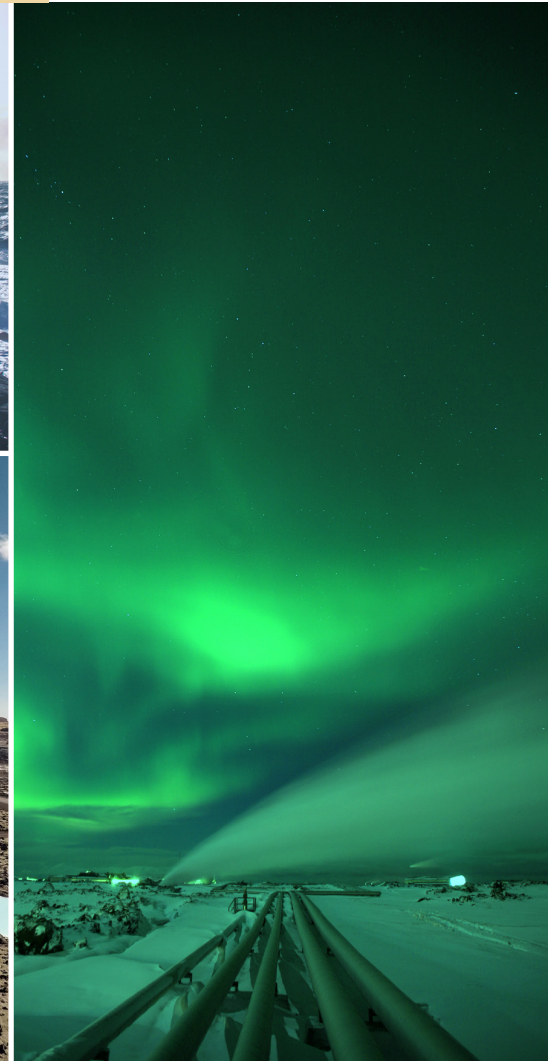
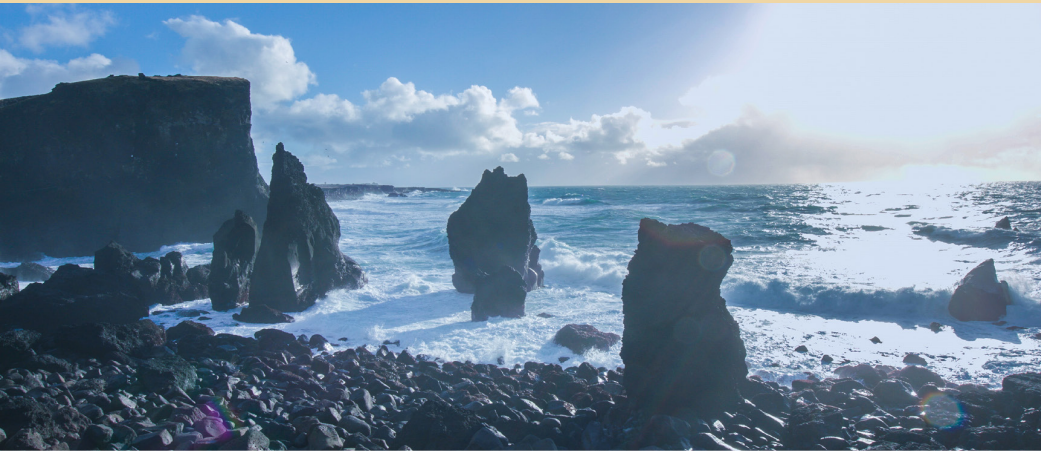




HS ORKA



Sustainability report **2021**



CEO Statement

HS Orka's operations of 2021 were affected by the impacts of a pandemic, earthquakes and a volcanic eruption. In Svartsengi, a 6 MW engine stopped working; the engine was outdated and is not expected to be re-installed. Despite the challenges, growth was seen in HS Orka's operations and the results were reasonable given the circumstances of 2021. There were large fluctuations in the development of electricity pricing in comparative markets in Europe, which affected our international clients. At the end of 2021, it became clear that electricity production in Iceland was not meeting the demand, which was reflected in higher prices in the wholesale market and reductions in electricity delivery. Considering the reduced electricity production from HS Orka's power plants, this affected the company, as it relies on purchases from the wholesale market to fulfil agreements with customers.

In the beginning of 2021, work began on a 30 MW expansion of Reykjanes Power Plant, which has been underway for over a decade. Groundwork was also laid for the pending 20 MW expansion of the power plant in Svartsengi. Both projects will result in better utilisation of existing production areas without increasing the production wells for the power plant. Conversations with the municipality of Hafnarfjörður continued in 2021 about the possibilities in the Krýsuvík area, where opportunities lie for future electricity production and the production of hot water, which is important to meet the population growth in the capital area. The expansion of Reykjanes Power Plant is expected to be taken into use in the first quarter of 2023 and the expansion in Svartsengi no later than in the second quarter of 2024.

HS Orka operates the Resource Park in connection to its power plants, where companies use excess resource streams from the power plant for various production. The park's motto is "A society without waste", and HS Orka aims for all the excess geothermal energy to be used in further job creation through the Resource Park. We believe that the park has a bright future ahead of it, and there is a lot of interest, both from domestic and foreign investors, to participate in the park with us.

Energy companies in Iceland will need to achieve carbon neutrality within the foreseeable future, and therefore, sustainability must be included into the business models. HS Orka works systematically to comply with the EU taxonomy for sustainable activities. The company's organisation chart was in preparation for amendments in the end of 2021 to comply with and address the challenges of the future regarding sustainability and social responsibility.

HS Orka looks forward to an exciting operating year in 2022 with continual construction and progress. New and exciting projects await the company in 2022, where we will continue improving the company, focusing on improved utilisation of resource streams in the spirit of a circular economy.



Address of the COB – Chairman's address

Infrastructure projects in the energy industry are a long-term investment that require a clear vision for the future. HS Orka has been entrusted with a natural resource, and it is the company's duty to conduct its operation in a sustainable and competitive manner. Geothermal energy is renewable but must at the same time be processed in an environmentally friendly way. In this context, HS Orka has set ambitious goals regarding carbon neutrality, which will strengthen the company's competitiveness in the future, meet the challenges of energy transition in Iceland and seize the opportunities for full utilisation of energy flow through the Resource Park.

Even though challenges occurred in HS Orka's operations in 2021, the results were satisfactory given the circumstances, and I would like to thank the employees for the results that have been achieved throughout the year. Work commenced on the expansion of Reykjanes Power Plant by 30 MW, and major steps have been taken towards increasing the production capacity in Svartsengi, following the completion of projects in Reykjanes.

The expansion of HS Orka's current power plants will lead to better utilisation of current energy flows. This calls for new challenges regarding the operational safety of the power plants and the safety of our employees and contractors, as the new projects are linked to current production processes. Safety issues in a broad context will therefore be a priority in HS Orka's operations in 2022.

Challenging conditions in the energy market in Europe have created opportunities for HS Orka. HS Orka's specialty is the utilisation of geothermal energy and renewable energy, which is in great demand. We see many opportunities in the continued development of the Resource Park, and we are optimistic that it will expand and prosper even further in the coming years.

Opportunities are found in the challenges, and with a joint effort, we will be able to build a "society without waste."



About the report

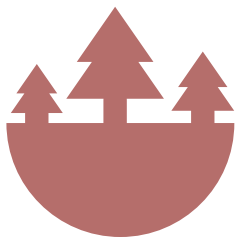
This is the first time that HS Orka issues a sustainability report in accordance with the Global Reporting Initiative, GRI standards: Core. The object of the report is twofold. On one hand, to report on the company's sustainability impact over the past year and, on the other hand, to use the process of preparing the report and compare HS Orka's position in social affairs according to the best available standards and analyse possible improvement projects.

HS Orka owns and operates two geothermal plants, in Svartsengi and in Reykjanes, along with a run-of-river power plant in the upper part of the river Tungufljót in the Biskupstungur area. HS Orka produces and sells 100% renewable electricity throughout the country as well as hot and cold water to municipalities and local communities. All of HS Orka's operations are located in Iceland, even though half the company is owned by foreign parties. When the report refers to local communities, the reference is to HS Orka's operations in Iceland. The report covers the company's operations at these establishments. The information gathered for the report comes from the company's database unless stated otherwise and covers the year 2021.

The content of the report reflects HS Orka's knowledge of the company's ESG impact during 2021. The publication of the report does not imply that the company has full knowledge of its social impact, nor that social responsibility has been fully implemented at HS Orka. The company works according to the ideology of continuous progress, and any suggestions on topics or information on what can be done better are appreciated via the e-mail address hsorka@hsorka.is.

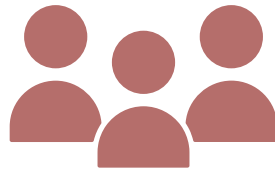
Stakeholders and important factors

HS Orka has been a leading company in renewable energy production in Iceland since 1974. During this time, HS Orka has accumulated expertise in the field of geothermal energy with a skilled and diverse group of employees. Opinions in the society differ regarding whether and how the utilisation of geothermal energy should be arranged. HS Orka is therefore in regular contact with its stakeholders, and the purpose of the sustainability report is to e.g. provide feedback on the issues that are important to us and to the stakeholders. The company accepts comments and suggestions from external parties about possible improvements that could be implemented. Internal stakeholders can make comments through staff surveys, staff meetings and career development interviews. At the time of the analysis, the company's stakeholders were as follows:



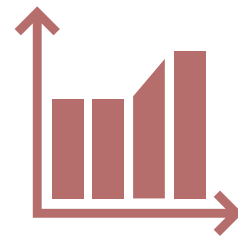
Environment

Government and the Civil Defence
Non-governmental organizations
Local communities and the public
Licensors
Regulators and referees



Community

Customers
Employees
Suppliers
Resource Park companies
Licensors



Economy

Owners
Financers
Regulators and referees

HS Orka's stakeholders at the time of the 2021 GRI analysis.

Material analysis

No specific contact was made with the identified stakeholders during the preparation stage of this report. Instead, a material analysis was conducted in three stages by HS Orka's employees.

In the **first stage**, factors were analysed based on the following data:

- ✓ Inquiries from the public and referees
- ✓ Inquiries and meetings with referees and the public law body
- ✓ Issues concerning HS Orka's operations in Reykjanes
- ✓ Comments made at meetings and in communication with organisations and public law bodies in HS Orka's area of operations
- ✓ Coverage in the public media, about HS Orka and issues concerning the company's field of work
- ✓ The strategy of HS Orka's owners regarding environmental, social, and governance (ESG) issues
- ✓ Employee surveys, comments from employees and inquiries from owners and board members regarding ESG issues
- ✓ Standards and the best guidelines for ESG issues in business operations

In the **second stage**, the results of the analysis above were analysed with HS Orka’s key staff who are in regular contact with external and internal stakeholders and staff with experience in ESG issues. The employees that contributed to the analysis work in environmental management, resource development, business development and in the development of the Resource Park. The staff prioritised factors in accordance with stakeholders’ priorities and based their selection on the following dimensions:

- ✓ Importance for internal stakeholders
- ✓ Importance for external stakeholders
- ✓ Impact on society, environment, and economy
- ✓ Importance regarding daily operations
- ✓ Importance in terms of future direction

The company’s executive board conducted a parallel analysis. Their analysis and the one done by key employees were independent of each other so that the views of the other group would not affect the outcome of each one.

The **third stage** was a workshop where the results were compiled and the most important ESG aspects from HS Orka’s operations were identified.

Seismic activity in the Reykjanes area affected the material analysis, and it is uncertain that the analysis would have had the same results had it been done a year earlier. Stakeholders’ concerns about energy security, energy infrastructure and water pollution increased during the year compared to previous years. From the analysis, the five most important material topics were identified (1-5 below) and other important material topics have been recognized (items 6-17):



1. Sustainable use of natural resources
2. Safety and risk management
3. Climate change
4. Security of power supply and related infrastructure
5. Circularity in the Resource Park
6. Organisational issues
7. Governance
8. Human resources and equality
9. Support to the community
10. Energy exchange
11. Air quality
12. Human rights
13. Treatment of harmful substances
14. Responsible consumption and purchase
15. Nature conservation and geological monuments
16. Privacy and computer security
17. Corruption prevention

List of stakeholders’ concerns about energy security, energy infrastructure and water pollution in order of priority.



Management approach

HS Orka has analysed 5 important company factors that are worth a closer look (see Figure 2). The five factors are:

- 1. Sustainable use of natural resources**
- 2. Safety and risk management**
- 3. Climate change**
- 4. Security of power supply and related infrastructure**
- 5. Circularity in the Resource Park**

1. Sustainable use of natural resource

It is HS Orka's goal to manage and utilise the resources that the company has been entrusted with in a sustainable manner and to maximise the utilisation of the geothermal fluid that is extracted from the geothermal systems without compromising the systems' ability for renewal.

The condition of the resources is supervised through extensive monitoring. The monitoring considers important environmental factors in each area, which can differentiate between areas and utilisation. For example, the chemical content of drinking water and geothermal fluids is closely monitored along with various physical factors by continuous measurements, e.g. temperature, pressure, conductivity, and groundwater level at selected locations. The amount of liquid used is noted, and the burden on the resources is assessed based on the results of the monitoring and responded to if necessary. Conceptual and reservoir models, for geothermal areas, are in constant development and are improving as knowledge of the geothermal area increases.

The main challenge while operating a geothermal resource is maintaining the production to keep a balance between geothermal uptake, re-injection and the natural inflow of the resource.

The management of freshwater resources is mainly about strengthening the safety and protection of the existing water bodies with monitoring along with being prepared to meet the increased demand with expanded utilisation of existing production areas or future water bodies.

The goal for 2022 is to make a reservoir model for the geothermal resource in Svartsengi.

2. Safety and risk management

It is our policy that nothing is more important than that the safety of the staff and no job is so important as to sacrifice safety during its execution. HS Orka works according to the company's environment, safety and health policy, which is part of the company's management system and is therefore reviewed and updated regularly. During 2021, the focus was on updating the processes aimed at improving HS Orka's safety culture; this implementation will continue into 2022. The main emphasis has been on identifying hazards in the workspace and finding ways to minimise risks as well as placing special emphasis on risks classified as Critical Risk Control. Attention has also been placed on improving the effectiveness of managers in security matters, emphasising employee leadership training.

HSE goals 2021

The goals for 2021 were the following:

HSE 2021	Goal	Results 2021
Lost time incidents	0	1
Environmental incidents	0	0
Medical Treatment incidents	0	2
First Aid incidents	0	1
HSE reports	400	718
Waste segregation	85%	87%

HS Orka's safety goals for 2021.

The chapter "Health and safety" covers the safety issues of 2021, the improvements through the year along with the issues that could be improved in the coming years.

When the HSE key criteria for 2021 were defined, they were based on the best results and non-realistic goals, but the goals have been revised for 2022. The main emphasis is on leading measures, but these goals better describe the actual HSE culture of the company.

	HSE 2022	Goals
Leading	Closed HSE actions/improvements	660 yearly / 55 monthly
	HSE incident reports	660 yearly / 55 monthly
	Take five	960 yearly / 80 monthly
	Management Gemba Walks	312 yearly / 26 monthly
Lagging	Lost time incident	0
	Environmental incident	0
	Medical treatment case	<2 yearly
	First aid	<2 yearly
	Waste segregation	85%

HS Orka's health, safety and environment (HSE) key goals for 2021.



3. Climate change

Carbon dioxide, which is naturally present in geothermal fields amongst other gases, accompanies steam and liquids from HS Orka's boreholes. This carbon dioxide is emitted as Scope 1 emissions from HS Orka's power plants in Svartsengi and Reykjanes, and it constitutes a material part of the emissions from Iceland. As such, it is of interest to the authorities and the public to reduce them. These emissions are by far the largest portion of the greenhouse gas emissions from HS Orka's operations. The other emissions are Scope 1 emissions from burning of fossil fuel and Scope 3 emissions such as from flights and waste.

The management has issued public, quantitative and timed commitments to reduce CO₂ emissions in relation to energy production, both on behalf of HS Orka as well as part of the power industry in Iceland. As for fugitive emissions, the management's approach is to assign resources to actively seek ways and work on projects to mitigate emissions by carbon capture and storage (CCS) or carbon capture and utilisation (CCU).

HS Orka measures all emissions and reports the outcome to stakeholders such as authorities, investors and the public. The company has decreased the direct emissions from the usage of fossil fuels. The nature of the CCS/CCU projects will mean that continuous reduction of emissions is not expected, rather reduction in steps as projects are realised.

In 2014, HS Orka set the goal of reducing its carbon footprint by 40% by 2030 per kWh. The carbon footprint was just over 42 gr/kWh in 2014. The carbon footprint is now 30.2 gr/kWh, and the target is 26 gr/kWh by 2030. The company has also announced that it aims to become carbon neutral by 2040.

4. Security of supply and related infrastructure

Disruption of supply from HS Orka has material impact on companies and households that are in the vicinity of the power plants, especially on customers that use thermal energy from HS Orka. In case of disruptions, such customers would have to reduce or even stop operation and households would have to go without heating while the disruption lasts.

The security of supply from HS Orka depends on one hand on the condition of HS Orka's assets and its operations, and on the other hand, on infrastructure that brings HS Orka's products to its customers. This infrastructure is partly under the responsibility of HS Orka and partly under responsibility of third parties.

HS Orka's management has addressed this topic in several ways. Resources for maintaining the company's assets have been increased to strengthen the organisation and deliver improved maintenance. Clear objectives regarding operational time and operational safety are set. In co-operation with third parties, work is ongoing to define interfaces between the infrastructure of HS Orka and that of third parties to clarify ownership and corresponding responsibility. Key performance indicators (KPIs) have been introduced that are monitored to measure performance and guide HS Orka's continuous improvements and risk assessments.

The goal for 2022 is that the uptime in the operation of power plants will be 96%.

5. Circularity in the Resource Park

All companies in the Resource Park (RP) use more than one resource stream from HS Orka's power plants and some of them use resource streams that otherwise would be a waste. However, the management is not aware of further circularity in the RP, that is, there are no known cases where a by-product or waste of one Resource Park company (apart from HS Orka), is the input of another company in the RP. Nevertheless, there are cases of exchange of by-products and waste between RP companies and companies outside of the RP. The management believes that developing circularity in the RP further is an important element in maintaining and strengthening the position of the RP as a green industrial park, attracting future-safe companies which bring sustained long-term business. Developing the Resource Park as a circular economy is thus considered a material topic. This is not entirely under the control of HS Orka but will depend on cooperation between companies in the Resource Park over the coming years.

No set goals regarding the circularity in the Resource Park have been set for 2022.

Governance

Value and policy

HS Orka's values are prescience, ambition and honesty.

- **Prescience:** Have the initiative and innovation to be a leader in our field. Customers and stakeholders want to work with us because of our ambition in the development of resource utilisation.
- **Honesty:** Treat our colleagues and customers with respect and honesty. Respect the resources entrusted to us and strive to safeguard them. Respect the laws and regulations that apply to our operations.
- **Ambition:** We are driven by success in all our work. This is how we attract our customers and talented potential staff. Our results are reflected in efficient operations and reliable service. We have ambitions to care for nature.

HS Orka's protocol guides all projects with the interests of the company, customers, and other stakeholders in the forefront. The rules are based on honesty, equality and respect, and these values are used as a guide in all employee communications and actions.

HS Orka's policy as well as other sub-policies are updated regularly. Recent sub-policies submitted in 2021 were regarding the protection of the person, information safety and telecommuting.

HS Orka's management system

HS Orka's management system is certified according to international management standards. The management system is certified according to ISO 9001 quality management, ISO 14001 environmental management and ISO 45001 occupational health and safety management. HS Orka also has equal pay certification according to ÍST 85:2012. HS Orka's electrical safety system is examined annually by the Housing and Civil Engineering Institute.

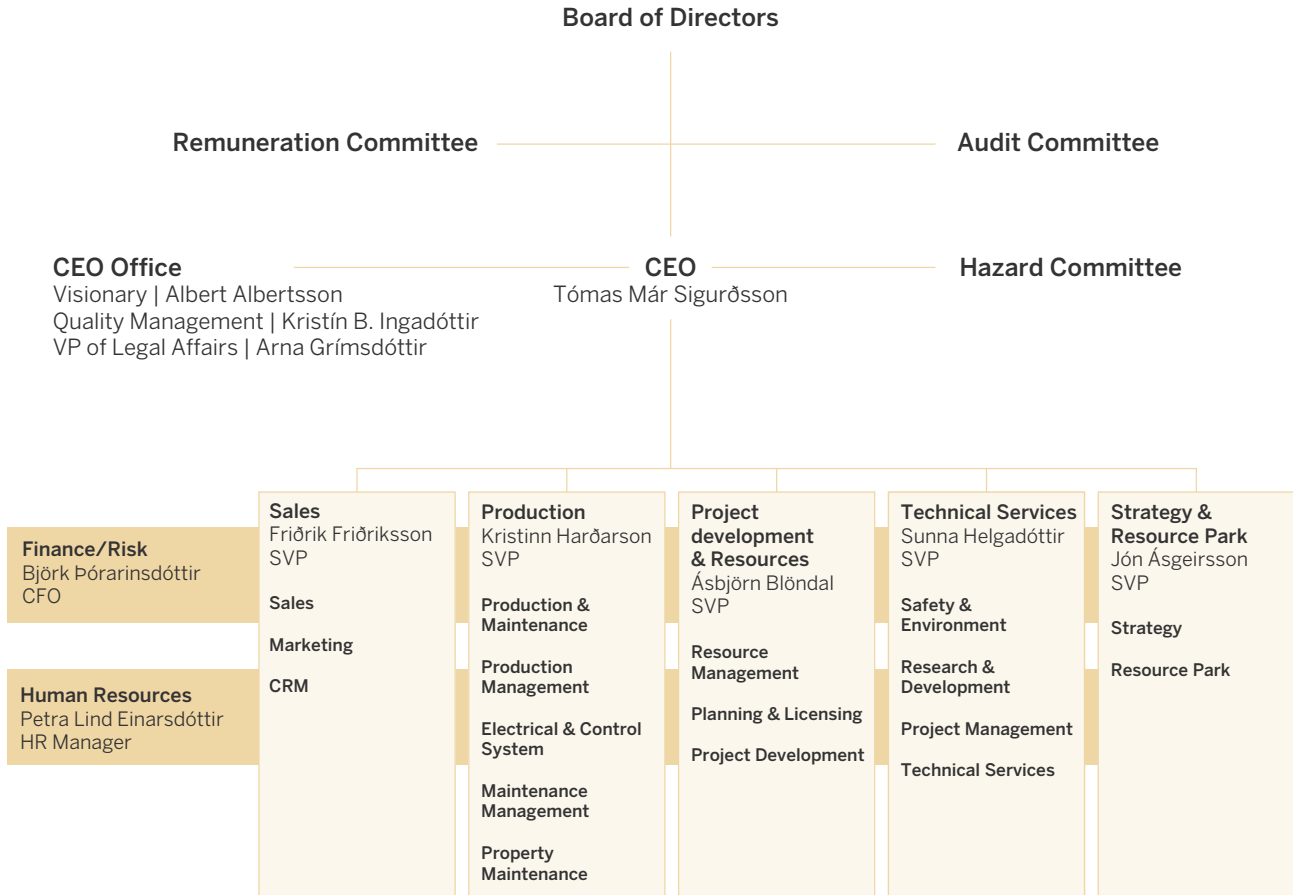
HS Orka's certifications



The company's highest authority is in the hands of the shareholders; the company's board manages the company between the annual shareholders' meetings. The company's CEO oversees the company's daily operations and represents the company.

The company's executive board consists of the Finance division, the Production division, the Project development and resource division, the company's lawyer, the Strategy and Resource Park division, the Sales division, and the Technology division. The board appointed two sub-committees in 2021: the Audit Committee and the Remuneration Committee.

HS Orka Organizational Structure 2021



The Board of Directors and the executive board discuss ESG issues annually, and this is specifically explained in the non-financial information in the company’s annual accounts. The company’s management system makes sure that ESG issues are discussed in the process council. The process council consists of the executive board among with key members of the company regarding ESG issues.

The assessment of the Board’s interests takes place annually at the beginning of each operating year, following the nominations of board members from the shareholders in the beginning of the year. The assessment is based on whether the nominated board members own shares in the company, whether they sit on the boards of several companies as well as whether there are interests in the main business partners, competitors or shareholders who own more than 10% of the company.

The Board of Directors, the Audit Committee and the Remuneration Committee carry out an annual self-evaluation of their work and the work of the CEO of the company. ESG issues are among the discussed topics. The Board responds to the issues raised in the self-assessment by preparing a case for resolution on the Board’s action list.

Information on important issues is brought to the Board of Directors at the company’s board meetings, which are usually held monthly. In addition, the board is informed between board meetings by e-mail or telephone calls if necessary.



Operations

HS Orka is the third-largest energy company in Iceland and the largest one under private ownership. The company has over 45 years of experience in the production of renewable energy (geothermal utilisation started in 1977) and operates two geothermal plants, one in Svartsengi and the other in Reykjanes. HS Orka also operates a run-of-river power station in Tungufljót river above the moor of Haukadalur.

HS Orka's role is to provide the economy and households in Iceland with renewable resources that are utilised in various and sustainable ways. The company produces and sells 100% renewable electricity throughout the country, hot and cold water to local communities as well as other products from geothermal plants for the benefit of customers, the community and the company.

Power plant	Installed capacity	Production	Information
Reykjanes	100 Mwe	660 GWh	26 high-temperature boreholes, total 30 km
Svartsengi	67,2 Mwe	574 GWh	28 high-temperature boreholes, total 55 km
Brú	9,9 MW	87 GWh	25 m ³ average flow with 48.8 m vertical drop

HS Orka's power production capacity.

In addition, HS Orka has an agreement for the sale of about 25 MWe from smaller power plants owned by other parties. Svartsengi's hot water production is equivalent to about 741 GWh, or about 13.7 million cubic metres of hot water. From the power plant in Reykjanes, hot water is sold to customers in the Resource Park to the equivalent of 471 GWh. HS Orka also runs a water source for the local communities.

Near the geothermal power plants, HS Orka has initiated a Resource Park where HS Orka promotes multi-utilisation and companies within the park recycle resources that would otherwise have been wasted. There are 9 companies in the Resource Park, in addition to HS Orka, that use HS Orka's excess energy in various resources.

Finance and economics

Main operational costs and the economic impact

The economic impact of the company can mainly be seen in the payment of wages, payment to suppliers, tax payments and real estate taxes.

	2021 ISK millions
Operating revenue	9310
Economic impact	
To suppliers	
Operation costs	1345
Investments to social infrastructure	18
To employees	
Wages	2.092
To investments	3.971
To owners and lenders	
Dividend payment	0
Share capital reduction (by 527,248 shares)	3.655
Capital costs	428
Drawdown of Capex Facility less installments of existing loans	-4.489
To the public	
Income tax	564
Total economic impact	3.524
Percentage of income	37,8%

HS Orka's payment of wages, payment to suppliers, tax payments and real estate taxes in 2021.

Work was done on an overall risk process in 2021, which covers both the company's financial and non-financial risks. At the same time, preparations were made for a methodology for assessing climate risk, and the main stakeholders within the company were analysed. The preparation of the climate risk assessment during the year could not be completed, but the results will be available in the first quarter of 2022.



Community

HS Orka and the community

HS Orka is an active member and participant in numerous social organisations and participates in projects in various fields to strengthen its participation in the community. The purpose is multifaceted and goes from supporting the work of national non-governmental organisations working on issues related to our company to active participation, where we co-operate.

These are some of the associations and projects we participate in:

Festa

Samtök atvinnurekenda á Reykjanesi

Samorka

Grænvangur

Viðskiptaráð Íslands

Jarðhitafélag Íslands

Dokkan

Flóra – Mannauður

Reykjanes GeoPark

Íslensk Nýorka

HS Orka measures the gratification of its customers (in the retail market) regarding HS Orka's service and image every two years and asks what factors are important when it comes to the activities of energy companies. The last survey was conducted in 2021, and the results were largely positive, indicating that HS Orka's customers are generally satisfied with the service and their connection to the brand is mostly above average compared to the Icelandic energy market. However, there are many opportunities for improvement, and the goal is always to do better. The factors that HS Orka's customers considered the most important for energy companies were, in addition to favourable prices, that the company is environmentally friendly, reliable, and showed social responsibility.

Supply chain

HS Orka’s supply chain takes into consideration the status of projects, the maintenance projects, and the new projects for each year. The year 2021 was a year of construction, and it can be expected that the next three years will continue to be the same. A large part of the supply chain therefore consists of construction consulting and construction contracting. Foreign inputs are for the most part equipment that weighs heavily in the total purchases, even though there are only a few suppliers behind them.

When selecting developers, environmental and safety issues are considered, and the developers had to meet the same requirements as in the case of an HS Orka employee. Contracts with contractors include chain liability requirements which require that subcontractors and temporary agency workers retain the same rights and terms in accordance with laws and regulations. In cases where equipment is a part of the construction contracts, HS Orka’s representatives go to production sites abroad and, among other things, investigate safety issues and the working environment.

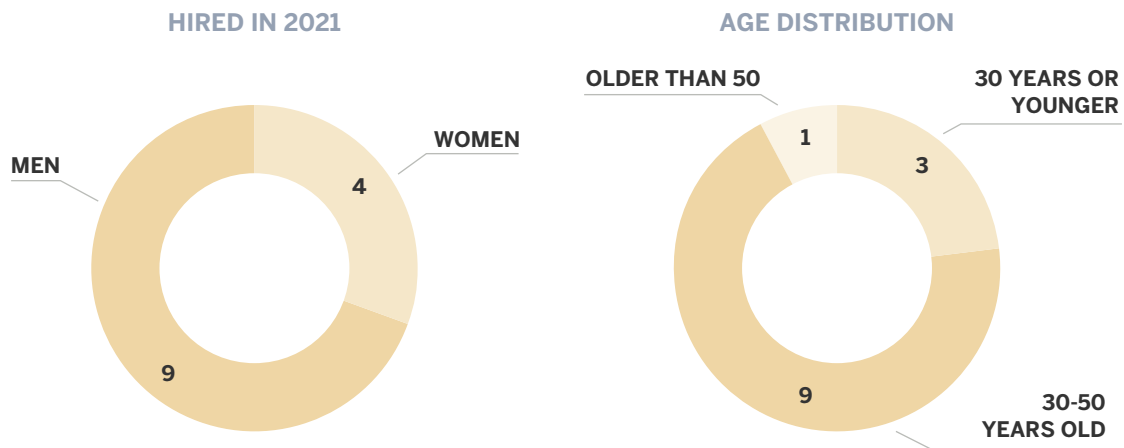
Suppliers and service providers who are not part of the tender work were not assessed separately from an environmental and occupational safety point of view. Due to unsatisfactory environmental practices, the company had to stop doing business with one supplier in 2021.

The trade with domestic suppliers accounted for over 90% of the company’s total purchases in 2021. This includes purchases of commodity and services and external work. There are about 420 domestic suppliers we trade with. Trade with foreign customers reached ISK 550 million in 2021.

HS Orka’s largest investment in 2021 was the expansion of the Reykjanes Power Plant, where work is underway on the implementation of REY4. Construction is scheduled to be completed in the first quarter of 2023, but it is anticipated that REY4 will significantly increase the power plant’s capacity.

Human resources

The total number of employees by the end of 2021 was 77; the proportion of women was 19% and men 81%. The company hired 13 new employees during the year, and employee turnover was 13%.



HS Orka’s employees are offered various benefits. Every year, all employees are invited to a health examination and an endurance test every 5 years; in 2021, the participation in the health examination was 63%. The company pays into sickness benefit funds or operates according to specific rules on these aspects. Employees can apply for various grants, e.g., fitness grants, physiotherapy grants, etc. HS Orka offers fitness facilities at the workplace as well as hosting various health-related events.

In HS Orka’s personnel policy, it is a general rule that employees retire in the month of which they turn 70 years old. The general minimum notice period for permanent employees is three months.

The right to maternity and parental leave is bound by law. The total number of employees who took maternity/parental leave in 2021 was seven, of which one was a woman and the other six men. All those who took such leave returned to work after the leave had terminated.

Due to the Coronavirus-19 pandemic, there was less general training than usual, but an emphasis was put on safety training. Every new employee goes to novice training, which covers the basics related to security, environment, information technology as well as other aspects related to the business. Employee interviews are once every year, where employees, in conversation with their boss, review performance, career development, retraining and training. Employees are encouraged to seek retraining and training in their field in staff interviews. Participation in employee interviews in 2021 was 70%. Every year, managers assess the need in their fields for retraining and training. Retired employees are offered courses to prepare for changing circumstances. Work on a new electronic training portal for employees and contractors is in underway and is being tested among several contractors.

	Labour workers /Specialisation	Specialists/ Project managers	Managers	Total
Women	1 1%	11 14%	3 4%	15 19%
Men	26 34%	23 30%	13 17%	62 81%
Younger than 30	4 5%	4 5%	0 0%	8 10%
30-50 years old	10 13%	25 32%	9 12%	44 57%
Older than 50	13 17%	5 6%	7 9%	25 32%
Total	27	33,6	16	77

Distribution of employees.

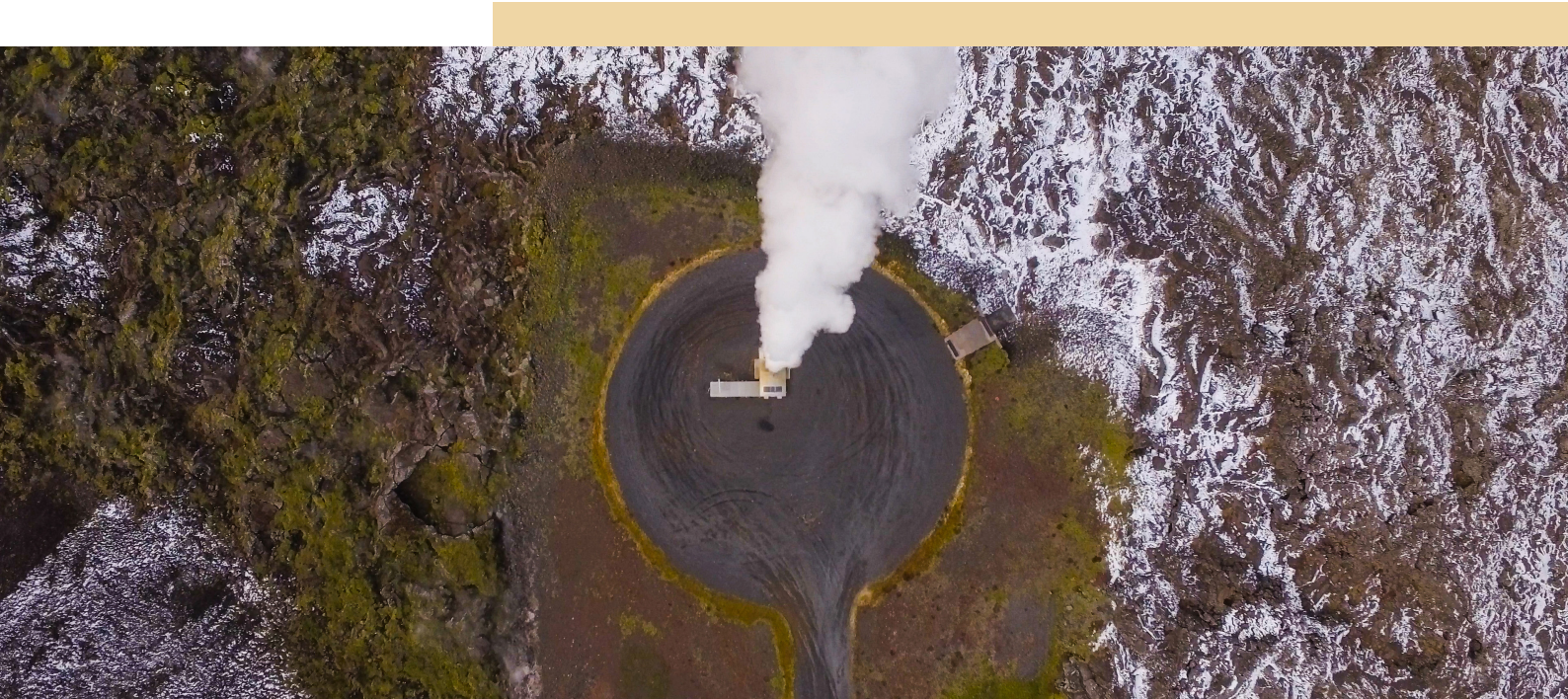
Work is carried out in accordance with the operation plan for gender equality, which is reviewed annually. Among other things, it sets out the goal of seeking to equalise the proportion of women and men. HS Orka's executive board consists of 43% women, and HS Orka's board has an equal ratio of the genders.

HS Orka has had a certified equal pay system in accordance with the Icelandic equal pay standard (ST 85:2012 from 2018 and a maintenance certification from December 2021. Men's total salaries, according to accrual analysis, were 1.5% higher than women's total salaries; this difference is considered insignificant.

Health and safety

At HS Orka, safety and occupational safety is based on the company's safety policy, which covers all the company's employees, contractors, service providers and guests who come to the company's area of operation. The safety management system is certified according to ISO 45001 and defines how a hazard is identified, assessed and how the mitigation strategies are implemented.

Risks related to the safety of people in the workplace are assessed and analysed according to the necessary mitigation strategies. Employee representatives participate in the preparation of risk assessments. Risk assessments are made depending on the nature of the work and the severity of the risk. Risk assessments are made for routine procedures and are reviewed on a regular basis. Contractors working on larger projects for the company submit a risk assessment before their work can begin. Risk assessments are also a part of work permits that are issued for temporary work from contractors. The simple risk assessment "take five" is something that anyone can project to their work if it has not been analysed in a systematic way with respect to risk assessment.



HS Orka's Safety and Environment Committee consists of two safety representatives and two safety guards as well as the safety manager and the environmental manager. The committee is a forum for communication and consultation on issues concerning safety and the environment in the workplace. The Safety and Environment Committee meets four times a year.

HS Orka places great emphasis on reporting all deviations related to staff safety and health as well as environmental issues, so that lessons can be learned from them and progress can be made to prevent recurrence. All staff can and are encouraged to report deviations, dangerous situations, near miss accidents and other accidents they experience or witness, and this is done through a newly introduced service desk that is accessible to all staff. Contractors and service providers must notify by telephone or e-mail, and a customised route for their notifications is being prepared. All announcements are processed, where some may lead to immediate progress and others to research, where the root of the incident is analysed using suitable methods. Projects are developed from such analysis.

In 2021, a total of over 700 notifications were received concerning safety, health, and the environment. Of these, one led to a time loss injury, two required treatments at the emergency room, three first aid accidents and eight near misses. The total number of hours worked by employees and contractors in the area was 245,674, with the lost time incident frequency rate (LTIFR) 0.81 per 200,000 working hours. As the registration of contractors' time is not absolute, the real percentage is lower and improvements are being made to increase contractors' registrations.

Everyone who works in HS Orka's work area, whether they are employees of the company or contractors, receive training in safety, health and environmental issues before they can start their work. At the same time, skills are maintained on a regular basis through various courses, meetings and training. In all training, great emphasis is placed on the authority of everyone to stop, take five and call for help if the person in question is of the opinion that it is not possible to ensure full safety when carrying out the work.

HS Orka has for decades had an agreement with Vinnuvernd, a firm that specializes in occupational health and safety. There, employees have access to a confidential doctor and a health service centre as well as the services of psychologists. A workplace analysis for employees is submitted biennially, where the well-being of employees is evaluated.



Environment and nature

HS Orka has been entrusted with a natural resource, and it is the company's interest to treat the environment and the resource with care and respect. The company aims to reduce the environmental impact of its operations, including preventing waste through the multi-use of geothermal fluid extracted from geothermal systems.

Resource streams

The geothermal power plants use geothermal fluid from geothermal systems in Reykjanes for energy and heat production, where the fluid passes through a separator that separates the water and the steam, which drives the turbine and creates electricity. The steam then condenses further in the condenser and forms condensate. The steam and gases are subsequently released into the atmosphere.

In Svartsengi, separation water is led to a company in the Resource Park and a mixture of separation water and condensate is injected below the groundwater level. The excess material, which is not used for any of these purposes, is led to sea. In Svartsengi, groundwater is used for the cooling towers, where the water circulation system cools down the machinery. Groundwater is also used by HS Orka, cold and heated, and sold to HS Veitur, which distributes it to its customers in local communities.

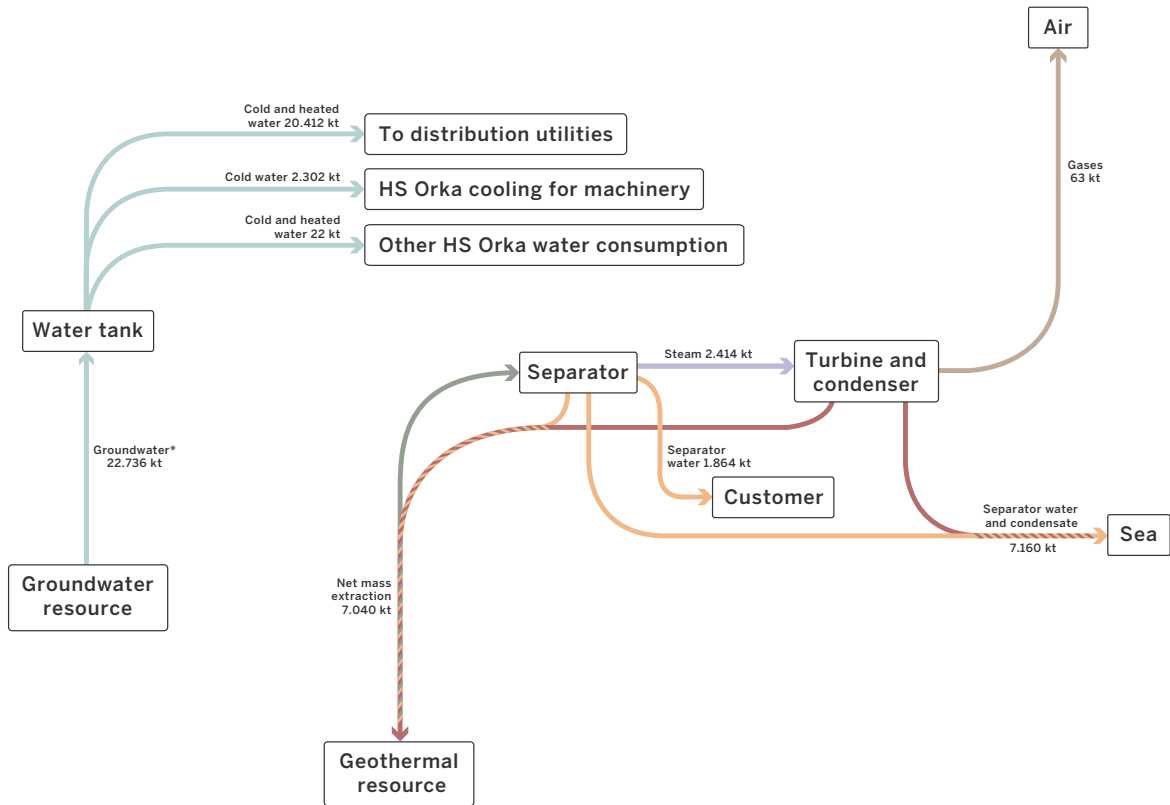
In the Reykjanes Power Plant, the separation water is used to create heat for companies in the Resource Park. A mixture of separation water and condensate is injected below the groundwater level and the rest is led to the sea. In the power plant, seawater is used for cooling, which is led to the sea after use. Groundwater is in private use for the Reykjanes Power Plant.

At Brúarvirkjun hydropower plant, part of Tungufljót river is led through a downpipe, through the turbines of the power station and back into the river channel. The station is unmanned and it is controlled from Svartsengi and therefore self-use is negligible.

All HS Orka's power stations have septic tanks that are emptied annually. A total of 2.2 kilotons of sludge was collected and disposed of in 2021.

The processes below show all the currents that HS Orka uses, usage by companies in the Resource Park and those that HS Orka cannot fully utilise now. The figures published here and in the chapters on energy consumption, greenhouse gas emissions and recycling and disposal are based on accessible data.

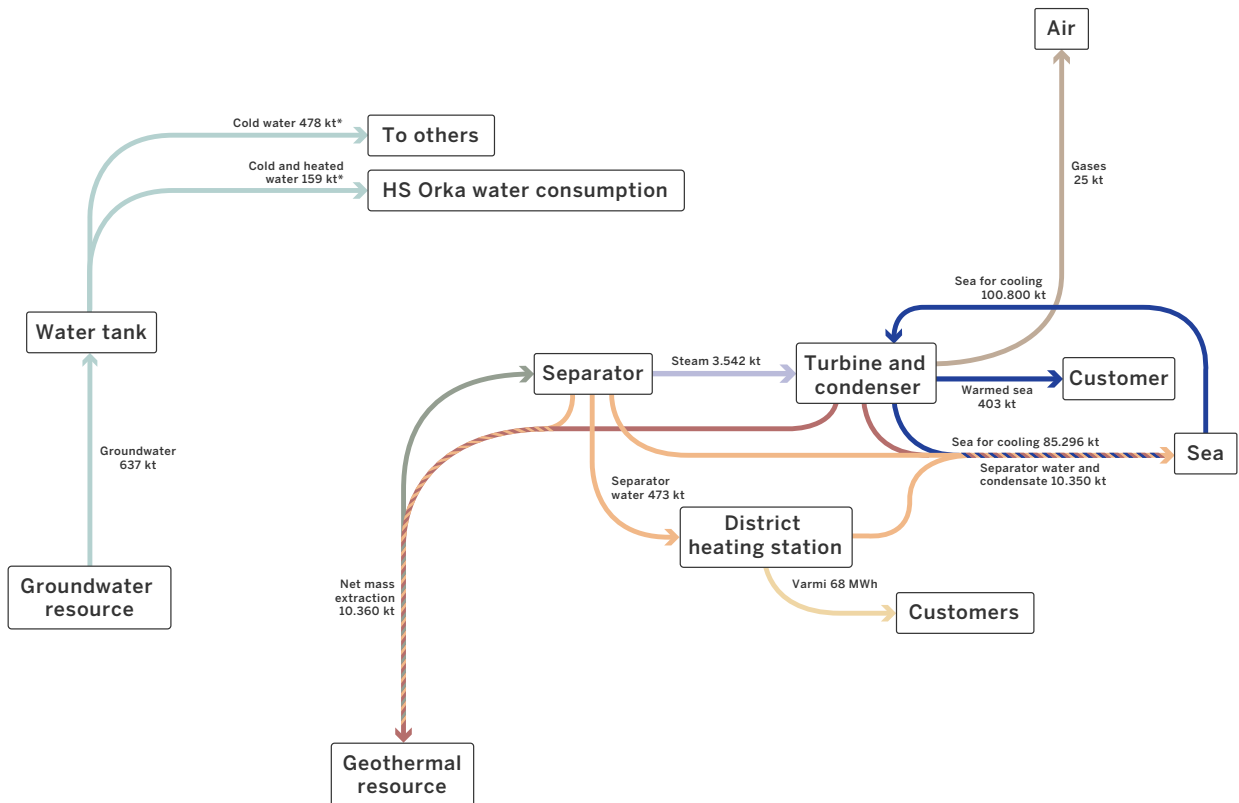
Svartsengi



*Estimated data

Resource streams to and from HS Orka's power plant in Svartsengi.

Reykjanesvirkjun



*Estimated data

Resource streams to and from HS Orka's power plant in Reykjanes.

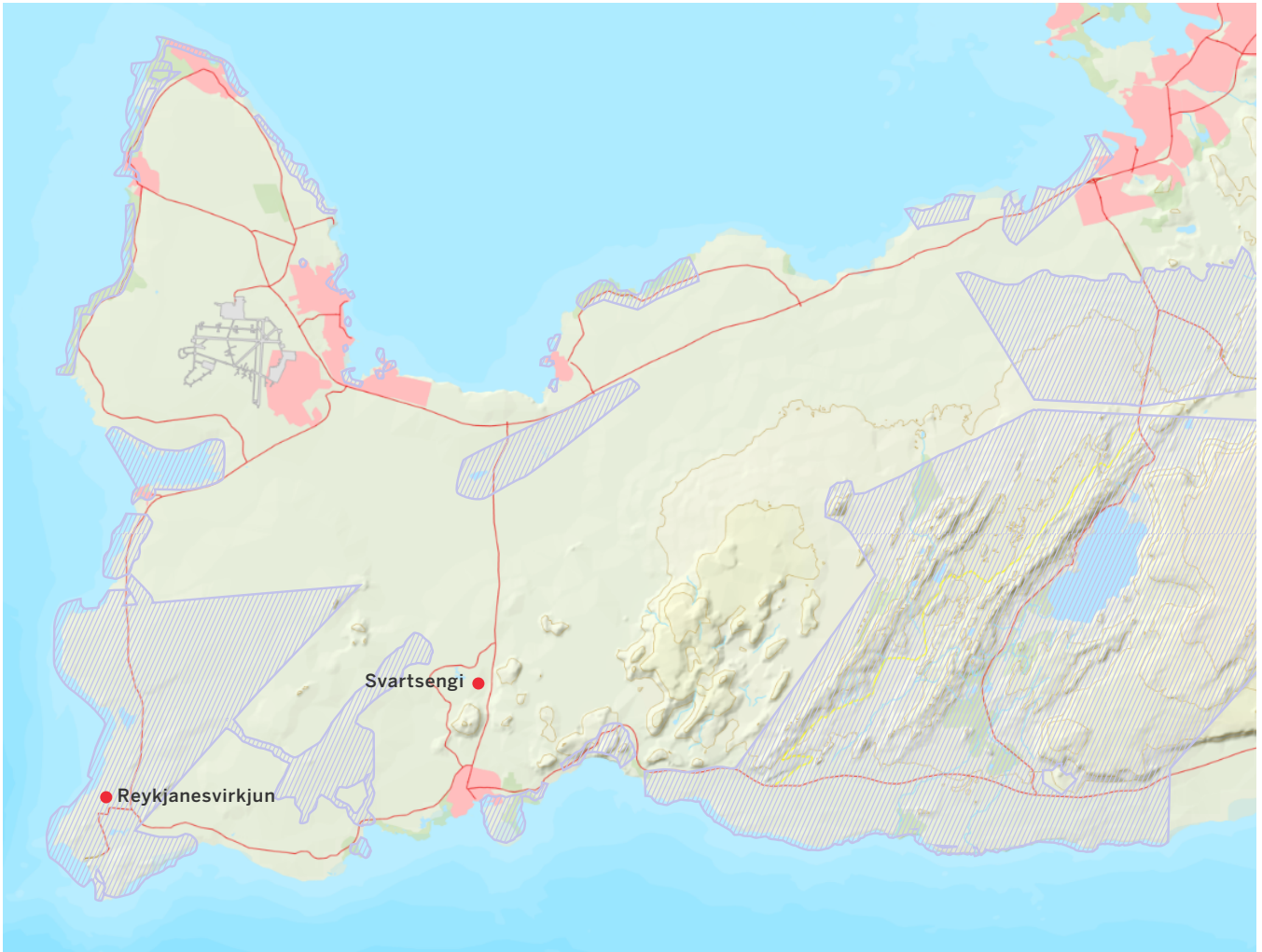


Monitoring the resource

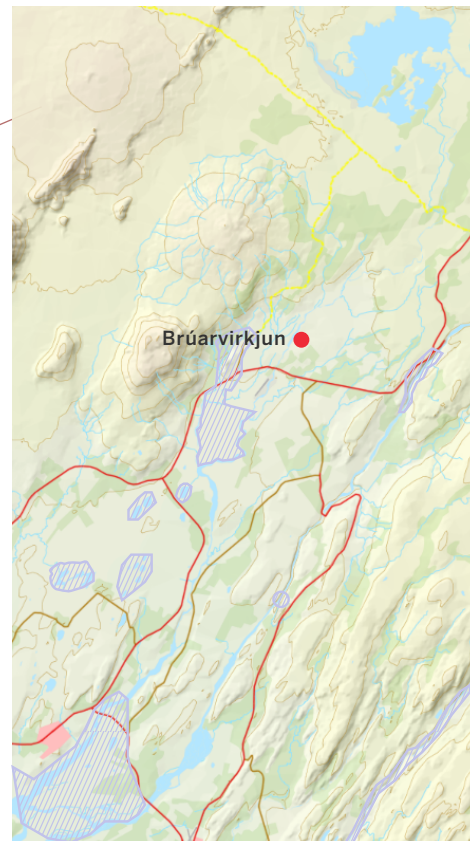
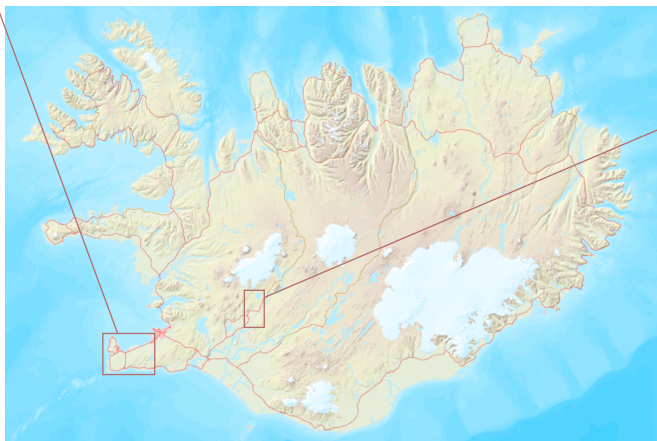
HS Orka's operating licenses for the power plants in Svartsengi and Reykjanes, issued by the local Public Health Authority, contain requirements regarding the condition of water wells and drinking water. The local Public Health Authority monitors water sources and drinking water in and around HS Orka's work area. The results show that HS Orka's operations have not led to an impact on the water source. HS Orka also has a powerful internal monitoring system and monitors physics, chemical composition, flow and groundwater level. Following an eruption that took place in March 2021, just over 7 km east of the Svartsengi Power Plant at the mountain Fagradalsfjall, HS Orka set up four measuring stations that continuously measures the company's drinking water systems and ensure its safety. The measuring stations measure important factors, e.g. fluorine and acidity.

The local Public Health Authority also supervises other areas of activity and influence of the company's power stations in Reykjanes. There were no deviations from the operating license during 2021. The same can be said about the Brúará Power plant, where the local Public Health Authority in the South of Iceland supervises operating licenses.

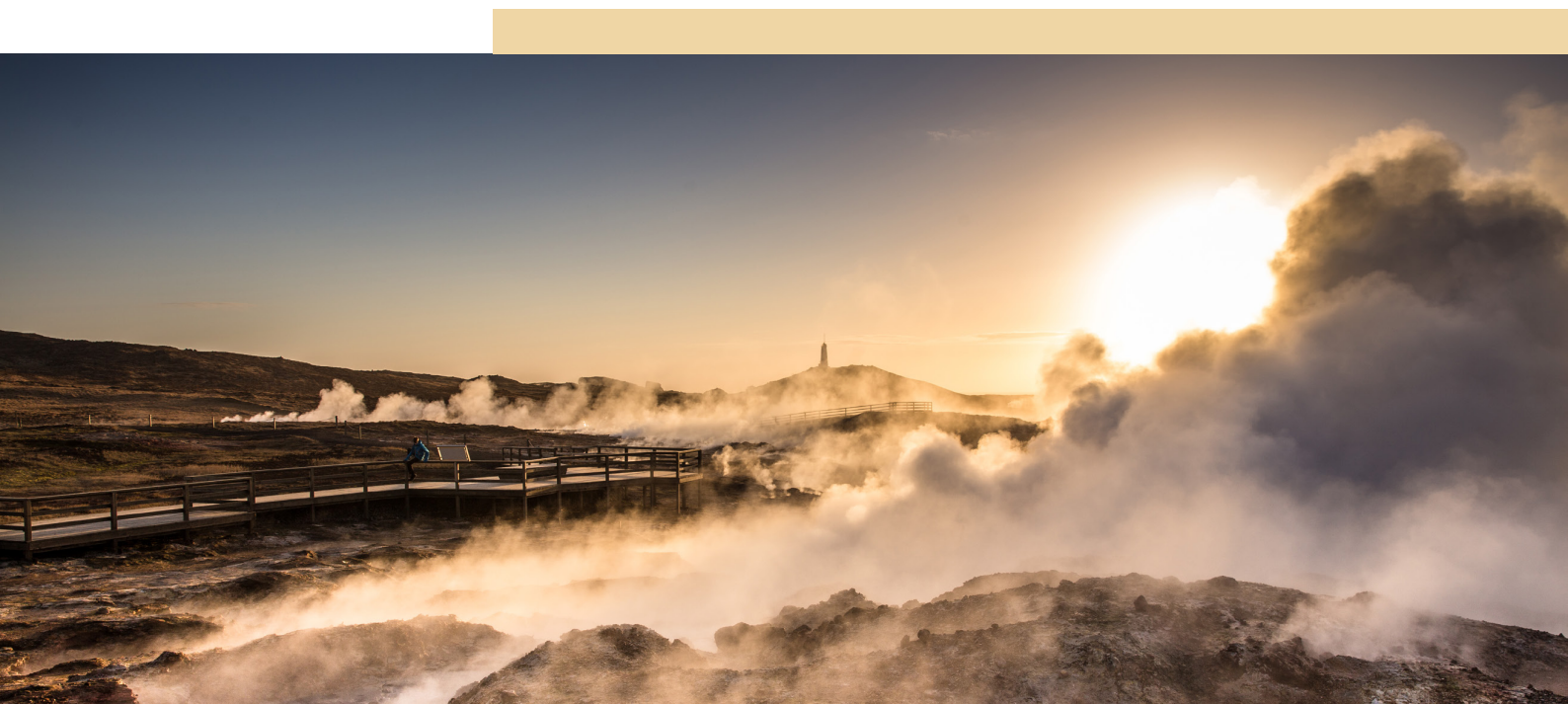
In collaboration with experts at research institutes, HS Orka monitors the physical and chemical properties of birds and other animal life in the impact areas of the company's power plants. This is done in accordance with the requirements of the local Public Health Authority and other stakeholders.



HS Orka operations in various protected areas. The protected areas are marked with a grey-blue colour.



HS Orka operates in various protected areas, areas that enjoy environmental protection or are protected. At Brúarvirkjun in the river Tungufljót, there are harlequin ducks that HS Orka monitors. The species is not assessed as endangered by the International Union for Conservation of Nature and Endangered Species (IUCN) but it is fully protected in Iceland.



Energy consumption

HS Orka's energy consumption is in the form of fuel for cars and machines, electricity for driving cars, equipment and machinery and heat for heating. The share of renewable energy was 99%, energy demand within the company was 2.5% and energy consumption has decreased by 0.21% from 2020.

Energy consumption (MWh)	2019	2020	2021
Non-renewable energy	839	596	667
Electric power	68.045	68.181	67.962
Heat	1.484*	1.484*	1.484*
Recession/growth between years	-	-0,15%	-0,21%
Gross final consumption of energy	70.368	70.261	70.113

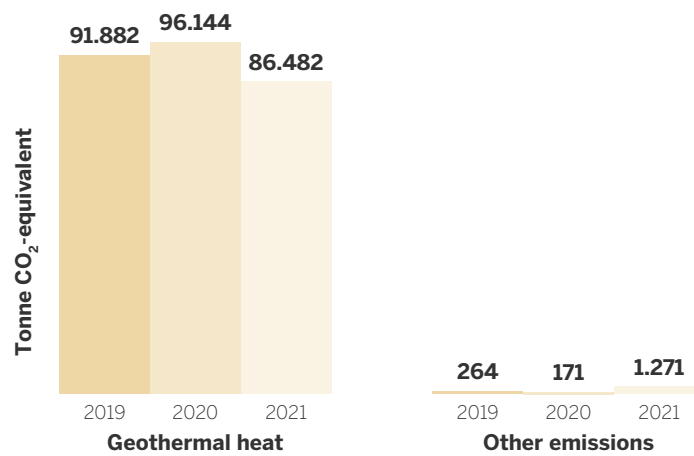
*Heat consumption is estimated according to the size of buildings.

Sales	2019	2020	2021
Electric power (MWh)	1.349.656	1.370.207	1.253.287
Heat (MWhth)	1.613.599	1.464.019	1.528.451

Production and sales	2019	2020	2021
Produced electric power + Heat	3.032.784	2.983.272	2.851.184
Sold electric power + Heat	2.963.255	2.834.226	2.781.738
Difference	69.529	149.046	69.446

Greenhouse gas emissions

Carbon dioxide and methane are released into the atmosphere from the HS Orka’s power plants. The chemical content of geothermal fluids is measured regularly and is based on volume. HS Orka’s total emissions are estimated in CO₂ equivalents, considering emission factors issued by the Environment Agency. Emissions due to other processes than geothermal are compiled and calculated by a service provider (Klappir ehf). The emissions from the power plants and the operations of HS Orka in 2021 were 86,722 tonnes of CO₂ equivalent, of which methane is 189t CO₂ equivalent. The emissions due to the use of fossil fuels have decreased in recent years, both due to the pandemic but also due to the increase of hybrid and clean energy vehicles by 4% from 2020, along with the decrease in the carbon footprint of waste management due to increased sorting. In 2021, construction of the expansion of the Reykjanes Power Plant began and a carbon footprint data collection of the project was implemented. The company’s carbon footprint was 43 g CO₂ equivalent per kWh* in 2021.



Greenhouse gas emissions between 2019-2021.

Hydrogen sulphide emissions

Geothermal systems emit gases such as the greenhouse gases, carbon dioxide and methane, which were discussed in the previous chapter, along with hydrogen sulphide. HS Orka measures the emissions from its power plants in Svartsengi and Reykjanesvirkjun, which totalled 2057 tonnes in 2021. Hydrogen sulphide in high concentrations can be harmful for people’s health and equipment, and therefore, the air indoors is cleaned to ensure the safety of employees, contractors and guests and to prevent adverse effects on equipment. Employees and contractors who work in the power plants and in the borehole area carry hydrogen sulphide meters, which emit a warning sound if the concentration measures at 5 ppm or more. According to guidelines from the Occupational Safety and Health, employees are safe to work in an environment where the concentration measures 5 ppm for a maximum of 8 hours. Should the concentration reach 10 ppm, it is only safe for employees to work for 15 minutes in such an environment. At HS Orka’s premises in Svartsengi and Reykjanes, there are measuring stations that continuously measure the concentration of hydrogen sulphide in the atmosphere. HS Orka also operates a measuring station at Grindavík (a nearby town) where hydrogen sulphide concentrations for operations in Svartsengi are monitored for the residents of the town. Whereas the health protection limit is 5 µg/m³, the 2021 average for hydrogen sulphide emissions was 1.5 µg/m³. The daily maximum of the 24-hour running average never exceeded the defined health protection limit.

*The carbon footprint of heat delivered to HS Veitur and delivered electricity. Calculations do not include delivered heat to companies in the Resource Park.

Waste management

Waste is an underutilised resource, and HS Orka has for a long time worked with the ideas of the circular economy, such as is done in the Resource Park. The chapter Resource streams concentrates on the effluent streams received from the company's operations. Improvements have been made in waste management that have led to an increase in sorting and recycling. The amount of sorted waste increased in 2021 by 6% from 2020. A course was held in the autumn of 2021, for employees covering the recycling economy and the waste management after the waste leaves the company. HS Orka's service provider for waste management has an operating license from the Icelandic Environment Agency.

The amount of waste at HS Orka in 2021 was:

Tonne of by-product	Recycled	Iceland	Burned	Overseas
		Landfill/ Disposal		Recycled energy
Recycled material, paper and plastic	6			
Metals	91			
Timber	28			
Electrics	2			
Hazardous waste	3		13	
Composting	2			
Other classified waste	4			
Glass and mineral nutrient		26		
Coloured timber		61		
Other unclassified waste				22
Plastic				42
Total	136	87	13	64

The classification of waste at HS Orka in 2021.

At Reykjanesvirkjun's site, HS Orka has an operating license from the local health control for a landfill site. HS Orka has the authority to carry into it its minerals that are generated due to construction at Reykjanesvirkjun. In 2021, 943 tonnes of minerals were placed into the landfill site.

The geothermal fluid in Reykjanesvirkjun's geothermal system is salty and dissolves, therefore, various substances in the bedrock and transports them in dissolved form to the production wells and up to the wellhead. There, pressure drop causes the materials to precipitate in the first metres of pipes from the wellheads. The precipitates give off increased natural alpha and beta radiation, which can be related to an increase in the concentration of radioactive lead and polonium. The alpha and beta beams are low-energy beams, and the radiation is short range, only few centimetres. People are not considered to be at risk because of external radiation from the deposits, but cautions must be taken so the deposit does not enter the respiratory tract during their treatment.

Every year, wellheads are opened, and deposits are cleaned if necessary. Precipitates are cleaned with high-pressure water, collected and stored in an appropriate manner in accordance with instructions and permits from the Icelandic Radiation Protection Authority. In 2021, 1 m³ of precipitation was collected.



In the beginning, the result should be considered

The mindset, when carrying out projects, determines how the project is approached, the success of the project and the solutions obtained from the project. In connection with HS Orka's focus on process work in 2021, it was decided to cease the "remediation and improvement projects" and launch instead improvement projects. The preparation of this sustainability report is one of HS Orka's improvement projects, and the purpose is, among other things, to analyse further improvement projects as well as to explain the company's social impact and HS Orka's positions in those matters compared to other companies.

During the process of writing the report, up to 40 possible improvement projects in the field of social responsibility have been identified. Some projects are smaller and can be undertaken without much effort, whilst other are more complex, costly and time-consuming and may have to be divided into smaller projects. After the publication of this report, the possible projects will be submitted and introduced to the process council, where they will be evaluated and prioritised. In the 2022 report, it is hoped that it will be possible to report on the results of this work and the progress made in 2022.

GRI Index

GRI	Status	Description	Chapter/Material	Page
102-1	In full	Name of the organisation	HS Orka hf.	
102-2	In full	Operations, brands, products and services	<p>Operations</p> <p>The company owns and runs two geothermal power plants and one run-of-the-river plant that produce electricity from sustainable energy sources. The company also produces hot water for house heating and cold drinking water that is sold to a distributor that delivers it to local communities. The company also produces products associated with geothermal heat, such as heated sea water and steam that is sold to the companies in the Resource Park, which is located next to HS Orka's power plants.</p>	13
102-3	In full	Location of headquarters	Svartsengi, 240 Grindavík	
102-4	In full	Location of operations	Iceland	
102-5	In full	Ownership and legal form	Hlutafélag (hf.)	
102-6	In full	Served markets	Operations	13
102-7	In full	Scale of the organisation	Operations, Human Resources, Main operational costs and the economic impact	13 , 16 , 14
102-8	In full	Information on employees and other workers	99% of employees have a permanent basis. 99% of employees are working in a 100% job.	
102-9	In full	Supply chain	Supply chain	16
102-10	In full	Significant changes to the organisation and its supply chain	This is the first GRI report that HS Orka hf. has issued; therefore, there are no changes to cover.	
102-11	In full	Precautionary principle or approach	Management approach, Monitoring the resource	7 , 21
102-12	In full	External initiatives	HS Orka's management system, HS Orka and the community	11 , 15
102-13	In full	Membership associations	HS Orka and the community	15
102-14	In full	Statement from a senior decision maker	CEO statement, Address of the COB	2 , 3
102-15	In full	Key effects, risks and opportunities	HS Orka's management system, Management approach	11 , 7
102-16	In full	Values, principles, standards and norms of behaviour	<p>Value and policy</p> <p>HS Orka's Policies and Values</p>	11
102-18	In full	Governance structure	<p>HS Orka's management system</p> <p>Skipulag og Stjórn HS Orku</p>	11
102-19	In full	Delegation of power	<p>HS Orka's management system</p> <p>GRI 102-29</p> <p>Annual financial statement 2021, page 44-49</p>	11

102-20	In full	Executive level responsibility at the economic, environment and social level	GRI 102-19	
102-22	In full	The composition of the Executive Board and its committees	Annual financial statement 2021, page 44-49	
102-24	In full	Nominations and selection of senior management	HS Orka's management system Annual financial statement 2021, page 44-49	11
102-25	In full	Conflict of interest	HS Orka's management system An assessment of the conflict of interests for the Board of Directors occurs annually at the beginning of each operating year, after the shareholders have nominated members for the Board of Directors. The assessment is based on whether the nominated Board members own shares in the company, whether they sit on the board of several companies as well as whether there are interests in the main business partners, competitors or shareholders who own more than 10% of the company.	11
102-28	In full	Performance evaluation of the Supreme Board	HS Orka's management system HS Orka's management system: The Board of Directors, the Audit Committee and the Remuneration Committee carry out an annual self-assessment of their work and the CEO of the company. There issues e.g. related to ESG. The Board responds to the issues raised in the self-assessment by preparing a case for resolution on the Board's action list.	11
102-29	In full	Identification and management of economic environmental and social impacts	GRI 102-19	
102-31	In full	Economic, environmental and social critique of levelling	GRI 102-19	
102-32	In full	The role of senior management in reporting on sustainability	The company's GRI report 2021 will be submitted to the Board for review and approval	
102-33	In full	Providing information on important issues	HS Orka's management system	11
102-34	In part	The total number and the nature of important issues	GRI 102-33	
102-40	In full	List of stakeholder list	Stakeholders and important factors	5
102-41	In full	Collective bargaining agreements	All employees are paid according to bargaining agreements	
102-42	In full	Identifying and selecting stakeholders	Material analysis	5
102-43	In full	Approach to stakeholder engagement	Stakeholders and important factors	5
102-44	In full	Key topics and concerns raised	Material analysis	5
102-45	In full	Entities included in the consolidated financial statements	Consolidation with HS Orka Holding, HSO 1 and HSO 2, no operations in the holding companies	
102-46	In full	Defining report content and topic boundaries	About the report, Material analysis, Management approach	4, 5, 7
102-47	In full	List of material topics	Material analysis	5

102-48	In full	Repetition of information	Not relevant, this is the first report published by HS Orka	
102-49	In full	Changes in reporting	This is the first report the company publishes	
102-50	In full	Reporting period	1 January – 31 December 2021	
102-51	In full	Date of the most recent report	Not relevant, this is the first report published by HS Orka	
102-52	In full	Reporting cycle	Yearly	
102-53	In full	Contact information for questions regarding the report	hsorka@hsorka.is	
102-54	In full	Claims of reporting in accordance with the GRI standards	About the report	4
102-55	In full	GRI content index	GRI Index	27 to 31
102-56	In full	External assurance	About the report, Value and policy, Stakeholders and important factors, Material analysis	4, 11, 5, 5
103-1	In part	Explanation of the material topic and its boundary	Management approach	7 to 10
103-2	In full	The management approach and its components	Management approach	7 to 10
103-3	In part	Evaluation of the management approach	Management approach, HSE goals 2021	7, 8
201-1	In part	Direct economic value that is generated and distributed	Main operational costs and the economic impact Annual financial statement, page 44-49	14
201-2	In part	Financial implications and other risks and opportunities due to climate change	Main operational costs and the economic impact	14
201-3	In full	Defined benefit plan obligations and other retirement plans	The company works according to law no. 129 from 23 December 1997 regarding the compulsory insurance of pension rights and the activities of pension funds	
201-4	In full	Financial assistance received from the government	The company does not get financial support from the government or other public body	
202-2	In full	Proportion of senior executives recruited from the local community	All managers are Icelanders and are from the local community	
203-1	In part	Infrastructure investments and services support	Main operational costs and the economic impact	14
204-1	In full	Proportion of spending on local suppliers	Supply chain	16
205-3	In full	Confirmed incidents of corruption and actions taken	No incidents of corruptions	
206-1	In full	Legal action for anti-competitive behaviour, anti-trust and, monopoly practices	No pending or closed case in 2021 related to anti-competitive behaviour, ring-fencing and monopoly methods in which HS Orka is a party	
301-1	In part	Materials used by weight or volume	Resource Streams	19

302-1	In part	Energy consumption within the organisation	Energy consumption	23
302-3	In full	Energy intensity	Energy consumption	23
302-4	In part	Reduction of energy consumption	Energy consumption	23
302-5	In full	Reduction of energy needs of goods and service	Energy consumption	23
303-1	In full	Interactions with water as a shared resource	Resource Streams, Monitoring the resource	19, 21
303-2	In full	Management of impacts related to water discharge	Resource Streams, Monitoring the resource	19, 21
303-3	In full	Water withdrawal	Resource Streams	19
303-4	In full	Water discharge	Resource Streams	19
303-5	In full	Water consumption	Resource Streams	19
304-1	In part	Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas	Monitoring the resource	21
304-2	In part	Significant impacts of activities, products and services on biodiversity	Monitoring the resource	21
304-4	In full	IUCN Red list species and national conservation list of species with habitats in areas affected by operations	Monitoring the resource	21
305-1	In part	Direct (Scope 1) GHG emissions	Greenhouse gas emissions	24
305-2	In part	Energy indirect (Scope 2) GHG emissions	Greenhouse gas emissions	24
305-3	In part	Other indirect (Scope 3) GHG emissions	Greenhouse gas emissions	24
305-4	In full	GHG emission intensity	Greenhouse gas emissions	24
305-5	In part	Reduction of GHG emissions	Greenhouse gas emissions	24
305-6	Sleppa	Emissions of ozone-depleting substances (ODS)	Hydrogen sulphide emissions	24
305-7	In part	Nitrogen oxides (NOx), sulphur oxides (SOx), and other significant air emissions	Greenhouse gas emissions	24
306-1	In part	Waste effect on the community and nature	Resource Streams, Waste management	19, 25
306-2	In part	The circular economy	Waste management	25
306-3	In full	Significant spills and the total amount of waste	Waste management	25
306-4	In full	Recycled waste and transport of hazardous waste	Waste management	25

306-5	In full	Type of disposable waste	Waste management	25
307-1	In full	Non-compliance with environmental laws and regulations	No deviation from HS Orka's power station license nor from ISO 14001 standard	
401-1	In part	New hires and employee turnover	Human Resources	16
401-2	In full	Benefits provided to full-time employees that are not provided to part-time employees	Human Resources No difference between the benefits of employees working part-time or full-time	16
401-3	In full	Parental leave	Human Resources	16
402-1	In full	Minimum notice periods regarding operational changes	Human Resources	16
403-1	In part	Occupational health and safety management system	Health and safety	17
403-2	In full	Hazard identification, risk assessment and incident investigation	Health and safety	17
403-3	In full	Occupational health service	Health and safety	17
403-4	In full	Worker participation, consultation and communication on occupational health and safety	Health and safety	17
403-5	In full	Worker training on occupational health and safety	Health and safety	17
403-6	In full	Promotion of worker health	Human Resources, Health and safety	16, 17
403-8	In full	Workers covered by an occupational health and safety impact directly linked by business relationships	Health and safety	17
403-9	In full	Work -injuries	Health and safety	17
403-10	In full	Work-related ill health	Health and safety	17
404-2	In full	Programmes for upgrading employee skills and transition assistance programs	Human resources	16
404-3	In full	Percentage of employees receiving regular performance and career development reviews	Human resources	16
405-1	In full	Diversity of governance bodies and employees	Human resources, Governance	16, 11
405-2	In full	Ratio of basic salary and remuneration of woman to men	Human resources	16
415-1	In full	Political contributions	ISK 785 thousand	
418-1	In part	Substantiated complaints concerning breaches of customer privacy and losses of customer data	No complaints regarding breach of customer privacy or the loss of their data	
419-1	In part	Non-compliance with the laws and regulations of the social and economic spheres	No occurrences where the company did not comply with the laws and regulations of the social and economic spheres	