Landsvirkjun

Annual Report 2023

Power for Society

Annual Report 2023
Summary of Activities

About the Annual Report 2023
The Annual Report 2023 is published in accordance with the international standard Global Reporting Initiative (GRI-Core option). The report also serves as a sustainability report because sustainability is a core principle in our operations. Our climate accounts are included in the Annual Report.

The overview page can be accessed here
landsvirkjun.is/arsskyrslur/2023

The following documents are part of the Annual Report:
- Annual Report
- Climate Accounts (numerical information)
- Financial Statement
- GRI-reference table

Our strategy supports our vision and mission and underpins each chapter of this report. 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. Our vision is a sustainable world powered by renewable energy.

Our Annual Report is based on our five strategy targets:
- Exemplifying resource utilisation and electricity production
- Leading the way in climate and environmental affairs
- Pursuing a diverse business and exceptional customer service
- Providing a progressive and sought-after workplace
- Exceeding expectations in open communication and cooperation

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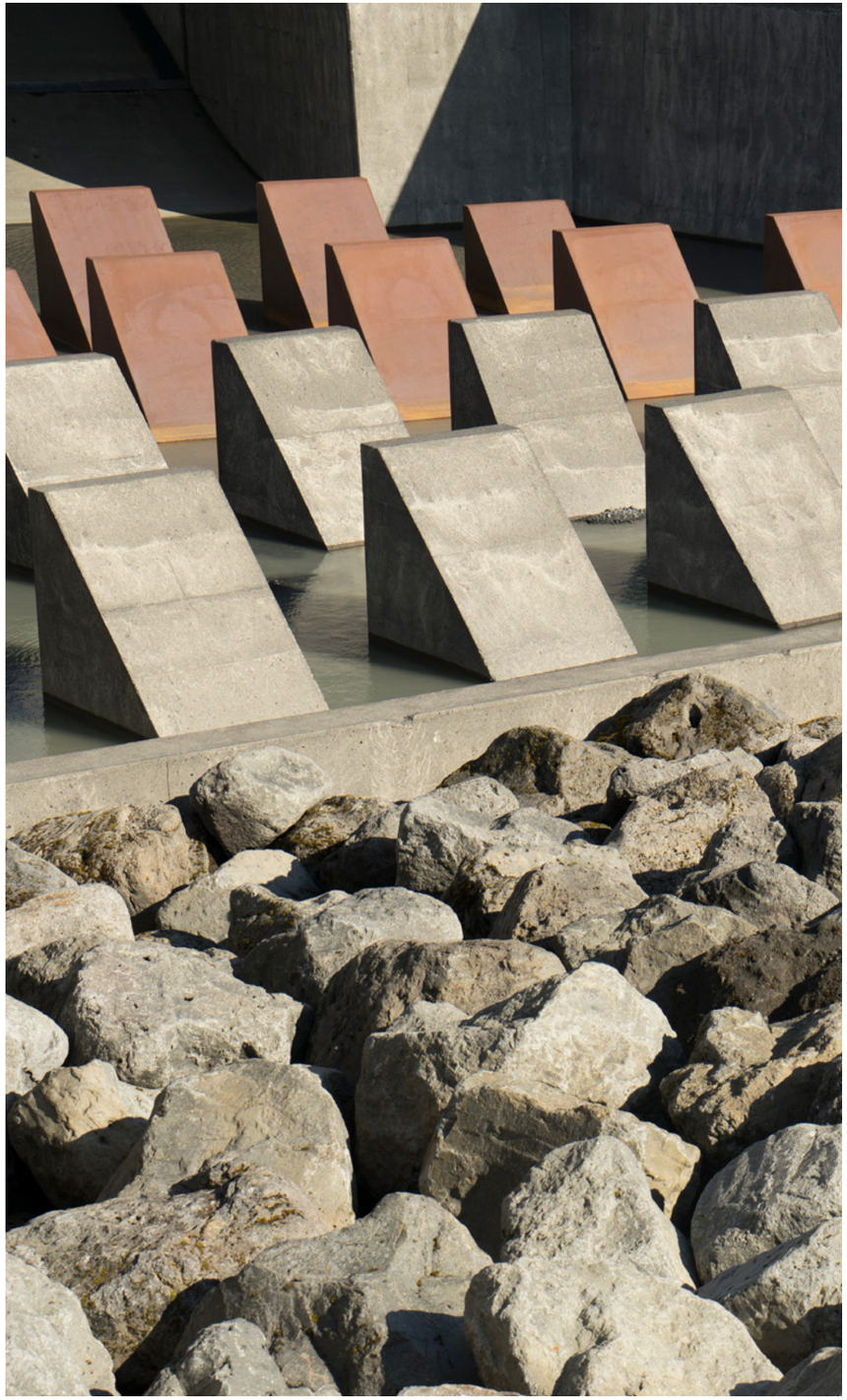

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Key Figures

Energy production
14.7 TWh ↓0.1%

Earnings before unrealised financial items
375.3 m. USD ↑18.8%

Avoided emissions from energy production
2,641,874 tonn CO_2-eq ↓1%

Carbon footprint per energy unit
0.9 CO_2-eq/kWh ↑22%

Operating revenue
657.4 m. USD ↑8.1%

Total emissions per energy unit
3.3 CO_2-eq/kWh ↑7%

Total assets
3,614.2 m. USD ↓6.7%

Carbon footprint
13,518 CO_2-eq ↑22%

Net debt
697.3 m. USD ↓17.8%

Net assets
2,364.1 m. USD ↑2.9%

Economic contribution
834.4 m. USD ↑50%

Full-time equivalent positions
329 ↑12.7%

H-value*
0.89 ↑39%

Gender ratio-managers
39 % Women **61 % Men**
0 % Other gender

Gender ratio- executive level
44 % Women **56 % Men**
0 % Other gender

*The H value is the number of accidents leading to absence, divided by the total hours worked, times 200,000 hours.

Landsvirkjun at a glance

Landsvirkjun generates electricity using renewable energy sources, including hydropower, geothermal energy, and wind power. We produce most of Iceland's electricity, which amounts to more than 70% of all electricity generated in the country, delivered to industries, the service sector, and homes. Approximately 85% is sold to energy-intensive industries and 15% on the wholesale market.

We operate fifteen hydropower stations, three geothermal power stations and two wind turbines for research purposes in five operating areas. Our headquarters are in Reykjavík.

In 2023, we produced 14,734 GWh of electricity.

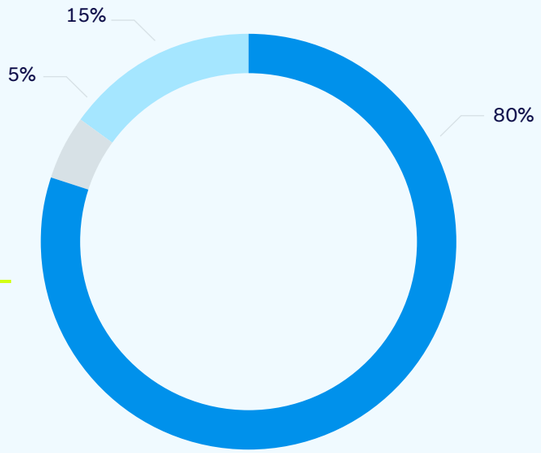
Landsvirkjun is a public partnership owned by the Icelandic government and the company Eignarhlutir, owned by the state treasury.

Multiple socioeconomic benefits are derived from Landsvirkjun´ s renewable energy production in Iceland. They include employment and income generation in diverse industries, fees and taxes paid to the state and municipalities, dividends to our owners, and consumer purchases.

Our vision is a sustainable world powered by renewable energy. 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.

Our customers

Landsvirkjun's customers are mostly international energy- intensive companies and domestic electricity wholesalers.



Visionaries Shape the Future
Chairman’s Statement

Jónas Þór Guðmundsson

In 2024, as we mark another outstanding operational year for Landsvirkjun, we commemorate a momentous milestone: the 100th anniversary of the birth of Jóhannes Nordal, our founding chairman, who passed away on the 5th of March 2023. He was a driving force in Iceland’s transition to autonomy, economic growth, and value creation in the 20th century, steering us away from the agrarian society of past centuries towards a modern society.

Jóhannes Nordal’s vision and leadership were instrumental in establishing Landsvirkjun, and the pivotal agreements brokered during his tenure laid the groundwork for the Company’s success. In 1965, landmark legislation on Landsvirkjun enacted by the Icelandic parliament on his birthday, the 11th of May, marked a significant milestone in the nation’s journey towards prosperity and modernity.

The establishment of the Búrfell Hydropower Station, followed by subsequent developments, cemented Landsvirkjun as a vital pillar of the country’s electricity infrastructure, a role it continues to play to this day. Without the foresight and unwavering commitment of Jóhannes Nordal and others involved in major industry and energy ventures, the progress of Iceland’s energy sector would not have advanced as remarkably as it has, creating a tangible improvement in the quality of life for the nation as it transitioned into the modern era.

In 2023, Landsvirkjun experienced a record-breaking financial year with a 19% increase in profit from core operations, even beating the previous record year. The Company’s strategic financial management resulted in the lowest net debt to EBITDA compared to industry peers, highlighting its robust financial position. This success was made possible by the dedicated efforts of Landsvirkjun’s employees, strategic planning, and a strong foundation.

We Icelanders must recognise the historical roots of our advantageous position in energy matters since the last century. This foundation is crucial for our nation’s prosperity and well-being. Let us persevere in utilising our resources and seizing the opportunities they provide for the advancement and benefit of our country and its people!

Landsvirkjun's Most Successful Operating Year Yet

CEO's Statement

Hörður Arnarson

In 2023, Landsvirkjun witnessed its most successful operational year in nearly six decades. The profit from core operations surged by 19% compared to the previous year, which had set a record. The Company's financial standing reached unprecedented levels, with the equity ratio higher than ever and debt to EBIT ratio from operating profits either as low as or lower than that of other energy firms in the Nordic region.

However, amidst the Company's improved performance, clouds loom on the horizon in Iceland's energy sector. Various delays hampered energy generation projects, including an inefficient licensing process, potentially impacting energy production meeting market demands due to energy exchanges and societal growth until approximately 2027-28. Still, hopes remain high for the commencement of the Hvammsvirkjun and Búrfell Wind Farm projects in 2024, the most advanced ventures in the Company's development pipeline. Final preparations are underway for the extension of Þeistareykir Power Station and the Sigalda Power Station. Board approval will be sought to proceed with tenders for these projects later in the year.

The exceptional operational years of 2022-23, driven by favourable market conditions, contract renegotiations, and lucrative power contracts with energy-intensive users, were connected to price developments in Nordpool that have now expired. Landsvirkjun is projected to continue achieving good results in 2024, but the market conditions may not be as favourable until renegotiations with Alcoa conclude, and new power stations become operational.

This comprehensive annual report details Landsvirkjun's 2023 activities and serves as a progress report on our commitments under the United Nations Global Compact agreement. By submitting this report, we reaffirm our dedication to contributing to the UN's development goals and adhering to the organisation's ten principles. We declare our continued support for the UN Global Compact.

Landsvirkjun's strategy and corporate governance

Our strategy
The role of green energy in climate action is crucial. We have been entrusted with the nation's renewable energy sources and intend to fulfil that responsibility. Taking care of nature is intrinsic to our role and reflects our commitment to climate action. Value creation and the pursuit of sustainability are the two guiding principles in everything we do.

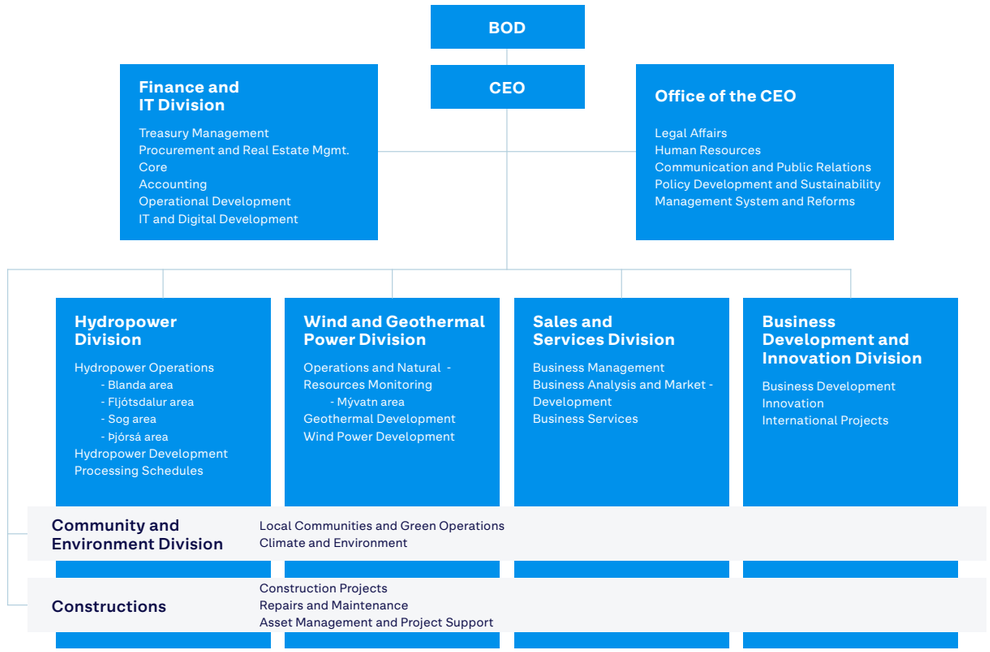
Our **vision** is a sustainable world powered by renewable energy.

Our **role** is to maximise the value of the renewable energy resources we have been entrusted with in a sustainable and efficient manner.

Our **strategy** supports our vision and mission and underpins each chapter of this report.

Our **values** are progressiveness, prudence, and reliability.

↓ Organisational Chart



↓ Strategy targets

Operating exemplary resource utilisation & energy production
Landsvirkjun utilises hydropower, geothermal energy, and wind energy, focusing on sustainability, efficiency, and safety.
We show foresight and develop opportunities for increased energy production to fulfil the needs of the future.

Leading the way in climate and environmental affairs
Landsvirkjun respects the environment and plays a vital role in Iceland's transition to clean energy, contributing to global carbon neutrality.

Pursuing a diverse business & exceptional customer service
Landsvirkjun works closely with its customers to increase value creation. We work to create a greener future by using innovative measures and identifying new business opportunities.

Providing a progressive & sought-after workplace
We promote team unity, job satisfaction, and positive workplace culture by supporting employee health, well-being, and equal rights.

Exceeding expectations in open Communication & cooperation
We foster effective and active communication with all our stakeholders and work closely with local communities.
We are a good neighbour.

Sustainability Principles
We have followed our Corporate Social Responsibility Policy since 2012 and have published sustainability reports in accordance with the GRI standards since 2019. These reports reflect a comprehensive approach to growing sustainability in our operations. We have supported the UN Global Compact since 2013 and track our progress in environmental issues, employee rights, human rights, and corruption prevention. We also support the UN´ s Sustainable Development Goals, focusing specifically on Goals 13, 7 and 5.

The Company defined nine sustainability priorities based on the results of the assessment:

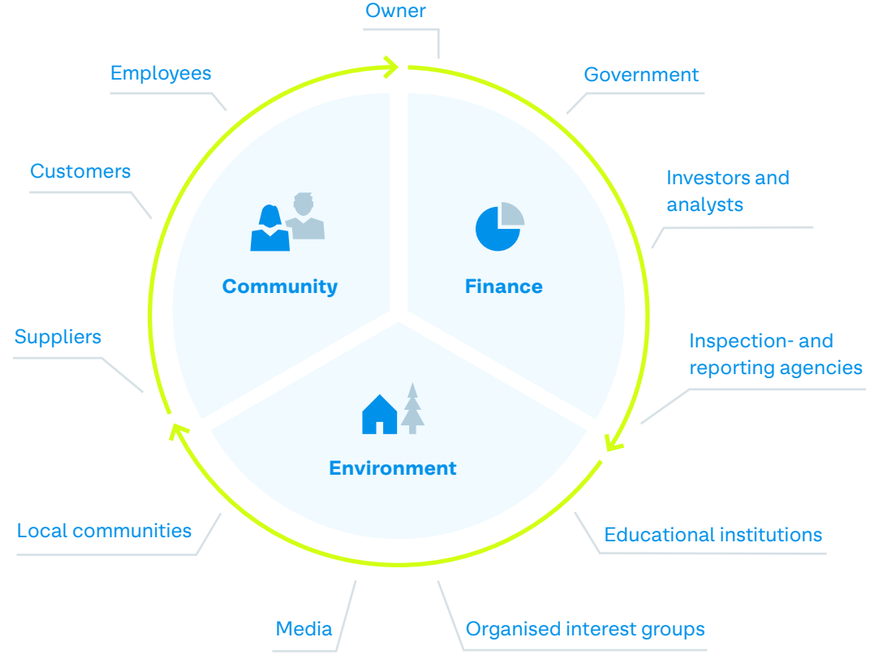
Finance and governance	Environment	Community
A Code of ethics & responsible practices	Climate change action	Safety and well-being of employees and professional development
Value creation and dividends	Producing electricity in harmony with nature	Equality
Energy-related innovation	Maximising resources and less waste	Cooperation with local communities

A materiality assessment was conducted from 2018 to 2020 to analyse stakeholder interests and expectations. The assessment has been used until now, but a new one is due. Implementing the Corporate Sustainability Reporting Directive (CSRD), per the European Union's (EU) directive, requires standardised sustainability reporting. The EU has introduced the European Sustainability Reporting Standards (ESRS) for this purpose, aiming to harmonise disclosure and simplify comparisons between companies. A so-called double materiality assessment is necessary to implement these standards. This involves evaluating the impact of topics on the environment and society as well as financial risk. Landsvirkjun's performance will be assessed using these factors to determine the most critical topics for the Company's strategic direction and information disclosure.

In preparation for the implementation of the standards mentioned above, which are anticipated to be in place by the end of the 2024 financial year, Landsvirkjun has started the a materiality assessment. This comprehensive project involves employees from all sectors of the Company and the engagement of various internal and external stakeholders.

Below, you can review the results of the materiality assessment carried out between 2018 and 2020.

↓ Groups of stakeholders



Governance

Management systems and certification

Landsvirkjun's management system supports the Company's obligations towards its customers, employees, and other stakeholders. Additionally, the system supports the Company's plans for further development based on sustainability values.

Quality management, environmental management, security, health and safety, equal pay, and IT security are all part of Landsvirkjun's management system, certified by international standards. Landsvirkjun's internal electrical management system (RÖSK) conforms with the Iceland Construction Authority's electricity safety requirements.

Certifications

Landsvirkjun's electricity generation is certified by the German Certification Body TÜV in accordance with the TÜV SÜD Standards CMS 83: Generation EE, as 100% renewable energy. This reflects the Company's commitment to developing renewable energy sources and confirms that Landsvirkjun fulfils the most stringent production requirements.

Landsvirkjun's Board of Directors approved standardised instructions for its internal policy in 2020. According to the instructions, the Company must set internal policies for the following:

- Dividends
- Risk management
- Capital structure
- Procurement
- Human resources and equality issues
- Data protection
- Social responsibility
- Competition
- Communication with local communities
- Remuneration policy
- Environmental issues
- Information security
- Information and publication issues
- Health and safety and occupational safety

Anti-corruption and ethical standards

Our ethical standards are outlined in our quality management system, integrated with the appropriate procedures, and made available to employees in general information provided by the Company. We updated our Company and Supplier Code of Conduct this year.

Landsvirkjun conducted a gap analysis in response to the implementation of the EU Taxonomy Regulation. This regulation outlines the minimum safeguards companies must meet concerning human rights and governance. The analysis found that Landsvirkjun was well-prepared, but a few suggestions for improvement will be addressed in the coming year.

Employees must report any reprehensible behaviour within the Company in accordance with a response plan for reprehensible conduct. The aim is to prevent and disclose offences and other possible misconduct immediately. Among the topics covered by the plan are anti-corruption and anti-bribery.

Human rights and personal data protection

The Landsvirkjun Board of Directors approved regulations on the corporate supply chain in 2016, intended to safeguard the rights of our workforce, including contractors, subcontractors, and temporary work agency employees. Among other things, it covers wages, employment terms, and health- and accident insurance. As such, a separate human rights regulation was not deemed necessary in addition to the existing laws already in place to protect the rights of all parties involved in our operations. These include Landsvirkjun's Code of Ethics, Supplier Code of Ethics, and the Reprehensible Conduct Response Plan discussed above.

Our Personal Data Policy, in effect since the 22nd of October 2021, ensures the confidentiality, security, and reliability of personal information. There is a particular focus on personal data within the Company, such as information about employees and applicants.

We received no complaints about customer or employee privacy violations this year. We train our employees on Landsvirkjun's Code of Conduct, the law protecting whistle-blowers, the Company's response plan and preventing reprehensible behaviour.

Active competition

In 2017, we implemented the Competition Policy as part of our management system. The Policy outlines our plans for promoting competition in the markets we operate and how we should be guided by its provisions in our work. It also helps us resolve any disputes professionally. Our employees are provided with online education, and the Policy is updated regularly.

During the year, the Icelandic Competition Authority registered one complaint from N1 concerning Vonarskarð's sales process. Additionally, the inspectorate launched an initiative investigation into specific provisions within Landsvirkjun's power contracts.

Value chain

Our business activities span various areas, and we are committed to maintaining our standards at every stage of the value chain. Our suppliers and business partners must comply with our occupational health and safety, environmental protection, and corporate social responsibility standards.

Landsvirkjun's procurement activities adhere to Directive 2014/25/EU and Regulation 340/2017 when purchases exceed specific financial thresholds. We have established a code of conduct for suppliers and service providers based on our employee code of conduct and the UN Global Compact on responsible business practices. Suppliers must comply with these rules when dealing with us.

Chain of responsibility provisions are included in all procurement contracts. They ensure compliance with labour laws and collective pay agreements for everyone working indirectly for Landsvirkjun, including subcontractors, contractors, and temporary work agency employees.

In December 2021, Landsvirkjun's Board approved the Company's revised Procurement Policy. It outlines the principles for responsible procurement in our supply chain, including coordination, transparency, traceability, and efficiency.

We place a high priority on the following:

- Ensuring compliance with the appropriate Company laws and regulations
- Managing procurement and contracts in accordance with other company policies and objectives, especially those related to:
  - The environment, climate change and green procurement
  - Occupational health and safety issues
  - Community issues
- Maintaining healthy business ethics, enforcing supply chain codes of conduct in cooperation with suppliers, and ensuring chain responsibility in purchasing agreements.

Management closely monitors the procurement policy and its execution through regular status meetings, where objectives and criteria are discussed. Management also evaluates suppliers as part of the annual management system review.

Our foreign suppliers are primarily located in Europe or North America, where there are substantial human rights and environmental laws. As a result, no specific assessment of the Company's suppliers regarding human rights or environmental issues was deemed necessary.

Our website contains information about tenders, tender results, and supplier and service provider codes of conduct. The Company's supply chain did not significantly change in 2023.

EU Taxonomy

Landsvirkjun has integrated the EU Taxonomy provisions into its operations and is now publishing sustainability information based on the taxonomy.

Under Article 1 of Act no. 25/2023, on the disclosure of information on sustainability in the field of financial services and classification system for sustainable investments, implementing EU regulation no. 2020/852, according to Icelandic law, Landsvirkjun must disclose the percentage of key indicators of taxonomy-eligible activities that are considered environmentally sustainable based on the regulation's criteria.

A commitment to sustainability drives Landsvirkjun's operations. Our most significant contribution to promoting sustainable development is to take responsibility for climate matters, where green energy plays a key role. We will work diligently to coexist harmoniously with nature while addressing climate issues.

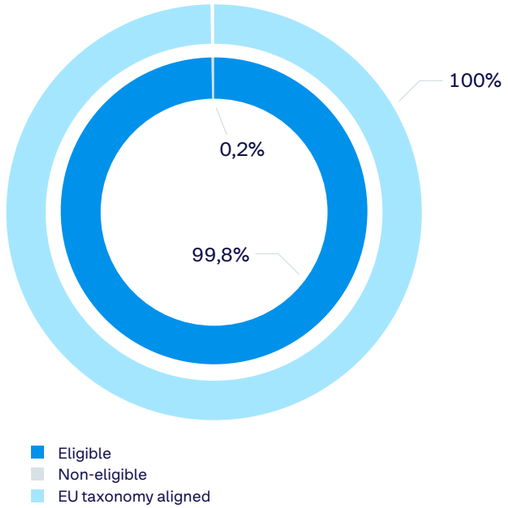
The EU taxonomy is a classification system for sustainable economic activities assessed using technical screening criteria outlined in the Commission Delegated Regulation (EU) 2021/2139. The regulation is a vital transparency tool designed to help meet the EU's climate and energy targets and the objectives of the European Green Deal.

Corporations must satisfy the criteria for environmentally sustainable economic activity specified under Article 3 to obtain recognition as an environmentally sustainable entity per the governing regulation. This requires that such activities significantly contribute towards achieving one or more environmental objectives without doing significant harm of other objectives. Furthermore, such activities must conform to the minimum safeguards.

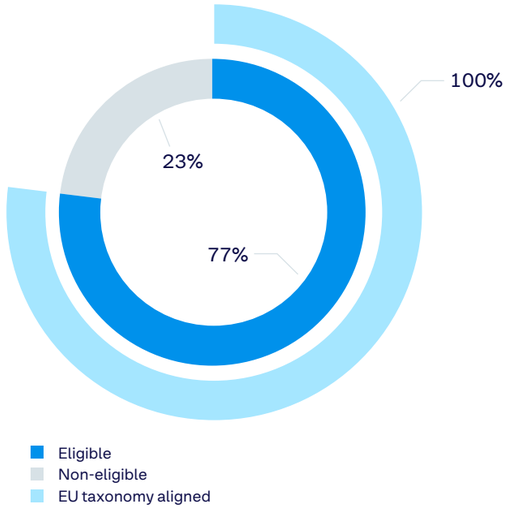
The regulation requires businesses to disclose income, investments, and operating costs directly linked to activities eligible for taxonomy. The Company must be eligible and aligned to fulfil the requirements. The regulation came into effect in Iceland on June 1st, 2023, through Act no. 25/2023, and it applies to the accounting year 2023.

The EU taxonomy regulations are discussed more in Appendix II: Non-financial information in the Financial Statement.

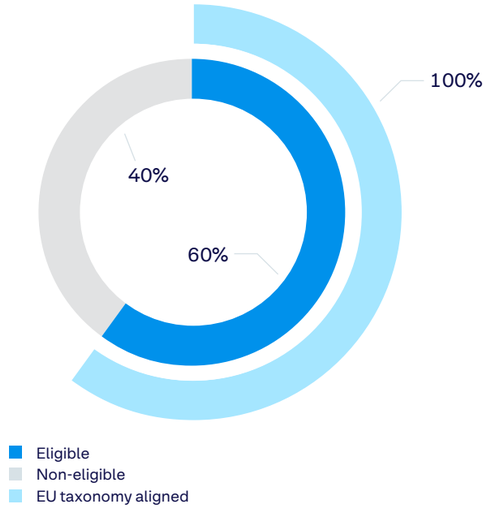
↓ Revenue



↓ Investments



↓ Operating expenses



Risk assessment in an ever-changing environment
Managing risk is an inextricable part of Landsvirkjun's operations and progress.

We have established a formal risk management process to identify key risk factors. Our managers and employees identify and evaluate our financial and non-financial risks.

As part of this process, the Company's principal risk factors are mapped, and appropriate steps are taken to minimise their likelihood and their impact on our image, finances, health and safety, and the environment. A special information system defining risk factors and countermeasures is used to manage Landsvirkjun's risk management.

Landsvirkjun's Board of Directors sets a comprehensive risk management strategy based on the following criteria:

- Company policies, goals and plans are successful.
- Company assets are protected appropriately.
- Serious accidents are prevented.
- Company operations without environmental incident.
- Information is accessible, relevant and correct.
- Staff should adhere to policies, rules, procedures and plans while respecting applicable laws and regulations and relevant recommendations.

We take climate change very seriously and know its impact on our operations and the measures we can take. An integral part of our risk analysis is analysing how climate change will affect our operations. As part of our monitoring activities, we analyse meteorological and market changes, monitor changes to the legal and regulatory environment, assess technological developments and participate in the general discussion on climate change. It gives us the predictability we need for continued safe operations in a rapidly changing world.

A sustainable world, powered by renewable energy

Our vision is a sustainable world, powered by renewable energy. This vision encompasses the heart of the journey many nations worldwide are undertaking to transition from fossil fuels to green, renewable energy sources. Iceland's government is actively participating in the project and has set one of the most ambitious targets to date regarding climate change: Iceland will become carbon-neutral and free of oil and gasoline by 2040. Reducing effort-sharing emissions (directly under the jurisdiction of the state) by about 1.3 million tonnes by 2030 (base year 2020) will also be necessary to fulfil the Paris Agreement.

To bring our vision to life, we must tackle the imminent energy demands arising from the energy transition and society's overall expansion in the years to come. However, demand is now greater than the available supply. The only way forward is to harness the full potential of our renewable energy sources.

The current situation can be partly attributed to a complex energy production licencing process. A specific processing time is rarely defined in advance, which grants organisations or governments almost complete control over the length of processing. Regulations must be simplified to meet the growing electricity demand.

Energy transition needs

During our autumn meeting, we discussed the gradual transition to renewable energy sources over the next few decades. Energy transition solutions have the potential to significantly impact international flights, which are currently the largest users of fossil fuels in Iceland. There is much uncertainty surrounding the energy needs of international flights, so progress is still needed in this area. Deciding comprehensive solutions for the energy transition in the near future would, therefore, be unrealistic and untimely at this point.

The transition to electric cars is underway, showing a shift towards sustainable energy on land. The electrification trend is expected to gain even more momentum in the coming years, particularly after 2030, when the ban on new registrations of petrol and diesel vehicles is set to take effect. It may not be feasible to electrify larger work equipment and heavy trucks that travel long distances, as hydrogen is likely a more suitable energy source. Biofuels and electric fuels are expected to drive energy transition in aviation and maritime sectors, as direct electrification may not be suitable.

We actively engage in multiple collaborative initiatives to advance the energy transition and pioneering hydrogen and methanol production methods.

Hydrogen

When direct electrification is not possible for land transport, such as heavy transport, hydrogen can be a practical and effective solution. As a result, we initiated the development and preparation of hydrogen production. Linde, a company with extensive expertise in the chemical industry, hydrogen production via electrolysis, and the management of green industrial parks, joined us. Linde is a global gas and engineering company operating in 100+ countries, including Iceland, where it produces oxygen, nitrogen, and carbon dioxide and operates a filling station. Linde is collaborating with Landsvirkjun to explore the possibility of hydrogen production in Iceland.

Developing a new hydrogen value chain in Iceland requires the involvement of various parties. Landsvirkjun has been actively communicating with all the main stakeholders in Iceland to facilitate the use of hydrogen in the energy transition. This includes end users who aim to stop using fossil fuels in their operations. In November, Landsvirkjun and Linde announced they had begun collaborating with N1 and Olís. Both companies will handle the transport, filling, and retail hydrogen sales.

Methanol

Methanol may be suitable for energy conversion at sea, where electricity or hydrogen are insufficient for longer distances. It is produced from hydrogen and captured CO_2. Methanol engines exist, and several international shipping companies have ordered methanol ships. The Icelandic shipping industry has shown particular interest in green methanol, which has the potential to play a vital role in decarbonising shipping vessels by providing an alternative energy carrier to fossil fuels.

Landsvirkjun is collaborating with PCC SE to investigate the feasibility of methanol production in Iceland. Methanol can be produced using CO_2 captured from PCC's Bakki silicon metal plant and electricity from Landsvirkjun.

Potential power projects
So, what can be done to meet the high energy demand? We have submitted thirty power project options to the Icelandic Master Plan for Nature Protection and Energy Utilisation Committee. Sustainable development and maintaining a careful balance between its three main pillars-economy, environment, and society-inspire our approach to evaluating these options.

A lengthy process begins when a specific site is identified as an ideal location for power generation, which involves extensive feasibility and environmental studies and a thorough planning and permitting process that allows institutions, stakeholders, and the public to provide input at various project stages. The following power projects have reached the most advanced stage →

Hvammsvirkjun, a hydroelectric power station located on the Þjórsa River, is our most advanced project, with years dedicated to research and preparation. It fell under the utilisation category of the Master Plan. It received a valid operating license from the National Energy Agency by the end of 2022, which, unfortunately, was overturned in June 2023 by the Environmental and Natural Resources Appeals Board due to concerns regarding water management laws. The first water management plan was issued in April 2022, and Landsvirkjun subsequently sought approval to modify water rights from the Environmental Agency in January 2023.

Post-decision, the Environment Agency had to authorise water rights changes, the Energy Agency had to reissue the power station license, and the municipalities of Skeida- and Gnupverjahreppur and Rangarthing ytra needed to obtain an execution permit before construction could begin. Hopefully, this process will be finalised by the summer of 2024. The power station has an installed capacity of 95 MW and a substantial annual energy production capacity of 740 GW hours.

The **Búrfell Wind Farm**, located to the east of the Þjórsá River in Hafið, has two turbines used for research purposes. The Farm was redesigned to reduce its visual impact based on feedback from its older version. The new design is less noticeable on tourist routes and near stops. The wind farm can generate up to 120 MW of power and produce 440 GW hours of energy annually.

The **Þeistareykir extension** falls under the utilisation category of the Master Plan and is in the project design phase. It has an installed capacity of 45 MW and an energy production capacity of 370 GW/h per year. Preparations are also underway for so-called top pressure using a 25 MW back-pressure turbine and a 210 GW/h energy production capacity per year.

Blanda Wind Farm is located near the Blanda Hydropower Station and falls under the utilisation category of the Master Plan. Wind energy potential research and birdlife research are underway in the area. The expected installed capacity is 100 MW, and the energy production capacity should reach 350 GW/h annually.

New power projects in the Blanda area have a capacity of 30 MW and an annual energy production capacity of 190 GWh. Although the projects fall under the Master Plan's utilisation category, Landsnet's limited transmission capacity prevents us from pursuing them.

Landsvirkjun also analyses various ways to increase installed power in existing hydropower stations to enhance the system's flexibility. This includes the expansion of the Sigalda Hydropower Station, a project designed to increase installed power and improve the use of water resources in the Þjórsá area (based on the initial design, a fourth 50 MW unit could be added). While this investment would make the Company's system more flexible, the increased energy production capacity and expansion would be limited to 6-10 GWh per year.

Energy saving

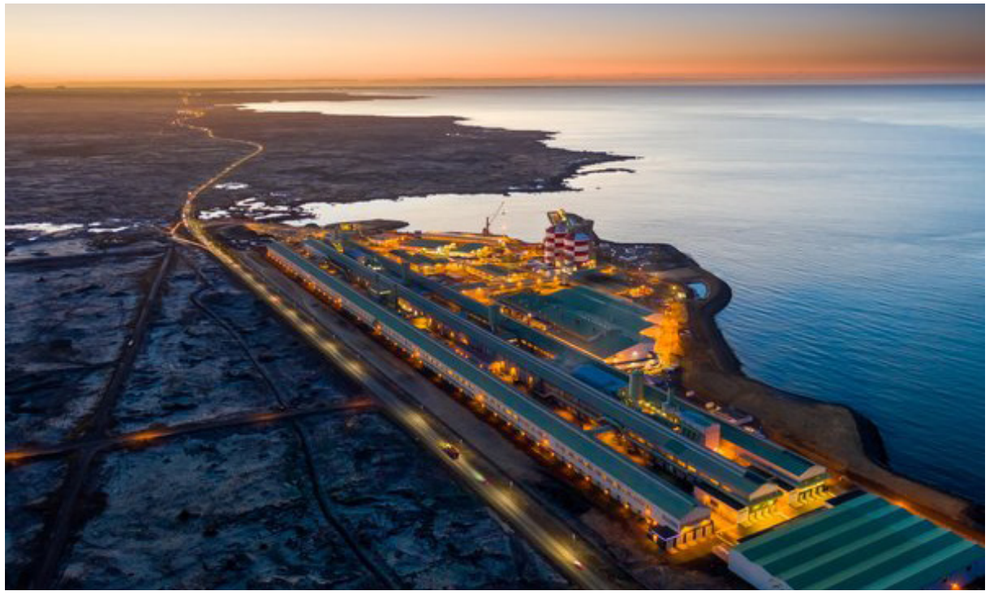
Increased energy production plays a crucial role in meeting the increasing energy demand. However, enhancing the utilisation of energy resources is essential. We subsequently shared the findings of an analysis we conducted on energy efficiency solutions in Iceland.

Above all, the results showed that increased efficiency cannot replace the need for more energy production. Improving energy efficiency could save 360 GWh in the next five years and an additional 800 GWh in the next ten years.

Enhancing energy efficiency in Iceland by 1,160 GWh is achievable with current technology both in the short and long term. Still, accomplishing this objective will entail raising public awareness, implementing government interventions, and fostering transparent communication channels. Some proposed actions in the next 20 years may be challenging due to technical and financial constraints.

An analysis conducted by the Danish consulting firm 'Implement' for Landsvirkjun, the Ministry of the Environment, Energy and Climate, and the National Energy Authority revealed the following results.

The most significant opportunities for energy savings, equivalent to 320 GWh, can be found in the private sector and public services. Improved energy efficiency opportunities include electrical heating (178 GWh), reusing waste heat from industry (357 GWh), and optimising electricity use in the aluminium industry (112 GWh). Opportunities for energy improvement include households (58 GWh), agriculture (43 GWh), non-ferrous metal production (38 GWh), fishmeal factories (24 GWh), and reducing transmission losses (25 GWh).



More efficient licencing

The energy production licencing process can be optimised to save time and effort. It currently hinders energy procurement, preventing society's energy needs from being met. The licencing process is lengthy, and a specific processing time is rarely defined in advance, which grants organisations or governments almost complete control over the length of processing. Establishing clear procedural rules based on a solid legal foundation is essential. Creating a process that avoids sending the same data multiple times to the same parties who repeatedly comment on the same project is also necessary.

We have learned from experience that it can take many years to turn plans for a power station into a reality. However, the time spent waiting is well-spent. It is crucial to formally discuss implementation with stakeholders, where everyone can express their views. This process provides valuable input on minimising negative impacts on the environment and nature and maximising positive social effects.

Numerous parties are involved in reviewing and making suggestions for improvement. As a result, projects often wait months or even years for the government and institutions to complete their reviews. The process can be repetitive, with the same or similar data sent to multiple reviewers. This complexity and extensive process can be challenging for all participants, including institutions, municipalities, and business partners.

Developing a power station for hydro, wind, or geothermal power involves a thorough progression of essential stages. This encompasses initial project assessment using the Master Plan for Hydro and Geothermal Energy Resources, environmental impact assessments and municipal planning. Subsequently, the necessary permits from the National Energy Regulatory Authority and municipal construction licenses must be acquired. Without delays, the construction timeline for a new power station spans at least twelve years from the submission of plans to operational launch.

A power station can take up to three election cycles to be prepared and constructed. This means that the process may span the terms of three different governments and councils. The process should not be hindered three times. As a result, it is causing unnecessary delays. Unfortunately, there were numerous delays in 2023, with administrative tasks taking longer and deadlines being missed. Even deadlines set by law are being significantly exceeded.

Operating performance 2023
Income statement

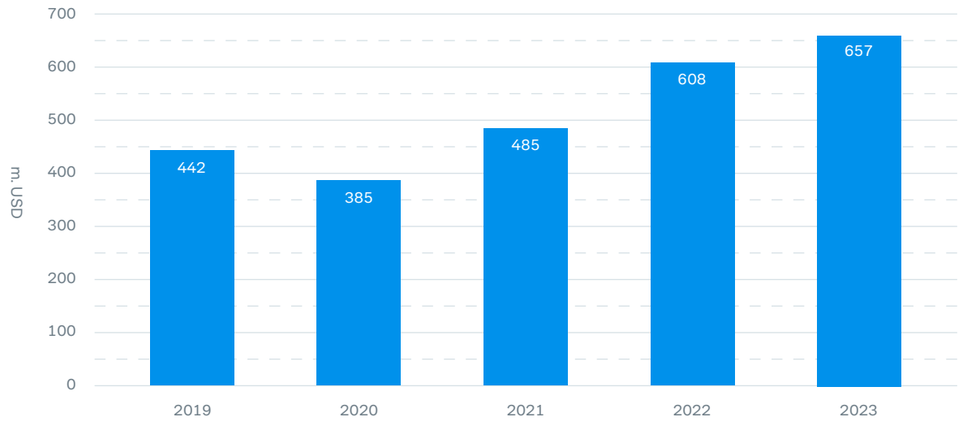
Landsvirkjun's strongest year ever.

The year 2023 was the best operating year in Landsvirkjun's history, with a 19% increase in profit from basic operations compared to the previous year, which was also a record year. Landsvirkjun's income from energy-intensive users decreased due to a drop in energy and commodity prices after an initial increase caused by the COVID-19 pandemic. Electricity prices for energy-intensive users are tied to the energy and commodity markets, which have returned to their pre-pandemic levels. Despite a decrease in income from electricity sales, the Company's overall operating income has increased. This is mainly due to hedging, which helps to delay the effects of income fluctuations from energy and commodity markets. These fluctuations can both positively and negatively affect the Company's operating results. Hedging allows the Company to reduce the impact of market fluctuations and maintain a consistent operating income.

Operational Outlook

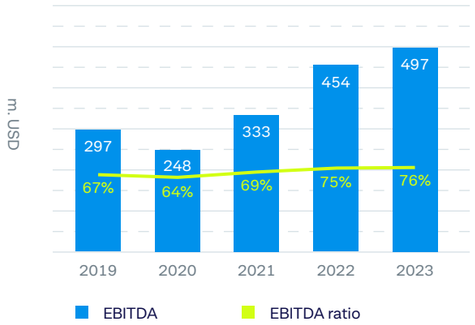
Landsvirkjun's operations exceeded expectations during the year, and energy demand is expected to remain strong in the near future.

↓ Development of operating revenue

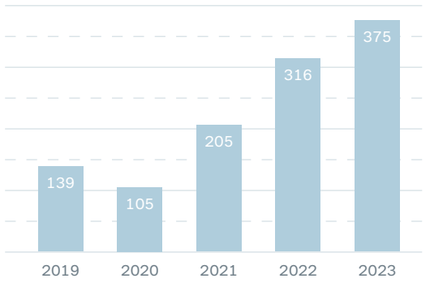


The group´ s earnings before interest, taxes, depreciation, and amortisation, EBITDA were historically high this year and amounted to 497 m. USD is an increase of 9% compared to the previous year.

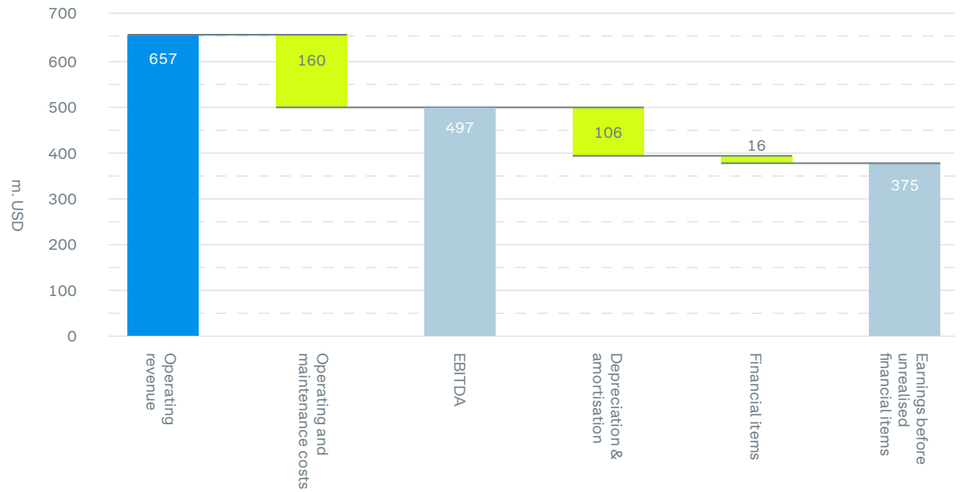
↓ EBITDA & EBITDA ratio



↓ Earnings before unrealised financial items



In Landsvirkjun's core operations, profits before unrealised financial items increased by USD 59M year on year, which is a record high.



Balance sheet and key figures

Balance sheet

Landsvirkjun´ s total assets amounted to 3.614 m. USD at year-end 2023, and cash amounted to 85 m. USD.

Net debt (interest-bearing debt less cash) amounted to 783 m. USD at year-end 2023, a reduction of 216 m. USD from year-end 2022. Net assets increased by 67 m. USD and the equity ratio is now 65.4%, compared to 59.3% at year-end 2022.

↓ Assets

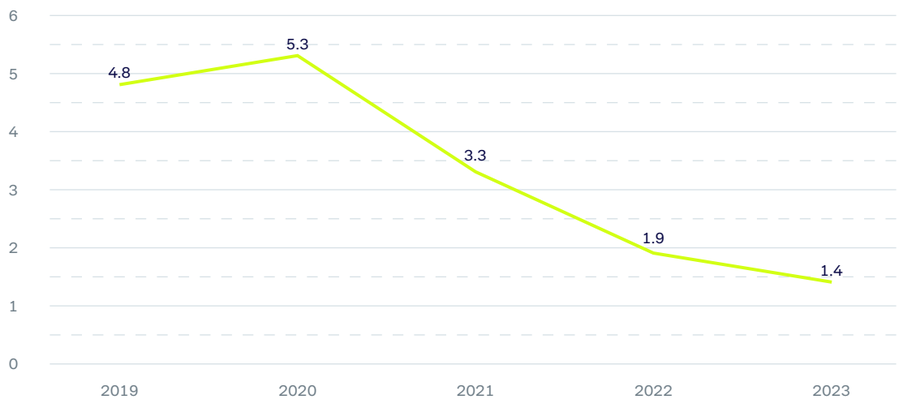
↓ Debt & net assets

↓ Net debt & equity ratio

Net debt decreased by 151 million USD by the end of 2022 (net debt is interest-bearing debt less cash). Interest payments and excess interest revenue continue to decrease as in previous years due to declining debts and increased interest revenue. Currently, 77% of our loans bear fixed interest rates and, therefore, remain unchanged even if interest rates rise in financial markets.

The Company‘s debt, measured against operating profit before depreciation and amortisation (net debt/EBITDA), shows the interest-bearing debt the Company needs to repay at any given time. This ratio decreased from 1.9x at year-end 2022 to 1.4x at year-end 2023.

↓ Net debt / EBITDA

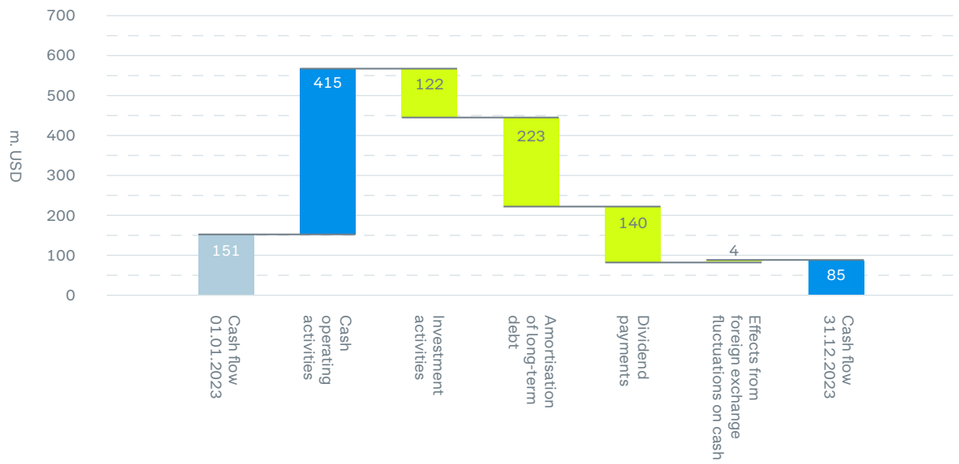


Statement of cash flows

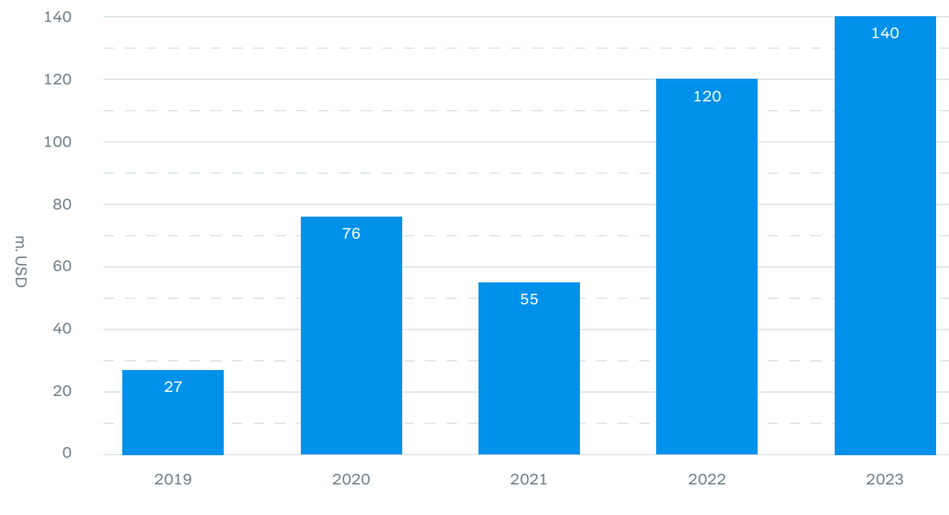
Strong operating results support extensive capital formation. In 2022, cash from operations reached historic levels, increasing by 15% year-on-year to USD 415 million.

Landsvirkjun's financial position continues to strengthen, alongside a significant reduction in debt and decreasing financial risk. This year, Landsvirkjun paid 20 billion ISK dividends to the state, the largest dividend payment in the Company's history.

Cash flow



Dividend payments



Secure and diverse access to capital
Landsvirkjun places great emphasis on ensuring secure and diverse access to capital. The Company has raised capital through borrowing, issuing bonds on foreign markets, and contractor financing. Landsvirkjun also has access to a line of credit from the Company's commercial banks.

Our focus on green and sustainability-related financing aligns with our strategy and vision for a sustainable world powered by renewable energy. Landsvirkjun is committed to being a leader in climate and environmental issues. This also applies to the Company's finances, as our policy dictates that all new financing is sustainability related. At the end of 2023, about 25% of Landsvirkjun's funding was sustainability related.

Encouraging sustainability

Green financing is a traditional form of financing used to finance assets or projects which positively impact the environment and climate issues. The green bond market provides investors with a green investment channel. As part of our commitment to renewable energy production in Iceland, we use green financing to finance or refinance assets that contribute to the sustainable, responsible, and efficient use of natural resources to produce renewable energy.

Sustainability-related financing encourages companies to achieve ambitious, defined goals in the field of sustainability by providing incentives to help them achieve those goals. Landsvirkjun's sustainability-related loans are linked to targets and indicators in equality, climate, and security issues and reflect our commitment to the United Nations' Sustainable Development Goals.

Landsvirkjun's green and sustainability-related financing consists of the following:

- Four green bonds in the amount of USD 200 million
- A sustainability-linked revolving credit facility with interest terms linked to Landsvirkjun's success in meeting specific sustainability standards. The criteria are related to objectives in climate change action: achieving carbon neutrality by 2025 and stopping purchasing fossil fuels by 2030. Amount: USD 125 million.

Fixed interest rates protect against rising rates

We actively manage risk and defend our position against market risk, including fluctuations in income, currency exchange rates, and interest rates. In recent years, a systematic effort has been made to reduce interest rate risk by converting loans from variable to fixed interest rates. As mentioned in the previous chapter, approximately 77% of the Company's loans carry a fixed interest rate. This has benefited the Company in the last few quarters when interest rates have increased globally. The average interest rate on our loan portfolio in US dollars is 4%, while the base rate in the US is 5.3%.

Financial strength and increase in credit rating from S&P

We have systematically reduced our debt in recent years, resulting in historically low debts and increased financial strength. Our debt ratio is now among the best in comparable companies.

Landsvirkjun has received credit ratings from Moody's and S&P Global Ratings. In November 2023, the credit rating from S&P Global Ratings was upgraded from BBB+ to A-. This upgrade reflects S&P's assessment of Landsvirkjun's strong financial position and prospects for the upcoming quarters.

S&P Global Ratings A-

Moody's BAA1

Landsvirkjun's operations generate value creation
Our renewable energy production creates value and employment opportunities nationwide. Economic benefits include procurement from domestic suppliers and services, taxes and dividends paid to the state, property taxes, electricity sales to industry and export income from their activities.

Landsvirkjun is owned by the Icelandic people, who benefit from Landsvirkjun's dividend payments to the Icelandic treasury.

The economic impact from the parent company (USD m)

Revenue 2023

Operating income	657.4

Economic contribution

		2022	2023
Suppliers	Operating costs minus energy transportation	99.4	160
Employees	Wages & wage related expenses	46.1	50.4
Investments	Total investments	14.2	49.5
Owners and creditors	Dividends	120	140
	Net capital costs	31.8	11.2
	Repayments of long-term loans minus new loans	149.5	222.9
Public bodies	Income tax	33.3	200.5
Total economic contribution		**834.4**	

Environmental issues and local community involvement are increasingly important in selecting contractors, products, and services. Trade with domestic suppliers and contractors comprised over 80% of the Company's total purchases in 2022-2023. Most of Landsvirkjun's purchases relate to regular maintenance and renovations at our power stations, and research and development are related to power projects and community infrastructure investments.

Our commitment to promoting a sustainable environment includes supporting and participating in research, innovation, and community projects promoting energy solutions, climate action, and social benefits.

In 2022, Landsvirkjun divested its stake in Landsnet to the Icelandic government, a move that affects the comparison of economic contributions between years due to now including electricity transmission costs. Additionally, we have accounted for investments related to power station pre-development and other assets not previously included in the 2022 report. Consequently, we have adjusted the 2022 data to align with the assumptions for 2023, ensuring comparability across the years.

Leading the way in climate and environmental affairs

Landsvirkjun is a key player in propelling Iceland's energy transformation, prioritising sustainable practices and actively striving towards a carbon-neutral future.

Our vision is a sustainable world powered by renewable energy. Our electricity is derived from renewable sources such as hydropower, geothermal, and wind power. We understand that energy production inevitably impacts the environment, but we harness readily replenishable resources and work hard to minimise any impact.

We take pride in our efforts to combat climate change, and our carbon footprint ranks among the lowest in the world, at 3.3 g CO_2eq/kWh. Our green energy decreases the carbon footprint of our customers' products and services. If traditional energy sources were used instead, global greenhouse gas emissions would increase by 2.6 million tonnes of CO_2-eq. Our most significant contribution to climate issues is our green electricity and the resulting avoided emissions.

We are committed to exceeding expectations and will achieve carbon neutrality by 2025 by sequestering all greenhouse gases our operations produce. We plan to eliminate the use of fossil fuels from our operations by 2030.

1 A detailed description of avoided emissions and the methodology behind the calculations are provided in the Green Finance Report, which pertains to green financing.

Climate and Environmental Policy
A core element of Landsvirkjun's climate and environmental action is the Company's Climate and Environment Policy. The Board approved the revised Policy in 2024, which prioritises biodiversity and clarifies goals.

Landsvirkjun is at the forefront of environmental issues and supports sustainable development in the community.

We respect the landscape and natural environment and consistently strive to optimise natural resources to prevent waste. We protect and preserve biological diversity by following an ecosystem approach as a guiding principle. We are committed to minimising and recognising any adverse environmental impacts from our operations and preventing environmental incidents.

Landsvirkjun intends to achieve carbon neutrality and actively participates in the global response to the climate crisis. We systematically work towards reducing our carbon emissions, supporting Iceland´ s commitments to reducing emissions under the European Effort Sharing Regulation (ESR) and responding to climate change challenges and opportunities.

↓ Targets and associated performance indicators

	Targets	Indicators
Nature and resource utilisation	We maximise the utilisation of harnessed resources	Deviation of energy production from contract capacity
	We prevent all incidents that negatively impact the environment	Number of environmental incidents
Climate	We commit to becoming carbon neutral in 2025	Carbon footprint (tonnes CO_2-eq/year)
	We commit to keeping our carbon intensity below 4 g CO_2 equivalent per kWh	Carbon intensity (gCO_2 equivalent per kWh)
	We will stop purchasing fossil fuels by 2030	Quantity of fuel purchased (L/yr.)

Energy production from renewable energy sources 2023

Hydropower 13,480 GWh

The total energy generation of our hydropower stations was approx. 13,480 GWh in 2023, compared with 13,494 GWh in the previous year, or 91% of Landvirkjun's total production in 2023.

We operate fifteen hydropower stations all over Iceland, divided into four areas of operation. See the Chapter on Landsvirkjun's Power Stations for more information.

Geothermal 1,248 GWh

The total energy generation of our geothermal steam power stations in 2023 was 1,248 GWh compared with 1,255 GWh in 2022, or 9% of Landvirkjun´ s total energy production.

We operate three geothermal steam power stations.

Wind power 6.2 GWh

We operate two wind turbines for research purposes in Hafið, just north of the Búrfell Hydropower Station. Each turbine has an installed capacity of 0.9 MW. They produced 6.2 GWh of electricity in 2023 compared with 5.7 GWh in 2022.

Avoided emissions

Renewable energy plays a crucial role in mitigating the effects of climate change. Our contribution to this cause is diverse, as low carbon footprint electricity is highly sought-after by customers committed to minimising their carbon footprint. However, energy from renewable sources can only effectively reduce the carbon footprint if it is utilised to produce goods and services that would otherwise require electricity with a high carbon footprint. This is what is known as avoided emissions.

Avoided emissions, which our activities prevent, are part of our climate contribution. We assess the climate impact or avoided emissions of our eligible green assets annually in accordance with the Company's green financing framework.[2]

In 2023, avoided emissions were estimated at 2.6 million tonnes of CO_2-eq and decreased by 1% year-on-year despite increased energy production. The decrease can be attributed to decreasing benchmark factors.

Avoided emissions are assessed conservatively and included in our green financing disclosure.

The Green Finance Impact Report provides a more detailed discussion of avoided emissions and calculation methods.

2 Green Finance Framework. Landsvirkjun, 2020

Landsvirkjun is the environmental company of the year 2023
"Landsvirkjun sets the standard in addressing climate and environmental issues, with a proven track record of implementing effective actions and working methods. Other companies can look to them as a model for success. Landsvirkjun deserves the title of environmental company of the year 2023", according to the Confederation of Icelandic Employers (SA), which awarded Landsvirkjun the environmental award this year.

The SA award is given annually. This year, numerous nominations were received, indicating a growing trend of companies in Iceland considering environmental and climate issues as crucial parts of their operations, as stated by the SA.

The SA also stated, "Landsvirkjun manages Iceland's vital natural resources responsibly and modestly. Priority is given to assessing the environmental impact of activities, reducing them, and preventing any deviations. The Company has implemented an accredited environmental management system for over 20 years and consistently demonstrated foresight and leadership in disclosing its environmental initiatives and progress.

The Company places great emphasis on maximising the value of its resources while adhering to sustainable and efficient practices. As such, the Company has implemented sustainable utilisation in its operations systematically, thereby maximising efficiency and reducing waste and emissions associated with its operations."

Jóna Bjarnadóttir, the Director of Community and Environment, accepted the award and thanked the SA for the recognition. "It was a great pleasure to be recognised for the extensive work we have been doing in environmental and climate matters. Our objectives and priorities are transparent, and we are fully committed to achieving them," stated Jóna at the award ceremony.

CDP DISCLOSURE INSIGHT ACTION A LIST 2023 CLIMATE

Four years of leading performance on climate change
Landsvirkjun has been recognised for leadership in corporate transparency and performance on climate change by global environmental non-profit CDP, securing a place on its annual 'A List'.

The CDP promotes consistent and professional reporting on environmental issues, providing feedback and encouraging continuous improvement. Comprehensive information is provided on companies' climate management. Among the factors influencing CDP's rating are governance, business models and custody of funds, management of climate-related risks, and achievements of climate-related targets.

In 2023, twenty-three thousand companies submitted information on climate issues to the association. Landsvirkjun is one of the 346 groups that received the highest rating and made the 'A' list. Landsvirkjun was first assessed by the CDP in 2016. Their requirements have increased steadily over the years, and receiving the highest rating has become more complex.

At the forefront of climate issues in Europe

Once again, Landsvirkjun has achieved top ranking on the Financial Times' list of European companies with the most significant reduction in emissions per production unit between 2016 and 2021. We have reduced emissions by 17.4% during this period. Landsvirkjun is joined by Eimskip, Brim and Arion Bank, the only Icelandic businesses out of the 500 companies on the Europe Climate Leaders list.

The list includes direct emissions and emissions from energy use. In addition, profits' emissions are considered, as are reductions in total emissions and the Company's rating by CDP.

The Financial Times list also excludes companies that cause significant environmental damage despite meeting the requirements for reducing emissions.

Among the lowest emissions in the world

Emissions from Landsvirkjun's operations in 2023 were 3.3 grams of carbon dioxide per kilowatt hour produced - one of the lowest rates among energy producers, even those using renewable energy sources.

The Financial Times list confirms Landsvirkjun's strong performance in climate action.

Climate Accounts

Our Climate Accounts provide quantitative information regarding the Company's carbon footprint, greenhouse gas emissions, and carbon sequestration for 2023, as well as information regarding its climate targets. We are committed to fair and transparent disclosure.

Based on the Greenhouse Gas Protocol's (GHGP) methodology, the Company's Climate Accounts were inspected and verified by Bureau Veritas, one of the world's leading certification bodies, according to ISO-14064-3.

Greenhouse gas emissions (tonnes CO_2-eq)

	2019	2020	2021	2022	2023	Change since 2022
Scope 1	41,550	38,727	40,245	42,132	44,348	5.30%
Scope 2	26	31	23	26	25.8	-0.60%
Scope 3	6,324	5,254	4,269	3,391	4,229	25%
Outside scope	725	646	611	698	709	1.60%
Total emissions	**48,626**	**44,657**	**45,148**	**46,246**	**49,312**	**6.60%**
Carbon sequestration	**-31,900**	**-33,000**	**-34,400**	**-35,151**	**-35,794**	**1.80%**
Carbon footprint	**16,726**	**11,657**	**10,748**	**11,095**	**13,518**	**22%**

Emissions per energy unit (CO_2-ieq/kWh)

	2019	2020	2021	2022	2023	Change since 2022
Geothermal (Scope 1)	30	32	31	27	29	5%
Hydropower (Scope 1)	0,67	0,62	0,57	0,55	0,60	9%
Total emissions from production (Scope 1)	2,9	2,9	2,8	2,8	3,0	5%
Other emissions	0,56	0,47	0,39	0,31	0,37	19%
Total emissions per energy unit	**3,5**	**3,3**	**3,2**	**3,1**	**3,3**	**7%**
Carbon footprint per energy unit	**1,2**	**0,87**	**0,76**	**0,75**	**0,92**	**22%**

Landsvirkjun´s Climate Accounts for 2023 can be accessed here.

Key figures

Carbon footprint

13,518 tonnes CO_2-eq ↑22%

Total emissions

49,312 tonnes CO_2-eq ↑7%

Sequestration

35,794 tonnes CO_2-eq ↑2%

Energy production

14,734 Gwh ↓0.1%

Carbon footprint per energy unit

0.92 g CO_2-eq/kWh ↑22%

Carbon intensity

3.3 g CO_2-eq/kWh ↑7%

Losun Total emissions from production per energy unit

3.0 g CO_2-eq/kWh ↑5%

Avoided emissions from production

2,641,874 tonnes CO_2-eq ↓0.8%

Carbon neutral by 2025

We're making a good thing even better by becoming carbon neutral by 2025.

To achieve this milestone, we follow a Climate Action Plan that maps the Company's carbon footprint. It has ambitious targets and explicit measures. The Climate Action Plan was approved in 2019 and is valid until 2030.

We want to be effective and efficient and have prioritised our actions:

Prevent new emissions	**Priority**
Reduce current emissions	**Priority**
Implement mitigation measures	

Best practices, scientific knowledge, and decades of environmental experience guide our climate plan. Monitoring emissions throughout the year is crucial because it ensures we constantly monitor our progress and results. Emission measurements are only helpful if they lead to better decisions.

Internal carbon pricing

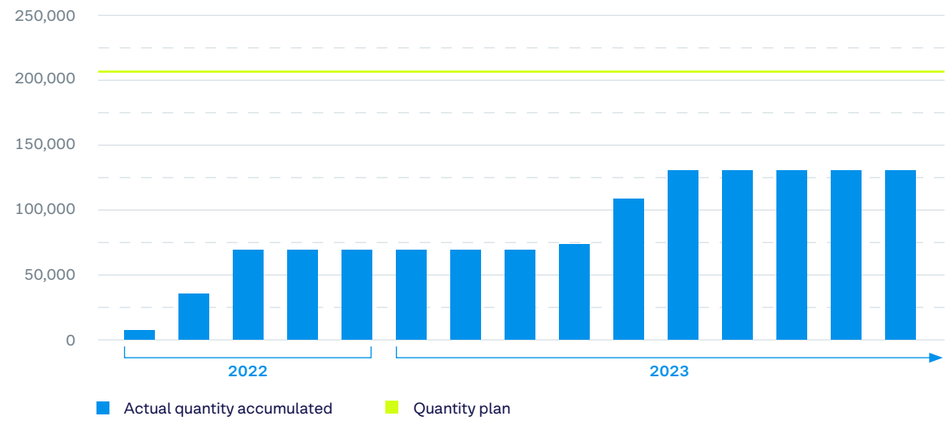
Internal carbon prices incentivise financial and operational decisions based on low-carbon solutions. We also use internal carbon prices to encourage contractors to minimise emissions during construction projects. This means that emissions - or rather future emissions costs - are calculated as part of major financial decisions, ranging from purchasing supplies to selecting and designing new power projects. Landsvirkjun's internal carbon price for 2023 was USD 144USD/ tonnes CO_2-eq.

A specific carbon price was used for the first time this year in a tender for groundwork where contractor fuel consumption emissions were part of the selection criteria. Bidders must submit a plan for their planned/expected emissions from fossil fuels, steel, and concrete used in the project. We use the internal carbon price as a criterion when selecting a contractor. We evaluate climate impact when choosing contractors, not just cost-effectiveness. In tenders, we prioritise contractors who use low-carbon footprint building materials and clean energy sources for their work machines. We have used an internal carbon price of up to 500 USD per tonne of CO_2 equivalent. This is equivalent to about 170 ISK per litre of diesel.

We closely monitor the contractors' actual emissions as they work on-site. If emissions exceed the planned amount, the responsible party must pay a penalty, but if the emissions are less than planned, they are rewarded.

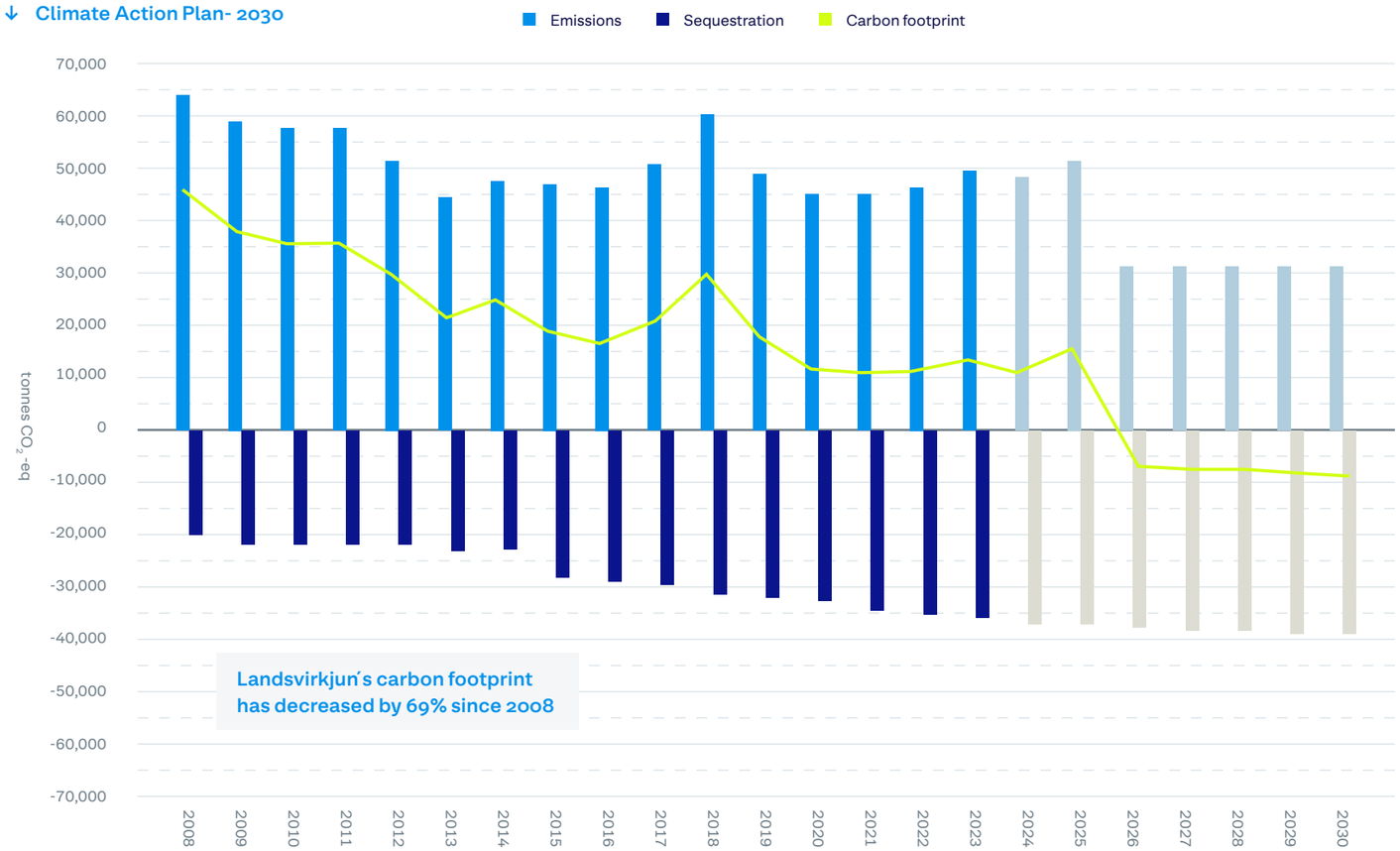
You can see how the contractor's fuel consumption is monitored in an ongoing project and how it compares to the original plan in the figure below:

Contractor fuel consumption



Landsvirkjun's Climate Action Plan

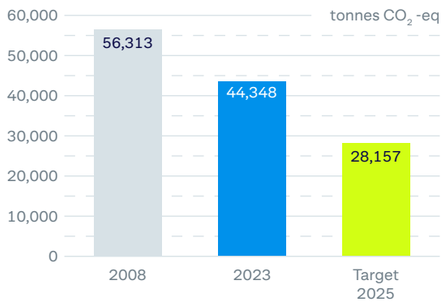
Climate Action Plan- 2030



Climate Action Plan reduction targets

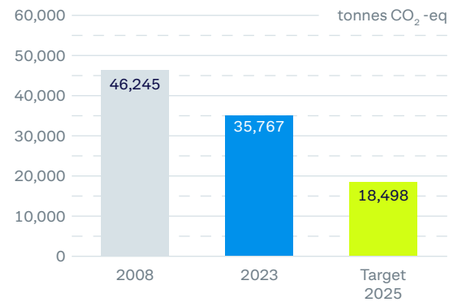
50% decrease in direct emissions by 2025, compared to 2008. →

Direct emissions from our operations have decreased by 21% since 2008.



60% reduction in geothermal power production emissions by 2025, compared with 2008. →

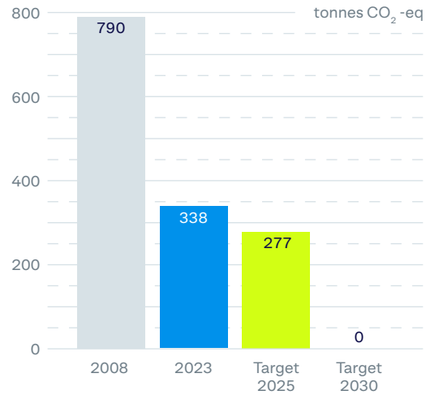
Geothermal power production emissions have decreased by 23% when compared with 2008.



Our most significant source of emissions is geothermal energy. Geothermal areas emit greenhouse gases naturally, but we still provide information on all emissions from our energy production. We seek out solutions with the aim of minimising emissions while optimising energy production. A project is underway to capture and reinject carbon dioxide and hydrogen sulphide from the Þeistareykir Geothermal Station back into the ground. Since 2008, our geothermal production has reduced its emissions by 23%.

Stop purchasing fossil fuels by 2030.

↓ Emissions from fossil fuel consumption have decreased by approximately 57% since 2008.



A significant share of the world's greenhouse gas emissions is attributable to the consumption of fossil fuels. That's why we intend to stop buying fossil fuels by 2030. Our energy transition plan includes specific targets to reduce the usage of gasoline and oil by 2025, with smaller targets along the way to serve as milestones. These objectives reflect our commitment to making informed decisions regarding purchasing vehicles and equipment. When replacing fossil fuel-powered cars or appliances, we prioritise using clean energy. This can be challenging as our work often takes place in remote areas with harsh weather conditions, far from urban areas and charging infrastructure. The nature of our work also frequently requires the use of powerful machines. Despite these challenges, we have successfully managed to reduce emissions from the use of fossil fuels by 57% since 2008.

Energy Transition Plan Targets until 2025

In 2025, we expect to have reduced fossil fuel consumption by 65% compared to 2008.

Vehicles

- ✓ By 2022: Only used cars purchased when green-energy vehicles are unavailable
- ✓ By 2023: Only used pick-up trucks purchased when green-energy pick-ups are unavailable
- ✓ Before year-end 2023: Fast charging stations available in every energy production area
- » After 2024: All rental cars are 100% green-energy vehicles
- » Before year-end 2025: Green Steps target achieved (75% of all passenger cars green-energy vehicles)

Equipment

- » Green energy is always the first choice when replacing equipment

Power stations

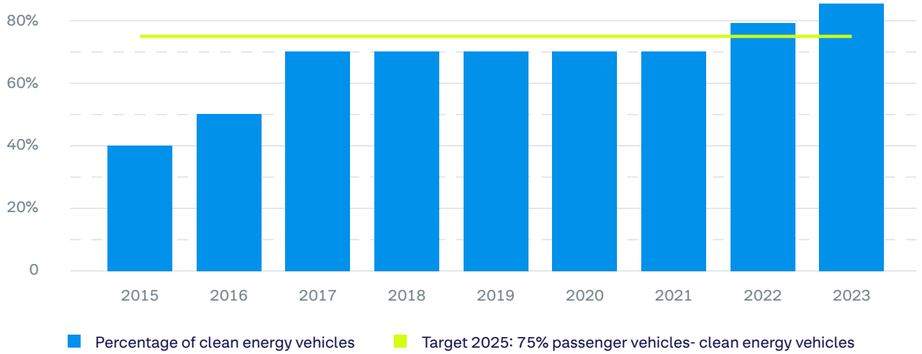
- » An analysis detailing the options for energy transition at the Sauðafellslón station and minor research, and reserve power stations will be available in 2025

We recently acquired 16 fast charging stations from Kempower, the Finnish manufacturer. These stations will be installed in our energy production areas to enhance the charging infrastructure for our vehicles and devices. The stations' power ranges between 50 kW and 350 kW, and most can be expanded in the future to meet the growing charging demands.

↑ Sigmundur Jónsson, managing director of RST Net (left), and Georg Þór Pálsson, station manager in the Þjórsá area, are pictured during the installation of the fast charging stations. RST Net emerged as the top contender in the tender process for providing these stations.

This year, we exceeded our Green Steps target of 75% of all passenger cars becoming green-energy vehicles by 2025, reaching 85%.

↓ Clean energy vehicles



Two research wells were drilled at Þeistareykir in the summer of 2023 as part of Landsvirkjun's preparations for expanding Þeistareykir Geothermal Power Station. Iceland Drilling (Járðboranir) utilised their electric drill Þór, which was powered directly by electricity from Þeistareykir. This is Landsvirkjun's first time using electric drills to drill geothermal wells. It can be assumed that the carbon footprint of each well was reduced by up to 25% compared to using a conventional ground drill that runs on fossil fuels.

We intend to keep greenhouse gas emissions below 4 g CO_2-eq per kWh.

Emissions from operations were 3.3 g CO_2-eq/kWh, below the emission ceiling of 4 g CO_2-eq/kWh defined in our climate and environment policy. Our emissions per unit of energy are among the lowest worldwide.

↓ We plan to keep emissions per energy unit below 4 gCO_2-eq/kWh

Bureau Veritas has reviewed and verified our target reference year data and emissions for 2023.

Green operations

We are committed to green operations and increasing environmental awareness among our employees. We have implemented Green Steps at all Landsvirkjun sites, and the areas that completed these steps first in 2019 and 2020 have passed their re-evaluation with flying colours.

Employee education plays a crucial role in the Company's success. The intranet provides guidance on resource recycling, sustainable events, green procurement, and Green Steps. Maintaining best practices in green operations is a top priority, and efforts are ongoing to develop further and uphold green initiatives.

Emphasis is placed on resource recycling, exemplified by the reuse of furniture from the cafeteria in Gróska in the capital area to set up the cafeteria at a new location for Landsvirkjun. Across the country, cafeteria staff strive to offer healthy food options while minimising the environmental impact of their service.

Recycling and disposal

The total amount of waste generated by Company operations was 220 tonnes in 2023, a decrease of 26% between years. The percentage of sorted waste decreased from 89% in 2022 to 79% in 2023. The amount of general unsorted waste was 47 tonnes, an increase of 40% between years. The amount of bulky and inert waste, metals, and wood changes between years, primarily due to renovation and maintenance projects at any given time. Emissions due to waste treatment in 2023 were 44 tonnes CO_2-eq, an increase of 37% between years.

Waste from the Company's operations is sorted and sent for recycling or disposal at approved waste management sites. Hazardous materials must be returned to appropriate collection points as laws and regulations require. Landsvirkjun only uses waste management companies with licences from the Public Health Authority and the Environment Agency of Iceland. Our facilities sort waste in accordance with the options offered by waste management companies and the respective local authorities. Local communities have benefited from Landsvirkjun's work with waste management companies in areas where waste sorting is restricted, e.g., smaller municipalities.

Water use and water source monitoring

Local municipalities supply Landsvirkjun's offices in Reykjavik and Akureyri with potable water. Cold groundwater is extracted from water supply areas owned or operated by the Company to provide power stations. Landsvirkjun's power station licences specify water supply area conditions and potable water quality. The local public health authority issues these licences and monitors any potential effects from utilisation. Monitoring shows that Landsvirkjun's operations have had no impact on water areas. All effluent (sewage) from Company operations goes through the local municipality's sewage system or through a two-tier cleaning process operated by Landsvirkjun and monitored by the local municipality's public health authority.

↓ Quantity of waste (in tonnes)

	2019	2020	2021	2022	2023	Change from 2022
General waste, unsorted	43	30	35	33	47	40%
Recyclable (paper)	22	23	17	19	20	5%
Recyclable (plastics)	2.4	1.2	1.6	1.0	5	400%
Bulky waste	7.1	13	14	22	26	18%
Organic waste	28	32	27	34	23	-32%
Metals and scrap	109	57	94	46	4.2	-91%
Inert waste (glass, soil, and rocks)	0.46	14	0.41	78	13	-83%
Electronic devices	6.2	4.7	3.8	8.1	8.4	4%
Electronic devices (batteries)	0.021	0.13	0.037	0.027	0.068	152%
Hazardous waste	11	28	12	19	8.2	-57%
Wood (painted)	27	18	30	33	28	-15%
Wood (unpainted)	18	13	13	6.4	29	353%
Sewage waste*	-	-	-	-	9	-
Total	**275**	**234**	**249**	**299**	**220**	**-26%**

*The amount of sewage waste was separately monitored in 2023, so differences between years are not shown

↓ Percentage categorised

2019	2020	2021	2022	2023
84%	87%	86%	89%	79%

Nature and utilisation

Energy production´ s impact on the environment and ecosystems
Nature and ecosystems can be affected by the utilisation of renewable resources, which is why we study and monitor the environment before, during, and after construction and our operations. The scientific knowledge we acquire helps us assess how and if our actions affect the environment and if there is any need for mitigation measures.

Throughout the Company's history of energy use in Iceland and elsewhere, we have learned much about the delicate interplay between utilisation and nature. Our mission is to protect and restore natural environments, and we continue to seek new ways to improve our knowledge.

We conduct extensive environmental monitoring and detailed research within areas affected by our operations, as well as more specific research as needed. The results assist us in assessing how and if our operations impact the environment and what action is necessary.

We monitor river and reservoir biota and life on land. These include ichthyology, microscopic aquatic organism research, vegetation, birdlife, and reindeer research. We also study how reservoirs and water channels affect aeolian deposition and bank erosion. Consequently, we can assess and monitor the ecosystem and our impact on it. We also undertake the required mitigation measures, such as restoring the natural quality of the environment disturbed by our activities and supporting existing ecosystems. Monitoring and mitigation measures are implemented in collaboration with universities, research institutes, and consultancy firms specialising in these fields.

Our focus is on strengthening research and the local community. We support the work of angling/hunting associations in Landsvirkjun's operational areas by participating in research in their territories. Our projects support knowledge acquisition and basic research relevant to various fields.

Conservation areas
Landsvirkjun operates in the vicinity of several conservation areas. The areas are in various conservation categories, ranging from municipal district protection to national parks. They are protected for multiple reasons, such as their unique landscape, geological formations, ecosystems, or cultural and archaeological heritage. We have acquired extensive knowledge of these areas and work closely with the authorities and stakeholders to meet the various protection requirements.

Species on red lists
Landsvirkjun monitors and studies animals and plants on the Red List of the Iceland Institute of Natural History to assess any adverse effects of construction projects in accordance with the International Union for Conservation of Nature's (IUCN) standard. Species that fall under the criteria of endangered species are specifically monitored.

The spread of the fern adders-tongue (Ophioglossum azoricum), which only grows in geothermal areas, is monitored in the Mývatn area, which is affected by the Company's operations. The spread of the Nootka lupine (Lupinus nootkatensis), a non-native and invasive plant, is being controlled in adders-tongue habitat in collaboration with the Icelandic Environment Agency.

Protected and reclaimed habitat
Inevitably, our operations can disrupt animal and plant habitats. The formation of reservoirs can cause sedimentation, aeolian deposition, and bank erosion. We have implemented various mitigation measures to reduce the impact on ecosystems and to restore and protect habitats.

Aeolian deposition defences
The impact of aeolian deposition on vegetation is particularly noticeable along the coastlines of the Hálslón and Blöndulón Reservoirs. As a prevention measure, we strengthen vegetation with fertilisers, fence off overgrown areas, use sand traps, and remove sand accumulated in specific areas. Aeolian deposition distribution varies between years. The levels at Hálslón have been under control, but the total surface area of aeolian deposition in Blöndulón has increased recently.

Riverbank erosion control and repairs
In 2023, a 200-metre-long bank protection structure was built on the south bank of the Jökulsár á Dal River in Skeggjastaðir to protect an outhouse on the north bank. The area is used for salmon fishing, so approvals were sought from the Fisheries Authority, Múlaþing municipality, and the landowner. The plan was to ensure the structure harmonised with the river's natural banks.

Vegetation reclamation
Since 1967, Landsvirkjun has collaborated extensively with public bodies and organisations on land reclamation, reforestation, and wetland reclamation. The aim is to restore vegetation and land quality, support sensitive animal and plant habitats, and prevent natural soil- and sand erosion.

Land reclamation to restore disturbed land was carried out in the Blanda, Mývatn, Fljótsdalur, and Þjórsá areas throughout the year. Native trees were planted near the Blanda, Búrfell, and Sog stations. In addition, we continued to work on collaborative projects with the Soil Conservation Service of Iceland (SCSI) and the Icelandic Forestry Service, where the primary objective is carbon sequestration. The discussion on carbon sequestration in climate accounting shows an overview of all the Company's actions where vegetation and ecosystems are restored.

Environmental incidents
Our activities have the potential to impact the environment negatively. Environmental incidents are documented, their causes analysed, and improvements monitored. Seven environmental incidents caused unwanted risks this year but did not warrant further action. Fourteen incidents caused risks unlikely to cause serious damage or harm (classified as not serious), and 12 suggestions were recorded. No environmental incidents caused danger or unacceptable risks, and the effects of all incidents were localised.

Five of these seven incidents are related, i.e. swans colliding with the high-voltage line between Blöndustaður and Kolkuloka.

A windstorm caused significant aeolian deposition and dust emissions at Hálslón. A small amount of fuel leaked from a pipe at Laxá Hydropower Station.
In all five documented instances, the birds perished, causing an outage. Next spring and early summer, we will identify areas where these incidents are most probable and try to prevent them from occurring.

A windstorm passed through Hálslón in late May, causing significant aeolian deposition and dust emissions. Sand spread over the road and accumulated in dunes. A contingency plan was activated (according to LEI-0236). An expert from the SCSI was consulted to assess the situation. He submitted a memorandum with recommendations. Landsvirkjun's summer work team distributed grass seeds to the areas most affected, following SCSI's instructions.

An oil leak was discovered in a fuel pump during an inspection of the Laxá stations. The pipe near the tank was excavated, and a minor leak was found. The damaged component was replaced, stopping the leak with no environmental damage. The cause was assessed, procedures were reviewed, and relevant work procedures were updated.

Sustainable utilisation
Our goal is to use the natural resources we are entrusted with in a sustainable, responsible, and efficient manner. We want to improve resource use, reduce waste, and maximise the use of already harnessed resources.

Research and monitoring
We conduct extensive research and monitoring of the resources we use for energy production. We measure glacial ablation, river flow and temperature, the chemical composition and flow of groundwater, sedimentation load, water levels and reservoir volume, and study meteorological conditions and land changes. We monitor the overall condition of geothermal areas with a special geothermal model for each operating area. We also measure and monitor the geothermal reservoir, groundwater flow, the chemical content of groundwater, and gas release into the atmosphere. By combining these factors, we can see into the future and make the best possible use of resources.

Operating exemplary resource utilisation and energy production

When harnessing hydropower, geothermal, and wind energy, we prioritise sustainability, efficiency, and security. Our future initiatives in wind energy will align with this principle.

Our vision is a sustainable world powered by renewable energy, only realised through efficient and sustainable energy generation, benefitting current and future generations. Our responsibility is significant as we generate over 70% of the nation's electricity. We have been entrusted with some of Iceland's most valuable natural resources, and the systems we build to harness them must be operated responsibly, focusing on efficiency and security. Landsvirkjun can simulate its energy system's operation using a computer model and plan electricity production using plans for electricity sales and water management for its power stations.

Our team is dedicated to optimising our power stations to improve resource allocation and operational efficiency. We focus on leveraging sustainable energy sources like hydropower and geothermal power and aim to lead in wind energy production. Our commitment to progress, innovation, and sustainability guides our efforts towards a greener energy future.

Our power stations

Landsvirkjun operates fifteen hydropower stations, three geothermal power stations and two wind turbines for research purposes, distributed in five operating areas nationwide. We believe in an integrated approach where prudence, reliability, and operations in harmony with the environment and society are fundamental to our operations.

Blanda Station **1991**

Hydropower

165 MW

990 GWh/ year

Designed entirely by Icelanders, Blanda Hydropower Station harnesses the power of the glacial River Blanda and is our only power station in the North-West.

Búðarháls Station **2014**

Hydropower

95 MW

585 GWh/ year

The Búðarháls Hydropower Station is one of seven hydropower stations in the Þjórsá area. The station is located on the Tungnaá River and takes advantage of the drop between the tailwater of the Hrauneyjafoss Power Station and the Sultartangi Reservoir.

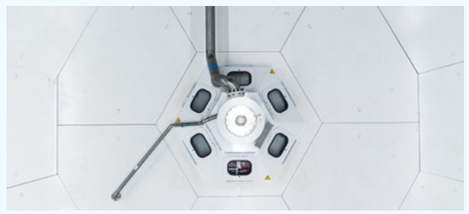
Búrfell Station **1969**

Hydropower

270 MW

1.870 GWh/ year

The Búrfell Hydropower Station came online in 1969 and took almost ten years to complete. It was the largest power station in the country until the inauguration of Kárahnjúkar Hydropower Station in 2007.



Búrfell Station II **2018**

Hydropower

100 MW

850 GWh/ year

The new power station was built underground in Samsstaðaklif Hill and houses one 100 MW Francis turbine. The 370 m long headrace canal is connected to the existing intake reservoir Bjarnalón, and the 2,200 m long tailrace canal discharges the harnessed water into the Fossá River, approx. 1 km downstream from the original Búrfell Station.

Fljótsdalur Station **2007**

Hydropower

690 MW

4,800 GWh/ year

The Fljótsdalur Hydropower Station is the largest power station in the country.

Bjarnarflag Station **1969**

Geothermal

5 MW

42 GWh/ year

Bjarnarflag in Mývatnsveit is the country's oldest steam power station. It was commissioned in 1969 and refurbished in 2019.

Hafið **2013**

Wind

1.8 MW

6.7 GWh/ year

We have built two wind turbines in the Hafið area for research, commissioned in February 2013.

Hrauneyjafoss Station **1981**

Hydropower

210 MW

1,300 GWh/ year

The Hrauneyjafoss Station came online in 1981 and is Iceland's third-largest power station, producing 210 MW.

Írafoss Station **1953**

Hydropower

48 MW

236 GWh/ year

Írafoss Station harnesses two waterfalls in the lower part of the Sog River, Írafoss and Kistufoss. Two 15.5 MW generating units were installed in 1953, and a 16.7 MW turbine was added in 1963.

Krafla Station **1977**

Geothermal

60 MW

500 GWh/ year

Krafla became Landsvirkjun's property in 1985. Pilot boreholes were drilled in 1974, and regular operations began in February 1978.

Laxá Station I **1939**

Hydropower

5 MW

3 GWh/ year

The Laxá I Station is the oldest power station in the Laxá River. The station operates two turbine units, which came online in 1939 and 1944

Laxá Station II **1953**

Hydropower

9 MW

78 GWh/ year

Laxárstöð II is the second oldest station in Laxá. Like all the other Laxá stations, it uses the river's natural flow to produce electricity.

Laxá Station III **1973**

Hydropower

13.5 MW

92 GWh/ year

The Laxá III Station is the most recent power station in the Laxá River.
The underground turbine house was initially designed for two 25 MW turbines.
The station was inaugurated in 1973.

Ljósafoss Station **1937**

Hydropower

16 MW

105 GWh/ year

The oldest power station in the Sog River is located near Ljósafoss.
The electricity supply in the capital area quadrupled when the station came online.

Sigalda Station **1978**

Hydropower

150 MW

920 GWh/ year

The station came online in early 1978. Construction was a race against time due to the enormous demand for more energy in Iceland following energy-intensive industrial growth.

Steingríms Station **1959**

Hydropower

27 MW

122 GWh/ year

The Steingrímsstöd Station is the third station built in the Sog River area. The station harnesses the head where the Upper Sog drains from Lake Þingvallavatn into Lake Úlfljótsvatn. The outflow from Lake Þingvallavatn is approximately 100 m3/s.

Sultartangi Station **1999**

Hydropower

125 MW

1,020 GWh/ year

The Sultartangi Station, located 15 km northeast of the Búrfell Station, was built at the end of the last century and came online in 1999.

Vatnsfell Station **2001**

Hydropower

90 MW

490 GWh/ year

Vatnsfell Station utilises the head in the diversion canal between the Þórislón Reservoir and Sigalda Station's reservoir Krókslón. Unlike the other stations, it only produces electricity during winter.

Þeistareykir Station **2017**

Geothermal

90 MW

738 GWh/ year

Þeistareykir was the first geothermal power station Landsvirkjun constructed from scratch. The privately owned company Þeistareykir was established, and Landsvirkjun acquired the company in 2010.

Sustainable utilisation

Our goal is to responsibly, sustainably, and efficiently use the natural resources we are entrusted with. Our main objectives include enhancing utilisation, reducing waste, and maximising the efficiency of already harnessed resources.

Research and monitoring
We conduct extensive research and monitoring of the resources we use for energy production. We measure glacial ablation, river flow and temperature, the chemical composition and flow of groundwater, sedimentation load, water levels and reservoir volume, and study meteorological conditions and land changes. We monitor the overall condition of geothermal areas with a special geothermal model for each operating area. We also measure and monitor the geothermal reservoir, groundwater flow, the chemical content of groundwater, and gas release into the atmosphere.

By combining factors efficiently, we can ensure sustainable resource management for the future.

The water year
The water conditions during 2022-23 were inconsistent, both within the year and across different watersheds. Inflow to reservoirs was slightly below the expected average. The inflow in the Fljótsdalur water catchment area was well above average (+9%), and the inflow into the Blanda water catchment area was above average (+2%) but well below average in Þjórsá area (-9%).

At the start of the water year, all the main reservoirs were full except for Þórisvatn, which was short about 100 GL. The drawdown began in mid-October but then slowed down, and there was snowfall in the north and east. In early November, there were some variations in the weather, but eventually, it became warmer. However, heavy rainfall towards the end of the month increased water levels, especially in the eastern region and the Þjórsá area. This had a positive effect on the status of Þórisvatn and Hálslón Reservoir.

December and January were cold and dry, and the inflow was minimal. Towards the end of January, it started to warm up, and February was warm and rainy. However, the weather in February did not significantly impact inflow, as there was snowfall in the west highlands, and it was drier to the east. There were strong, northerly winds at the beginning of March, and temperatures in our water catchment areas were below average. Precipitation and inflow were well below average in the country. Towards the end of the month, snow cover was heavy in the eastern part of the country.

Record water flow in the Tungnaá River
The third quarter of the water year was favourable in water catchment areas, and the temperature in the highlands was above average throughout the period. Glacier ablation began in April and was most intense during Easter. The flow rate in the Tungnaá River was measured at 572 m3/s on April 11, the highest flow in the river's 64-year measurement history. It rained in the west in May and June, and warm temperatures in the east in June caused glacial ablation to start unusually early. At the end of June, Landsvirkjun's reservoir status exceeded expectations.

The weather changed rapidly in July, with prevailing north and northeasterly directions and decreasing temperatures. August was warmer but was still dry. September started with depressions and rain in the lowlands of the south-west but then turned to a northerly direction. This change had the most significant impact on the Þjórsá area, and in mid-September, Þórisvatn reached its highest level, 576.6 m, which meant that 300 GL was still needed to reach the filling point. Hágöngulón Reservoir filled before the end of June, Hálslón Reservoir at the end of July and Blanda Reservoir in mid-August. This was the fourth autumn in a row that Þórisvatn did not fill up. Drawdown began in both Hágöngulón Reservoir and Þórisvatn in mid-September. At the end of September, 350 GWh was needed to fill Landsvirkjun's transmission reserves.

Geothermal
Landsvirkjun operates three geothermal stations in the Mývatn area, at Krafla, Bjarnarflag and Þeistareykir. Geothermal fluid is extracted from high-temperature geothermal areas at a depth of 2000 metres during the utilisation process. The fluid contains steam, which contains various gases, and geothermal water. The steam is separated from the geothermal fluid and utilised for energy production.

Geothermal electricity production was increased in 2023 due to poor hydroelectric reservoir conditions. In 2023, about 9754 thousand tonnes of steam was extracted to produce 1248 GWh of electricity. Energy production and research extracted 20,234 thousand tonnes from the geothermal system, of which 9900 thousand tonnes were reinjected into the geothermal reservoir. Separated and condensed water released at the surface was 3450 thousand tonnes.

At Krafla and Þeistareykir, geothermal water (brine) is separated from the steam, with the steam utilised to power turbines that generate electricity. The stations primarily make use of groundwater as cooling and drinking water. This cooling water cools crucial components like the lube oil cooler, generator cooler, and ventilation systems. Additionally, together with extra groundwater, it is employed as cooling water for the condenser and cooling tower at the cold end of the process.

Groundwater studies are conducted in aquifers, chasms, and springs to assess the potential effects of surface discharge on surface levels in Mývatn. A regular monitoring program has been conducted at Mývatn since 1997, but no significant impact has been observed. Concentrations of arsenic, heavy metals, and other substances are always below environmental limits.

Preparations have begun for pumping separated water from the Krafla Station below the groundwater table to reduce the effects on surface levels at Dallæk.

Hydrogen sulphide emissions
Gas emissions from geothermal production are estimated by measuring gas concentration in steam and water from wells. Hydrogen sulphide (H_2S) concentration near our power stations is also monitored. Four meters monitor air quality in built-up areas, while two meters measure hydrogen sulphide concentration at our geothermal stations.

No confirmed measurements are currently available, but the results will be accessible on our website as soon as possible. Real-time results are available on the web and can be accessed here.

Power station operations
Operations were successful in 2023. Our power stations' monitoring, maintenance and supervision were mostly routine throughout the year. There were 65 unforeseen interruptions in 2023 compared with 57 in 2022. We aim to ensure that generating units in the power stations are available 99% of the year, not accounting for routine maintenance periods. This goal was achieved this year, as units were available at 99.3%.

We operate in accordance with an integrated, certified Quality Management and Environmental Safety Management System, including ISO 9001, ISO 14001, OHSAS 45001, 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, which specialises in the certification of green electricity. Landsvirkjun´ s information security management system is also certified according to ISO 27001.

Refurbishment projects
We completed 148 power station renovation projects in 2023.

The extensive overhaul of Unit 1 at Sultartangi Hydropower Station was the biggest project of the year in the southern part of the country. The project included renewal of the stator, overhaul of the generator circuit breaker, new mechanical overspeed protection, retrofit of the control system's computer devices, and the governor's electrical part. Also new main shaft aeration, new vibration protection, and improvements on the cooling system. The projects progressed well, and there were no incidents.

Extensive renovations were also carried out on Units 4 and 6 at the Búrfell Hydropower Station. Improvements were made to the cooling system of both Units, the electronic and mechanical protection equipment was renewed, and part of the 400-volt distribution was also renewed. The stator in Unit 6 and the generator house's cooling pipes were renewed. The generator circuit breaker for Unit 4 was overhauled, vibration protection was installed, the electronic part of the governor was renewed, and new oil mist separators plus slip ring carbon dust extractors were installed. Unit 3's generator circuit breaker was also overhauled.

In the Þjórsá area, a substantial project was conducted to renew wave protection at the Þórisós Dam. This project involved two tenders: one for producing rip rap and the other for dam renovation. Initially, the rip rap production was scheduled for completion by October 2023. Still, this work phase encountered delays due to the need for larger and more dense rock material than detailed in the fill material design. During the summer, the previous year's dam renovation was completed. The contractor completed the filling work under the new wave protection up to a height of 573 m a.s.l and wave protection filling material (rip rap) up to 575 m a.s.l. Further refurbishment is ongoing in 2024 and is expected to reach completion by the end of September.

The most significant project in the northern and eastern regions involved installing rockfall protection in Fremri-Kárahnjúkar. These protective measures safeguard the asphalt concrete face of the Kárahnjúkar Dam in case of a rock slide at a low water level.

Pursuing a diverse business and exceptional customer service

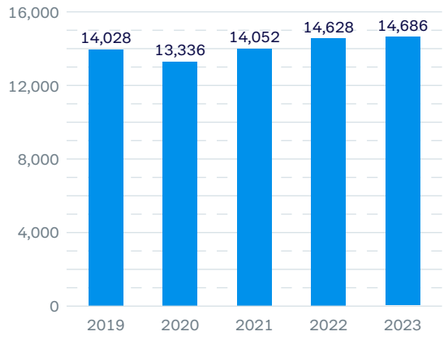
Our team works closely with our customers to maximise value creation. Through innovation, we strive to create a greener future.

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. We generate electricity efficiently from an economic, social, and environmental perspective. Our priorities are engaging in diverse business activities, green innovation, and risk diversification.

Our success is intertwined with that of our customers. We build business relationships based on trust and meeting customers' needs and expectations. We provide exceptional service and competitive pricing and cooperate closely with our customers to identify new opportunities for value creation. Our operations generate dividends and have a lasting positive effect on society, solidifying the link between our success and Iceland's prosperity.

Challenges in a sold electricity system
As highlighted in the chapter Sustainable World, driven by renewable energy, the demand for electricity in Iceland has been high in recent years, and now the electricity system is almost sold out. The demand from energy-intensive customers continues to be significant, and the demand in the wholesale market has increased from previous years, where electricity companies purchase electricity for households and smaller businesses. Electricity sales in the year were 14,686 GWh and increased by 0.4% between years.

↓ Amount sold 2019-2023 (GWh)



Cold spells in January and March created a surge in the electricity demand, putting Landsvirkjun's production system under pressure. Delivery during peak hours was restricted to fishmeal producers, fish dryers, and data centres with curtailment clauses in their contracts.

Energy demand is expected to remain high in the coming years due to energy transition, growth of large users, and new customers. The Icelandic energy market has changed significantly; electricity demand now exceeds supply. As a result, Landsvirkjun has prioritised its energy sales for the upcoming years.

Ban on Icelandic Guarantees of Origin
The Association of Issuing Bodies (AIB), which guarantees the origin of European energy through the European Energy Certificate System (EECS), and the German environmental agency (UBA), suspended all exports of Icelandic Guarantees of Origin (GOs) until further notice last spring. The actions taken by UBA and AIB were deemed completely unjustifiable from both legal and logical perspectives.

The AIB lifted the ban on the 1st of June after receiving detailed and conclusive data from Landsvirkjun. The UBA subsequently lifted their ban on the 26th of July with certain conditions. The matter was finally settled on the 10th of November when the AIB announced that Landsnet had fulfilled the requirements and that the association would take no further action.

Guarantees of Origin sales and management are back to normal in Iceland. The Icelandic system is fully compliant with best practices and regulations.

International market conditions
In 2020-2022, commodity and electricity prices fluctuated, fell sharply and remained stable. Lower electricity prices in Europe can mainly be attributed to the significant decrease in the cost of natural gas between years. Imports of natural gas from countries other than Russia have increased significantly following Russia's invasion of Ukraine, while at the same time, the demand for natural gas is declining in Europe. The reduced demand for natural gas and electricity in Europe can be partly attributed to many companies slowing down production or ceasing operations due to high electricity and gas prices in 2021-2022.

Aluminium and silicon prices decreased due to low demand for these commodities. The slowdown in China's construction industry and weak demand from European sectors led to the accumulation of stocks, pushing prices downward. As a result, the actual price of aluminium and silicon metal is below the 20-year average.

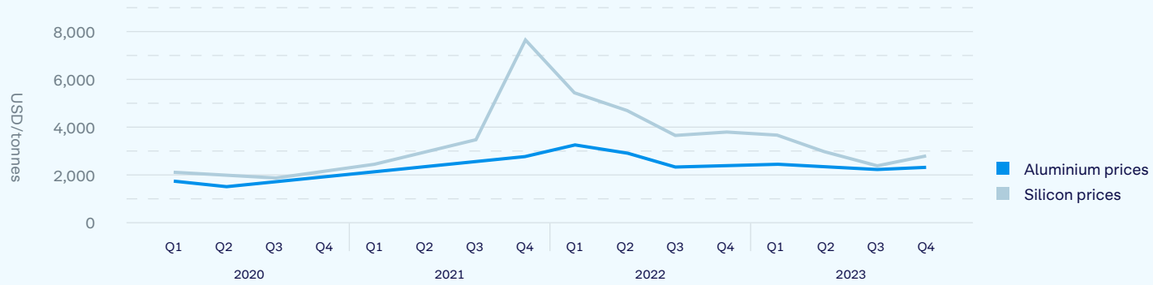
In 2023, the average price on the Nord Pool market was 56.4 EUR/MWh, which is a decrease of 58% from the previous year. The forward price until 2028 is expected to be 38-40 EUR/MWh.

The average price was 2,285 USD/tonne this year, a decrease of 16% between years. The average price for silicon metal was 2,941 USD/ton, a reduction of 34% between years.

The development of prices in the Nord Pool electricity market and markets for aluminium and silicon metal →

↓ NordPool prices

↓ Aluminium & silicon prices



Energy-intensive sales
Energy-intensive users paid an average of 30.6 USD per megawatt-hour last year, a decrease from the previous year but still the third-highest in Landsvirkjun's history. The decrease was primarily due to reduced customer product prices and electricity prices in the Nordic electricity market, Nord Pool. Some of our electricity contracts are tied to product or Nord Pool prices, making us susceptible to market fluctuations. However, we have implemented hedging mechanisms to protect against such risks. Despite the decline in electricity sales revenue, the hedges were crucial in ensuring that 2023 was the most profitable year in the Company's history.

Energy-intensive users fared well this year, with energy sales to this group dropping slightly compared to the previous year. Additionally, we welcomed two new power users to our customer group this year:

- The power contract with First Water came into effect in May 2023. First Water is our first customer in enclosed land-based farming, and the agreement highlights new priorities in energy sales for us, as we have expressed that one of the main focuses in the coming years regarding electricity sales will be innovation that requires energy and boosts the diversity of economic activities, including in the food industry.

- In June 2023, atNorth opened its third data centre in Akureyri, Iceland. We had previously signed an agreement with atNorth for electricity sales to the Akureyri data centre. The location of the atNorth data centre in Akureyri benefits both parties, as the geographical distribution ensures increased operational security for atNorth and better utilisation of the electricity system, where bottlenecks in the power transmission system limit utilisation and result in energy loss.

Renegotiations with data centres involved in cryptocurrency mining significantly reduced sales to the industry. New power contracts included extensive curtailment terms crucial for maximising the value of our renewable energy sources at Landsvirkjun.

Wholesale
The wholesale electricity price for primary energy was, on average, 6.7 ISK/kWh during the year, an increase of 8% between years. Inflation in 2023 was 7.7%.

Landsvirkjun added a new wholesale customer, Atlantsorka, to its customers this year. As a result, the total number of wholesale customers now stands at nine: Atlantsorka, Fallorka, HS Orka, N1, Orka heimilanna, ON, Orkubú Vestfjarða, Orkusalan and Straumlind.

Prime energy wholesale contracts come in two forms: long-term and short-term. Base energy is provided for a fixed load that lasts a year or more.

Base energy was sold twice during the year. In May, we were among the energy companies that participated in Vonarskarð's open sales process, where buyers submitted purchase offers and sellers submitted sales offers. The price was determined at the intersection of the sales and purchase offers. The opportunity to trade base energy for 2023-2028 arose during sales. In October, we received requests for base energy for 2024. Received requests, exceeded our initial expectations and surpassed basic energy sales in 2023 by a significant margin, not per general load trends.

Monthly blocks and flexible energy contracts cater to individual months, while short-term energy contracts involve the sale of energy hourly. These products are available for purchase on our company's website. Throughout the year, the variability in energy flexibility has risen, empowering customers to adjust energy amounts within a month or defer energy consumption to the following month to address load uncertainty towards the month's end.

From 2023, guarantees of origin will no longer be provided for free to wholesale customers.

Business development and innovation
Landsvirkjun has made considerable strides in both business development and innovation. Over the last few years, we have successfully laid a strong foundation for discussions and collaborations, which are now becoming a reality.

Domestic and foreign investors have expressed a keen interest in establishing diverse industries in Iceland. The availability of renewable energy and robust infrastructure has been the primary driving force behind this interest. Food production is particularly exciting among the numerous opportunities, with the potential for innovative methods such as algae production, land farming, and high-tech greenhouses. In addition, there are emerging prospects for data centres and carbon capture. These rapidly growing sectors have the potential to support the global fight against climate change and contribute to Iceland's economy by leveraging renewable energy.

The energy sector has witnessed remarkable growth in innovation in recent years, a crucial component in achieving Iceland's ambitious carbon-neutral goal. Increasing sustainability across all industries is essential to make this a reality, with energy being a top priority.

Landsvirkjun is a dedicated supporter of energy-related innovation. That's why we proudly sponsor a wide range of events throughout the year, including the Iceland Innovation Week), the Arctic Algae Conference (which explores the potential of algae as a sustainable energy source), the Arctic Circle, the Global WIIN conference (The Global Women Inventors & Innovators) and the TCI international cluster conference.

We are at the forefront of driving transformative energy innovation. In the past year, we have sponsored several high-profile events, including Innovation Week, the Arctic Algae Conference, the Arctic Circle Assembly, the Global WIIN conference, and the international TCI international cluster conference.

We continuously collaborate with a network of entrepreneurs to guarantee that the resources entrusted to us are effectively and sustainably utilised. We offer guidance and advice to entrepreneurs and teams through business accelerators and various events. Notably, 21 teams participated in Startup Energy Reykjavík between 2014 and 2016, and several of them have achieved great success with their innovative ideas.

Collaboration

We are actively involved in several collaborative projects with economic partners from various sources. We firmly believe that working with the right stakeholders is one of the most critical prerequisites for achieving Iceland's ambitious climate goals. When establishing a partnership, all parties must comprehensively grasp the priorities and ensure their alignment with the overall strategy.

We collaborated with various other organisations this year, including the steering group for a green industrial park in Bakka. The park aims to create a vision for the future and identify opportunities for sharing materials and energy streams in the area. By adopting circular thinking and utilising waste streams, we are assessing the feasibility of capturing and using PCC Bakki Silicon's emissions to produce green methanol. We are also exploring how other companies can use the waste heat generated. Another example of cooperation is the Landsvirkjun, Linde, N1, and Olís project to develop Iceland's hydrogen production value chain, which is discussed in more detail in the energy transition chapter.

Energy-related collaboration projects with local communities
We have taken the initiative to create and sponsor cooperative projects in rural areas:

Blámi | EIMUR | Eygló | Orkídea

The joint projects aim to promote innovation in energy and energy transition. This is achieved by leveraging each region's strengths, resources, and interests. The Ministry of Environment, Energy and Climate joined us this year as a sponsor, significantly strengthening the group and providing excellent support for each project.

The projects have performed well, offering valuable grant application support and guidance to individuals and companies. Our commitment lies in supporting these collaborative projects in diverse ways. For instance, active participation with us and the Ministry of the Environment, Energy and Climate in Iceland Innovation Week and our focus on energy-related innovation at E-world, Europe's largest energy and utilities conference.

In the autumn months, we compile the financial results of our projects to determine the individual income they generate for each area. This income primarily comes from grants from the owners and other national and foreign grants. In recent years, these projects have generated almost 1.2 billion ISK, significantly impacting their respective areas of operation. We take pride in spearheading collaborations with our partners to bring about successful projects. The accomplishments we have collectively achieved are a testament to the worth and impact of our collaborative endeavours.

Blámi

Blámi continued supporting energy transition initiatives at sea and on land in the Westfjords. Their innovative work on energy exchange, particularly related to sea fish farming, earned them an incentive award from SFS at the beginning of the year.

Blámi has been actively supporting individuals and companies in the Westfjords region throughout the year, as there has been remarkable growth in innovation and energy transition projects. These projects include electrically powered feed barges at fish farms, battery solutions for workboats, and research participation in hydrogen projects in the Nordic countries, with a focus on harbour areas.

Blámi has been working on finding solutions for heating so-called cold areas in the Westfjords. The Climate Fund, along with Orkídea, Orkubú Vestfjörður, Sigurður Markússon, and Sidewind, have provided funding for the project. The goal is to use magnetic heaters to heat water. Experimental equipment has been installed in Súðavík to give new life to the old infrastructure. This collaboration aims to test the technology further and begin the journey of heating cold areas more sustainably.

Eimur

Landsvirkjun's Eimur collaboration project, established in 2016, strives to promote sustainability, innovation, and value creation. Its main objective is to enhance resource utilisation while fostering economic growth and development in the Northeast region. Eimur has undertaken various projects over the years, with the most extensive grant received for a European project called RECET. The project was financed through the LIFE grant program of the European Union. Eimur plays a key role in the project, as it is one of the participants from five European countries and dozens of municipalities. The project aims to address energy transition and develop harmonious plans with all stakeholders.

This year, a three-year European project called Crowdthermal, which focused on developing alternative funding schemes for geothermal energy, ended. Eimur collaborated with the residents of Húsavík on this project, proposing a cluster of small greenhouses in the area to encourage experimental farming.

Earlier this year, the project manager of a green industrial park located in Bakka near Húsavík, Iceland, began collaborating with Eimur, an organisation tasked with leading the development of the area in the spirit of innovation, climate issues, and energy transition. The implementation of green industrial parks has been a major topic of discussion in Iceland, and they are expected to boost the country's competitiveness in establishing a new and diverse industry.

Eimur's continued its support for entrepreneurs in the North with the Nordanátt project. Various events focused on innovation in food, energy, and water categories. Notable events include the investor festival in Siglufjörður, business accelerator Startup Storm, and other informative and promotional events.

Eygló

Eygló is a relatively new collaborative project in East Iceland that started operating in 2023. The Ministry of the Environment, Energy, and Climate, Austurbrú, and several regional municipalities jointly own the project. Throughout the year, the owners and employees of Eygló worked together to develop a comprehensive strategic plan to guide its operations. Their efforts resulted in a decision to focus on energy transition, energy efficiency, and the circular economy in the East.

Orkídea

Orkídea had an extremely successful year in their campaign for European funds, receiving two significant project grants. Their first project, TerraformingLIFE, is a pioneering Icelandic project that received the first-ever LIFE grant from the European Union. The project aims to develop an innovative method of producing fertiliser and biogas from the country's organic waste generated from agriculture and aquaculture. The grant, distributed over the next four years, totals almost a billion ISK. Orkídea's co-applicants in this project were First Water (formerly Landeldi), the Icelandic Farmers Association, Ölfus Cluster, and SMJ from the Faroe Islands, with support from Blue Ocean Technology in Norway. Their second project, Value4Farm, is focused on developing sustainable value chains with local renewable energy to meet the needs of farmers. The project primarily focuses on biogas and aims to connect its use with sustainable food production, aligning well with Orkídea's purpose and goals.

Orkídea has been actively involved in developing green industrial parks in the South of Iceland. To expedite the progress of this project, the team has added a full-time position this year. Feasibility analyses and other preparation work were carried out to determine the viability of establishing green industrial parks in Reykholt, Biskupstung, and Rangárþing Ytra. Additionally, comprehensive analytical work was carried out to assess the resources and opportunities available in the surrounding areas.

More information about Landsvirkjun's collaborative projects can be found on their website.

International projects

Our international projects thrived this year, focusing on advising, developing projects, and managing utility operations. Our primary consultancy project in Australia involves substantially increasing hydroelectric power to support energy transition and balance variable wind power. Additionally, the Akhalkalaki Hydropower Station in Georgia, which we partially own, operated effectively throughout the year.

Project development in Greenland and Canada is progressing as we explore various opportunities. In Canada, we are working with Growler Energy and Nunavut Nukkiksautiit Corporation (NNC), exploring options for developing, constructing and operating renewable energy production in the region. Together, we are conducting a pilot project integrating wind energy and battery storage to provide electricity to the village of Sanikiluaq in the Nunavut territory of Canada. The project is currently underway and scheduled for completion by 2025.

A progressive and sought-after workplace

Our Human Resources and Equality strategy encompasses elements such as culture, equality, cooperation, and well-being, creating a dynamic work environment that fosters teamwork, success, and a motivating work ethic. Our culture is defined by diversity, well-being, equality, growth opportunities, and employee commitment. Through our strategic approach, we strive to create a progressive and desirable workplace environment that promotes positivity and professional development.

Teamwork and culture

We each have unique roles but share a common goal—to bring the Company's vision to life. With ambition and enthusiasm, we approach each project boldly and optimistically. We are innovative problem-solvers who proactively take on challenges and fearlessly embrace new opportunities.

Equality and diversity

Equality and diversity are essential components supporting the Company's success and overall appeal as a favourable workplace. We respect human rights and seek solutions to support equal opportunities and gender participation, diversity, inclusivity, and a zero-tolerance approach to discrimination. Employees are judged based on their unique strengths, greatly valued, and provided with equal chances for growth and success.
We focus on fair hiring, career development, training, and equal pay, showing our dedication to equal treatment and equal pay. Our top priorities are our equality policy and certified pay system.

Cooperation and communication

Our team thrives on collaboration and professional problem-solving. We work together to solve projects, using professional methods, share information, actively listen to each other, share knowledge, and support one another. Trust, openness, and a solution-driven approach are at the core of our communication ethos. We value courteousness and respect and strive to foster a culture of mutual encouragement. Constructive feedback is offered to help us grow, and we celebrate achievements together.

Well-being and flexibility

We are dedicated to inspiring and empowering our employees to achieve their full potential personally and professionally. This drives our focus on health-related prevention strategies, safety, and occupational health and safety standards. We are dedicated to creating a culture that values ongoing learning and skill development. We allow our employees to improve their competencies and work on projects matching their strengths and interests. Additionally, we offer excellent amenities and flexible work schedules to support a healthy work-life balance.

We maintain a zero-tolerance policy towards workplace misconduct, including bullying, sexual harassment, gender-based discrimination, and violence—our Reprehensible Conduct Response Plan analyses and processes such cases.

The Board of Directors
Landsvirkjun's board is appointed annually by the Minister of Finance, in accordance with the Act on Landsvirkjun, No. 42/1983, and has overall administrative control over the Company's operations and finances.

The Board was elected at the Company's general meeting on the 29th of April 2022. In the first board meeting following the general meeting, Jónas Þór Guðmundsson was re-elected chairman, and Jón Björn Hákonarson was elected vice chairman. Soffía Björk Guðmundsdóttir has replaced Hákonar Hákonarson on the Board.

Women comprised 40% of the board at the end of the year
In 2023, six board members and deputy board members were over fifty years old, and four were between thirty-one and fifty.

Jónas Þór Guðmundsson
Chairman of the Board

Jón Björn Hákonarson
Vice Chairman of the Board

Álfheiður Ingadóttir
Board Member

Gunnar Tryggvason
Board Member

Soffía Björk Guðmundsdóttir
Board Member

Reserve members
Jens Garðar Helgason
Ragnar Óskarsson
Guðveig Eyglóardóttir
Jón Bragi Gunnlaugsson
Albertína Friðbjörg Elíasdóttir

The Executive Board of Directors
The Board appoints the CEO, and the Board and the CEO are responsible for managing the Company. The Deputy CEO oversees the Company's common issues and strategic planning and ensures quality governance. The Executive Board comprises the CEO and nine Executive Directors- four women and five men.

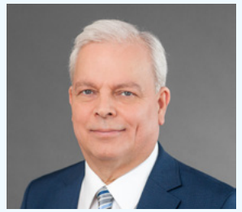
Four executive board members are over 50, and five are between 31 and 50.

Hörður Arnarson
CEO

In accordance with the Board of Directors' policies and instructions, the CEO oversees Landsvirkjun's daily operations. The CEO handles recruiting, ensures the Company's accounting methods are in accordance with law and standard practice and ensures assets are handled safely and securely. Landsvirkjun's CEO is responsible for matters within his defined realm of responsibility.

Kristín Linda Árnadóttir
Deputy CEO of Landsvirkjun

The CEO's office is responsible for strategic planning and compiling key metrics. In addition to maintaining the Company's management systems and risk management, the department coordinates changes throughout the Company and creates channels for improvement. The Division manages the Company's communication and information sharing, human resources, compensation, and workplace development. It provides legal support to other divisions and works on developing high-quality governance and management practices.



Einar Mathiesen
Executive Vice President of the Wind and Geothermal Division

The Division is responsible for efficiently operating geothermal power stations and wind farms and maximising energy production. As part of its responsibilities, the division maintains, renovates, and renews power stations to ensure they perform their specified role efficiently, comply with environmental and safety requirements, and meet the ISO 55000 standard for asset management. Additionally, the Division is responsible for developing new geothermal and wind energy options and innovations that improve resource utilisation, monitoring, and research. The two resource divisions use common systems and work processes during maintenance and renewal. They are jointly responsible for their development in line with progress and changing company operations priorities. The asset management department manages the systems in question.

Tinna Traustadóttir
Executive Vice President of the Sales and Services Division

The Division manages contracts with existing customers and ensures excellent service. It also maximises Landsvirkjun's long-term revenues, interacts with customers, manages business portals, and settles electricity sales. The division is also responsible for developing pricing policies in wholesale and energy-intensive user markets, handling demand forecasts, and analysing Landsvirkjun's business environment and competitive position in domestic and foreign markets.

Ríkarður Ríkarðsson
Executive Vice President of the Business Development and Innovation Division

The division leads the development and marketing efforts for new business opportunities and manages Landsvirkjun's involvement in energy-related innovation. It is tasked with attracting new clients and energy-related ventures globally, promoting Landsvirkjun, and facilitating collaborative efforts with clusters, municipalities, companies, and other stakeholders to drive business development and innovation. Additionally, it plays a pivotal role in securing funding for energy-focused business growth and innovation through international research and development initiatives.

Jóna Bjarnadóttir
Executive Vice President of the Community and Environment Division

This division's primary focus is leading the Company's efforts in social and environmental matters. It also supports other divisions within the Company, working towards carbon neutrality, green operations, active community engagement, and socially responsible practices.

Ásbjörg Kristinsdóttir
Executive Vice President of the Project Planning and Construction Division

The Division oversees the construction of power stations that have reached the construction stage and renovation projects at the Company's power stations. It is also responsible for tender documents, work preparation, cost and cash flow plans, tenders and contracts for planned projects, and acquiring necessary permits. The department is responsible for construction costs and work progress during the project. It delivers power stations ready for operation in hydropower, wind, and geothermal fields per the company's assumptions, plans, and policies.

Gunnar Guðni Tómasson
Executive Vice President of the Hydropower Division

The division ensures that hydropower stations operate efficiently, maximising energy production. It is also responsible for maintaining and refurbishing hydropower stations to comply with environmental and safety requirements. The Division is responsible for developing hydropower energy options, monitoring water, researching new energy options, and supervising dams and other structures. Finally, it manages electricity generation and delivery by existing agreements.

Rafnar Lárusson
Executive Vice President of the Finance and IT Division

The division is responsible for monitoring the budget process. Services include providing an overview of Company operations, overseeing resource acquisition and capital management, and providing comprehensive advice on purchasing and financing. The Division is responsible for ensuring that IT and digital solutions reflect the needs of Company operations at all times and offers general internal services.

Our team
Our team is our most vital asset. Promoting diversity and retaining skills and knowledge creates a positive, safe, and progressive work environment.

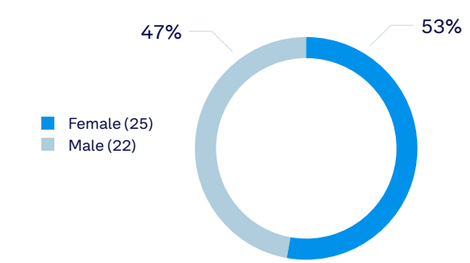
Landsvirkjun adheres to collective agreements and respects all the rights and obligations therein. Landsvirkjun complies with the law on mandatory pension insurance and pension fund activities.

The number of full-time equivalent positions at the end of 2023 was 310. Men held 219 positions and women 90. The full-time equivalent of temporary positions was 19. Of these, women held 11 positions and men 9. The number of permanent employees (100% employment rate) was 300: 217 men and 83 women. The number of permanent part-time staff was 20: 6 men and 14 women.

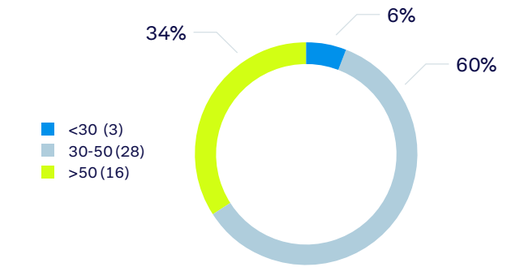
↓ Full-time employees at year-end 2023 (full-time equivalent)

	Skilled workers	Experts & Project Managers	Specialised office workers	Management	Other positions
Female	1 (1%)	52.3 (33%)	12.2 (100%)	15.2 (39%)	9.8 (67%)
Male	83.6 (99%)	107.1 (67%)	0 (0%)	24 (61%)	4.8 (33%)
<30	2 (2%)	10.4 (6,5%)	0 (0%)	0 (0%)	1 (7%)
30-50	42.6 (50%)	82.8 (52%)	1.5 (12%)	22.2 (57%)	2 (14%)
>50	40 (47%)	65.3 (41%)	10.8 (88%)	17 (43%)	11.5 (79%)
H68	4 (5%)	122.7 (77%)	10.2 (84%)	34.2 (87%)	2 (14%)
Stations	80.6 (95%)	36.7 (23%)	2 (16%)	5 (13%)	12.5 (86%)
Total	**84.6**	**159.4**	**12.2**	**39.2**	**14.5**

↓ New recruitment - Gender balance



↓ New recruitment - Age distribution



Mental and physical health

The well-being of our employees is our top priority, and we are dedicated to ensuring their mental and physical health. We implement preventive measures that address their well-being, providing access to professional resources to support their health, safety, and happiness at work. Additionally, we conduct regular workplace analyses to improve factors such as the working environment, the culture, and employee well-being.

Employees receive a health assessment annually that considers mental, social, and physical aspects. We also conduct psychosocial risk assessments in parallel with job risk assessments to address factors related to mental, personal, and professional well-being at work. We work closely with the professionals who provide employee health-related services because we believe a professional approach is crucial.

Health-related preventive benefits offered by the Company include fitness, transportation, and psychosocial grants. Most workspaces have fitness facilities, and healthy food is always available in our cafeterias. Both online and in-class education are available, with topics ranging from social and mental health to workplace well-being.

Every employee is interviewed by a deputy manager twice a year. These conversations are part of regular performance feedback and career development discussions; each has a different approach. This aims to create a common platform for discussing essential aspects of our work so we can identify our challenges and successes individually and as an organisation.

Safety in the workplace

We conduct regular safety training in all areas of our operations, including first aid training, fire protection, hoisting, and fall protection. As shown by numerous examples, training has prevented accidents and helped people react appropriately in difficult situations.

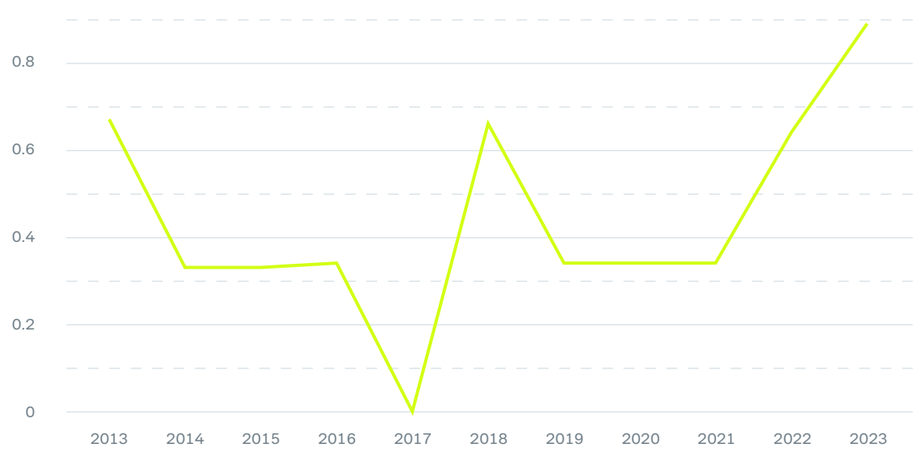
Accident insurance protects employees during and after working hours and includes disability and accidental death cover. Contractor accident insurance is outlined explicitly in contractor agreements. Two occupational accidents, which led to absence from work, were reported this year. The H value for 2023 was 0.89. The H value is the number of accidents leading to absence, divided by the total hours worked, times 200,000. No work-related illnesses were reported during the year.

No accidents caused irreversible damage. Two serious near-misses occurred: a contractor carrying out excavation work and a Landsvirkjun employee working in a man basket. Seven accidents are recorded for permanent staff at work. Four minor accidents involved summer workers. Three accidents were registered with our contractors. Three accidents were recorded during employees´ commutes and two during their free time.

We have a certified occupational Health and Safety system, ISO 45001:2018, and work in accordance with an occupational health and safety policy. The policy is being revised, and new performance indicators are being added. Risk assessment, suggestion processing, and incident root analyses are essential to preventing incidents and accidents. We are currently updating risk assessments for all operational areas.

↓ H-value- Landsvirkjun employees

The H value is the number of accidents leading to absence, divided by the total hours worked, times 200,000 hours.



A skilled workforce now and in the future

All new employees receive the necessary training and education. Training is provided through a training portal and appropriate guidance on tasks and roles. Our electronic training portal offers a wide range of optional and mandatory courses designed to increase the knowledge and skills of all our employees in their respective fields. Learning materials also support employee health, safety, and workplace skills.

Various other courses and education are available to employees, and we collaborate with many external providers, such as Iðan, the University of Iceland, the Technical College and Endurmenntun. Educational development involves conducting regular needs analyses among staff, preparing educational materials, and developing educational programs. Landsvirkjun is a leading knowledge-based company prioritising ongoing education through its powerful strategy for all employees.

The Turning Point course is offered to those preparing for retirement. The course focuses on well-being, nutrition, finances, and mindset to highlight the opportunities and challenges that this major turning point brings.

Rights and benefits

We offer numerous benefits, including health-related benefits such as annual check-ups, fitness grants, transportation grants, and psychosocial grants. We also pay for eye examinations (according to the ophthalmologists' price list and their contract with the Social Insurance Administration) and uterine and breast cancer screening.

Maternity and parental leave are legal rights in Iceland, and Landsvirkjun employees can apply for leave based on those rights. In 2023, six women took maternity leave, and 22 men took paternity leave. Three women and four men were on maternity and paternity leave at year-end.

Equal opportunities

We follow an equality action plan. One of its goals is to increase the percentage of women managers at the Company to over 40 %. Despite achieving this goal within the executive board, 35% of women held other management positions at the end of 2023. Landsvirkjun's Board of Directors is elected in accordance with the Act on Public Limited Companies No. 2/1995, with subsequent amendments on gender ratios. At the end of the year, 20% of the Board was female.

Equal pay system

Landsvirkjun has a certified equal pay system, confirmed by the British Standard Institution´ s renewal of our certification until 2025. PwC analysed salary data and confirmed that the gender pay gap adheres to the criteria set by their Equal Pay Gold Standard. Men's basic salaries were 2% higher than women's, and men's total wages were 0.7% higher than women's, placing them within the PWC threshold.

Equality is intrinsic to our corporate culture. The equal pay system operates within defined parameters and undergoes a thorough review each year to explore avenues for improvement. This proactive approach aims to bolster and enhance procedures in the system. We take immense pride in the accomplishments we have achieved in this area. The equal pay system ensures that our employees are fairly compensated for their contributions, promoting a level playing field for all. Our role and work environment necessitates a varied skill set and background among our workforce regarding education, qualifications, and experience. Our equal pay system at Landsvirkjun reflects this diversity and actively supports professional practices that proactively prevent any bias or discrimination in the selection and compensation of our staff.

Exceeding expectations in open communication and cooperation

We work closely with local communities and foster open and active communication with our stakeholders. We are a good neighbour.

Maintaining clear and consistent communication channels with our stakeholders is vital to us. We are a state-owned energy company, and open and effective communication is essential in building trust between the public and us. We share information about our operations and impact on society and the environment and provide general energy-related knowledge and reliable information in an accessible manner. Our efforts to accomplish this include open meetings and direct discussions, sharing news about our activities, publishing content, and welcoming guests to our power stations.

This is how we engage in informed social debate. Additionally, we are active in the local communities around our power stations. We want to be good neighbours. Communication with local communities near our power stations matters to us, and we work closely with them to develop creative collaboration and energy-related innovation opportunities.

Community Engagement Policy
Our Community Engagement Policy is committed to generating positive social impacts and benefits from the Company's operations in conjunction with responsible resource utilisation.

We urge our employees to actively engage in the community, supporting initiatives with positive social implications while upholding honesty, respect, and constructive communication. We stress the importance of sharing knowledge about our operations to build mutual trust, positioning us as a leading force for energy-related innovation with sustainability as our guiding principle. Lastly, we are committed to being a good neighbour and ensuring local communities benefit from our operations.

The Landsvirkjun Board reviewed the social policy in late January 2024, making no changes to the Policy itself but refining two indicators to provide a more transparent view of our social contributions.

Supporting energy-related innovation

Consultation

In 2023, several construction projects required consultation with multiple stakeholders, including the Icelandic National Planning Agency, the Environment Agency of Iceland, the National Energy Authority, the Public Roads Administration, the Cultural Heritage Agency of Iceland, and local public health authorities. We also consulted with landowners, municipalities, and other stakeholders.

Monitoring nature and ecosystems, and various other measures related to licence conditions, require consultation and dialogue with multiple parties, including the Soil Conservation Service, the Iceland Forest Service, the Icelandic Forestry Association, the Icelandic Institute of Natural History, the Marine and Freshwater Institution, the University of Iceland Science Institute, Icelandic Meteorological Office, the Environment Agency of Iceland, the Northeast Iceland Nature Research Centre, the East Iceland Nature Research Centre, and landowners and angling associations nationwide.

In 2023, Landsvirkjun signed a contract with a private company to operate the Commonwealth Farm Þjórsárdal project, jointly developed by the Ministry of Education, Science and Culture, Skeiða and Gnúpverjahreppur Municipality, the National Museum, and Landsvirkjun. While Landsvirkjun has been managing this project in conjunction with the management of the Commonwealth Farm and has taken care of its daily operations for several years, the goal is to outsource the operation to strengthen the region's tourism industry by communicating the cultural heritage in an even more powerful way.

Our visitor centres

Our visitor centres in Ljósafoss and Kröfla were open during the summer, hosting 5,400 guests at Ljósafoss and 10,700 at Krafla. Various groups also visited Ljósafoss during the winter.

In addition to welcoming guests to our visitor centres, we offer guided tours in Kárahnjúkar during the summer in collaboration with Vatnajökull National Park. We also take part in operating the Commonwealth Farm in Þjórsárdal, which is open during the summer season.

Comments on changes to the law and the regulatory environment

Changes in the law and regulatory environment can significantly impact Landsvirkjun's interests and the future of the energy sector. We monitor all potential changes in our operating environment and submit comments and feedback within set time limits. Landsvirkjun ensures that any communication of this kind is clear and concise. In 2023, we submitted 58 comments. Landsvirkjun's comments are public documents made available on the relevant websites.

Meetings and information sharing

The Foundations of a Greener Society

Landsvirkjun's 2023 annual meeting, titled "The Foundations of a Greener Society," gathered approximately 350 participants at Harpa, with a considerable online viewership. Speakers emphasised the urgent need for increased green energy production for societal and energy transition purposes.

Key points stressed the importance of transparent government policy, efficient licencing processes without compromising environmental considerations, ensuring community benefits from power resources, and securing energy stability in the face of rising demand.

Additional energy is a necessity

During his speech, Minister of Finance and Economic Affairs Bjarni Benediktsson highlighted the repercussions of the Russian invasion of Ukraine on energy-related issues last year. The invasion led to widespread economic disruptions globally, prompting energy security to emerge as a dominant public concern. He acknowledged Iceland's indebtedness to the early innovators who established the country's energy infrastructure, specifically mentioning Jóhannes Nordal, the inaugural Chairman of Landsvirkjun.

He stressed the significance of ensuring a sustainable future for upcoming generations by fostering a greener society and striving to achieve Iceland's ambitious objectives concerning energy transition. Bjarni underscored the necessity for enhanced energy production to avoid missing out on potential projects that could aid in building a sustainable society, with wind power being considered a viable option. He also pointed out that numerous countries have already begun adopting wind energy and suggested that Iceland could benefit from their experience.

Bjarni highlighted the government's crucial role in energy policy-making and the need for each step to focus on the future.

The Minister concluded his remarks by praising Landsvirkjun for its remarkable financial performance. He applauded the Company's increasing electricity prices for energy-intensive customers, reduced debt in recent years, and significant dividend payments. He also commended the executives and employees of Landsvirkjun for their exceptional results.

Urging politicians to step up

Jónas Þór Guðmundsson, Landsvirkjun's Chairman, credited the Company's success to deliberate strategies, highlighting the significance of sustained investments in power stations and successful renegotiations with major customers over the past 12 years. He stated that energy production is undeniably the industry of the future and highlighted the patience and long-term perspective necessary in the energy production industry, where power stations can take 15-20 years to become profitable after construction.

Jónas Þór thanked Jóhannes Nordal for his pioneering work in the nation's energy sector, stating that both Landsvirkjun and the entire country owed him a debt of gratitude.

He voiced serious concerns about the country's energy outlook, warning of the potential failure to fulfil the growing need for sustainable energy. The situation has forced Landsvirkjun to reject interesting, environmentally friendly projects due to insufficient electricity. He stressed that meeting the government's climate goals would only be attainable with a sufficient energy supply. Additionally, he underscored the pressing necessity for a significant expansion of the energy infrastructure beyond current projections according to the status of the Master Plan and licensing processes.

He encouraged politicians to step up and prioritise the welfare of the people when envisioning the future. He urged them to set aside partisan divides that have traditionally shaped the political arena and strive instead to find common ground through consensus-building efforts.

Inevitable priorities

Landsvirkjun's CEO, Hörður Arnarson, stated that in 2010, Landsvirkjun set objectives to increase prices for energy-intensive customers, diversify revenue sources, and reduce debt.

Today, Landsvirkjun has reached its objectives. However, the electric power system is operating at full capacity, and there is reason to be seriously concerned about energy security for households and smaller companies. Immediate action is needed.

He stated that Landsvirkjun has several upcoming projects, including the Hvammsvirkjun Power Project, Búrfell Wind Farm, the expansion of the Þeistareykir Geothermal Power Station, and a power increase at Sigalda Hydropower Station.

The preparation and construction phases of projects like these take approximately 10 to 15 years to complete. New power stations are scheduled to begin operations in three to four years, and now is the time to start planning new projects.

Hörður explained that the electricity system is now at full capacity, which is an envious position, but priorities must be established.

Households and small businesses must be given precedence.

Renegotiations yielded 150 billion.

Landsvirkjun's CFO and EVP of Finance and Information Technology, Rafnar Lárusson, discussed the Company's enhanced financial position, signalling it as the strongest ever. He emphasised the swift debt reduction since 2010, successful renegotiation with power-intensive customers, and financing for new power stations. Rafnar mentioned that revenues doubled during this period, primarily due to the renegotiated agreements, resulting in an estimated extra benefit of around ISK 150 billion compared to the previous deals.

Rafnar noted that profits have risen alongside increased revenues, with 2022 marking the second consecutive record year for Landsvirkjun. Importantly, no new loans backed by a government guarantee have been acquired, and older loans are being rapidly repaid.

Whilst successfully reducing its debt, Landsvirkjun has embarked on constructing new power stations, including Búðarhál, Búrfell II, and Þeistareykir, along with the commissioning of two experimental windmills at Hafið.

Landsvirkjun's significant financial contributions to the Icelandic Treasury this year include 20 billion in dividends, 30 billion in income tax, and the sale of Landsnet, a total of 50 billion. Notably, this amount surpasses half of the construction cost of the new State Hospital and represents 5% of the Treasury's total revenue in 2023.

Furthermore, the Company's credit rating upgrade to BBB+ in 2010 places it on par with major energy generators in Sweden and Denmark, positioning it favourably in the industry and financial markets. It is just below Finland and closely aligns with Norway's highest credit rating.

650 km of roads and trails

Kristín Linda Árnadóttir, Landsvirkjun's Deputy CEO, highlighted the Company's commitment to being a good neighbour to local communities and promoting benefits for the areas where it operates. By prioritising support for community issues and projects, fostering positive communication and collaboration, and encouraging innovation in energy transition, Landsvirkjun aims to be a proactive and leading contributor to the well-being and development of the community.

Landsvirkjun is pivotal in its operating regions' municipal tax contributions and community partnership initiatives. As the largest taxpayer in many municipalities, the Company actively collaborates with various associations in areas such as fire prevention and supports innovative projects like Eimir, Orkídea, Blámi, and Eygló.

Kristín Linda Árnadóttir highlighted Landsvirkjun's significant contribution to infrastructure development in Iceland, using road construction as a notable example. Over the past six decades, the Company has been involved in constructing around 650 km of roads and trails, a distance equivalent to half of the Icelandic ring road or the journey from Reykjavík to Egilsstaðir via the northern route.

She emphasised the significance of surveys commissioned by Landsvirkjun and conducted by Gallup, which revealed that over 76% of domestic participants perceive the Company's power stations to have a positive impact on the Icelandic community. Additionally, 63% expressed support for further construction projects. She underscored the importance of this feedback for an energy generator owned by the nation, indicating the value of public perception.

Kristín Linda also noted that individuals residing near the power stations are even more optimistic, with approximately 78-85% expressing a positive impact on their local communities.

International tourists visiting Iceland have shown great enthusiasm for the country's green energy generation, with 96% acknowledging this aspect during their travels and stating that it positively influenced their experience of Icelandic nature. These findings underscore the harmonious relationship between tourism and energy generation. Lastly, the Deputy CEO emphasised the importance of ensuring local communities increasingly benefit from local energy generation projects.

Domestic energy must be secured.

Tinna Traustadóttir, Landsvirkjun's EVP of Sales and Services, expressed satisfaction that the issue of energy security had gained prominence on the agenda, indicating that efforts to amend laws and regulations were underway. Landsvirkjun had long advocated for ensuring energy security for households and smaller businesses, while larger end-users had secured their interests through long-term agreements.

She emphasised that achieving energy security requires collaboration between energy producers, the government, and competent institutions, acknowledging that Landsvirkjun alone cannot ensure this. She stressed the importance of all parties working together to effectively oversee and address energy security issues. Currently, no single entity provides a comprehensive overview of household energy security, highlighting the need for greater coordination and predictability in a growing market.

"Landsvirkjun alone cannot guarantee energy security," stated Tinna, suggesting that energy companies and authorities must collaborate to prioritise energy security. Without proper oversight from institutions and authorities, it is unclear to what extent the public's energy security has been ensured. Predictability in an expanding market is essential.

Tinna pointed out that Landsvirkjun's wholesale market share is currently at 50%, and the Company has entered into long-term agreements with electricity retailers to ensure predictability in the energy supply for households and smaller businesses.

However, half of the energy in the wholesale market is sourced from companies with independent energy production capacity. This raises uncertainty about the continued distribution of their energy to households and smaller businesses. These companies have the autonomy to redirect their resources towards industries such as data centres, aquaculture facilities, electric fuel generators, or microalgae production. While this shift may seem promising, we mustn't forget that there are contractual obligations for the sale of energy to households and smaller businesses.

Tinna underlined the need to segregate the market for households and small businesses from energy-intensive customers, advocating for a clear distinction in energy distribution to prevent potential cross-market leakage.

She warned of the risks posed by energy-intensive customers encroaching upon the wholesale market designated for the general public, emphasising the importance of safeguarding households against any competition for energy security.

Building a Greener Future Together

Speaking at Landsvirkjun's 2023 Autumn Meeting under the theme of Building a Greener Future Together, Minister of the Environment, Energy and Climate Guðlaugur Þór Þórðarson challenged the audience to consider "Will future generations be as proud of us as we are of those who came before us," stressing the importance of taking action now to secure a sustainable legacy.

Guðlaugur commented that "Climate issues primarily revolve around green energy" and that the focus should be on replacing the remaining grey energy in land, sea, and air transport with sustainable alternatives.

Director of Communications Þóra Arnórsdóttir chaired the meeting and roundtable discussions that followed the presentations. CEO Hördur Arnarson stressed the critical need to meet the clear energy demands of society both now and in the future through energy development projects. He challenged those who suggested no further energy production was needed.

Acknowledging the necessity of more energy

CEO Hörður Arnarson emphasised the importance of acknowledging society's energy requirements and the risks associated with ignoring them: "It is imperative that we fully understand society's energy demands and the repercussions of energy shortages. By recognising the gravity of this issue, we can unite in addressing these challenges head-on. Having influential individuals diminish the urgency for increased energy production has only hindered our progress."

Halla Hrund Logadóttir, Director-General at Iceland's National Energy Authority, said during the panel discussion, "Let's take immense pride in Landsvirkjun's historic contributions to our electricity system and foreign currency earnings. This moment marks a critical turning point for a transformative energy transition to reshape society. While there are inevitable costs, risks, profit reductions, and political hurdles that companies like Landsvirkjun may face, I challenge businesses to step up and share these risks with us. By doing so, we can collectively create a positive and enduring legacy comparable to revered figures like Jóhannes Nordal, leaving a mark as societal heroes of our time."

Hvammsvirkjun's 24-year licencing process

Jóna Bjarnadóttir, Executive Director of Community and Environment, provided insights into the lengthy licencing process for power plants in Iceland, citing the example of the Hvammsvirkjun Project, which began in 1999 when her daughter was born and remains unresolved 24 years later.

Reflecting on her personal experience, she remarked on the uncertainty of predicting the future progress of the project and the potential timeline for its commissioning. Jóna noted that if all goes well, the power station could be operational in 2028, but further delays might extend it to 2029, and that by that time, her daughter would be thirty years old, and she might be a grandmother.

In his speech, Gunnar Guðni Tómasson, Executive Director of Hydropower, highlighted the complexities of managing an isolated electricity system when energy is sold out. He explained that energy sales are not based on the weakest known water year, which would be the safest option. Contracts are made with energy customers prepared to defer during poor water years, so-called curtailable contracts. This approach maximises resource utilisation and investment in the energy system.

"This means more frequent curtailments than we are accustomed to. However, opportunities arise during good water years when we can utilise excess energy. We have offered Tertiary Power at favourable prices to entities like fishmeal factories and district heating utilities using it for energy transition."

The energy transition requires four terawatt hours

Sveinbjörn Finnsson, Director of Project Development in the Business Development and Innovation Division, discussed Landsvirkjun's energy transition vision for 2035. He said the transition would be slow until 2035, as technical solutions for international flights have yet to be developed.

"The need for electricity in land transport is already apparent as the shift away from petrol and diesel vehicles accelerates. By 2030, with a ban on new registrations of such vehicles, it is estimated that approximately four terawatt hours of electricity will be required annually. Alongside this, offshore energy conversion is projected to demand a similar amount of electricity, though slightly lagging behind land transport in technological advancements. In contrast, the aviation sector is expected to have the highest energy demands for transitioning, necessitating around eight terawatt hours, albeit later in the transition period."

Sveinbjörn predicts that by 2035, half of the energy transition on land will have been completed, necessitating around two terawatt hours of electricity. Marine transport, expected to be 60% transitioned, will require about three terawatt hours, comprising one terawatt hour of imported green fuel and two terawatt hours from electric fuel.

The aviation energy transition, likely to reach 15% completion by 2035, will rely on imported green fuel to meet its electricity demands. Overall, an estimated 35% of the energy transition will be achieved by 2035, with total electricity needs reaching around four terawatt hours and an additional two terawatt hours from imported green fuel.

Potential threat to energy security 2024- 2028.

Jónas Hlynur Hallgrímsson, an expert in business analysis and market development, recently conducted a thorough evaluation of Landsvirkjun's electricity demand forecast up until 2035. According to Landsvirkjun's data, the projected growth in electricity demand amounts to 6.5 terawatt hours, with four terawatt hours attributed to energy transition and the remaining two and a half driven by societal progress and potential sales to energy-intensive consumers.

Jónas also raised concerns regarding the nation's energy security, warning of a potential threat during 2024-2028 when demand will surpass supply. However, he sees a positive outlook from 2028 to 2035, anticipating increased supply to restore a favourable energy balance.

He highlighted the crucial need for synchronisation between contracts for electricity sales to energy-intensive users and "Procuring additional energy to safeguard energy security for homes and smaller businesses. We have seen notably high demand for electricity in the wholesale market, surpassing general market growth." He called for government intervention to ensure the energy security of households and smaller enterprises amidst the escalating demand for electricity.

What happens when the wind drops?

Landsvirkjun's limited capacity to match other companies' wind power capabilities (ranging from 0-30 MW) was discussed at an open meeting focused on wind power development challenges. Potential wind power projects in the planning phase total around 3,400 MW. Experts gave presentations, including Ívar Baldvinsson, Director of Generation Planning, Kristinn Arnar Ormsson, Energy Consultant at EFLA Engineering, and Conor Byrne, Business Development Manager. Panel participants included Ketill Sigurjónsson from Zephyr Iceland, Kolbrún Reinholdsdóttir from EFLA's energy consultancy, Sverrir Jan Norðfjörð from Landsnet's Development and Technology division, and Gunnar Guðni Tómasson, Executive Director of Hydropower at Landsvirkjun.

A new reality

During the joint conference conducted by Landsvirkjun and the Carbon Disclosure Project (CDP), there was a detailed conversation about the benefits of information sharing with CDP for promoting sustainable development in Iceland. The event included presentations by Jóna Bjarnadóttir, Executive Director of Community and Environment at Landsvirkjun; Maxfield Weiss, Executive Director of CDP Europe; Angele Cauchois, Senior Public Authorities Officer of CDP Europe, and Eric Wilson, Vice-President of climate Resilience & Sustainability Planning, New York Metropolitan Transportation Authority Construction & Development. Maxfield Weiss moderated a panel discussion involving Jóhanna Hlín Auðunsdóttir, Director of Climate and Green Solutions at Landsvirkjun, Halldór Þorgeirsson, Chair of the Icelandic Climate Council, and Hrönn Hrafnsdóttir, Head of Climate Affairs at the City of Reykjavík's Environment and Planning Department.

Ensuring the security of the supply

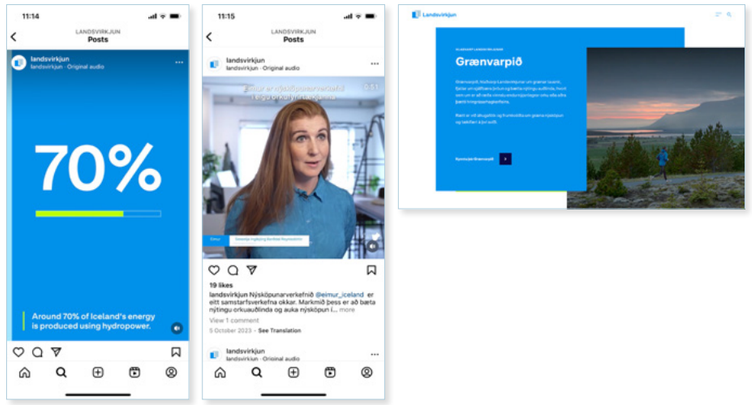
An open electricity market meeting titled "Ensuring Security of Supply" was held to discuss electricity security in Iceland and business market arrangements. Martin Bo Hansen from Implement shared his expertise on European electricity markets and solutions for security challenges. Ívar Baldvinsson, Director of Generation Planning and Jónas Hlynur Hallgrímsson, Senior Business Analyst, also provided insights on Icelandic system features, security and electricity markets.

No energy waste

In November, an open meeting was held to present the findings of a report on opportunities for enhanced energy efficiency, indicating a potential 8% increase in electricity efficiency. Landsvirkjun, the Ministry of the Environment, Energy and Climate, and the National Energy Authority commissioned the report. Martin Bo Hansen, co-owner of Implement, conducted the presentation. It featured insights from Guðlaugur Þór Þórðarson, Minister of the Environment, Energy and Climate, Sigurður Ingi Friðleifsson, Divisional Manager of Climate Change and Innovation at the National Energy Authority, and Jóhanna Hlín Auðunsdóttir, Director of Climate and Green Solutions at Landsvirkjun.

Website and social media

The web and social media are essential for sharing information with the public. In 2023, Landsvirkjun increased its Facebook, Instagram, Twitter, LinkedIn, YouTube, and TikTok followers by 16% from the previous year, reaching around 16,000 followers by the end of the year. We created content for various events this year, which was published online.



Sustainability initiatives

We participate in two sustainability projects in the East and Northeast of Iceland. We work closely with our stakeholders to monitor how Landsvirkjun's activities affect these regions' society, environment, and economy. Data related to indicators defined by the projects are managed for both sustainability projects on-site.

The sustainability projects are conducted collaboratively with local authorities and stakeholders within the respective regions. A review of the Sustainability Project in East Iceland is being conducted to evaluate the achievement of set goals. Additionally, plans are being made to reassess and revise the Gaumur Sustainability Project in the Northeast.

Cooperation and collaboration

We work closely with a variety of associations and organisations both at home and abroad. A platform is created through cooperation to share knowledge, learn from others, and combine actions related to energy, the environment, society, and climate issues.

A few of the projects we are involved in or belong to are:

International
International Hydropower Association
International Geothermal Association
European Geothermal Energy Council
UN Global Compact
Nordisk Hydrologisk Forening - Nordic Association for Hydrology
CEATI International (Centre for Energy Advancement through Technological Innovation)
WindEurope

Domestic
Festa — miðstöð um samfélagsábyrgð
Græn byggð
Grænvangur
Græna Orkan
Háskólinn í Reykjavík – Rannsóknasetur um sjálfbæra þróun
Jarðgangafélag Íslands
Jöklarannsóknafélag Íslands
LÍSA samtök um landupplýsingar á Íslandi
Orkuklasinn
Samorka
Samtök atvinnulífsins
Stjórnvísi
Viðskiptaráð Íslands
Íslenski ferðaklasinn
Jarðhitafélag Íslands
Umhverfis- og auðlindasvið HÍ
Vísindasmiðja Háskóla Íslands
Rafmagnsflug ehf.
Textilmiðstöð Íslands

915 million awarded by the Energy Research Fund in the last 16 years

Our Landsvirkjun Energy Research Fund supports environmental and energy research every year. This year, 38 grants were awarded for energy projects and research on nature and the environment, including geophysics, hydrogen production and biodiversity. Seventy-eight applications were received this time, requesting a total of ISK 256 million for projects in 2023. ISK 67 million was awarded to successful candidates.

The fund has awarded 372 grants for research projects over the past 16 years, or a total of ISK 915 million. The projects are divided evenly between energy and power generation issues and nature and environment issues.

Community Fund and other community grants

Since its establishment in 2010, Landsvirkjun's Community Fund has been instrumental in promoting societal improvement, with a total allocation of approximately 140 million ISK over the past 14 years. In 2023 alone, 13 million ISK was distributed among 42 projects spanning humanitarian endeavours, cultural and historical initiatives, support for NGOs, and addressing public health and social issues. Grants of varying amounts, ranging from 100,000 to 600,000 ISK, were provided to support these diverse projects. Additionally, Landsvirkjun extended its impact by contributing 2.3 million ISK to help 85 other commendable causes.

Our collaborative efforts extend to various community projects such as the Community Fund, aimed at supporting initiatives with positive social impact, partnerships like the Many Hands Lighten the Load project, and providing summer employment opportunities for young adults at our power stations. In the summer of 2023, 36 projects were implemented by our work groups within the communities surrounding the power stations. Furthermore, Landsvirkjun has established agreements with Forestry Societies in Hafnarfjörður and Reykjavík to create summer job opportunities for young individuals in the capital area, showcasing our commitment to fostering community engagement and support.

Newspaper articles
Landsvirkjun representatives wrote numerous newspaper articles in 2023 to support an open, informed energy-issue dialogue. *This is a selection of highlights from several articles:*

Free to buy guarantees of origin
Viðskiptablaðið—12th of January: Tinna Traustadóttir, EVP of Sales and Customer Service

> "Given the substantial revenue generated from the sale of guarantees, totalling around two billion ISK in the previous year and one billion ISK in 2021, there is a potential annual revenue opportunity of approximately 15 billion ISK if guarantees of origin were sold for all energy production, based on the average price of the recent autumn months. Should the nation's energy company throw that value away?"

Unfounded fear of guarantees of origin
Bændablaðið—13th of January: Tinna Traustadóttir, EVP of Sales and Customer Service and Valur Ægisson, Director of Key Account Management

> The guarantee of origin system is a crucial mechanism that guarantees enhanced value for our energy, enabling the continual development of renewable energy sources while working directly against electricity price hikes.
>
> As Icelanders, we should embrace the opportunity to sell these valuable assets and recognise our significant advantage compared to many other European nations. There is no reason to fear this system; instead, we should celebrate and capitalise on it to secure a sustainable future for our energy sector."

A new green energy resource
Vísir.is—17th of January: Tinna Traustadóttir, EVP of Sales and Customer Service

> "The guarantees of origin system is working as expected, yielding tangible benefits for companies like Landsvirkjun. It enables them to command higher prices for renewable energy and positions them to lead the way in the energy transition."

What happens when the wind drops?
Vísir.is—2nd of February: Gunnar Guðni Tómasson, EVP of Hydropower, and Ríkarður Ríkarðsson, EVP of Business Development and Innovation

> "The Company's production system has reached its capacity limit because of high demand. As a result, Landsvirkjun's ability to offer balancing responsibility for other wind energy projects than its own is extremely limited, likely between 0 and 30 MW, depending on geographical factors. Under these constraints, Landsvirkjun will not be able to fully meet the demand from the increasing number of wind power stations being developed for balancing power purposes."

Feasible energy production
Mbl.is—17th of February: Einar Mathiesen, EVP of Wind and Geothermal

> "Icelanders have strategically established a competitive advantage globally by utilising cost-effective hydroelectric, geothermal, and potentially onshore wind power stations. We mustn't jeopardise this by investing in costly and inefficient power stations, which could significantly raise the average cost of electricity in Iceland."

Tourists celebrate green energy production
Vísir.is—4th of March: Jóna Bjarnadóttir, EVP of Community and Environment

> "Our commitment to green energy enhances our quality of life and secures a sustainable future for future generations without negatively impacting tourism. It is reassuring to see how industries like energy production and tourism coexist harmoniously, paving the way for continued growth and success for both sectors in our region."

A common European vision
Vísir.is—11th of March: Jóhanna Hlín Auðunsdóttir, Director of Climate and Green Solutions

> "The guidelines surrounding guarantees of origin in the system are transparent regarding the disclosure of emissions related to purchased electricity. While guarantees of origin primarily promote renewable energy production, they do not directly impact state emissions or climate goals. However, they are crucial in shaping how companies account for emissions and define environmentally friendly products within the electricity buyer's supply chain."

Wind energy by Vaðalda
Mbl.is—16th of March: Einar Mathiesen, EVP of Wind and Geothermal

> "Twelve years have passed since the first ideas for a wind farm in Hafið were introduced. The journey towards its realisation has been lengthy, culminating in various contributing factors. The wind farm project is making significant progress, and implementation must be mindful of societal and environmental concerns. If all goes well, it should be connected to the electric grid by the end of 2025."

Households should not compete with energy-intensive users for safe energy
Vísir.is—16th of March: Tinna Traustadóttir, EVP of Sales and Customer Service

> "By maintaining consistent pricing across the country and implementing moderate increases in wholesale prices, we can ensure a predictable, stable, and secure electricity market that prioritises the public's interests. "

Striving to be a good neighbour
Vísir.is—22nd of March: Kristín Linda Árnadóttir, Deputy CEO and Jóna Bjarnadóttir, EVP of Community and Environment

> "The positive feedback we have received, especially from residents near our power stations, shows that our operations benefit society. Despite the fierce past criticism of our power projects, we are encouraged by the approval we have received and are committed to enhancing our community relationships. Many people, especially those close to our sites, recognise and value the positive impact of our work."

The Icelandic route and dividends from energy sources
Vísir.is—18th of April: Valur Ægisson, Director of Key Account Management

> "We are open to discussing our operations and believe our responsibility as the national energy company is to provide accurate and transparent information. 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.
>
> Claims suggesting that profits from Landsvirkjun's energy sales somehow damage the nation are not based in reality."

We can excel in climate matters
Vísir.is—15th of May: Jóna Bjarnadóttir, EVP of Community and Environment and Jóhanna Hlín Auðunsdóttir, Director of Climate and Green Solutions

> "CDP grades can be likened to our school experiences as dedication and diligence lead to improved grades. With a growing number of companies participating, we can expedite the development of solutions to climate-related challenges."

The salmon population in Þjórsá has multiplied in size
Vísir.is—6th of June: Jóna Bjarnadóttir, EVP of Community and Environment

> "Landsvirkjun is committed to maintaining robust fish populations in Þjórsá. We are confident that this goal will be sustained by implementing planned initiatives during the construction of Hvammsvirkjun."

A man and a ball
Vísir.is—14th of June: Ólafur Arnar Jónsson, Director of Community and Environment

> „"A board member at Veiðfélagið has raised concerns about the reputation of Dr Sigurðar Guðjónsson, a seasoned expert in fisheries science who has carried out extensive research on fish stocks over many years. The demand for his valuable expertise led to his employment at Landsvirkjun's environmental research team, where he has performed well for the past year. While Landsvirkjun is open to constructive criticism, it does not condone hidden attempts at discrediting expert opinions and emphasises the importance of maintaining a professional discussion atmosphere."

97,000,000,000,000 gigabytes
Vísir.is—17th of June: Tinna Traustadóttir, EVP of Sales and Customer Service and Ríkarður Ríkarðsson, EVP of Business Development and Innovation

> "The upcoming surge in energy demand underscores the urgency of constructing new power stations to meet demand. Landsvirkjun's Hvammsvirkjun project is on track to commence energy production in 2027, highlighting the pressing challenge of ensuring an adequate prime energy supply. The curtailable energy purchased by data centres mining cryptocurrency is insufficient."

This will not resolve itself
Viðskiptablaðið—5th of August: Hörður Arnarson, CEO

> "Landsvirkjun's decision not to renew prime energy contracts with cryptocurrency mining companies and to refrain from securing contracts with new major users, such as those in the food processing industry, without new energy production in place may be a proactive step. However, other energy companies are not bound by the same obligation.
>
> If they prioritise new large users over households and small businesses, Landsvirkjun cannot quickly increase supply to the wholesale market. The government must promptly address energy security in the wholesale market to ensure that households and small businesses do not face scarcity when the supply is insufficient."

Reconciling accounting

VVísir.is—18. september, Tinna Traustadóttir, EVP of Sales and Customer Service

> "Because this system is primarily concerned with accounting procedures rather than the actual delivery of electricity, it's crucial to ensure accurate data entry. For instance, energy production, such as coal power used by a company in Spain and nuclear power utilised by its sister branch in Germany, must be recorded in the credit column as there are no other options. This is accounting.
>
> We all know that we don´ t use coal or nuclear power in this country. But the accounts must be correct. It's that simple."

Should Landsvirkjun throw away billions in revenue?

Vísir.is—20th of September, Rafnar Lárusson, EVP of the Finance and IT Division

> "The price of guarantees of origin has risen sharply. Suppose Landvirkjun refused to sell the guarantees of origin from its energy production despite the potential annual income of 15 billion. Would the Icelandic people, the owners of Landsvirkjun, be satisfied with such irresponsible behaviour?"

A roadmap for energy

Viðskiptablaðið—20th of September: Hörður Arnarson, CEO

> "The government needs to have a clear long-term vision. All our neighbouring countries have developed a roadmap for energy transition and electric fuel based on the state of technology and their commitments. The guidelines are important for informed discussion and are the basis for prioritising energy exchange projects."

Motivating energy transition

Vísir.is—22nd of September: Jóna Bjarnadóttir, EVP of Community and Environment

> "The sale of guarantees of origin has emerged as a significant revenue stream for Landsvirkjun, with expectations of generating up to ISK 15 billion annually from this source. This income helps the National Energy Company realise its vision of a sustainable world powered by renewable energy. Landsvirkjun will continue its vital role in maximising the potential yield and value of the natural resources we have been entrusted with in a sustainable, responsible, and efficient manner."

Licencing and time

Vísir.is—6th of October: Jóna Bjarnadóttir, EVP of Community and Environment

> "The government's policy direction is clear, but despite this, the processing time for licencing has increased significantly in recent years without any changes in laws or regulations that could account for these delays. While it is important to maintain high standards for renewable energy projects, the extensive preparation timelines for approval, as illustrated by the energy efficiency options approved by Alþingi, cannot be considered normal."

When energy is sold out

Vísir.is—7th of Oktober: Gunnar Guðni Tómasson, EVP of Hydropower

> "To capitalise on the increased inflow and address the rising need for flexibility amidst the energy transition, we must enhance the capacity of our production system. We are in the process of expanding the Sigalda station. However, increasing power in the system is complex and significantly delayed by time-consuming licencing procedures, resulting in extended implementation timelines."

Future Energy achievements

Vísir.is—9th of October: Sveinbjörn Finnsson, Director of Project Development

> "The government must establish robust economic incentives, streamline administrative processes, and outline a transparent energy conversion and electric fuel strategy if the energy transition is to succeed. Businesses must also be willing to take financial risks and invest in substantial energy transition investment, as many current energy transition solutions remain economically unviable for users compared to the ongoing use of fossil fuels."

A concerted effort will boost energy production

Vísir.is—10th of October: Jónas Hlynur Hallgrímsson, Senior Business Analyst

> "Between 2010 and 2020, Landsvirkjun successfully brought online three new power stations - Búðarháls, Búrfell II, and Þeistareykir - developed in consensus with the local community. With a combined power generation capacity of approximately two TWh, these projects demonstrate our ability for rapid development and set a precedent for future endeavours. However, significant delays in licencing have hindered progress on new stations like Hvammsvirkjun and Búrfell Wind Farm, which could have initiated operations two years ago. If they were online today, we could have prevented the constraints we are now experiencing in the energy system."

Expediting energy production and energy transition

Viðskiptablaðið—21st of October: Sveinbjörn Finnsson, Director of Project Development and Jónas Hlynur Hallgrímsson, Senior Business Analyst

> "Driving the energy transition requires government and business sector collaborative efforts. The government must establish robust economic incentives, streamline administrative processes, and develop a clear energy conversion and electric fuel strategy. Simultaneously, businesses must demonstrate a willingness to shoulder risks and invest in substantial costs, acknowledging that many current energy exchange solutions remain economically unfeasible when compared with the utilisation of fossil fuels."

Responsibility and natural resources

Vísir.is—4th of December, Jóna Bjarnadóttir, EVP of Community and Environment

> "This week, the SA Confederation of Icelandic Enterprise honoured Landsvirkjun as the environmental company of the year 2023. We are delighted to receive acknowledgement of our dedication to environmental and climate initiatives. Our commitment is underpinned by a well-defined strategy, complete with measurable objectives and a timeline for implementation."

Wishful thinking won´ t protect us

Vísir.is—9th of December: Hörður Arnarson, CEO

> "Landsvirkjun has been raising concerns about this looming issue for years, which has now become a reality where homes and small businesses are at risk. Alþingi has decided to protect them. Although stakeholders hope that the provisions of the planned new legislation won't necessitate market interventions, relying solely on wishful thinking is not enough to ensure that those entitled to dependable energy in their daily lives are adequately supported."

A costly leak for almost everyone

Morgunblaðið—27th of December: Hörður Arnarson, CEO

> "It is crucial to establish legislation that prioritises providing energy to households and small businesses, as well as identifying the responsible entity for ensuring this allocation. Allowing these two markets to merge would mean that everyone must compete for the same energy. A political decision of this scale would undeniably open the gates for a huge rise in electricity prices for the public. The decisions must be informed and deliberate as inaction could have far-reaching consequences."

Security is the main priority

Áramót—28th of December, Hörður Arnarson, CEO

> "Our country has experienced a major shift in energy use with the widespread adoption of heating and electrification. The goal is to establish a complete energy transition by tapping into the nation's renewable energy sources. This endeavour requires consensus, accountability, and a collective vision for a sustainable world driven by renewable energy."

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