred income to 2013 14,550) ( 20 863 5,394) ( 2,015) 21,076) (  1,665 25,315) ( 0 2,574 21,076) (  I is specified as  9,317 40,733 975 958	2,27 3,94 68 14,55 6,61 23,54 2,38 14,55 follows:

USD affects carry forward loss at each year end.

future taxable profit. Carry forward loss is recognised in Icelandic krona and, therefore, the exchange rate of the

### 8. Property, plant and equipment

Property, plant and equipment is specified as follows:

	Power		Trans-	(	Communicat.		Other	
Cost value	stations		mission		equipment		assets	Total
Total value at 1.1.2012	4,850,204		553,110		15,470		69,258	5,488,042
Effect of exchange rate changes	0	(	26,020)	(	776)	(	1,280) (	28,076)
Additions during the year	7,217		3,954		1,832		7,534	20,537
Sold and disposed of	0		0	(	40)	(	5,113) (	5,153)
Total value at 31.12.2012	4,857,421		531,044		16,486		70,399	5,475,350
Effect of exchange rate changes	0		66,761		2,031		3,411	72,203
Additions during the year	4,719		5,527		1,050		5,320	16,616
Moved from development costs	4,065		0		0		0	4,065
Moved from transm. under constr	0		49,882		0		0	49,882
Sold and disposed of	0		0		0	(	7,642) (	7,642)
Total value at 31.12.2013	4,866,205		653,214		19,567		71,488	5,610,474
			_		_			
Depreciation and impairment loss								
Total value at 1.1.2012	1,774,348		97,768		3,002		27,286	1,902,404
Effect of exchange rate changes	0	(	5,100)	(	168)	(	315) (	5,583)
Depreciation of the year	82,504		17,732		972		2,591	103,799
Sold and disposed of	0		0		0	(	1,553) (	1,553)
Total value at 31.12.2012	1,856,852		110,400		3,806		28,009	1,999,067
Effect of exchange rate changes	0		14,351		519		913	15,783
Depreciation of the year	81,974		18,587		1,058		2,953	104,572
Sold and disposed of	0		0		0	(	4,559) (	4,559)
Total value at 31.12.2013	1,938,826		143,338		5,383		27,316	2,114,863
Book value								
1.1.2012	3,075,856		455,342		12,468		41,972	3,585,637
31.12.2012	3,000,569		420,644		12,680		42,390	3,476,284
31.12.2013	2,927,379		509,876		14,184		44,172	3,495,611
Book value without revaluation								
1.1.2012	3,075,856		331,444		11,029		41,972	3,460,301
31.12.2012	3,000,569		308,080		11,534		42,390	3,362,573
31.12.2013	2,927,379		390,038		13,155		44,172	3,374,744

### Official assessment of fixed assets and insurance value

The official assessment of the Company's real estates amounted to USD 329 million at year end 2013 (2012: USD 285 million). Insurance value of the Company's assets amounts to USD 4,154 million (2012: USD 4,203 million) and emergency fund amounts to USD 955 million (2012: USD 803 million).

### 9. Projects under construction

Projects under construction are specified as follows:

		2013	2012
Balance at 1.1.		151,509	71,883
Effect of exchange rate changes		1,289 (	447)
Moved from/to development costs		403 (	65)
Additions during the year		118,501	80,182
Moved to property, plant and equipment	(	49,882)	0
Sold and disposed of		0 (	44)
Balance at 31.12		221,820	151,509

## 10. Intangible assets

Intangible assets are specified as follows:

	Capitalised development costs	Water and geothermal rights		Software	Total
Cost value					
Total value at 1.1.2012	219,251	44,827		6,567	270,645
Effect of exchange rate changes	( 67)	0	(	150) (	217)
Additions during the year	33,160	784		720	34,664
Moved to other items	( 5,235)	0		0 (	5,235)
Sold and disposed of	( 58)	0		0 (	58)
Total value at 31.12.2012	247,051	45,611		7,137	299,799
Effect of exchange rate changes	1,408	0		381	1,789
Additions during the year	20,747	0		1,012	21,759
Moved to transm. under constr. / power stations	( 4,468)	0		0 (	4,468)
Total value at 31.12.2013	264,738	45,611		8,530	318,879
Depreciation and impairment loss Total value at 1.1.2012  Effect of exchange rate changes	58,356 ( 83)	0	(	4,875 101) (	63,231 184)
Amortisation during the year	0	0		425	425
Impairment loss during the year	8,065	0		0	8,065
Moved to other items	( 5,300)	0		0 (	5,300)
Total value at 31.12.2012	61,038	0		5,199	66,237
Effect of exchange rate changes	243	0		263	506
Amortisation during the year	0	0		421	421
Impairment loss during the year	12,678	0		0	12,678
Total value at 31.12.2013	73,959	0		5,883	79,842
Book value	460.005	44.027		4.602	207.445
1.1.2012	160,895	44,827		1,692	207,415
31.12.2012	186,013	45,611		1,938	233,563
31.12.2013	190,779	45,611		2,646	239,038

A part of capitalised water rights is within public land and is therefore the property of the Icelandic State in accordance with Act no. 58/1998 on Public Land and determination of the confines of private property, public land and highland pasture. Landsvirkjun however holds the disposition right to the water rights under long-term agreement with the State in accordance with law at each time, and based thereon the rights are capitalised in the balance sheet.

### 10. Intangible assets, contd.:

At year end, an impairment test was performed on the Company's intangible assets. In testing for possible impairment the parent company's forecast on expected cash flow over the useful life of the assets was used. In the evaluation expected cash flow was discounted with the rate 5.5% of weighted average required rate of return. The result of the test did not show any indication of impairment but during the year impairment had been recorded due to individual projects.

11.	Depreciation	ınu impairi	Henr 1055
	The Croup's d	anrociation	and impai

11. Depreciation and impairment loss		
The Group's depreciation and impairment is specified as follows:	2013	2012
Power stations	81,974	82,504
Transmission	18,587	17,732
Telecommunication equipment		972
Other assets		2,591
Depreciation of assets in operation	104,572	103,799
Impairment loss on development cost	12,678	8,065
Amortisation of software		425
	117,670	112,288
The Group's depreciation and impairment is divided as follows by sectors:		
Energy production costs	82,594	83,016
Transmission costs	·	18,340
Cost of general research		8,000
Other operating expenses	•	2,932
	117,670	112,288
12. Derivative financial instruments		
Derivative financial instruments in the balance sheet are specified as follows:		
Assets:		
Embedded derivatives in electricity sales agreements	109,465	285,756
Aluminium hedges	14,833	13,243
Currency swaps	•	366
Other derivatives	·	12,302
	138,189	311,667
Derivative financial instruments are divided as follows:		
Long-term component of derivative agreements	112,451	270,076
Short-term component of derivative agreements		41,591
, , , , , , , , , , , , , , , , , , ,	138,189	311,667
Liabilities:		
Embedded derivatives in electricity sales agreements	13,271	14,920
Aluminium hedges	4,786	3,246
Currency swaps	0	11,937
Interest rate swaps	38,124	44,588
Other derivatives		4,573
	59,935	79,264
Derivative financial instruments are divided as follows:		
Long-term component of derivative agreements	50,029	60,232
Short-term component of derivative agreements		19,032
0 - 2 - 3 - 3	59,935	79,264
The accounting policy for embedded derivatives is discussed in pate 20		-,

The accounting policy for embedded derivatives is discussed in note 30.

The fair value of other derivatives than embedded derivatives is based on available evaluation of counterparties and verified by risk management with comparative calculations based on market information.

### 13. Associated companies

Shares in associated companies recognised according to the equity method within the Group are specified as follows:

		2013	
		Share in	Book
	Share	return	value
Farice ehf., Kópavogur, Iceland	28.9%	( 2,788)	20,185
Sjávarorka hf., Stykkishólmur, Iceland	30.3%	38	40
Hecla SAS, France	28.5%	103	492
	_	( 2,647)	20,717
		2012	
		Share in	Book
	Share	return	value
Farice ehf., Kópavogur, Iceland	28.9%	( 2,256)	19,734
Sjávarorka hf., Stykkishólmur, Iceland		(159)	0
Netorka hf., Hafnarfjördur, Iceland	-	161	0
Hecla SAS, France		25	369
		( 2,229)	20,103
14. Other non-current assets		2013	2012
Other long-term assets in the balance sheet are specified as follows:			
Shares in other companies		133	117
Long-term receivables		3,477	3,107
		3,610	3,224
15. Landsvirkjun's subsidiaries			
Landsvirkjun's subsidiaries are specified as follows:			
Lanusvirkjun s subsidiaries are specified as follows.		Share	
Icelandic Power Insurance Ltd., Bermuda		100.0%	100.0%
Landsnet hf., Reykjavík, Iceland		64.7%	64.7%
Landsvirkjun Power ehf., Reykjavík, Iceland		100.0%	100.0%
Orkufjarskipti hf., Reykjavík, Iceland		100.0%	100.0%
In the year 2012, the Boards of Directors of Landsvirkjun and Þeista	reykir ehf. decide	d to merge the	companies

In the year 2012, the Boards of Directors of Landsvirkjun and Peistareykir ehf. decided to merge the companies and the effective date of the merger was 1 September 2012. Following the Company Registry's observations regarding the merger it was decided that the effective date of the merger should be 1 July 2013, but the merger had been taken into account in the financial statements of Landsvirkjun for the year 2012. The Icelandic parliament approved the merger with amendments to the Act on Landsvirkjun in December 2013. A formal merger procedure in accordance with law will be finalized in the first half of the year 2014.

## **16. Inventories**

Inventories are specified as follows:		
Oil	39	35
Spare parts and consumables	4,788	4,151
	4,827	4,186

17. Accounts receivables and other receivables Accounts receivables and other receivables are specified as follows:	2013	2012
Accounts receivables	48,393	46,041
Other short term receivables	18,960	26,490
Assets available for sale	277	365
	67,630	72,896
At year-end 2013, 97% of accounts receivables were under 30 days old (2013: 97%).		
18. Cash and cash equivalents		
Cash and cash equivalents are specified as follows:		
Bank deposits	202,447	169,379
Market securities	85,540	18,537
	287,987	187,916

### 19. Equity

The parent company is a partnership owned by the State and Eignarhlutir ehf. The State owns 99.9% in the Company and Eignarhlutir ehf. 0.1%. Eignarhlutir ehf. is owned by the State. The Company is an independent taxable entity. The Group's equity ratio at year end 2013 was 36.3% but was 37.6% at year end 2012.

### 20. Revaluation account and translation difference

The revaluation account consists of revaluation of fixed assets of subsidiaries after income tax effect. Translation difference is the foreign exchange difference arising due to Landsvirkjun's subsidiaries and associated companies with other functional currencies.

### 21. Liabilities

Interest bearing long-term debt is specified as follows by currencies:

		2013		2012	
	Maturity date	Average interest	Remaining balance	Average interest	Remaining balance
Liabilities in ISK	2013-2034	3.8%	380,002	4.0%	367,724
Liabilities in CHF	2013-2022	0.3%	55,951	0.4%	60,826
Liabilities in EUR	2013-2028	1.1%	796,182	1.3%	861,009
Liabilities in GBP	2013-2016	10.4%	4,961	11.4%	14,875
Liabilities in JPY	2013-2033	4.0%	12,380	2.5%	26,709
Liabilities in USD	2013-2026	3.0%	1,467,687	3.1%	1,293,312
		<del>-</del>	2,717,163	_	2,624,455
Current maturities of long-term debt			( 175,357)		(208,451)
Total long-term debt		- 	2,541,806	_	2,416,004

Interest rate terms on loans at year end are from 0.3-7.9%. Nominal interest rates for the period were on average 3.5%, compared to 3.3% the previous year.

The Company's payments due to guarantees for long-term loans are calculated according to Regulation no. 121/1997.

#### 22. According to loan agreements, the current maturities of long-term debt are as follows:

	2013	2012
2013	-	208,451
2014	175,357	168,817
2015	189,966	188,159
2016	250,225	254,106
2017	264,243	254,750
2018	328,315	-
Later	1,509,057	1,550,172
	2,717,163	2,624,455

#### 23. Pension fund obligation

The Company's obligation to refund the indexation charges on retirement payments to current and former employees, which hold pension rights with state and communal pension funds amounted to USD 27.0 million at year end 2013 according to an actuary's evaluation, which is based on estimated future changes in salaries and prices. Interest rates in excess of price increases are assessed at 3.5% and salary increases in excess of price increases are assessed at 1.5% per year on average. Premises on life expectancy and death rate are in accordance with the provisions of Regulation no. 391/1998 on obligatory pension benefits and operation of pension funds. The retirement age is 68 years for current employees and 65 years for non-employees with vested benefits and this is consistent with the relevant pension funds' regulation.

Change in the obligation is specified as follows:

Balance at 1.1.	23	,228	23,238
Expensed during the year		583	549
Payments during the year	( 1	,331) (	1,178)
Actuarial change	1	,700	1,737
Effect of foreign exchange rate differences	2	,827 (	1,118)
Balance at 31.12.	27	,007	23,228
Pension fund obligation, 5 year statem: 2013 2012 2011		2010	2009
Present value of the obligation	23	,442	21,978

#### 24. Obligation due to demolition

Change in the obligation due to demolition is specified as follows:	2013	2012
Balance at 1.1.	5,704	5,673
Reversed discounting in the year	334	306
Effect of foreign exchange rate differences	701 (	275)
Balance at 31.12.	6.739	5.704

In accordance with IFRS, the initial value of fixed operating assets shall include estimated cost of their demolition after their use. Estimated demolition cost of power lines has been assessed and discounted on the basis of their useful life. In return, an obligation has been written up among long-term liabilities. A change in the obligation is recognised in the income statement amounting to the discounted value.

#### 25. Accounts payable and other payables

Accounts and other payables are specified as follows:

Accounts payable	30,620	32,269
Accrued interests	24,882	23,647
Other short term liabilities	20,199	15,929
	75,701	71,845

#### 26. Related parties

#### Definition of related parties

Owners, associated companies, Boards of directors, key management and companies and institutions owned by them are among the Company's related parties.

Transactions with related parties	2013	2012
Interest income Associated companies	12	50
Expenses Associated companies	5	8
Receivable Associated companies	0	1,773

Transactions with the State or companies or institutions owned by the State are not specified as a separate item but such transactions are defined as transactions with non-related parties.

#### 27. Cash flow

Cash flow from operation is an indicator for the Company's ability to meet its payment obligations. Following, operating activities are presented according to the direct method:

Operating activities		2013	2012
Cash received from customers		427,712	408,240
Cash expenses	(	97,549) (	87,473)
Cash flow from operation excluding interest		330,163	320,767
Interest income received		2,183	4,629
Interest expenses and foreign exchange difference paid	(	73,757) (	89,150)
Taxes paid	(	104) (	68)
Cash flow from operating activities		258,485	236,178

#### 28. Risk management

The Company's Board of Directors has approved a risk management policy, which is based on the following factors:

- That risk is defined and its origin is known
- Generally accepted methods are used in evaluating risk
- Effective management is applied in accordance with authorisations
- Effective monitoring on risk factors is ensured
- That information provided to the risk committee and the Board of Directors is accurate and provided on a regular basis

Decisions and supervision of risk management is entrusted to the risk committee. The risk committee consists of the CEO, his deputy and the CFO. The CEO is the chairman of the risk committee.

#### 28. Risk management, contd.:

The objectives of risk management are to analyse, manage, and monitor Landsvirkjun's risks in order to reduce operating fluctuations. Financial risk is divided into market risk, liquidity risk and counterparty risk. The Company's market risk consists mainly of three risk categories:

- Aluminium price risk due to fluctuations in the global market price of aluminium
- Interest rate risk due to the Company's liabilities
- Foreign exchange risk due to liabilities and cash flow

#### 29. Financial risk

Landsvirkjun aims at reducing market risk related to foreign currencies by increasing the weight of USD in the Company's loan portfolio. In the past two years, Landsvirkjun has for that purpose entered into agreements to change the terms of loans from EUR to USD in the amount of EUR 190 million. Landsvirkjun will continue to work on comparable changes in loans in the year 2014.

In the year 2013, an agreement was reached with the holder of a bond to abolish a provision which granted the holder an annual right to call in the bond. Landsvirkjun had up until then defined the bond as a short term loan due to the provision but following the change it will be recognised among long term debt. The bond amounts to EUR 50 million and it matures in March 2020.

At year end 2013, the Company had access to undrawn Revolving Credit Facilities in the amount of USD 200 million and ISK 10,500 million. The maturity profile, strong liquidity, and access to loans secures the Company's liquidity until year end 2015.

#### 30. Aluminium price risk

The Company is exposed to substantial risk due to possible aluminium price fluctuations as around 40% of its income is linked to the price of aluminium. The Company has thus entered into derivative agreements in order to secure its income base and reduce fluctuations. Such agreements consist in most cases of fixing aluminium price at a certain level. The Company, therefore, can lose income if aluminium prices increase considerably, but at the same time guarantees better cash flow should the price of aluminium decrease in the markets. Risk management may hedge up to 100% of aluminium price risk for next year and proportionally less over the next years but is not required to place minimum hedges. Around 50% of 2014 estimated cash flow and 25% of 2015 estimated cash flow has been hedged. At year end 2013, fair value of the hedges was positive by USD 10 million (2012: USD 10 million), with the agreements being effective over the next three years.

The accompanying tables show fair value changes of aluminium hedges due to changes in aluminium prices and/or interest rates. The amounts are in USD thousand before taxes.

2013					2012			
Aluminium Price						Alu	ıminium Price	
	_	-10%	0%	10%		-10%	0%	10%
est	-1%	7,806	55	(8,793)	ts s -1%	5,901	59	(6,583)
iterest Rates	0%	7,676	-	(8,760)	Interes %0 Rates	5,789	-	(6,580)
Ē "	1%	7,547	(54)	(8,728)	<u> </u>	5,679	(59)	(6,578)

#### 30. Aluminium price risk, contd.:

#### **Embedded derivatives**

Landsvirkjun has defined the part of electric power sales and purchase agreements related to aluminium price as embedded derivatives, which are recognised in the Company's financial statements. Embedded derivatives in electric power sales agreements are capitalised in the balance sheet at fair value on the reporting date and in a comparable way electric power purchase agreements are charged. Net fair value changes of the agreements during the year are recognised in the Company's income statement among financial income and expenses.

		2013	2012
The fair value of embedded derivatives is specified as follows:			
Fair value of embedded derivatives at the beginning of the year		270,836	274,227
Fair value changes during the year	(	174,641) (	3,391)
Fair value of embedded derivatives at year end		96,195	270,836
Division of embedded derivatives is specified as follows:			
Long term component of embedded derivative		95,711	253,322
Short term component of embedded derivative		485	17,514
Total embedded derivatives		96,195	270,836

The following tables show fair value changes of embedded derivatives in the case of changes in aluminium prices and/or interest rates. The amounts are in USD thousand before taxes.

2013					2012			
		Alun	ninium Price			Alu	minium Price	
	_	-10%	0%	10%	_	-10%	0%	10%
Interest Rates	-1%	(105,015)	6,114	117,243	ಕ್ಷ್ಣ -1%	(120,802)	14,703	150,207
	0%	(105,777)	-	105,777	Interest   %0   %1   %1   %1   %1   %1   %1   %1	(128,910)	-	128,910
ב ב	1%	(106,532)	(5,828)	94,876	<b>⊑</b>	(136,952)	(14,406)	108,141

The main assumptions Landsvirkjun uses in the evaluation of embedded derivatives are as follows:

Calculations are based on the forward price of aluminium, as disclosed by the LME.

Calculations are based on the maximum time length of official information on aluminium prices, or 123 months. Management's opinion is that aluminium price expectations in ten years will reflect the evaluation of Landsvirkjun's management as when the agreements were made and therefore fair value changes will not arise for that period.

The calculations are limited to the revision time of electric power sales agreements. The time length can though never be more than the aforementioned 123 months.

According to provisions on energy buyers' purchase obligation the calculations are based on a secured minimum purchase.

Expected cash flow of contracts is discounted at USD rates according to Bloomberg, no spread added. At year end 2013, the interest rate profile for discounting was in the range 0.3 - 3.3% (2012: 0.3 - 1.9%).

### 31. Foreign exchange risk

Foreign currency risk is the risk of loss due to unfavourable changes in foreign exchange rates. Landsvirkjun's foreign exchange risk is due to cash flow, assets and liabilities in addition to all general transactions in currencies other than the functional currency.

The Company's functional currency is the USD and therefore a foreign exchange risk arises from cash flow and open balance in currencies other than the USD. The Company's income is mainly in USD. Other income is in ISK and NOK but foreign exchange risk due to those currencies is limited due to netting in the cash flow in ISK and income in NOK is relatively low. Currency risk due to amortisation and interest payments in EUR over the next years has been limited with derivative agreements. Risk management has the authority to hedge foreign currency cash flows against the functional currency for up to three years in advance with forward agreements and options.

The Company's reporting risk related to exchange rate changes arises mainly due to its debt in EUR, which are mainly long-term loans. There is also limited risk related to the JPY, CHF, and GBP due to outstanding loans. The following table shows Landsvirkjun's open balance in currencies other than the functional currency.

Landsvirkjun's foreign exchange risk at year end is specified as follows:

, , , , , , , , , , , , , , , , , , , ,						Other
2013		EUR	ISK		JPY	currencies
Long-term receivables		0	3,477		0	0
Accounts receivables and other receivables		571	15,179		0	3,564
Cash		3,745	33,624		159	11,533
Derivatives		261,801	0		0	0
Interest bearing liabilities	(	796,182) (	380,002)	(	12,380) (	60,912)
Accounts payable and other payables	(	2,635) (	50,619)	(	386) (	4,847)
Risk in balance sheet	(	532,700) (	378,341)	(	12,607) (	50,662)
2012						
Long-term receivables		0	3,107		0	0
Accounts receivables and other receivables		640	15,574		0	2,962
Cash		7,216	27,170		96	5,693
Derivatives		395,517	0	(	44,932)	0
Interest bearing liabilities	(	861,009) (	367,724)	(	26,709) (	75,701)
Accounts payable and other payables	(	1,868) (	51,500)	(	550) (	1,546)
Risk in balance sheet	(	459,504) (	373,373)	(	72,095) (	68,592)

#### 31. Foreign exchange risk, contd.:

Exchange rate of the main currencies against the USD, (USD/currency) for the years 2013 and 2012 is specified as follows:

	Avera	ge rate	Rate at year end		
	2013	2012	2013	2012	
EUR	0.75	0.78	0.73	0.76	
GBP	0.64	0.63	0.60	0.62	
CHF	0.93	0.94	0.89	0.92	
JPY	97.55	79.70	105.00	86.10	
NOK	5.88	5.82	6.08	5.59	
ISK	122.23	125.05	115.03	128.74	

#### Sensitivity analysis

A change of the USD by 10% against the following currencies, would have affected the Group's results and equity by the following amounts after tax. The analysis is based on all variables, especially interest rates, remaining unchanged.

	Profit (loss) after tax								
	2013				2012				
	Strengthe	ning		Weakening	Strengther	ning	Weakening		
EUR	39,1	34	(	43,506)	35,4	55 (	44,864)		
ISK	( 3,6	19)		3,619	2,8	80 (	2,880)		
JPY	8	07	(	807)	4,6	14 (	4,614)		

The fair value of currency swaps was positive by USD 4.3 million at year end 2013. The underlying principal amount is USD 78.3 million. The fair value of currency options was positive by USD 5.8 million and the underlying principal amount was USD 245.2 million.

### 32. Interest rate risk

Landsvirkjun faces interest rate risk as the Company has interest bearing assets and liabilities. The Company's liabilities carry both fixed and floating interest rates and interest rate derivatives are used in order to hedge against interest rate risk. Interest bearing financial liabilities are higher than interest bearing financial assets and the Company's risk consists, therefore, of possible increases in interest rates and higher interest expenses.

At year end 2013, the proportion of loans with floating interest rates was 59% compared to 64% at year end 2012. Changes in interest rates by one percent would have led to a change in interest expenses by USD 16 million in the year 2013 (USD 17 million in the year 2012). The Company's financial instruments with fixed interests are not sensitive to interest rate changes. At year end 2013, the estimated market value of the Company's long-term liabilities was USD 187 million higher than their book value (USD 207 million higher in the year 2012) discounted by the underlying currencies yield curve without spread. The following table shows the division of financial assets and liabilities between floating and fixed interests.

Financial instruments with fixed interest other than derivatives		2013	2012
Financial assets		3,477	3,107
Financial liabilities	(	1,114,037) (	944,804)
	(	1,110,560) (	941,697)

#### 32. Interest rate risk, contd.:

Financial instruments with floating interest other than derivatives		2013	2012
Financial assets		287,987	188,884
Financial liabilities	(	1,603,126) (	1,679,651)
	(	1,315,139) (	1,490,767)
Derivative financial instruments			
Embedded derivatives		96,195	270,836
Other derivatives	(	17,940) (	38,433)
		78,255	232,403

The fair value of interest rate swaps was negative by USD 38.1 million at year end 2013 and the underlying principal amounted to USD 185 million. The following tables show the effect of changes in interest rates on the fair value of the interest rate and currency swaps in USD thousand before tax.

2013 2012

Interest Rates			
-0.2%	0.0%	1.0%	2.0%
	-	6,453	12,050

Interest rate changes in the US have considerable effect on the value of embedded derivatives held by Landsvirkjun and the effect increases with higher aluminium prices. Note 30 includes sensitivity analysis on the fair value of embedded derivatives and shows the effect of change in interest rates and the price of aluminium.

#### 33. Liquidity risk

Liquidity risk consists of risk of losses should the Company not be able to meet its obligations at maturity. The company limits liquidity risk with effective liquidity management ensuring that there is sufficient cash at each time in order to meet with the company's obligations. In order to limit such risk, the Company's liquidity balance is monitored and an emphasis is placed on having a sufficient cash position and access to Revolving Credit Facilities. The Company's cash and cash equivalents amounted to USD 288 million at year end 2013 but when taking into account undrawn credit facilities (USD 200 million and ISK 10,500 million) and undrawn long-term loans in the amount of USD 10.7 million the company has access to a total of USD 590 million. Taking into consideration cash flow from operation the Company believes that access to liquid assets is ensured until year end 2015.

In order to ensure access to capital and maintain flexible funding possibilities, Landsvirkjun has used different types of funding. In past years, financing has mostly taken place through a state guarenteed Euro Medium Term Note Programme (EMTN). At year end, the balance of loans under the EMTN was USD 1.82 billion but the total amount that the Company can borrow under the programme is USD 2.5 billion.

In the year 2013, Landsvirkjun signed a new EMTN framework agreement on international bond issues, without a state guarantee. The total amount of the framework agreement is USD 1 billion. At year end, the balance of loans under the EMTN without a state guarantee was around USD 30 million.

The Company's risk related to refinancing is reduced with a well distributed maturity profile and long terms of outstanding loans. The weighted average life of the loan portfolio was 6.3 years and the proportion of loans with maturity within 12 months is 6.5%.

## 33. Liquidity risk, contd.:

Contractual payments due to financial instruments, including interest rates, are specified as follows:

Contractual Mo											
2013	Book value	cash flow Wit	hin one year	1 - 2 years	2 - 5 years	5 years					
Non destructive for social i											
Non-derivative financial instruments											
Lang tarm receivables	2 477	2.761	242	2.510	0	0					
Long-term receivables	3,477	3,761	243	3,518	0	0					
Cash and cash equiv	287,987	287,987	287,987	0	0	0					
Short term receiv	67,630	67,630	67,630	0	0	0					
Interest bearing liab		3,280,119) (	219,297) (	253,453) (	1,016,325) (	1,791,044)					
Current liabilities		75,701) (	75,701)	0 (	0	0					
	( 2,433,770) (	2,996,442)	60,862 (	249,935) (	1,016,325) (	1,791,044)					
5 · · · · · · · · · · · · · · · · · · ·											
Derivative financial instru	iments										
6	40.427	44.750	7.406 /	44.0\	4.504	0					
Currency swaps	10,137	11,759	7,486 (	418)	4,691	0					
Interest rate swaps	, , ,	38,776) (	4,496) (	29,214) (	5,066)	0					
Aluminium deriv Embedded derivatives	10,047	12,265	9,768	1,955	542	0					
in electr. sales agr	96,195	113,116	487	4,011	31,062	77,556					
0.000 00.00 08	78,255	98,364	13,245 (	23,666)	31,229	77,556					
	70,233	30,304	13,243 (	23,000)	31,223	77,550					
2012											
	nstrumonts										
Non-derivative financial i	ristruments										
Long-term receivables	3,107	3,577	217	217	3,143	0					
Cash and cash equiv	187,916	187,916	187,916	0	0	0					
Restricted deposits	968	968	968	0	0	0					
Short term receiv	72,896	72,896	72,896	0	0	0					
Interest bearing liab	( 2,624,455) (	3,168,729) (	241,475) (	231,700) (	894,600) (	1,800,954)					
Current liabilities	( 71,845) (	71,845) (	71,845)	0	0	0					
	( 2,431,413) (	2,975,217) (	51,323) (	231,483) (	891,457) (	1,800,954)					
Danisatisa finanasial inatus											
Derivative Jinanciai instru	Derivative financial instruments										
Currency swaps	( 3,841) (	3,359) (	3,197) (	609)	447	0					
Interest rate swaps		42,655) (	4,213) (	4,848) (	33,002) (	592)					
Aluminium deriv	9,997	12,032	8,726	3,306	0	0					
Embedded derivatives	3,33,	,00	5,, 20	2,300	Ŭ	Ũ					
in electr. sales agr	270,836	290,999	17,549	20,987	85,318	167,145					
	232,403	257,017	18,865	18,836	52,763	166,553					
					,. 00						

#### 34. Counterparty risk

Counterparty risk is the risk that a counterparty to an agreement does not comply with provisions of the agreement. Landsvirkjun's counterparty risk arises first and foremost due to the Company's energy contracts and derivatives entered into for hedging purposes. Though the amounts involved are considerably high, the risk is limited with the Company's requirements for counterparty quality. Landsvirkjun has set a benchmark for derivatives which involves that no derivative agreements are made with financial companies that have a lower rating than A- from Standard and Poor's or a comparable rating from other recognised credit rating agencies. Before entering into power contracts the financial standing of the relevant companies and their parent companies is thoroughly reviewed, if applicable.

The Company's counterparty risk is specified as follows at year end:

	2013	2012
Derivative financial instruments	138,189	311,667
Restricted deposits	0	968
Long-term receivables	3,477	3,107
Accounts receivables and other receivables	67,630	72,896
Cash and cash equivalents	287,987	187,916
	497,283	576,554

### 35. Comparison of fair value and book value of long-term debt

	20:	13	2012		
	Book value	Fair value	Book value	Fair value	
Interest bearing long term liabilities (	2,717,163)	( 2,904,201)	( 2,624,455) (	2,831,376)	

The fair value of other financial assets and liabilities is measured at their book value.

Inter bank rates and swap rates were used without premium for the relevant currencies as at the reporting date when discounting the estimated cash flow in calculating the fair value of interest bearing long-term liabilities. For interest bearing liabilities in ISK CPI, indexed rates were used for both years.

Interest rates are specified as follows:	2013	2012
Interest bearing liabilities in ISK	2.2-3.0%	1.9-2.5%
Interest bearing liabilities other than in ISK	0.0-4.0%	0.0-2.7%

#### 36. Fair value classification

The table below shows the level categorisation for items in the financial statements recognised at fair value (see note 2).

		Level 2	Level 3	Total
2013				
Embedded derivatives			96,195	96,195
Other derivatives	(	17,940)	(	17,940)
Shares in other companies			133	133
	(	17,940)	96,328	78,388

2012

### 36. Fair value classification, contd.:

2012		Level 2	Level 3	Total
Embedded derivatives	,	22 422)	270,836	270,836
Other derivatives	(	38,433)	(	38,433)
Shares in other companies			117	117
	(	38,433)	270,953	232,520

Classification of financial assets between levels remains unchanged from the previous year. Fair value changes of financial assets at level 3 amounted to USD 174.6 million expensed in the year 2013 (USD 3.4 million in the year 2012) and is recognised among financial income and expenses.

#### 37. Classification of financial instruments

According to the International Financial Reporting Standard *IAS 39 Financial instruments: recognition and measurement,* financial assets and liabilities are divided into defined groups. The classification affects how the evaluation of the relevant financial instrument is measured. Those groups to which the Company's financial assets and liabilities pertain and their basis for evaluation are specified as follows:

- Trading assets and liabilities are recognised at fair value through profit and loss.
- Financial assets and liabilities are denominated at fair value and recognised at fair value through p&l.
- Loans and receivables are recognised at amortised cost.
- Other financial liabilities are recognised at amortised cost.

Financial assets and liabilities are divided into the following groups of financial instruments:

		Financial assets	Fi	nancial liabilities	
		and liabilities		recognised at	
	Trading assets	at fair value	Loans and	amortised	
2013	and liabilities	through p&l	receivables	cost value	Book value
Derivative financial instruments	138,189				138,189
Shares in other companies		133			133
Long-term receivables		3,477			3,477
Accounts receivables and					
other receivables			67,630		67,630
Cash and cash equivalents			287,987		287,987
Total assets	138,189	3,610	355,617	0	497,416
Interest bearing long term liabilities				2,717,163	2,717,163
Derivative financial instruments	59,935			, , ,	59,935
Accounts payable and	,				,
other payables				75,701	75,701
Total liabilities	59,935	0	0	2,792,864	2,852,799
2012					
Derivative financial instruments	311,667				311,667
Shares in other companies	311,007	117			117
Long-term receivables		3,107			3,107
Accounts receivables and		3,107			3,107
other receivables			72,896		72,896
Restricted deposits			968		968
Cash and cash equivalents			187,916		187,916
Total assets	311,667	3,224	261,780	0	576,671
Interest bearing long term liabilities				2,624,455	2,624,455
Derivative financial instruments	79,264			2,024,433	79,264
Accounts payable and	13,204				13,204
other payables				71,845	71,845
Total liabilities	79,264		0	2,696,300	2,775,564
-	73,204		U	2,030,300	2,773,304

#### 38. Capital management

Landsvirkjun places emphasis on maintaining a strong equity base supporting further development of the Company.

#### 39. Subsequent events

Nothing has come forth after the balance sheet date, which would require adjustments or changes to the financial statement for the year 2013.

#### 40. Significant accounting policies

The Group has adopted all International Financial Reporting Standards, amendments thereto and interpretations confirmed by the EU at year end 2013 and that apply to its operation. The Group has not adopted standards, amendments to standards or interpretations entering into effect after year end 2013, which may be adopted earlier. The effect thereof on the Group's financial statements have not been fully determined but are considered to be insubstantial.

The Group has implemented the following accounting principles and changes in accounting standards as of 1 January 2013.

- IFRS 13, Fair value measurement
- IAS 19, Employee benefits

The effect of individual changes is explained as follows.

#### a) Fair value changes

IFRS 13 provides a single IFRS framework for measuring fair value and requires disclosures about fair value measurements according to IFRS. The Standard unifies the definition of fair value as the price that would be received in a transaction for an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The standard also applies to and expands the disclosure requirement on fair value measurement in other standards, including IFRS 7, *Financial Instruments: Disclosures*. The standard also expands the disclosure requirements about fair value measurements. As a result, the Group has included additional disclosures in this regard. The adoption of the standard has had no impact on the evaluation of assets and liabilities of the Group.

### b) Defined benefit plan

The Group has changed its accounting policy for defined benefit plans parallel to the adoption of amendments to IAS 19.

The Group now recognises actuarial change in pension liabilities among other comprehensive income.

Comparative figures have been changed accordingly and the effect is specified as follows: Operating expenses decreased by USD 1.7 million and expensed income tax in the income statement increased by USD 0.6 million. Other comprehensive income decreased by USD 1.1 million.

Except for the aforementioned changes due to the implementation of new standards, the Group has consistently applied the following accounting policies to all periods presented in these consolidated financial statements.

#### 41. Basis of consolidation

Subsidiaries are entities controlled by the Company. Control exists when the Company has the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. In assessing control, potential voting rights that currently are exercisable are taken into account. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. Financial statements of subsidiaries have been taken into account. When the Company's share of losses exceeds its interest in a subsidiary, the carrying amount of that interest is reduced to nil and the recognition of further losses is discontinued except to the extent that the Company has an obligation or has made payments on behalf of the subsidiary. In case of a profit on the operation of a subsidiary in a subsequent period, a share in their profit is not recognised until a share in a loss has been fully set off.

Intra-group balances and transactions, and any unrealised income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Unrealised gains arising from transactions with equity accounted investees are eliminated against the investment to the extent of the Company's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

Assets and liabilities of a subsidiary with an other functional currency other than the parent company are translated to USD at the exchange rate ruling at the accounting date. Income and expenses of that operation are translated to USD at the average exchange rate of the year. The exchange rate difference arising from the translation to USD is entered as a specific item in the statement of comprehensive income and under equity. Amounts in the statement of cash flow are translated to USD at the average exchange rate of the year. The exchange rate difference arising from the translation to USD is entered as a specific item in the statement of cash flow.

#### 42. Associated companies

Associated companies are those companies in which the Company has significant influence, but not control, over the financial and operating policies. Significant influence is presumed to exist when the Company holds between 20 and 50 per cent of the voting power of another entity, including any other possible voting power.

The financial statements include the Group's share in the income and expenses of associated companies according to the method of association, from the date that significant influence commences until the date that significant influence ceases. When the Group's share of losses exceeds the book value of an associated company the book value is reduced to nil and the recognition of further losses is discontinued except to the extent that the Group has an obligation or has made payments on behalf of the associated company. If in subsequent periods there is a profit on the operation of associated companies, the share in the profit is not recognised until the previous share in losses has been set off.

## 43. Operating revenues

Revenues from sales and transmission of electricity consists of sales supplied to power intensive industries and public utilities based on delivery during the period. Other service income is also recognised when earned or upon delivery.

### 44. Interest income and expenses

Interest income and expenses are recognised in the income statement using the effective interest method. Interest income and expenses include bank rates, premium, realised interest rate swaps and other differences arising on initial book value of financial instruments and amounts on the date of maturity using the effective interest method.

Effective interest is the imputed rate of interest used in determining the current value of estimated cash flow over the estimated useful life of a financial instrument or a shorter period if applicable, so that it equals the book value of the financial asset or liability in the balance sheet. When calculating the effective interest rate, the Company estimates cash flow taking into account all contractual aspects of the financial instrument.

### 45. Other financial income and expenses

Other financial income (expenses) on financial assets and liabilities include profit and loss on current assets and liabilities and all redeemed and unredeemed fair value changes, dividends and changes in foreign exchange differences. Dividend income is recognised in the income statement when distribution of dividends has been approved.

#### 46. Foreign currency transactions

Transactions in foreign currencies are recognised at the exchange rate ruling at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are recognised at the exchange rate ruling at the end of the period. The foreign currency gain or loss thereon is recognised in the income statement. Non-monetary assets and liabilities measured at cost value in a foreign currency are translated to USD at the exchange rate ruling at the date of the transactions. Tangible assets and liabilities recognised in foreign currencies at fair value are translated to USD at the exchange rate ruling at the date of determination of fair value.

#### 47. Impairment

#### a) Financial assets

A financial asset is assessed at each reporting date to determine whether there is any objective evidence that it is impaired. A financial asset is considered to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that asset.

An impairment loss in respect of a financial asset measured at amortised cost is calculated as the difference between its carrying amount, and the present value of the estimated future cash flows discounted at the original effective interest rate. An impairment loss in respect of an available-for-sale financial asset is calculated by reference to its fair value.

Impairment loss on financial assets is recognised in the income statement. Accumulated loss on available for sale financial assets, previously recognised among equity, is recognised in the income statement when the impairment loss has been incurred.

An impairment loss is reversed if the reversal can be related objectively to an event occurring after the impairment loss was recognised. For financial assets measured at amortised cost and available-for-sale financial assets that are debt securities, the reversal is recognised in the income statement. For available-for-sale financial assets that are equity securities, the reversal is recognised in the statement of comprehensive income.

### b) Other assets

The carrying amounts of the Company's non-financial assets, other than inventories and deferred tax assets, are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Intangible assets with unspecified useful lives are tested annually for impairment.

An impairment loss is expensed if the carrying amount of the asset or its cash generating unit exceeds its recoverable amount. A cash generating unit is the smallest group of assets that generates cash inflows that are largely independent of the cash inflows of other assets or cash generating units. Impairment loss is first recognised in the income statement and then to reduce the carrying amounts of the fixed assets in the cash generating unit.

The recoverable amount of an asset or cash generating unit is the greater of its value in use and its net fair value. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the assets.

For other assets, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

#### 48. Income tax

Income tax on the results for the year consists of current tax and deferred tax. Income tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity, in which case it is recognised in equity.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted at the reporting date, in addition to adjustments made to current tax of previous years.

A deferred tax asset (liability) is recognised in the financial statements. Its calculation is based on the difference in balance sheet items, according to the tax return, on the one hand, and the consolidated financial statements, on the other hand. The difference thus arising is due to the fact that the tax assessment is based on premises other than the Group's financial statements and is in main respect a temporary difference as expenses are entered in the financial statement in another period than in the tax return. Calculation of deferred tax is based on the expected tax ratio when temporary differences are estimated to be reversed based on current law at the reporting date.

A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against the asset. The tax asset is calculated at each reporting date and decreased to the extent that is considered likely that it will not be utilised against future taxable profit.

#### 49. Property, plant and equipment

Fixed assets are initially measured at cost.

The cost of renewing single items of fixed asset is capitalised if it is considered likely that the proceeds of the assets will revert to the Company and the cost can be measured reliably. All other cost is expensed in the income statement as it is incurred.

The Group's transmission and telecommunication systems are recognised at a revalued cost in the balance sheet, which is their fair value less depreciation from the date of revaluation in the year 2008. The revaluation of those assets will be carried out on a regular basis. All value increase due to the revaluation is recognised in the revaluation account among equity after income tax effect. Depreciation, of the revalued cost is recognised in the income statement. Upon the sale, depreciation or disposal of an asset, the part of the revaluation account pertaining to the asset is transferred to retained earnings.

Other operating assets are capitalised at cost less accumulated depreciation and impairment.

Initial value of fixed assets includes the estimated cost of demolition following their use. Estimated demolition cost of power lines has been measured at a discounted value based on the useful life and an obligation in relation thereto has been recognised among long-term liabilities. A change in the obligation due to the discounted value is recognised through the income statement in addition to depreciation of demolition cost.

Cost value consists of all cost incurred due to the acquisition of the asset. Cost value of fixed assets constructed in own account is the aggregate cost of construction, such as cost of material and salaries in addition to all other costs the Company incurs in making the asset operative.

If single items of fixed assets have different estimated useful lives, they are divided in accordance with their different useful lives.

Interest expense on loans used to finance the cost value of projects are capitalised at the time of construction.

Profit or loss on the sale of fixed assets is the difference between the sales value and the book value of the asset and is recognised in the income statement.

### 49. Property, plant and equipment, contd.:

#### Depreciation

Depreciation is calculated as a fixed annual percentage based on the estimated useful lives of the operating assets.

Depreciation method, estimated useful life, and residual value are reassessed at each accounting date.

Depreciation ratios and useful life are specified as follows:

	Depreciation	<b>Useful life</b>
Power stations:		
Power houses and other structures	1.67%	60 years
Machinery	2.5-6.67%	15-40 years
Dams and waterways	1.67-3.33%	30-60 years
Thermal stations	1.67-6.67%	15-60 years
Substations	2.5%-5%	20-40 years
Power lines	2.00%	50 years
Optical fibre	5.00%	20 years
Masts	7.00%	15 years
Telecommunication buildings	6.00%	17 years
Other telecommunication equipment	14-15%	7 years
Office buildings	2.00%	50 years
Equipment	10-25%	4-10 years
Vehicles	10-20%	5-10 years

### 50. Intangible assets

Intangible assets are recognised at cost value, less impairment loss and amortisation.

Expenditure for general research cost is expensed in the period it incurs. Development cost for future power projects is capitalised among fixed assets, such as cost of materials, salary cost and all cost incurred by the Company in relation to capitalised development cost. The development cost is only capitalised if there is probability of future economic benefit and the Company intends and is able to conclude, use or sell it. The cost is not depreciated at this stage but account is taken for possible impairment loss if a project changes.

Water and geothermal rights are capitalised in the balance sheet at cost value as intangible assets with unlimited useful life.

Other intangible assets are stated at cost less accumulated amortisation and impairment loss.

Subsequent cost is only capitalised if it increases the estimated future economic benefit of the asset it relates to. All other cost is expensed in the income statement when incurred.

Depreciation is calculated on a straight line basis, based on the estimated useful lives of intangible assets from the date that they become applicable. Amortisation and estimated useful life is specified as follows:

	Depreciation	Useful life
Software	25%	4 years

#### 51. Financial instruments

#### a) Non-derivative financial assets

Non-derivative financial assets are entered in the consolidated financial statements when the Company becomes a part of contractual provisions of the relevant financial instrument.

Financial assets are derecognised if the Company's contractual right to cash flow due to the asset expires or the Company transfers the assets to another party without holding back control or almost all the risk and gain involved in the ownership. The component of the transferred financial assets arising or retained by the Company is recognised as a specific asset or liability.

Financial assets and financial liabilities are offset and the net amount presented in the balance sheet when, and only when, the Company has a legal right to offset the amounts and intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

The Group classifies non-derivative financial assets into the following categories: financial assets at fair value through profit or loss, loans and receivables and available-for-sale financial assets.

#### i) Financial assets measured at fair value through profit or loss

A financial asset is classified as at fair value through profit or loss if it is classified as held-for-trading or is designated as such on initial recognition. Upon initial recognition attributable transaction costs are recognised in profit or loss when incurred. Financial assets at fair value through profit or loss are measured at fair value in the balance sheet, and changes therein are recognised in the income statement.

Financial assets at fair value through profit or loss are shares in other companies and marketable securities.

#### ii) Loans and receivables

Loans and receivables are financial assets with fixed or determinable payments that are not quoted in an active market. Such assets are initially measured at fair value plus all direct transaction costs. Subsequent to initial recognition, loans and receivables are recognised at the amortised cost value based on effective interests, less impairment if detected.

Loans and receivables comprise cash and cash equivalents, trade and other receivables. Cash and cash equivalents consist of cash and deposits on demand within three months.

### ii) Assets available for sale

Assets available for sale are non-derivative financial assets held for sale and that are not categorised in the aforementioned groups. Subsequent to initial recognition, they are measured at fair value and changes therein, other than impairment loss and foreign exchange differences, are recognised among other income and expenses in the statement of comprehensive income and stated as a separate item among equity.

#### b) Non-derivative financial liabilities

Non-derivative financial liabilities are initially measured at fair value plus all direct transaction costs. Subsequent to initial recognition the liabilities are recognised at the amortised cost value based on effective interests.

The Group derecognises a financial liability when the contractual obligations due to the debt instrument expire.

The Company's non-derivative financial liabilities are: loans, accounts payables and other payables.

#### 51. Financial instruments, contd.,

#### c) Derivative financial instruments

The Company enters into derivative financial instruments to hedge its foreign currency, interest rates and aluminium price risk exposures. Derivative financial instruments are recognised initially at fair value. Direct transaction cost is entered in the income statement as it incurs. Subsequent to initial recognition, derivative financial instruments are recognised at fair value in the balance sheet and fair value changes are recognised in the income statement among financial income and expenses. Hedge accounting is not applied to derivative instruments that economically hedge monetary assets and liabilities denominated in foreign currencies.

#### i) Separable embedded derivatives

Embedded derivatives are separated from the host contract and accounted for separately if the economic characteristics and risks of the host contract and the embedded derivative are not closely related and other instruments with the same provisions as the embedded derivative would be defined as a derivative and the hybrid contract is not stated at fair value in the income statement.

Changes in the fair value of separable embedded derivatives are recognised in the income statement among financial income and expenses.

#### 52. Inventories

Inventories are stated at the lower of the cost value or the net sales value. Cost value of inventories is based on "the First In First Out method" and includes cost incurred upon the purchase of the inventories and in bringing them to the sales location and in a saleable state.

#### 53. Cash and cash equivalents

Cash and cash equivalents consist of cash, short-term market securities and demand deposits.

#### 54. Equity

The Group's equity is divided into owners' contribution, revaluation account, translation difference, other equity and minority interest. The parent company's initial capital amounts to USD 587 million.

### 55. Employees' benefits

#### a. Defined contribution plan

Cost due to a contribution to the defined benefit plans is expensed in the income statement when incurred.

#### b. Defined benefit plan

The Company's obligation due to defined benefit plans is calculated by estimating the future value of defined pension benefits accrued by current and former employees in current or previous periods. The benefits are discounted in order to determine their present value. An actuary has calculated the obligation on the basis of a method, which is based on accrued benefits. Actuarial changes in the obligation are recognised among operating items under equity in the statement of comprehensive income. Other changes are recognised in the income statement.

### 56. Provisions

Obligations are recognised when the Company has a legal obligation or entered into obligations due to past events, it is likely that they will be settled and they can be reliably measured. The obligation can be assessed on the basis of estimated cash flow, discounted on the basis of interests reflecting market interests and the risk inherent with the obligation.

#### 57. Statement of segments

A segment is a distinguishable component of the Group, which is subject to risks and returns that are different from those of other segments. In determining the distribution of resources to segments and evaluating the results, the returns of the segments are reviewed on a regular basis.

Segment operating results, assets and liabilities consist of items that can be directly linked to each segment, in addition to the items that can be reasonably divided into segments.

## Statement of Corporate Governance

#### **Corporate Governance**

#### Organisation

Landsvirkjun's operation is subject to Act no. 42/1983, with later amendments. The Board of Directors of Landsvirkjun has established working procedures for the Board for further compliance with the law.

### Values and social responsibility

Landsvirkjun's employees hold progress, prudence, and trust as their guiding principles. Landsvirkjun's policy on social responsibility was approved and presented in November 2011. The policy aims at increasing the Company's positive effect on stakeholders and minimise the negative effect on the environment and community. The policy sets the basis for the Company to obtain its goal of becoming a leading energy company in the field of renewable energy and aims at Landsvirkjun taking note of the economy, environment, and community in its operation.

#### **The Board of Directors**

According to law, the Board of Directors of Landsvirkjun is appointed by the Minister of Finance for a one year term at a time and it is responsible for the financial matters and operation of the Company. The Board of Directors of Landsvirkjun consists of the following Directors: Bryndís Hlödversdóttir, Director of Human Resources at Landspitali, who is also the Chairman of the Board, Sigurbjörg Gísladóttir, chemist and vice Chairman of the Board, Ingimundur Sigurpálsson, CEO of Íslandspóstur, Arnar Bjarnason, Managing Director of Reykjavík Capital and Stefán Arnórsson, Professor at the University of Iceland.

#### **Audit committee**

Chapter IX of Act no. 3/2006 on financial statements, cf. Act no. 80/2008 applies to the audit committee of Landsvirkjun. The working procedures for the committee are established by the Company's Board of Directors for further compliance with the law. The audit committee of Landsvirkjun exercises advisory functions for the Board and operates on the basis of the Board's authorisation. The committee has no executive power. The Company's audit committee consists of three individuals; two board members, Ingimundur Sigurpálsson and Sigurbjörg Gísladóttir and Stefán Svavarsson, auditor and chairman of the committee.

### **CEO, Deputy and Executive Directors**

The Board of Directors of Landsvirkjun hires a CEO. The CEO of the Company is Hördur Arnarson. The Board of Directors and the CEO exercise executive power in the Company. Landsvirkjun's Deputy is Ragna Árnadóttir. The Deputy's roles is to handle collective matters of the Company in addition to policy development, such as ensuring good corporate governance. At the end of the year the Company's executive directors were five.

Finance division. The Company's CFO is Rafnar Lárusson. The role of the division is to create basis for profitable operation and contribute to maximum results in all units of the Group.

Project planning division. The Head of the project planning division is Pálmar Óli Magnússon. The role of the division is to manage Landsvirkjun's power plant constructions from development to fully operative power plants. The division monitors costs, quality and work progress and ensures that projects are delivered fully operative in accordance with the Company's presumptions, estimates, and needs.

Marketing and business development division. Head of marketing and business development is Björgvin S. Sigurðsson. The role of the division is to maximise the Company's revenue with the analysis of different business opportunities, product development, promotion, and sales of products and services, and negotiations of new power contracts and follow up on the execution of existing contracts.

Energy division. Head of the energy division is Einar Mathiesen. The role of the division is to guarantee that energy production and distribution is in accordance with agreements with customers in a safe and efficient way.

Research and development division. Head of research and development is Óli Grétar Blöndal Sveinsson. The role of the division is to manage the preparation of new power projects and to conduct research and monitoring of the existing power system. The division shall ensure the economic implementation of new power projects, increase flexibility and manage innovation, and to have a long-term vision of utilisation of energy resources.