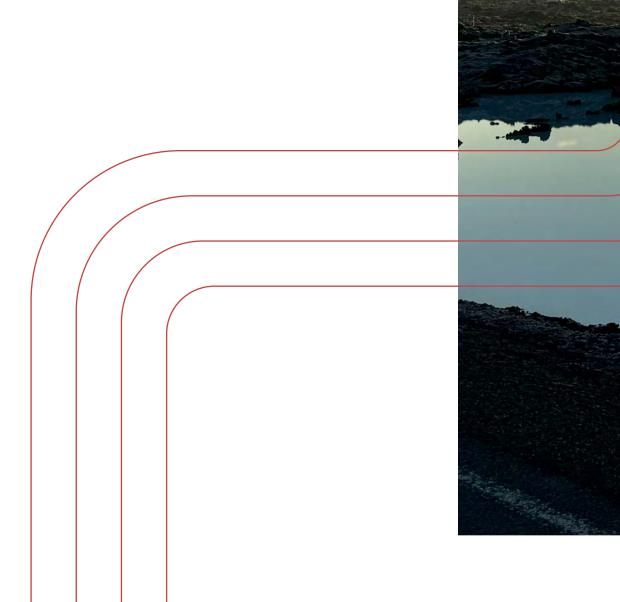
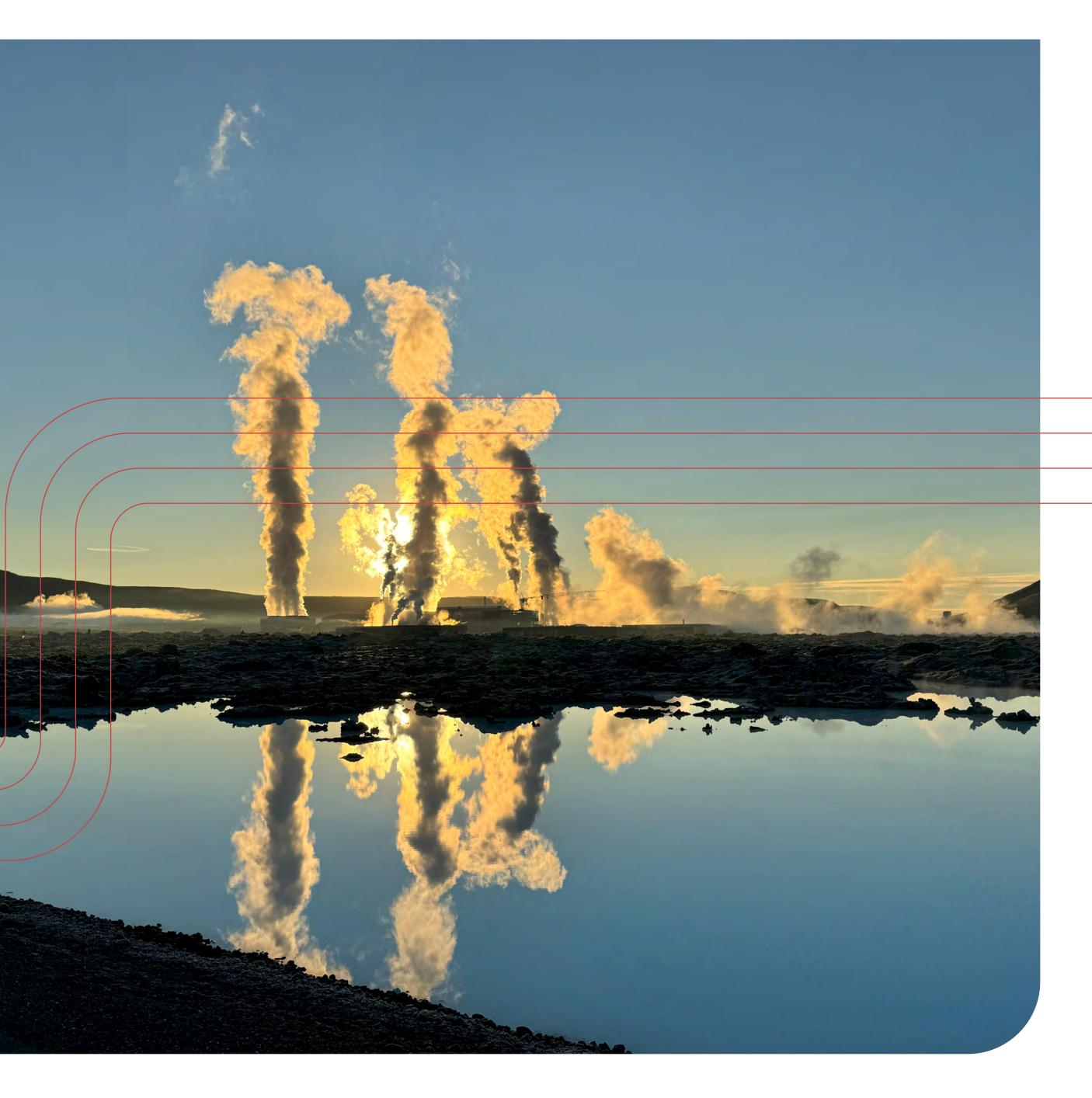


# **Sustainability Report** 2024





### **About the Report**

#### Implementation of the CRSD and the **European Sustainability Reporting Standards** (ESRS)

It is expected that the EU's new Corporate Sustainability Reporting Directive (CSRD) will soon be adopted into Icelandic law. In recent years, HS Orka has used the GRI (Global Reporting Initiative) standards for its sustainability reporting, but 2023 saw targeted steps towards implementing the new European Sustainability Reporting Standards derived from the CRSD. This mainly involved increasing the scope of external assurance and adherence to the disclosure requirements of the ESRS E1 Climate standard.

#### **Approach and Presentation of Information**

- In reporting for 2024, a few further steps have been taken towards compliance with ESRS standards. The main items related to the structure of the report and the introduction of ESRS standards are as follows:
- The 2024 report continues to draw on the results of the latest materiality assessment from 2023, and therefore the materiality assessment only

partly fulfils the requirements of ESRS 1. In 2025, a new double materiality assessment will be carried out in accordance with ESRS requirements and the results of this assessment will provide the basis for further analysis of data collection and provision of information.

- Discussion of material topics is partly based on ESRS 2 General Disclosures. This means that the ESRS 2 disclosure requirements for governance, strategy, policies, actions and for metrics and targets are used as reference for material topics. Another addition to the 2023 materiality assessment is an impacts, risks and opportunities (IRO) analysis for each material topic.
- Quantitative information is, for the most part, presented with reference to the GRI standards in a similar way as before. The exceptions to this are that, as was the case in 2023, ESRS E1 Climate is used as reference for climate issues, the Health and Safety section of ESRS S1 Own workforce for the discussion of safety issues, and selected requirements from ESRS E5 Resource use and circular economy have been added.

#### EU Taxonomy and Green Financing Report

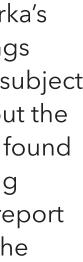
The 2024 Sustainability Report contains more extensive information than before about the eligibility and alignment of HS Orka's activities according to the criteria of the EU taxonomy. This information is presented as a percentage of income, operating expenses and investments. The sustainability report also includes, for the first time, a "Green Financing Report" containing information according to HS Orka's 2022 Green Financing Framework.

#### **Scope and Criteria**

The contents of the report reflect HS Orka's knowledge of the company's sustainability topics for the calendar year 2024 unless stated otherwise. The disclosure is on a consolidated basis, which means that the same criteria apply to the scope as for the Group's consolidated financial statements, unless otherwise stated. HS Orka operates according to a principle of continuous improvements, and we welcome all feedback and any corrections via the company's e-mail address, hsorka@hsorka.is.

#### Independent External Assurance

KPMG ehf. reviewed the contents of HS Orka's 2024 Sustainability Report. Section headings include markings 🕢 where the content is subject to the external assurance. Information about the nature and scope of the assurance can be found in the appendix. HS Orka's Green Financing Report is subject to a separate assurance report from KPMG ehf. which is also included in the appendix.



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### From the CEO



In the course of the previous year we at HS Orka faced significant challenges due to volcanic activity on the Reykjanes Peninsula. However, 2024 was also a year of significant construction work on our behalf in the region.

Volcanic eruptions in the Sundhnúkur crater row on Reykjanes Peninsula, which begun in late 2023, had both direct and indirect effects on all aspects of our operations with a total of six eruptions in 2024. The Department of Civil Protection and Emergency Management's embankment construction has made an impact on the Svartsengi environment, and working conditions have at times been difficult. Our team members deserve high praise for their perseverance and adaptability during these challenging times. Within the embankments, we have continued with the expansion and improvements of the Svartsengi power plant and despite the delays caused by the eruption, we are still hopeful that the completion of the project may be close to the original schedule.

#### **Production Mostly Uninterrupted**

The concerted efforts of many inside and outside the company, together with public investment in management team have worked diligently to defending the critical infrastructure at Svartsengi, like these this is of vital importance. allowed us to maintain uninterrupted production of electricity, as well as hot and cold water, during the year, albeit with two exceptions. was concluded successfully last summer, with The first time was in February when lava flow ruptured the Njarðvík pipeline, the hot water lenders. Insurance was also renewed. Earthpipeline to Reykjanesbær municipality, with the result that the majority of residents and exempted in the insurance cover. businesses on the Reykjanes Peninsula were without hot water for five days. The second **Developments in Sustainability Reporting** time was in November, when heat from running lava ruptured Landsnet's high-voltage power The EU's Corporate Sustainable Reporting transmission lines at Svartsengi and electricity Directive (CSRD) is expected to become law in

production had to be halted for nine days as a result of the rupture.

#### Focus on Safety and Refinancing Completed

Our employees in the production division have had their hands full in the unusual circumstances of late as they are the ones tasked with operating our power plants. To ensure the safety of all employees and others in the company's operating areas, while maintaining uninterrupted production in the power plants, HS Orka's safety team and emergency update safety plans and safety equipment. In times

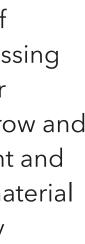
The extensive process of refinancing the company the involvement of both domestic and foreign quakes, lava flow and volcanic eruptions are not

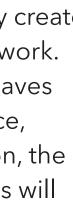
Iceland soon. HS Orka has taken various steps to prepare for the full implementation of the Directive. These efforts will continue in 2025 and they will include a new double materiality assessment of sustainability issues and further development of data systems.

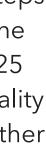
The introduction of the CSRD and the new ESRS standards that come with it will undeniably create challenges and increase the scope of our work. However, the new legislative framework leaves room for prioritising according to relevance, comparability and transparency. In addition, the development of sustainability data systems will provide opportunities for more efficiency.

#### Value Creation Based on Sustainability

Today, sustainability is not a limited area of expertise that can be used for window dressing as needed. Sustainability is a core issue for modern energy companies that want to grow and develop in harmony with their environment and community. The definitions of HS Orka's material topics is a clear indication of this: "Security







of power supply and related infrastructure", "Sustainable use of natural resources", "Safety and work environment", "Climate", "The Resource Park and circularity of streams" and "Responsible consumption and production". It is obvious that most tasks within the company, both for the staff and the board, fall directly under or involve these issues.

#### Successful Resource Management

Over the past few years, we have invested in increasing the company's knowledge of the geothermal resources. Success in the utilisation of the resources at Svartsengi and Reykjanestá is achieved through cooperation between different specialist fields within HS Orka, where experts in manufacturing and technical fields base their work on the research and modeling work carried out by the resource management team. It is gratifying to see the positive impact of this work and in 2024, considerable progress was made in improving the utilisation of the resource at Reykjanes.

rating agency EcoVadis. This places HS Orka Issues Related to CO<sub>2</sub> Emissions in the top 5% of companies when it comes to New challenges have followed the seismic sustainability management, which serves as both activity at Svartsengi, as increased gas volume acknowledgement and encouragement for us. in wells has both negatively affected electricity We implemented a new finance and planning production and significantly increased carbon system during the year and moved our Svartsengi dioxide emissions in the area. The emission offices to Reykjanesbær and Kópavogur due to figures for 2024 show a large increase in seismic activity. Our drilling plans for our operathe emissions that go through the HS Orka tions areas were updated to the year 2030. processing channels resulting from the seismic Work to prepare exploratory drilling in Krýsuvík activity in Reykjanes. This inevitably raises the began late in the year in collaboration with question of whether it is appropriate to define Hafnarfjörður municipality. HS Orka subsidiary the emissions of geothermal power plants as VesturVerk continues to work on development man-made rather than natural emissions in and preparations for the Hvalá power plant, the carbon accounting of companies and the which is in the utilization category of the The country. Another urgent regulatory and climate Icelandic Master Plan for Nature Protection and issue is to ensure that the legislative framework Energy Utilization. The integration of the Fjarðará for the utilization of CO<sub>2</sub> from geothermal hydropower plants was completed during the sources does not obstruct the progress of energy year and an agreement on an eco-industrial park transition projects. was signed with the Regional Development Agency for the Reykjanes Peninsula. Negotiations **Overview of Highlights** on the production of e-fuel at the tip of Reykjanes This year, HS Orka received a "Gold" rating Peninsula have been fruitful and are well in the sustainability assessment of the global underway.

#### Main Issues for Energy Transition and the Climate

Icelanders are at a crossroads in energy and climate issues, and it is clear that the energy transition goals of Icelandic authorities will not be met as things stand. Many promising energy options in preparation in Iceland have been unduly delayed and seem caught up in administrative processes and legal complexities. With the expansion of both of our geothermal power plants, we have contributed to increased energy generation nationally, and our new energy options in the capital area, the Westfjords and elsewhere will play an important role in Iceland's full energy transition.

## **Overview of figures 2024**

#### UN's Sustainable Development Goals

HS Orka has chosen six United Nations global goals for implementation in its operations:



#### Climate

Total GHG emissions HS Orka´s target	142.979 tCO <sub>2</sub> eq Net-zero emissions in 2040	
Emissions intensity HS Orka´s target	35 gCO <sub>2</sub> eq/kWh 26 gCO <sub>2</sub> eq/kWh in 2030	
<b>Scope 1 og 2:</b> Direct emissions of GHG ( tCO <sub>2</sub> eq)		
Geothermal power plants Vehicles	136,060 167	
Scope 3: Indirect emissions of GHG (tCO2eq)		
Construction work	6,718	
Air travel	22	
Waste	11	

#### EU Taxonomy

Turnover	73.9%*
CAPEX	94.9%
OPEX	96,9%

\*The percentage does not include sales of renewable energy purchased from other producers.

#### Installed power

Svartsengi power plant (geothermal)	66 MW*	
Reykjanesvirkjun power plant (geothermal)	130 MW	
Brú (hydropower)	9.9 MW	
Fjarðarár (hydropower)	9.8 MW	
*Will be 85 MW after the completion of the SVA7 investment project		

#### Virðiskeðjan

Total procurement	10,711 m.kr.
Thereof Icelandic suppliers	8,326 m.kr.
Suppliers with an active sustainability assessment	68.6%*

\* % of total procurement

#### **Energy transition**

36%
30%
53
44

#### Waste management

Total waste (tons)
Sorted waste
Diverted from disposal

346
88.3%
86%

#### Safety and work environment

Lost time incidents	
Environmental incidents	
Medical treatment cases	
First aid incidents	

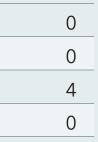
#### Human resources

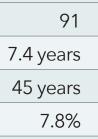
Number of employees	
Average duration of employment	-
Average age	
Employee turnover	

#### High temperature boreholes









## Strategy and sustainability at HS Orka



at HS Orka	Sustainability rep	ility reporting						
topics	Sustainabil	ity report 20	24					
oower supply and infrastructure	IRO analysis	Commentary	Quantitative information					
use of resources	ESRS 2	ESRS 2, GRI	topical standards,					
work environment			GRI					
e Park and circularity								
e consumption and production								
S		Commentary	Quantitative information					
		GRI	GRI					

## Materiality Assessment

The main subject of this report is information on the topics that are considered most material for HS Orka. In 2023, the results of the materiality assessment were updated and the ranking of material topics changed, taking the seismic activity in Svartsengi into account.

The 2024 Sustainability Report is based on the results of this assessment and topics are defined in the same way.

#### **Double Materiality Assessment 2025**

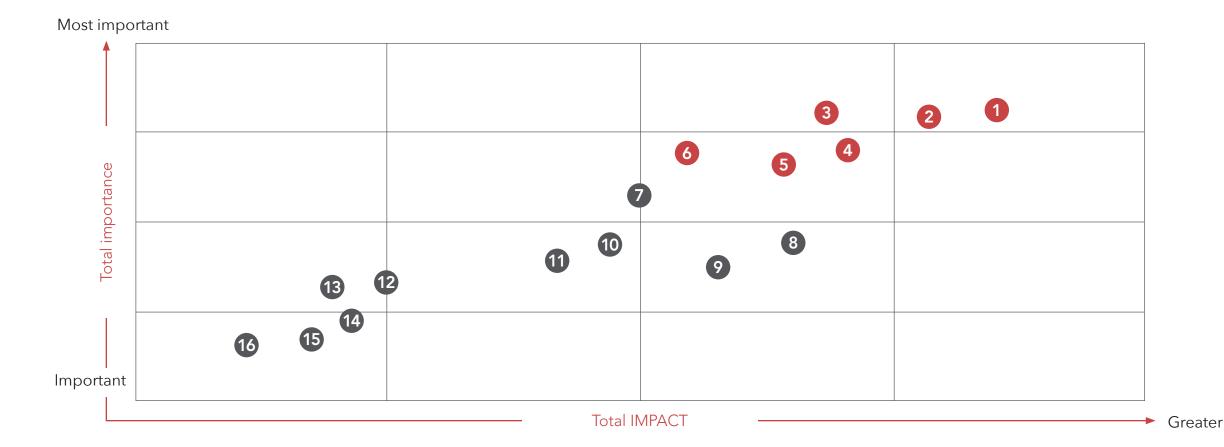
The double materiality assessment will be carried out in 2025 in accordance with ESRS guidelines. The analysis is a key element in the implementation of the CSRD. Based on the analysis' results, further steps will be taken with regards to ESRS and the development of appropriate indicators. A new materiality assessment will include an update of HS Orka's sustainability topics and an analysis of financial impact.

#### **Discussion of material topics 2024**

While the ranking of material topics is based on the results of the 2023 materiality assessment, further steps are now being taken to adapt the disclosure to ESRS requirements. An IRO analysis was conducted for each material topic, complementing the previous analysis.

Efforts are made to fulfil the requirements of ESRS 2 General Disclosures to the extent possible. As stated in "About the Report", individual sections of ESRS' topic al standards are followed and in particular ESRS E1 Climate is followed in the discussion on climate issues.

The relevant ESRS is attached to section headings where appropriate. The presentation of statistical



1. Security of Power Supply and Infrastructure 2. Sustainable Use of Natural Resources 3. Safety and Work Environment 4. Climate 5. The Resource Park and Circularity

6. Responsible production and consumption

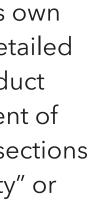
content based on GRI standards, and other information that HS Orka deems relevant to individual topics, is largely in line with the presentation in the 2023 Sustainability Report.

### Impacts, Risks and Opportunities (IRO analysis)

In appendix A.1 IRO analysis for material topics explain the various impacts, risks and opportunities associated with HS Orka's material topics. This list is not exhaustive, but rather a summary of some

of the analytical work that will develop further with the implementation of the double materiality assessment in 2025.

The tables show whether impacts, risks or opportunities are related to the company's own activities (OA) or value chain (VC). More detailed information on how HS Orka seeks to conduct its business with respect to the management of these aspects can be found in the topical sections of this report under "Environment", "Society" or "Governance".





# Environment

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## EU Taxonomy

The EU Taxonomy introduces increased and coordinated requirements for companies regarding transparency and disclosure on the sustainability of their operations. This is the second time that HS Orka has published information on the environmental sustainability of its operations based on the EU Taxonomy's criteria. Below are summary tables for the EU Taxonomy's main performance indicators, along with explanatory remarks.

Turnover			-		S	Substantial	contribution				Does	not significa	antly harm (D	NSH)				
Economic activities (1)	Code (2)	Turnover 2024 (ISKm) (3)	4 Proportion a) of turnover	Climate change mitigation (5)	Climate change adaptation (6)	Water (7)	Circular Economy (8)	Pollution (9)	Biodiversity (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water (13)	Circular Economy (14)	Pollution Bic (15)	odiversity (16)	Mimimum safeguards Y/N (17)	2023 (18)	
A. TAXONOMY ELIGIBLE ACTIVITIES																		
A.1. Environmentally sustainable activities (taxor	nomy-aligned	(k																
Cogeneration of heat/cool and power from geothermal energy	CCM 4.18	9.726	66,6%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	Y	Y	Y	-	-
Electricity generation from hydropower	CCM 4.5	959	6,6%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	d.n.a.	Y	Y	-	-
Construction, extension and operation of water collection, treatment and supply systems	CCM 5.1	97	0,7%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	d.n.a.	Y	Y	-	-
Turnover of environmentally sustainable activities (e. taxonomy-aligned) (A.1)		10.782	73,9%															
A.2 Taxonomy-eligible but not environmentally s	ustainable a	ctivities																
Turnover of taxonomy-eligible but not environmentally sustainable activities (A.2)		-	0,0%															
Total (A.1 + A.2)		10.782	73,9%															
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																		
Turnover of taxonomy-non-eligible activities (B)		3.812	26,1%	•						•	<u> </u>					ot been define wable energy t		
TOTAL (A +B)		14.594	100%						•				•	<u> </u>		ibution (emissi		

Y: Yes, the activity is both eligible and aligned with the relevant environmental objective.

**d.n.a.:** Does not apply

**CCM:** Climate Change Mitigation

\*In assessing significant contribution, only the technical criteria for CCM were assessed, since HS Orka's main strategic focus is on that environmental objective of EU Taxonomy.



CAPEX						Substantial	contribution				Does	not significa	antly harm (D	NSH)		Mimimum safeguards Y/N (17)		
Economic activities (1)	Code (2)	CAPEX 2024 (ISKm) (3)	Proportion of CAPEX (%)(4)	Climate change mitigation (5)		Water (7)	Circular Economy (8)	Pollution (9)	Biodiversity (10)	Climate change mitigation (11)	-	Water (13)	Circular Economy (14)	Pollution E (15)	Biodiversity (16)		2023 (18)	Category enabling t activity Y/N (19)
A. TAXONOMY ELIGIBLE ACTIVITIES																		
A.1. Environmentally sustainable activities (taxo	onomy-aligned	d)																
Cogeneration of heat/cool and power from geothermal energy	CCM 4.18	9.343	93,8%	Y*	-	_	-	-	-	d.n.a.	Y	Y	d.n.a.	Y	Y	Y	-	_
Electricity generation from hydropower	CCM 4.5	102	1,0%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	d.n.a.	Y	Y	-	-
Construction, extension and operation of water collection, treatment and supply systems	CCM 5.1	11	0,1%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	d.n.a.	Y	Y	-	-
CAPEX of environmentally sustainable activities (e. taxonomy-aligned) (A.1)		9.456	94,9%															
A.2 Taxonomy-eligible but not environmentally	sustainable a	ctivities																
CAPEX of taxonomy-eligible but not environmentally sustainable activities (A.2)		-	0,0%															
Total (A.1 + A.2)		9.456	94,9%															
<b>B. TAXONOMY NON-ELIGIBLE ACTIVITIES</b>																		
CAPEX of taxonomy-non-eligible activities (B)		507	5,1%															
TOTAL (A +B)		9.962	100%															

Y: Yes, the activity is both eligible and aligned with the relevant environmental objective.

d.n.a.: Does not apply

**CCM:** Climate Change Mitigation \*In assessing significant contribution, only the technical criteria for CCM were assessed, since HS Orka's main strategic focus is on that environmental objective of EU Taxonomy.





OPEX			-			Substantial	contribution				Does	not significa	intly harm (DI	NSH)				
Economic activities (1)	Code (2)	OPEX 2024 (ISKm) (3)	Proportion of OPEX (%) (4)	Climate change mitigation (5)	change adaptation	Water (7)	Circular Economy (8)	Pollution (9)	Biodiversity (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water (13)	Circular Economy (14)	Pollution (15)	Biodiversity (16)	Mimimum safeguards Y/N (17)	2023 (18)	Category enabling t activity Y/N (19)
A. TAXONOMY ELIGIBLE ACTIVITIES																		
A.1. Environmentally sustainable activities (taxo	onomy-aligned	4)																
Cogeneration of heat/cool and power from geothermal energy	CCM 4.18	2.926	90,7%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	Y	Y	Y	-	-
Electricity generation from hydropower	CCM 4.5	178	5,5%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	d.n.a.	Y	Y	-	-
Construction, extension and operation of water collection, treatment and supply systems	CCM 5.1	22	0,7%	Y*	-	-	-	-	-	d.n.a.	Y	Y	d.n.a.	d.n.a.	Y	Y	-	-
OPEX of environmentally sustainable activities (e. taxonomy-aligned) (A.1)		3.126	96,9%															
A.2 Taxonomy-eligible but not environmentally	sustainable a	ctivities																
OPEX of taxonomy-eligible but not environmentally sustainable activities (A.2)		-	0,0%															
Total (A.1 + A.2)		3.126	96,9%															
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																		
OPEX of taxonomy-non-eligible activities (B)		102	3,1%															
TOTAL (A +B)		3.227	100%															

Y: Yes, the activity is both eligible and aligned with the relevant environmental objective.

d.n.a.: Does not apply

**CCM:** Climate Change Mitigation \*In assessing significant contribution, only the technical criteria for CCM were assessed, since HS Orka's main strategic focus is on that environmental objective of EU Taxonomy.





### Explanatory remarks concerning the EU Taxonomy

#### A Activities of HS Orka covered by the Taxonomy

HS Orka falls under the EU Taxonomy Regulation (EU) 2020/852, which was enacted in Iceland in 2023. The regulation sets out a taxonomy that determines which economic activities are considered environmentally sustainable. It also includes increased and coordinated requirements for companies regarding transparency and disclosure about the sustainability of their operations.

To determine which HS Orka activities are eligible to be considered environmentally sustainable (covered by the Taxonomy), the activities were reviewed with regard to Regulations (EU) 2021/2139, (EU) 2023/2485, (EU) 2023/2486 and (EU) 2022/1214. The review identified three types of economic activities that fall under the EU Taxonomy and which apply to HS Orka:

• Cogeneration of heat/cool and power from geothermal energy (4.18)

#### An assessment of the fulfillment of the relevant technical screening criteria in Regulation (EU 2021/2139)<sup>1</sup>

			ntial contribution to one or more of to out in the Taxonomy Regulation?	Are the criteria fulfilled for do no significant harm (DNSH) to any of the other five environmental objectives set out in the Taxonomy Regulation?									
Chapter	Economic activities at HS Orka covered by the Taxonomy Regulation:	SUBSTANTIAL CONTRIBUTION to climate change mitigation	SUBSTANTIAL CONTRIBUTION to other environmental objectives set out in the Taxonomy Regulation	DNSH Climate change mitigation	DNSH Sustainable use and protection of water and marine resources	DNSH Transition to a circular economy	DNSH Pollution prevention and control	DNSH Protection and resto of biodiversity a ecosystems					
4.18	Reykjanes geothermal power plant	Fulfilled	Not assessed <sup>2</sup>	Fulfilled	Fulfilled	Not applicable	Fulfilled	Fulfilled					
4.18	Svartsengi geothermal power plant	Fulfilled	Not assessed <sup>2</sup>	Fulfilled	Fulfilled	Not applicable	Fulfilled	Fulfilled					
4.5	Brúarvirkjun hydropower plant	Fulfilled	Not assessed <sup>2</sup>	Fulfilled	Fulfilled	Not applicable	Not applicable	Fulfilled					
4.5	Fjarðarárvirkjanir hydropower plants	Fulfilled	Not assessed <sup>2</sup>	Fulfilled	Fulfilled	Not applicable	Not applicable	Fulfilled					
5.1	Freshwater supply in Lágar	Fulfilled	Not assessed <sup>2</sup>	Fulfilled	Fulfilled	Not applicable	Not applicable	Fulfilled					
5.1	Freshwater supply by Sýrfell	Fulfilled	Not assessed <sup>2</sup>	Fulfilled	Fulfilled	Not applicable	Not applicable	Fulfilled					

1 Given that the activities comply with the minimum safeguards set out in the Taxonomy regulation (EU 2020/852).

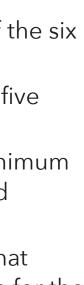
<sup>2</sup> Substantial contribution has been assessed only for climate change mitigation, as HS Orka's main focus is on contributing to this objective.

- Electricity generation from hydropower (4.5)
- Construction, extension and operation of water collection, treatment and supply systems (5.1)

#### **B** Activities of HS Orka that are environmentally sustainable

In order to be considered environmentally sustainable, economic activities must meet four criteria pursuant to Article 3 of the Taxonomy (EU) 2020/852:

- 1. Contribute substantially to one or more of the six environmental objectives (Article 9)
- 2. Do not significantly harm any of the other five environmental objectives (Article 9)
- 3. Are carried out in compliance with the minimum safeguards laid down regarding social and governance factors (Article 18)
- 4. Comply with technical screening criteria that have been established by the Commission for the economic activity in question (Article 10)





An assessment was made as to whether the activities of HS Orka covered by the EU Taxonomy are to be considered environmentally sustainable, i.e. if they meet the four criteria. For each activity, the technical screening criteria were assessed in accordance with Regulation (EU) 2021/2139. This work was carried out in consultation with employees from different areas of the company (see summary table of results).

Analysis of substantial contribution only included the activity's contribution towards the environmental objective "climate change mitigation," as this objective is HS Orka's key strategic focus. The minimum safeguards were assessed for the company as a whole.

The summary demonstrates how HS Orka meets the EU Taxonomy's criteria of substantial contribution and ensures it does not cause significant harm according to the technical screening criteria in Regulation (EU) 2021/2139.

#### **C** Substantial contribution

An assessment was made as to whether HS Orka's activities covered by the EU Taxonomy meet the technical screening criteria of Regulation (EU) 2021/2139 regarding their substantial contribution towards climate change mitigation. The results of the assessment show that this is the case:

• Activities 4.18: Cogeneration of heat/cool and power from geothermal energy meets the technical screening criteria for making a substantial contribution towards climate change mitigation. Life cycle assessments were carried out for the geothermal power plants in Svartsengi and Reykjanes. The results show that the emissions intensity of both power plants is well below the technical screening criteria of 100g CO2eq/ kWh. The life cycle assessments are based on ISO 14067:2018 as confirmed by KPMG in the life cycle assessment reports.

- Activities 4.5: Electricity generation from *hydropower* meets the technical screening criteria for making a substantial contribution to climate change mitigation. This concerns, on the one hand, Brúarvirkjun, which meets the criteria for being a run-of-river plant without a water reservoir. On the other hand, there are the Fjarðará power plants that meet the required power density with 6.33 W/m2, which is well above the technical screening criterion of 5 W/m2.
- Activities 5.1: Construction, extension and operation of water collection, treatment and supply systems meet the technical screening criteria for substantial contribution towards climate change mitigation. Pumping and treatment of water during the production process of water collection in Lágar and Sýrfell are performed using only renewable energy. Measures to use only renewable energy in the process are taken into account with regard to net energy consumption. All pumping equipment uses electrical energy from geothermal power plants and all heating of water uses surplus energy (thermal energy) from the Svartsengi power plants.

#### D Does not cause significant harm to the other environmental objectives

An assessment was made as to whether the activities of HS Orka that have made a substantial contribution towards climate change mitigation could potentially cause harm to the other environmental objectives under (EU) 2021/2139. The conclusion is that this is not the case:

#### Climate change adaptation

The assessment found that the technical screening criteria were met regarding climate change adaptation in the activities of HS Orka considered, cf. Appendix A to Regulation (EU) 2021/2139. HS Orka has implemented a climate risk assessment in accordance with the TCFD as part of the company's risk model. The risk assessment specifies which risk factors would require the company to use adaptation measures should they materialise. At the present time, the assessment does not call for short-term action, but the likelihood of impacts requiring active measures increases if pessimistic climate scenarios are realised.

#### Sustainable use and protection of water and marine resources

The technical screening criteria were met in terms of the sustainable use and protection of water and marine resources in the activities assessed, cf. Appendix B of (EU) 2021/2139. An environmental impact assessment has been carried out for various HS Orka projects related to water and marine resources. The assessment is systematically followed up on in

accordance with the results, mitigation and monitoring requirements as indicated by the construction permits and operating permits, and pursuant to Icelandic legislation. Quality criteria have not been set, under The Water Framework Directive, for various bodies of water related to the activities of HS Orka. As a result, there is further work ahead to record and measure bodies of water, and to prepare monitoring plans.

#### Transition to a circular economy

The technical screening criteria for the transition to a circular economy are not applicable under Regulation (EU) 2021/2139 for the HS Orka activities covered by the Taxonomy.

#### Pollution prevention and control

The technical screening criteria under Regulation (EU) 2021/2139 refer to the directives of the European Parliament and of the Council, which cover benchmarks for particulate matter, sulphur dioxide, nitrous oxide, carbon monoxide, benzene, ozone, polycyclic aromatic hydrocarbons, lead, arsenic, cadmium, mercury and nickel in the air and measures to ensure adequate air quality. The main source of these chemicals in the atmosphere is the combustion of organic matter for transportation and energy production, but many of these pollutants are also produced by industrial processes such as the manufacturing of concrete, cement, chemical products and metals. Instead of using combustion for power generation, geothermal power plants use steam and geothermal fluids from the earth's interior and the system is closed to external chemical influence.

What emerges from high-temperature boreholes only reflects what is found in the geothermal system, where heavy metals are found. Heavy metals have a boiling point that is significantly higher than the steam and liquid used by the company to generate energy, so they are unlikely to vapourise and be released into the atmosphere. This conclusion is confirmed by existing studies on heavy metals emitted from geothermal power plants. Sulphur dioxide is not known to be emitted directly from geothermal power plants. However, geothermal power plants release hydrogen sulphide, which can react in the atmosphere to produce sulphur dioxide. HS Orka monitors the concentration of hydrogen sulphide in the atmosphere at Svartsengi according to operating licences, and the levels have never been measured above the health protection limits. It should be noted that the geothermal systems from which HS Orka processes energy contain comparatively low levels of hydrogen sulphide. Further analysis of heavy metals in processing channels has been started in order to prepare explanatory information with respect to the relevant regulations.

#### Protection and restoration of biodiversity and ecosystems.

The technical screening criteria were met in terms of protection and restoration of biodiversity and ecosystems in the activities assessed, cf. Appendix D of (EU) 2021/2139. HS Orka engages in nature conservation efforts, monitoring and periodical environmental research of land, sea and water biota where HS Orka's power plants are located. The

results of the environmental research are periodically Taxonomy. The contents of the tables are based on reviewed, and action is taken if needed. the EU Taxonomy's criteria regarding environmental sustainability for eligible economic activities of HS Orka. Disclosure of information on key indicators E Minimum safeguards for environmental sustainability is based on our HS Orka's human resources policy describes the interpretation of relevant EU regulations. In the company's commitment to respecting human rights coming years, the company will continue to develop and addresses a wide range of issues concerning its EU Taxonomy reporting and its integration in human resources and human rights, occupational financial systems.

safety and health, and related risks in accordance with HRDD (Human Rights Due Diligence). Furthermore, HS Orka has adopted rules, policies and procedures on good corporate governance that are part of the company's management system and are followed up on systematically. Thus, HS Orka systematically works to ensure minimum safeguards with respect to human rights, occupational health and safety, corruption, taxation and fair competition.

By engaging in good governance practices with a focused approach, HS Orka ensures that the minimum safeguards comply with the OECD Guidelines for Multinational Enterprises as well as with the UN Guiding Principles on Business and Human Rights. This includes the principles and rights set out in the eight fundamental conventions identified in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work.

#### **F** Key indicators

Investments include the capitalised investments This is HS Orka's first publication of comprehensive belonging to types of HS Orka's activities covered information tables for key indicators of the EU by EU Taxonomy. Capitalised development costs are

#### Turnover

For key indicators related to revenue, HS Orka has defined the economic activities covered by the EU Taxonomy. HS Orka's revenue is based on operating revenue from the sale of electricity, including the sale of guarantees of origin, as well as revenue from the sale of both hot and cold water. HS Orka's sales of purchased electricity are at present not eligible under EU Taxonomy since technical criteria have not been defined for that part of the business. This explains most of the turnover that is not treated as either eligible or aligned. HS Orka points out that the renewable energy that the company purchased from other producers, but is not treated is eligible at present, nevertheless in all cases fulfills EU Taxonomy's criteria for significant contribution (emissions intensity under 100 gCO<sub>2</sub>eq/kWh) to the environmental objective "Climate change mitigation".

#### Investments

excluded when projects are in the early stages, and it is uncertain whether they will materialise. In cases where investments in infrastructure and equipment are used for different types of activities, they are divided between types of activities proportional to the revenue generated by the respective economic activity.

#### **Operating expenses**

Only a part of the total operating costs of the company is of a nature that falls under the EU Taxonomy. Operating costs include non-capitalised development costs, direct maintenance costs of power stations and other costs associated with the operation of infrastructure and equipment necessary to ensure continued utilisation and operation. Administrative costs and personnel costs are among the excluded items in the defined operating costs according to the Taxonomy. In cases where it is unfeasible to divide costs between the types of activities, the costs are proportionally divided between groups of activities according to revenue.

### **Resource Management**

The foundation of HS Orka's long-term success is the responsible utilisation of resources, both geothermal energy and hydropower as well as freshwater. The company places great emphasis on research and monitoring of the resources and works continuously to improve knowledge and procedures.

Production decisions are based on the best available information at each time, taking into account the objectives of sustainable use.

#### **Management of Topic**

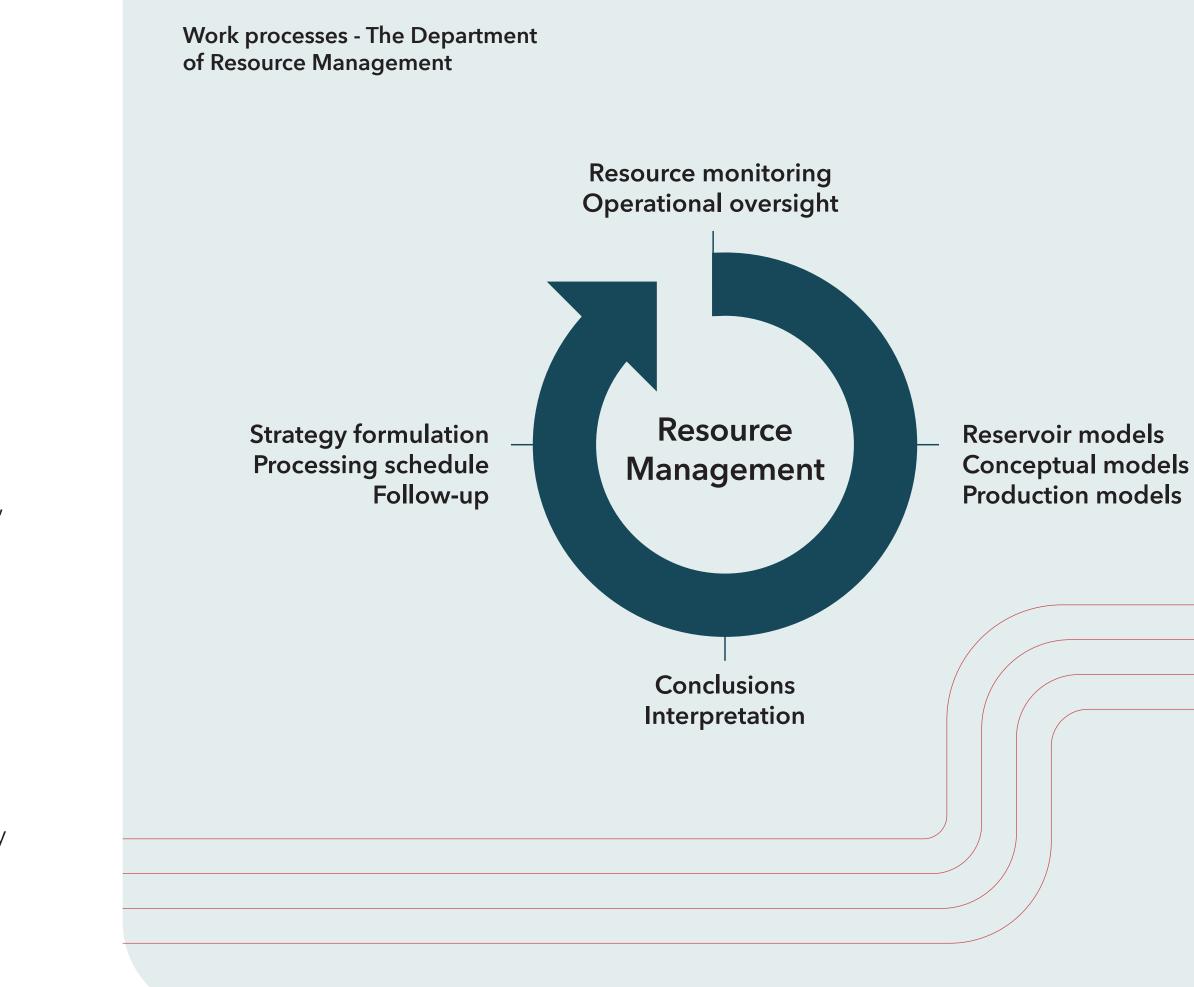
In recent years, the company has significantly strengthened its expertise, and monitoring of geothermal and freshwater resources has been integrated into day-to-day operations. Development and monitoring of the resources are also key factors in fulfilling the company's obligations towards public authorities. The Department of Resource Management is under the auspices of HS Orka's EVP of Resources and Project Development. The department director oversees projects in the field of resource management and policy development, along

with monitoring and managing projects related to the geothermal system. This includes ensuring targeted management and execution of projects, as well as promoting a strong flow of information between the department and other departments in the company.

#### **Positive developments in Reykjanes**

A new resource utilisation policy in Reykjanes has been put forward after a thorough analysis of the capacity of the geothermal system and opportunities for better utilisation. By temporarily reducing reinjections, after pressure increase in the system in recent years, it has been possible to increase boiling in the vapour cushion and lower the water table to bring in feed zones. These operations have been successful, and the





subsequent injections have been adjusted with the aim of having slow drawdown in the system and a better balance between extraction and reinjection. Furthermore, good progress has been made in counteracting the increased gas ratio at Svartsengi by limiting reinjection and thus minimising the impact of pressure increase caused by seismic activity.

#### **Increased Scope of Measurements with New** Technology

In the year 2024, the mass flow and energy content of fluids from all production wells, both at Svartsengi and at Reykjanes, was determined using the so-called tracer flow test. Tracers are then injected at a steady flow into the steam piping from the well and sampled downstream of the injection site. Tracer concentrations are then measured, both in the vapour phase and in the aqueous phase, making it possible to estimate both the mass flow and the energy content.

Measurements like these provide a better picture of the extraction of mass from the geothermal system. This makes it easier to estimate reinjection requirements with a view to improving the balanced operation of the geothermal resource. There are also indications of possible scaling that may affect the mass flow from individual

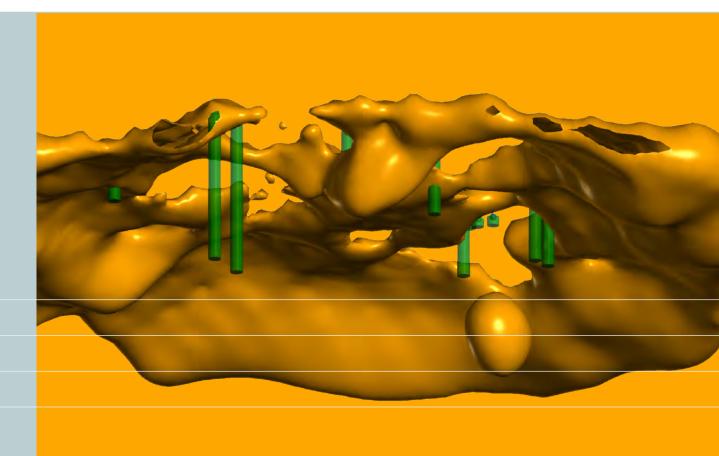
wells. Subsequently, high-temperature gauges have been used to measure the width of wells to determine scaling.

#### Impact of Seismic Activity and Warning System in Svartsengi

2024 saw a total of six volcanic eruptions along the Sundhnúkur crater row, which has had a measurable effect on the geothermal system in Svartsengi. Pressure in the system has risen, compensating for the drawdown in the system in recent years. However, gas emissions have also increased, creating challenges in the energy production.

In light of the volcanic activity, HS Orka has increased its monitoring of the geothermal resources and the visible effects. A unique, automatic volcanic alarm system, developed by HS Orka, detects pressure changes in wells and sends alerts to the Icelandic Meteorological Office. The warning system has proved crucial in informing the Icelandic Meteorological Office and the Department of Civil Protection and Emergency Management of impending volcanic eruptions, and the system is used for evacuation decisions.



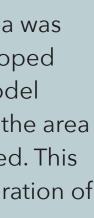


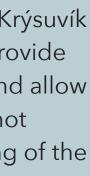
### **Research for** Krýsuvík

In 2024, a review of the Krýsuvík geothermal area was highlighted, and a conceptual model was developed for the area based on the available data. The model provides insight into the geological structure of the area so that its potential for utilisation can be identified. This conceptual model is now a key tool in the preparation of exploratory wells planned for the area in 2025.

Plans are to drill at least one exploratory well in Krýsuvík in the coming year. The drilling is expected to provide further information on the geothermal system and allow for increased accuracy in assessing whether or not conditions are in place for sustainable harnessing of the area.







#### Monitoring and Research of Freshwater Wells

HS Orka continuously monitors the groundwater that is sourced from freshwater wells and transferred to users. Samples are regularly taken for chemical analysis to ensure the quality of the water. No evidence of fundamental changes to groundwater has been detected in recent years despite the volcanic activity in the area. In addition, HS Orka has funded scientific research aimed at gaining a deeper understanding of the nature of the Reykjanes Peninsula groundwater system, as well as research into potential reserve freshwater sources.

#### **Increased Gas Emissions from Volcanic** Activity

As a result of increased volcanic activity in the vicinity of Svartsengi, gas emissions from the geothermal system have increased significantly. There is a clear link between the increase in gas in HS Orka's processing channels and the increase in volcanic activity in the area, underlining how the geothermal area is constantly evolving and changing. This trend has affected the company's overall emissions figures, which have risen considerably compared to the previous year. In response to this development, a more detailed monitoring of gas emissions has been implemented, with monthly sampling in the Svartsengi power stations.

**Drilling Projects in 2024** In 2024, HS Orka completed the drilling of two deep geothermal wells on the edge of the current production site in Reykjanes. RN-38 was drilled at Háleyjarbunga with the aim of exploring the area southeast of Reykjanes power plant while RN-39 was drilled to study the area southwest of the power plant. Both wells are currently in the process of being heated and performance tests are scheduled for 2025. The results of the tests will determine whether the wells will be used for electricity generation or injection.

Workover was carried out for maintenance purposes for two wells in Reykjanes. The first drilling could not be completed due to damage in the lining, but the second was highly effective as the previous performance was restored.

#### **Projects and Objectives**

- Routine process control includes monitoring and analysis of the flow of geothermal fluid, pressure and temperature to maintain the equilibrium of the geothermal system. Wells and drawdown in the system are monitored using a continuous recorder and heat and pressure gauges. In addition, continuing measurements using the tracer flow test will be carried out in the coming year.
- Exploratory drilling in Krýsuvík will begin in early 2025. The first borehole will be the first deep borehole drilled from Sveifluháls and its purpose



is to identify and define the boundaries of the geothermal area.

- Continued development of conceptual, production and reservoir models for HS Orka's production site to obtain a more accurate understanding of geothermal systems and improve planning.
- The reinjection site at Svartsengi is undergoing a reexamination with the aim of exploring the possibility of improved arrangements and location of the reinjection site.
- Surveillance of scaling in HS Orka's boreholes has been intensified and new developments in workover procedures will be explored in the coming year.
- Next year HS Orka will add three monitoring wells for groundwater monitoring at the Reykjanes power plant for the first phase of land-based fish farming at the Samherji fish farm. The quality of groundwater at the Sundhnúkur crater row will also be continuously monitored.
- In the coming year, HS Orka will continue to collaborate with Ormat and USGS to utilise our joint knowledge and strengthen operations. The partnership creates opportunities for knowledge sharing and provides insight into their practices.

### Climate 🜌

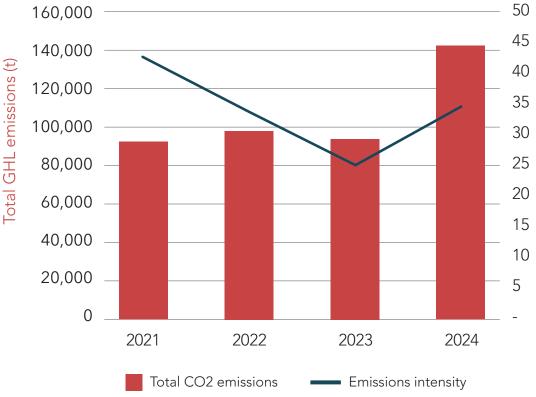
The core activity of HS Orka revolves around using renewable resources to produce heat and electricity. Geothermal areas emit greenhouse gases, mainly carbon dioxide.

It is unknown whether greenhouse gases that come through HS Orka's processing channels in Svartsengi and Reykjanes, would have been released, in part or in full, without the company's activities.

The main challenge for HS Orka with regard to climate matters is to achieve carbon neutrality by 2040. In the near term the company is looking at projects aimed at reducing emissions intensity in accordance with set goals. HS Orka's new Climate Policy was approved in 2023, and its purpose is to frame the company's priorities, goals and actions in climate matters.

#### Impact of Volcanic Activity on CO<sub>2</sub> Emissions

The volcanic activity that began in late 2023 has increased the amount of carbon dioxide



#### **Development of total emissions** and emissions intensity

that passes through the processing channels of Total greenhouse gas emissions from the the power plant at Svartsengi. These effects of company's Svartsengi and Reykjanes power plants amounted to 136,060 tonnes in 2024. The volume volcanic activity and issues relating to natural



### - individual boreholes 25,000 20,000 15,000

Emissions year-on-year at Svartsengi

### 10,000 5,000 Borehole 10 Borehole 16 Borehole 20 Borehole 26 Emission CO<sub>2</sub> 2023 Emission CO<sub>2</sub> 2024

emissions are discussed specifically in the section Natural Emissions from Geothermal Areas. The company's objective of carbon neutrality is in line with the action plan of the Government of Iceland and the Paris Agreement. Projects relating to the utilisation of carbon dioxide for the energy transition are at the forefront. A reduction in emissions intensity by 2030 can be achieved with an overall reduction in greenhouse gas emissions, but increased thermal energy sales and a higher proportion of hydropower or wind power in electricity generation can also play a major role.

#### **Overview of Climate Goals**

See: HS Orka's climate policy

1. Net-zero emissions by 2040

HS Orka has set a goal of net-zero emissions by the year 2040 in accordance with Iceland's climate commitments. HS Orka's goals are based on direct emissions from power plants and their operations, i.e. the emission that falls under scope 1 and 2.

#### 2. Emissions intensity

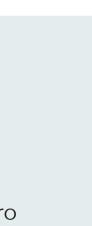
HS Orka has set a target for the company's emissions intensity to be a maximum of 26 gCO2eq/kWh in 2030. The target represents a 40% reduction of the emissions intensity compared to 2014. The target is based on scopes 1 and 2, as well as defined items within scope 3.

#### 3. Energy transition

- All vehicles owned by the company will be electric or powered by e-fuel by 2030 (scope 1).
- By 2035, only renewable energy will be used in HS Orka's construction projects (scope 3).

(gCO<sub>2</sub>íg / kWh) Ш







#### Key Indicators and Targets

					Targets	
	2022	2023	2024	2030	2035	2040
Total emissions (tCO <sub>2</sub> eq)	98,227	91,930	142,979			0
Emissions intensity (gCO2eq/kWh electricity produced and kWh thermal energy sold)	34	25	35	26		
Electric and e-fuel vehicles (%)	29	41	36	100		
Renewable energy in construction projects (%)					100	



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#### Emission figures 2024

#### Scope 1 Direct emissions from operation

GHG Emissions (tCO <sub>2</sub> eq)	2021	2022	2023	202
Reykjanes power plant	26,517	26,234	24,552	25,41
Svartsengi	65,025	67,822	67,378	110,64
Vehicles and machinery	158	144	133	16
Total	91,700	94,200	92,063	136,22

#### Scope 2

Indirect emissions from purchased energi

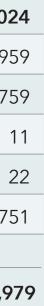
Scope 3

All other emissions associated with company's activities HS Orka produces its own electricity and heat. See scope 1.

GHG Emissions (tCO <sub>2</sub> eq)	2021	2022	2023	202
Fuel in construction projects	Not collected	7	281	95
Material purchases in construction projects	1,030	3,996	1,664	5,75
Waste disposal	4	8	9	1
Air travel	7	16	23	2
Total	1,041	4,027	1,978	6,75
Total GHG Emissions (tCO <sub>2</sub> eq)	92,741	98,227	94,040	142,97







increased by 44,131 tonnes from the previous year, thereof a 43,183 tonne increase in Svartsengi.

Total emissions are therefore 52% higher than in 2023 and the emissions intensity rose from 25 to 35 g/kWh.

The figure on page 19 shows the development in the Svartsengi wells where the increase in emissions is greatest between years. The biggest increase occurs in the most gaseous wells and wells that are directionally drilled in the direction of the dike.

The total emissions in 2024 were 142,979 tonnes, of which the direct emissions of greenhouse gases from power plants was 95% or 136,060 tonnes, which is an increase from 2023. The increase is due to the volcanic activity near Svartsengi.

This has also led to a significant increase in emissions intensity in 2024, from 25 gCO2eq/ kWh to 35 gCO2eq/kWh.

The renewal needs of vehicles owned by HS Orka were such that during the year the proportion of vehicles powered by electricity or e-fuel decreased from the previous year. The aim is to increase this ratio over the coming years towards a full energy transition.

#### Scope 3

Since 2021, efforts have been made to better understand our scope 3 greenhouse gas emissions, and this work will continue. The company's main challenges are access to information since only a small percentage of suppliers have had their carbon footprint assessed. In such cases, the company has reported information on the products and materials that weigh the most in construction projects.

Suppliers have provided information about the mass of the heaviest raw materials and HS Orka uses available information on the global warming potential (GWP) of comparable raw materials to estimate the emissions of procured products. However, this assessment does not cover the energy consumption, waste or other raw materials used in production.

- In 2024, scope 3 emissions included air transport, waste from operations, expansion and drilling projects in Svartsengi, fuel consumption from the Svartsengi expansion and drilling projects, and emissions from essential supplies for the expansion work in Svartsengi and drilling projects.
- The company used conversion factors published by the UK Government in calculating emissions due to waste management. Last year, the UK Government updated the conversion factors that



HS Orka uses. The update affects emissions from waste management in the last year; the adjusted GHG emissions are 3 tonnes higher than those reported in last year's report. The value has been corrected and the totals are consistent with the corrected value.

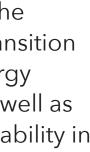
#### Key actions and projects

• Carbon dioxide emissions from HS Orka's geothermal power plants are by far the largest factor in the company's climate accounting. The company's climate actions take this into account where projects relating to e-fuel production can play a major role (See the special section on this in HS Orka's 2023 Sustainability Report). At the same time, possibilities related to reinjection or storage of carbon dioxide in the ground are also considered.

• HS Orka's focus on the circular economy can also have a major impact on the company's emissions intensity, i.e. by putting underutilised resources into use. The company can reduce its emissions intensity through measures aimed at reducing the emissions of greenhouse gases. The intensity can also be reduced through increased electricity and thermal energy sales.

• HS Orka's operations are primarily powered by renewable electricity, but the company is still dependent on fossil fuels to run part of the company's vehicles, machinery and the backup power system. In addition, the indirect use of fossil fuels occurs in the company's value chain,

air travel and new construction projects. The company has set targets for the energy transition of its own fleet of vehicles and for full energy transition in new construction projects, as well as systematically working to promote sustainability in the value chain.



### Natural Emissions from Geothermal Areas

In 2024 there was a significant increase, or 64%, in  $CO_2$  emissions going through the processing channels of the Svartsengi power plant.

HS Orka attributes these emissions to the seismic activity that began with the magma intrusion on 10 November 2023 and the volcanic eruptions that followed. During the year, monitoring of the geothermal area was increased significantly to gain a better understanding of the nature of emissions caused by the seismic activity, and the company's scientists are also investigating the natural means by which CO<sub>2</sub> is released from the magma to the surface.

### Categorisation of Geothermal Energy in Emissions Accounting

In the HS Orka's opinion, there are reasons to argue that these emissions, as well as other CO<sub>2</sub> emissions from the company's geothermal areas, should be treated as natural rather than man-made emissions. However, the Icelandic government has decided that emissions from geothermal power plants should be considered man-made emissions and counted as per the IPCC calculation rules for fossil fuel emissions<sup>1</sup>. As a result, total emissions according to emissions accounting will increase by about 43 thousand tonnes in 2024, which is about 1.5% of the emissions that constitute ESR emissions in Iceland.

HS Orka would like to note that even if geothermal energy would not be classified as ESR emissions, the company believes it is appropriate to expect geothermal companies to prevent  $CO_2$ from going directly into the atmosphere from their processing channels, regardless of whether the origin of such emissions is considered natural or man-made. However, the right way is not to classify geothermal energy as ESR emissions, thus suggesting that the emissions are man-made. This has caused significant problems and could delay projects that have the potential to deliver real results in reducing emissions by utilising  $CO_2$ , e.g. for e-fuel.



#### Importance for Economical Energy Transition Projects

Regardless of whether these emissions are natural or not, much effort has been put into directing CO<sub>2</sub> from the company's processing channels back into use for RFNBO fuel production (renewable fuel of non-biological origin). Due to market conditions, potential EU subsidies, and the way in which emissions are treated in climate accounting, it is essential that such fuel be certified as renewable. The main threat to these projects is that fuels containing CO<sub>2</sub> from geothermal power plants cannot be certified as renewable unless it can be proved that the CO<sub>2</sub> would otherwise have emitted by natural means<sup>2</sup>. HS Orka has put considerable effort into explaining the company's perspective to Icelandic and foreign authorities, arguing that these are indeed natural emissions, i.e. emissions that would have occurred irrespective of the activities of the power plants; the emissions would simply have found a different route to the surface.

The quality of carbon dioxide from HS Orka's geothermal systems is particularly suitable for the production e-fuel. Gases from the processing channels of HS Orka's geothermal power plants have a high  $CO_2$  density, up to 90-95%, meaning that it can be used without further refining, which would otherwise be a costly and power-intensive process. Capturing comparable amounts of  $CO_2$  from the atmosphere as are estimated for the

company's most advanced e-fuel partnership, would require around 17 MW on a yearly basis. It would be a waste of over one billion ISK to emit the  $CO_2$  into the atmosphere, only to then capture it for the purpose of having the fuel certified as renewable.

### The Precautionary Principle in Environmental Law

HS Orka believes that the approach of considering the CO<sub>2</sub> that passes through the processing channels of geothermal power plants as man-made emissions also violates the principle of environmental law as defined in the Rio Declaration, i.e. the precautionary principle. The principle states that lack of scientific certainty should not be used to prevent cost-effective measures to prevent environmental damage. The precautionary principle is sometimes used with the argument that nature should be given the benefit of the doubt. HS Orka considers that to give nature "the benefit of the doubt" by considering emissions from geothermal power plants man-made contradicts the purpose of the precautionary principle. In view of current regulations, which prevent utilising CO<sub>2</sub> from geothermal power plants to produce renewable electric fuels, cost-effective measures to prevent environmental damage are being prevented. This is contrary to the very essence of the precautionary principle.

<sup>1</sup> This is explained in more detail in HS Orka's comments on the Climate Action Plan of 22 September 2024. See: 28b2a239-e378-ef11-9bc5-005056bcce7e

<sup>2</sup> This was discussed in HS Orka's 2023 Sustainability Report.

## **Own Energy Consumption**

The energy used in operations is mostly from HS Orka's own electricity and geothermal energy production, although part of the company's vehicle fleet, heavy equipment and backup power systems are powered by fossil fuels. Fossil fuels are also used indirectly in the company's value chain, air travel and construction projects.

- The use of non-renewable fuels increased between years. Volcanic activity ruptured the Rauðamelur line and disrupted power distribution to Grindavík, so HS Orka's diesel-fuelled backup system in Svartsengi had to be used more than is usually the case.
- The energy content of diesel and petrol has been updated to reflect changes in the conversion factors issued by the Department for Energy Security and Net Zero in the UK and utilised by HS Orka. This leads to a slight increase in the use of non-renewable energy. Historical data have been updated.
- The volcanic activity caused office operations to be moved out of Svartsengi, reducing the number of users of electric charging stations covered by HS Orka's measurements. This explains the lower values for renewable fuel in the form of electricity.

- Hydrogen consumption decreased from the previous year due to a shrinking of the company's hydrogen fleet.
- There was a slight reduction in electricity use from 2023 while heat use increased. The latter is due to the leasing of new office space in the capital area and in Reykjanesbær.
- The company's energy intensity is the ratio of its own consumption of produced electricity and sold heat.
- Energy that is sold according to estimations (not measured) is not verifiable and therefore not counted as a percentage of the energy sold, and thus the energy intensity is possibly slightly overestimated.
- The decline in own use is the largest influencing factor, so there was a reduction in energy intensity in 2024 compared to 2023, despite the increased heat and fossil fuel use.

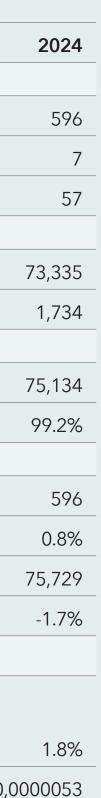


#### **Development of key metrics**

Own energy consumption (MWh)	2019	2020	2021	2022	2023	
Fuel						
Non-renewable fuels (diesel and petrol, in MWh)	832	591	660	550	498	
Renewable fuel (hydrogen, in MWh)			21	65	42	
Renewable fuel (electricity, in MWh)				21	78	
Electricity and heat						
Electricity (renewable, in MWh)*	68,045	68,176	69,464	73,876	74,899	
Heat (renewable, in MWh)**	1,484	1,484	1,484	1,484	1,484	
Use of renewable energy						
Total renewable energy consumption (MWh)	69,529	69,660	70,969	75,447	76,504	
Proportion of renewable energy (%)	98.7%	99.1%	99.0%	99.3%	99.4%	
Use of non-renewable energy						
Total non-renewable energy consumption (MWh)	899	637	711	550	498	
Proportion of non-renewable energy (%)	1.3%	0.9%	1.0%	0.7%	0.6%	
Total own energy consumption (MWh)	70,428	70,297	71,680	75,996	77,002	
Year-on-year decline/increase (%)		-0.2%	1.9%	5.7%	1.3%	
Energy intensity						
Energy intensity (MWh of own energy consumption per MWh of electricity produced and MWh of heat sold)	2.3%	2.4%	2.5%	2.6%	2.1%	
Energy intensity (MWh/total revenue in ISK)					0.0000058	0,0

\* Also includes power losses

\*\* Heat consumption in Svartsengi, Reykjanes power plant and partly in HS Orka's offices in Kópavogur is estimated.



### Climate Risk Assessment 2024

During 2021-2023, the company conducted a climate risk and opportunity assessment in accordance with the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations. TCFD has now been integrated into the ESRS standards but the requirements and recommendations have not changed much.

The assessment still involves identifying the scope and financial impact of risk factors and opportunities according to different climate change scenarios. The assessment is intended to highlight the factors that can have the greatest impact on a company, so they can be managed to minimise their impact. The risk assessment is reviewed annually and the main risk factors recorded in the company's risk model.

Apart from the seismic and volcanic activity, HS Orka's operations have not changed fundamentally between years, and the climate projections of the United Nations and the Icelandic authorities used in the last risk assessment are still valid. The 2024 climate risk assessment has therefore remained largely unchanged, although steps were taken to adapt it further to the requirements of ESRS E1 Climate change. The assessment covers the

operations of the company in their current form, i.e. the operation of the Reykjanes power plant, Svartsengi, freshwater sources in Lágar and at Sýrfell, the Brú and Fjarðará power plants, and the value chain.

#### **Four Scenarios for Climate Development**

As before, the assessment is based on four scenarios, with future impact assessed for a period of up to 50 years. The criteria for financial effects in the scenario analysis is consistent with the criteria used in the company's risk model. The technical approach of the risk assessment is further described in previous sustainability reports.

Despite the results of the risk assessment, which indicate that the climate resilience of the operations with regard to climate change is largely good, the assessment decisively shows an increased impact and an increase



RCP 1.9	RCP 2.6	RCP 4.5	RCP 8.5
Assumes that global warming will be	Focuses on limiting global	Assumes that global warming	Global warming
limited to within 1.5°C. Drastic measures are	warming to within 2°C.	will be limited to within 3.0°C.	exceed 4°C. This
taken to curb the emission of greenhouse	Radical measures are	Actions are implemented and	the most extrem
gases. The global peak of greenhouse gas	taken to curb the emission	results achieved at a slower pace.	scenario. Little of
emissions will occur before 2026. Carbon	of greenhouse gases.	Emissions will not change until the	no action is taken
neutrality will be achieved around 2060 and	Carbon neutrality will be	middle of the 21st century. Carbon	curb greenhouse
thereafter be negative.	achieved around 2070.	neutrality will be reached by 2100.	emissions.

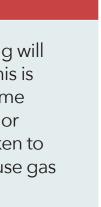
in the risk assessment under the most severe climate scenario (RCP 8.5) compared to the other three. At the same time, it is clear that measures to mitigate climate change, such as the development of infrastructure for e-fuel production or investments in reinjection, can entail significant costs.

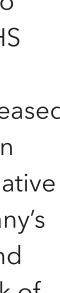
Weather conditions do not have a direct effect on HS Orka's geothermal and hydroelectric power plants. The Brú and Fjarðará power plants do not depend on glacial water, which will decrease

in the latter half of the century according to the most pessimistic climate projections. HS Orka's assets are not located in hazardous areas in terms of weather-related risk. Increased fluctuations in precipitation, as predicted in climate change scenarios, may have a negative effect on groundwater levels in the company's precipitation-dependent water sources, and extreme precipitation may increase the risk of pollution in water sources.

Transition risk	
Strategic and legal environment	Increased legal requirements, e.g. the cost of GHG emissions.
Technology	The cost of introducing new technologies that contribute to reducing GHG emissions.
Market	Increased cost of raw materials.
Physical risk	
Precipitation	Operational disruptions to water sources due to extreme precipitation patterns.
Higher sealevels	Disruptions in Reykjanes power plant due to proximity to coast.
Opportunities	
Power sources	Increased demand for renewable energy and opportunities in the sale of $CO_2$ for e-fuel proc
Goods and services	Increased access to funds through active climate action.

#### Examples of registered risks and opportunities







# Resource Park and Multi-Use of Resources

A key element of HS Orka's policy on responsible resource utilisation is to ensure that energy and resource streams derived from geothermal power production are used to their fullest potential. The Resource Park is a multiuse park where resource streams from HS Orka geothermal power plants are further utilised by a cluster of companies in their vicinity. All of them utilise more than one resource stream from HS Orka.

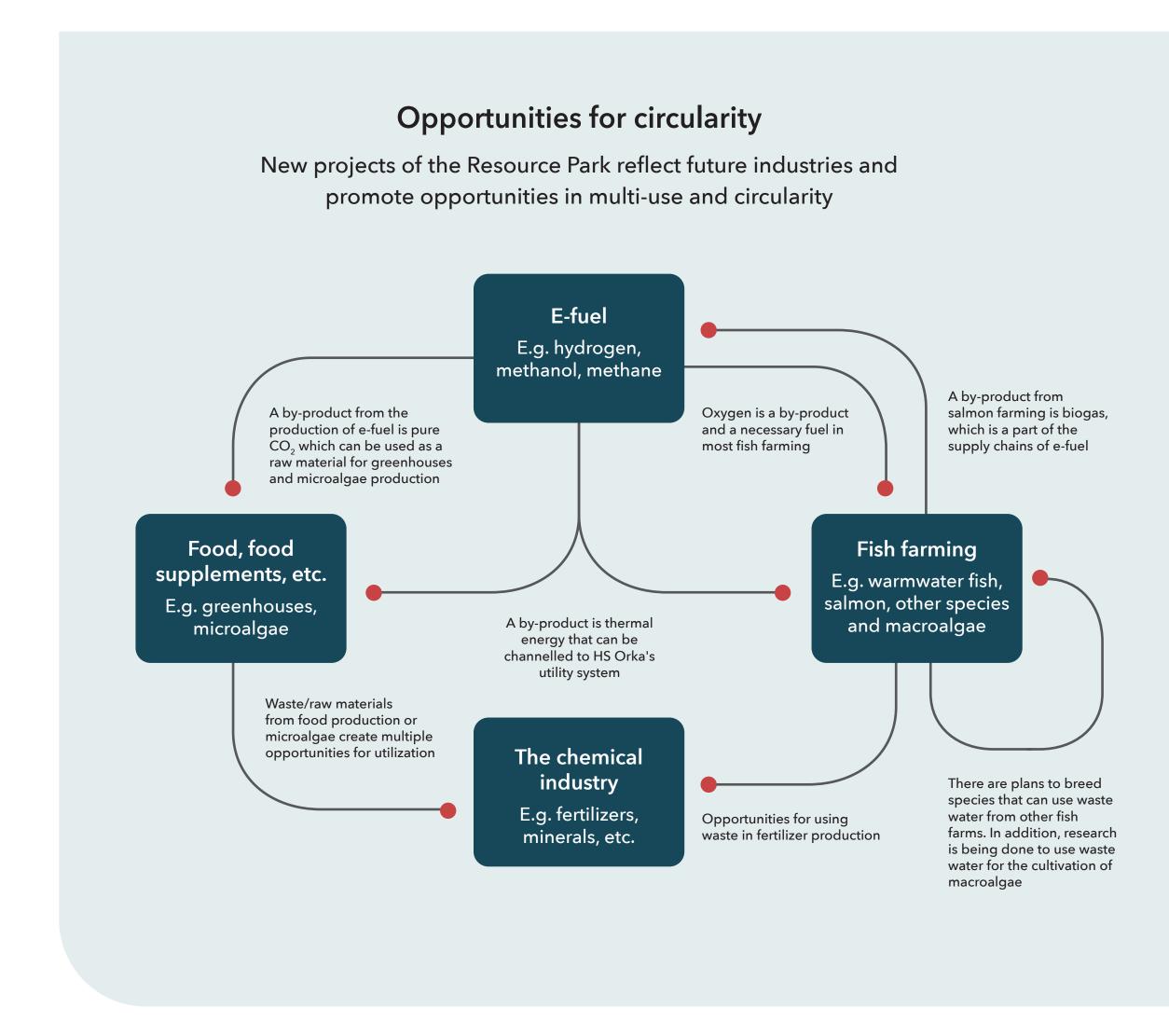
This multi-use approach contributes to increased efficiency and sustainability, while minimising waste in both production and the value chain.

### Multi-Use of Resource Streams and Circular Development

The Resource Park is managed by the Strategy & Improvement department. Emphasis is placed on developing methods and projects that focus on the full utilisation of unused streams from energy production, as well as on developing a circular economy in the vicinity of the company's geothermal power plants, where the companies in the park share resource and waste streams. The success of the Resource Park is assessed by the progress made in terms of sustainability, multi-use of resources, and the development of a circular economy. A major part of this journey involves attracting and recruiting companies that provide opportunities for multi-use and further development of the circular economy within the Resource Park.

#### Focus Points in 2024

In 2024, efforts continued to support companies already developing projects within the Resource Park, while less emphasis was placed on seeking new projects. Additionally, steps were taken towards developing a formal framework for multiuse and circular economy in the Resource Park.



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#### **Eco-Industrial Park and Development of Performance Indicators**

Icelandic authorities are working to increase Iceland's competitiveness with a focus on sustainability and a clear value proposition. The "product" being marketed is "Eco-Industrial Parks", which appear to be an important factor in the draft assessment of the eligibility of investment projects for the "Green Carpet" project. Its purpose is to increase the efficiency and coordination of the administration, and accepted projects should benefit from this without any reduction in requirements; quite the opposite, in fact.

However, there is no clear definition for ecoindustrial parks. HS Orka and the companies already directly connected to HS Orka's power plants are probably the best-suited community in Iceland when it comes to developing clear criteria and performance indicators for eco-industrial parks, based on international standards. A project that aims at such formalisation was therefore launched during the year along with the Regional Development Agency for the Reykjanes Peninsula and the companies in the vicinity of Reykjanes Power Plant.

If successful, companies within an eco-industrial park that meet its requirements should be at an advantage, for example, in marketing and

financing, compared to similar companies that don't have the support of the park. The goal of such formalisation is also to prevent greenwashing and to ensure that the community is certain that the operation within such a park actually contributes to increased sustainability and has a positive impact on the environment.

#### Land-Based Fish Farming

Construction on Samherji's land-based fish farm near the Reykjanes Power Plant began in November and is progressing well. Production is expected to commence in late 2026. In the first phase of the project, the annual salmon production will be about 10,000 tonnes. The farm receives warm seawater from HS Orka's power plant, and by mixing the warm seawater with cold seawater, an ideal temperature for salmonid growth is reached, increasing their growth rate. This multi-use of resources is one of the fundamental premises of the project. Additionally, Samherji and HS Orka are exploring possibilities to better utilise other waste streams and by-products from the area.

#### **E-Fuel Production**

Continued work on the Swiss Green Gas International (SGGI) project, which aims to build a factory to produce e-fuel in the Resource Park next to the Reykjanes power plant, is progressing



well. The project has been revised, in part due to the geological events close to Svartsengi, and the intended product is now methanol instead of methane. The environmental impact assessment for the amended project is ongoing, as is design and contractual work.

SGGI's production will support the multi-use of resource streams from the Reykjanes Power Plant and increase opportunities for circularity. Thus, the operation is expected to use electricity, raw gas rich in CO2, brine, and freshwater from the power plant, as well as creating by-products such as oxygen and heat, which could be used within the Resource Park, as well as the potential for producing purified CO2 and hydrogen. HS Orka's 2023 Sustainability Report includes a discussion of the potential climate impact of such a project.

#### **Upcoming Projects and Targets**

- Developing and supporting the following projects:
- Samherji land-based farming
- SGGI for e-Fuel production
- Sæbýli and Hið Norðlenzka Styrjufélag landbased farming in collaboration with Stolt.
- Capture an increased amount of waste streams from our power plants for multi-use. This target includes a heat exchange project to capture waste heat and increase the supply of hot water.
- Gain a comprehensive view of the current and potential future utilisation of freshwater resources

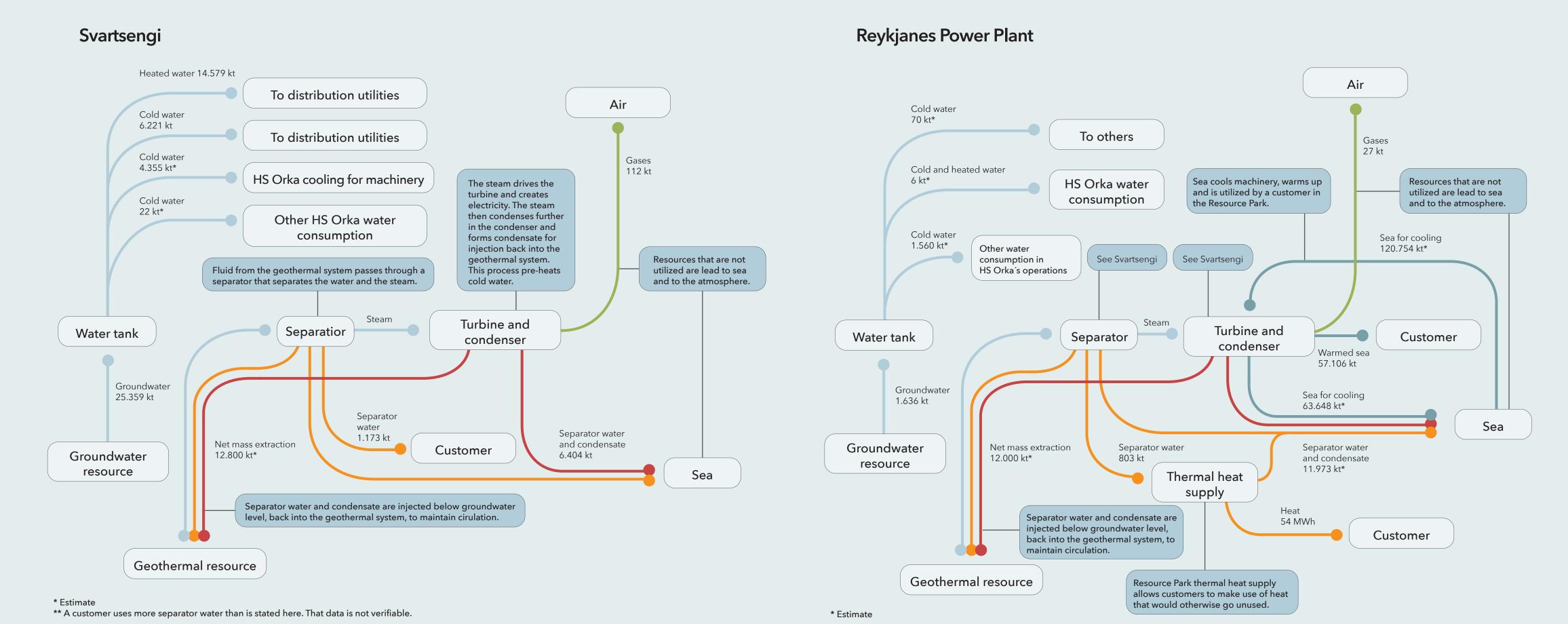
in the Reykjanes Power Plant area to ensure sustainable utilisation.

• Develop a framework and performance indicators for an eco-industrial park with the companies directly connected to the Reykjanes Power Plant, and in cooperation with the Regional Development Agency for the Reykjanes Peninsula.



### **Resource Streams**

The figures show how groundwater and geothermal resources in Svartsengi and the Reykjanes Power Plant are used by HS Orka, the companies in the Resource Park and the distribution utility in the Reykjanes Peninsula. The data is partly based on measurements in HS Orka's database. Where direct measurements are not readily available, numerical data is estimated from other measurements.





### Waste Management 🥥

A key element of HS Orka's strategy is to reduce waste in its operation and fully utilise the resource streams and by-products generated. By implementing a circular economy mindset, we ensure that materials and products remain in use for longer, reducing the need for new raw materials and decreasing the environmental impact of production. This contributes to economic benefits, lower GHG emissions and reduced resource waste.

The company's waste management targets are mostly focused on sorting. Increased sorting rates means that a larger proportion of waste is likely to become part of the circular economy. HS Orka actively monitors the sorting and treatment of waste in operations and construction. Waste metrics are monitored and periodically disclosed to key stakeholders. On-site inspections were carried out at the company's premises and any irregularities rectified.

Total waste increased in 2024 due to the expansion at Svartsengi. Meanwhile, the volume of landfilled earth materials is considerably higher than in the previous year due to earthworks for construction at the Svartsengi Power Plant. Earth materials were

also generated by drilling operations and the operation of Reykjanes Power Plant.

#### **Scalings with Enhanced Levels of Radioactive Material**

Reykjanes power plant utilises energy from a geothermal reservoir containing natural elements with enhanced levels of radiation. These elements are transported by geothermal fluid and steam to the surface, where the change in pressure causes them to precipitate and form thin scaling on wellheads. These scaling deposits are cleaned annually, and the radiation measured in them is slightly above the limit value for health protection. HS Orka has the required licences from the

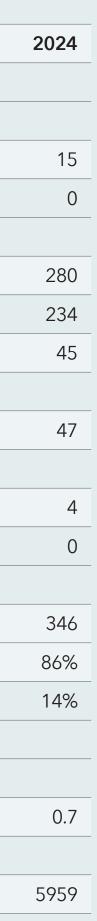


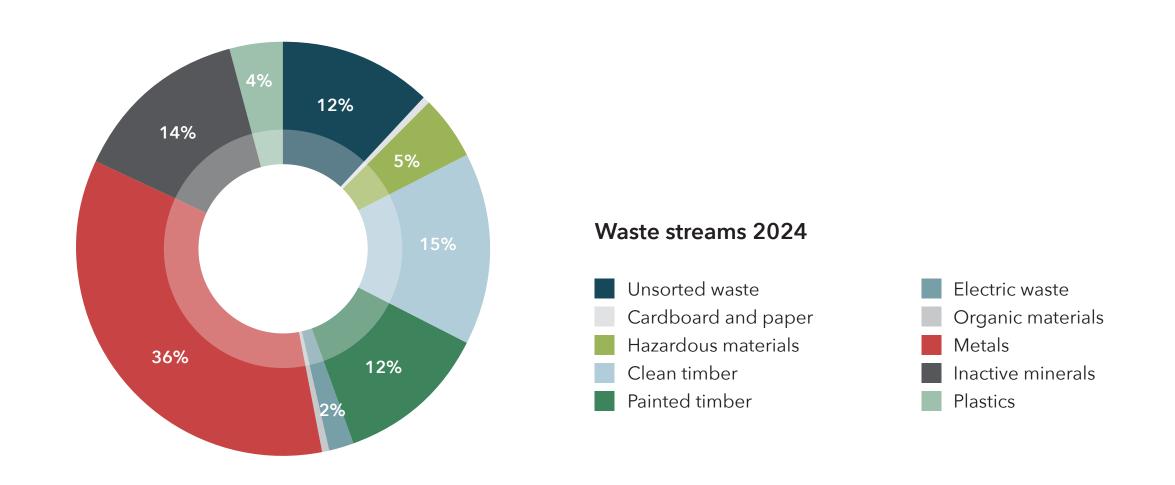
#### Treatment and disposal of waste

	2022	2023
General waste		
Hazardous waste (t)		
Saved from disposal*	9	13
Sent to disposal	0	0
Other waste (t)	, 	1
Saved from disposal (t)	447	132
Recycling	393	107
Energy production	54	25
Sent to disposal		
Landfill	85	21
Fluids from oil/water separators (t)	, 	1
Saved from disposal	0	1
Sent to disposal	0	0
Totals		1
Total amount of waste (t)	541	167
Saved from disposal (%)	84%	87%
Sent to disposal (%)	16%	13%
Special waste		1
Scales with enhanced levels of naturally occurring radioactive mate	erial (m3)**	
Local storage	0.7	0.7
Earth materials (t)**		
Buried in HS Orka's landscaping area	800	7,735

\*Hazardous waste is incinerated, and the bottom ash is used as a cover in landfills.

\*\*Estimated volume





Icelandic Radiation Safety Authority for the handling and storage of these materials, and the amount of scaling remains stable from one year to the next.

#### **Targets and Indicators**

HS Orka's target for 2024 was to achieve 86% waste sorting, measured as a percentage of the gross weight of waste. The waste sorting target is linked to the company's green financing and was achieved in 2024, with more than 88% of waste sorted. The company intends to increase the scope of monitoring for the sorting of waste, both in operations and construction, with the aim of further increasing the percentage of sorting in accordance with the targets set.

Sorting of waste - results and goals				Go	als
	2022	2023	2024	2025	2030
Sorted waste (%)	88.6	85.6	88.3	87	92

## Nature Conservation and Monitoring

The laws of ecology underline the interactions of all environmental factors. All actions have an effect, and HS Orka's activities are no exception. Human society relies on healthy ecosystems for vital resources and climate balance.

Various external requirements are therefore imposed on energy companies such as HS Orka to monitor the impact of their operations on ecosystems within their areas of influence. This is part of ensuring sustainable operations, and through regular monitoring, negative developments can be addressed if needed.

#### **Monitoring Plans**

HS Orka has defined monitoring plans for its main areas of influence. Monitoring plans for water sources are based on continuous measurements of physical and chemical properties and frequent sampling. There is also continuous monitoring of the concentration of hydrogen sulphide in the atmosphere in Grindavík and its vicinity. Other monitoring plans are based on annual sampling.

For the past few years, conditions in Arfadalsvík, which is on the Nature Conservation Register, have been investigated and compared to conditions before HS Orka's pipeline was taken into use. The results show that the number of seashore species has not decreased, but the biomass of algae has changed. Relatively high concentrations of copper, nickel and cadmium were detected farther from the outlet of HS Orka's pipeline, but not closer to it. Higher concentrations of zinc and selenium were also measured compared to previous years. It is possible that this is due to natural variability, which is considerable in this area. Many environmental parameters shape the ecosystem, and research has shown that these changes cannot be linked to the activities of HS Orka.



#### **Run-Off from Reykjanes Power Plant**

Studies on the effects of run-off from Reykjanes power plant on the marine environment have been carried out since 2013. Annual measurements have shown a measurable effect on the concentrations of the trace elements lead and zinc in rockweed closest to the outlet, as well as a significantly higher concentration of silica in seawater sampled in the same area. These changes can be traced to run-off from HS Orka's plant. However, studies have not revealed negative effects on the coverage of species or taxonomic composition on the shore.

#### **Air Quality Measurements**

HS Orka monitors hydrogen sulphide levels for Grindavík residents in accordance with Regulation No. 514/2010 on the Concentration of Hydrogen Sulphide in the Atmosphere. Hydrogen sulphide is released from geothermal systems with steam and geothermal fluids and follows the latter through the company's processing channels before being emitted into the atmosphere. 1,391 tonnes were emitted at Svartsengi, up by 13% from the previous year. This increase may be attributable to the seismic activity in the area, as emissions of greenhouse gases, especially CO2, increased sharply at Svartsengi from one year to the next. At Reykjanes power plant, hydrogen sulphide emissions increased by 10%, up to 1,550 tonnes. This increase can be traced to an increase in electricity production.

#### **Monitoring of Water Sources**

Monitoring of drinking water quality in the company's water sources at Sýrfell and in Lágar is performed by the Suðurnes Health and Environment Office and HS Orka. Both parties' measurements showed that drinking water fulfilled requirements during the year.

The Suðurnes Health Authority monitors operations at Svartsengi and at Reykjanes power plant in accordance with the operating licences. The South Iceland Health Authority monitors the Brúarvirkjun plant, and the East Iceland Health Authority monitors the Fjarðarárvirkjanir plants. In 2024, the Suðurnes Health Authority carried out an audit of the company's sewerage system and HS Orka has been working on an improvement project following the results of that audit.



#### Monitoring at HS Orka's impact areas



#### Tungufljót

The dam of Brúarvirkjun's limits the flow of Tungufljót river.

Tungufljót is monitored in terms of the ecosystem.



#### **Reykjanes Basin**

A mixture of condensate, geothermal water and sea passes through Reykjanesvirkjun's channel to the sea in Reykjanes Basin.

The area is monitored in terms of chemical stress and the ecosystem.



#### Arfadalsvík

Condensate and geothermal water that cannot be utilised in Svartsengi is conducted by pipelines to Arfadalsvík.

The area is monitored in terms of chemical stress and the ecosystem.



Svartsengi Condensate and geothermal water are irrigated to the surface.

The area is monitored in terms of chemical stress.



**Freshwater wells** HS Orka operates water wells in Lágar and at Sýrfell. The area is monitored in terms of drinking water quality.

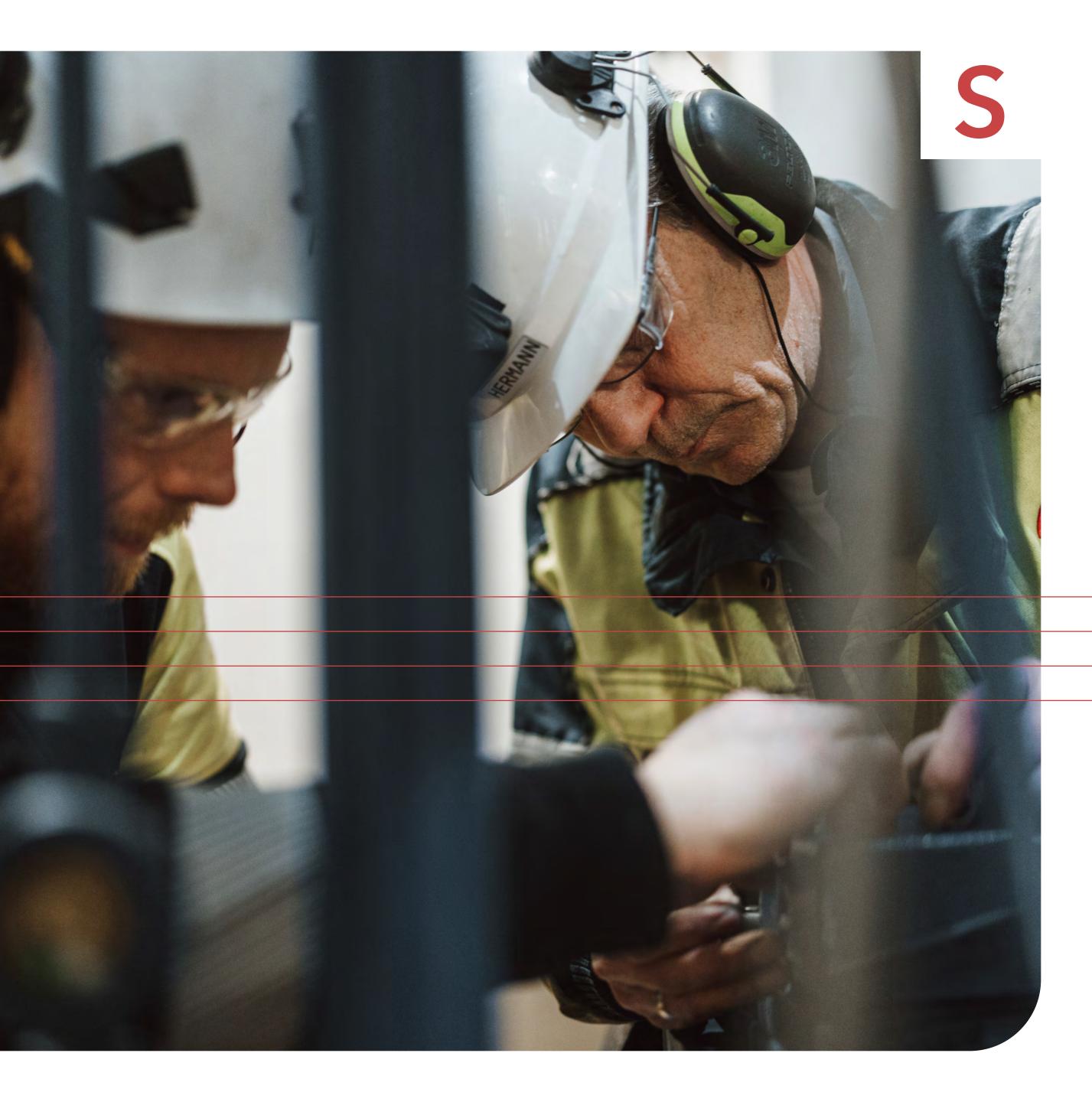


Grindavík

Among the gases coming from geothermal power plants is hydrogen sulphide. Air quality is monitored at the company's power plants and in Grindavík.

# Society

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## **Security of Power Supply and** Infrastructure 🥝

The core operation of the company is twofold: on the one hand the production of hot and cold water for the local community, and on the other the production of electricity for distribution nationwide.

The unprecedented seismic activity on the Reykjanes Peninsula has shed a clear light on the social importance of the company's infrastructure and production. This infrastructure provides hot and cold water to the communities on the Reykjanes Peninsula: homes, companies, schools, health institutions, ports and the international airport in Keflavík. The company produces electricity into the national transmission company Landsnet's main transmission grid for use throughout the country.

#### **Security of Supply**

The energy delivery reliability from HS Orka depends on one hand on the condition of HS Orka's assets and their operations, and on the other hand, the Landsnet distribution grid

and the HS Veitur Utilities and Grindavík Water Utilities distribution systems that bring HS Orka's products to its customers. The infrastructure of the transmission and distribution networks are therefore largely the responsibility of third parties. It is in the hands of HS Orka to ensure the condition of the production infrastructure and delivery reliability from the power plants. External conditions, such as natural hazards or changes in geothermal systems, can present challenges for the operation. HS Orka's responsibility is to provide qualified personnel to run the power plants, maintain assets and machinery, seek all means to ensure protection against external threats and draw attention to how the electricity transmission and distribution systems can be improved.



#### **Total electricity production**

	2021	2022	2023	
Electric power (MWh)	1,253,287	1,324,933	1,356,189	1,4

#### **Power plants**

	Percentage of total electricity production
Svartsengi	36%
Reykjanes power plant	54%
Brú power plant (hydropower)	6%
Fjarðará power plants (hydropower)	4%

Installed capacity	
Svartsengi	
Reykjanes power plant	
Brú power plant	
Fjarðará power plant	

will be 85 MW following the SVA7 investment project

#### **Electricity Production in 2024**

The company owns and operates two geothermal plants on the Reykjanes Peninsula, the Svartsengi power plant and the Reykjanes power plant. HS Orka also operates two hydroelectric power plants, Fjarðarár power plants in East Iceland, which were purchased in 2023, as well as the Brú-

#### Production of Hot and Cold water in 2024





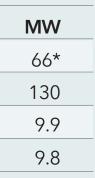
Cold water 6.221.000 m<sup>3</sup>

power plant in Biskupstungur, in South Iceland. In addition to its own energy production, HS Orka has sales contracts with smaller energy producers throughout the country.

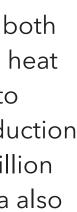
#### Hot and Cold Water 2024

HS Orka supplies local municipalities with both hot and cold water. The company uses the heat from the energy production in Svartsengi to produce hot water, and the hot water production corresponds to 791 GWh or about 14.6 million cubic meters of hot water in 2024. HS Orka also









manages the operation of the local municipalities' main water source in Lágar.

#### **Projects and Objectives**

- Complete the expansion and renovations in Svartsengi (SVA7). It is estimated that the project will be completed in late 2025 and the power plant will then be fully operational. The investment will increase the production capacity of the plant as well as the security of electricity and hot water supply.
- Mapping of possible new areas for the processing of drinking water continues in co-operation with the Regional Development Agency for the Reykjanes Peninsula. HS Orka is simultaneously working on mapping emergency water sourcing for Svartsengi within the embankments to increase response capabilities in Svartsengi.
- Work on a bypass and defences for part of the Njarðvík pipeline (hot water) will be continued. The aim is to find a permanent solution due to the persistent risk of volcanic activity.
- Drilling of the first deep exploratory well in the Sveifluháls and Austurengi areas in Krýsuvík is expected to take place during the coming year. In the spring of 2024, an agreement was reached with Hafnarfjörður municipality on exploration and utilisation of resource rights in Krýsuvík for hot water, freshwater and electricity production. Preparations for the next exploratory well in the area are underway and rig site construction is expected to begin later this year. At the

same time, a possible collaboration with Veitur Utilities, who have an exclusive licence for hot water distribution in Hafnarfjörður, is under consideration.

- Preparations for the Hvalá hydropower plant in Ófeigsfjörður in the Westfjords are ongoing. Planning changes are being made for preparatory work and a construction permit will be applied for once the changes have been approved by the district commission. The Supreme Court's decision on landowners' disputes regarding land boundaries is pending. The case could delay the start of construction.
- Wind power options are still in preparation, and wind force and birdlife are monitored in selected areas.



### SVA7 Investment Project

Installed power: 55 MW Financial scope: Over 12 billion ISK Average number of employees on site: 55 (2024)

Construction on the renovation and expansion of the Svartsengi power plant began at the end of 2022, and major project components were completed in 2024. The work has progressed well despite the challenging conditions due to seismic activity in the area. If everything goes as planned, production will begin in the new part of the plant before year-end 2025.

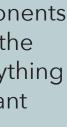
#### Principal project components in 2024

**Powerhouse:** Cast and largely finished. Significant work remains indoors. Pumping station: Cast and largely finished. Significant work remains indoors.

Geothermal areas: Anti-entrainment device installed and two-way piping completed.

**Condenser:** Partially moved into the powerhouse and assembled. **Cooling tower:** Load-bearing construction and cladding completed.









## **Preventive Measures and Contingency Plans**

HS Orka's preventive measures and contingency plans are always aimed at securing the safety of people and ensuring the uninterrupted operation of the company's power plants.

Safety plans are constantly reviewed, protective equipment has been significantly enhanced since the start of the Reykjanes eruption in early 2021, and the company's emergency management is well staffed and operational.

A total of six eruptions occurred in the Sundhnúkur crater row in 2024 and lava flows repeatedly threatened the company's infrastructure. On two occasions, a part of the operation was interrupted by damage caused by flowing lava, first in February when the Njarðvík hot water pipeline gave way to lava flow, and then in November when Landsnet's Svartsengi line was ruptured by heat from running lava. The response from all parties was robust and it took a relatively short time to resume normal operations.

We will now outline the principal actions undertaken in 2024 to strengthen HS Orka's preventive measures and thus better ensure people's safety and the security of supply, especially in view of seismic and volcanic activity.

### **Production and Delivery of Hot and Cold Water**

- Investment in a new subterranean hot and coldwater pipeline to Grindavík municipality. In cooperation with HS Veitur Utilities. Carried out in 2023 and 2024. Due to this project, hot water was delivered to Grindavík municipality just 24 hours after the older distribution pipelines were damaged by lava flow on 14 January 2024. The swift response in connecting to the new subterranean pipeline prevented frost damage to houses in Grindavík municipality.
- Construction of a subterranean hot water pipeline over a 700-metre section, from Svartsengi to Fitjar, where lava flow models predicted future lava flow. In cooperation with the Department of Civil Protection and Emergency Management. HS Orka oversaw the project, but costs were covered by the Department of Civil Protection and Emergency



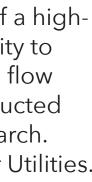
Management. The project was in its final stages when a volcanic eruption began on 8 February. A small part of the pipeline in the lava's path was still unprotected and therefore damaged by lava flows. Although the project did not produce the desired results, it did contribute to a shorter repair time.

- Construction of a new hot water pipeline instead of the one damage in lava flow on 8 February. The project was carried out in collaboration with the Department of Civil Protection and Emergency Management and various contracting companies. Access to repair materials was available in HS Orka's warehouse. The project minimised delays in the delivery of hot water to Reykjanesbær municipality. Hot water supply resumed on the morning of 12 February.
- Plant resilience increased with new backup power stations at Svartsengi. By using the back-up power stations, it was possible to maintain full control of the power plant's hot water production, even though electricity production was down due to damage to the high-voltage line from Svartsengi (Svartsengi line). The line was damaged by lava flow on 21 November. There was no interruption in the supply of hot water in that event.
- Work on laying new high-voltage power lines for freshwater pumping stations to replace the highvoltage lines damaged by lava flows on 8 February and 21 November. The high voltage lines ensure the up-time and resilience of the pumping station and thus the supply security of both hot water for domestic heating and cold drinking water.
- Collaboration with the Department of Civil Protection and Emergency Management to ensure access to water for the Department's lava cooling project.

• Collaboration with the Department of Civil Protection and Emergency Management in building a lava bridge over a 1km section of the hot water pipeline (in an area where lava flow models predicted potential future flow). The lava bridge ensures that flowing lava can pass over pipelines without rupturing them. A lava bridge consists of compressed soil beneath and over the pipeline, forming an inclined ramp over which the lava flows without pushing the pipeline out of place. The lava bridge is an innovation designed by engineering firms on behalf of the Department of Civil Protection and Emergency Management. Thanks to a lava bridge, which functioned according to plan, hot water was successfully delivered to Reykjanesbær when lava flowed over the pipeline on 21 November.

#### **Production and Delivery of Electricity**

- Construction of a temporary connection of a highvoltage power line to Grindavík municipality to replace the line that was damaged by lava flow on 14 January. Also, repair work was conducted for the line damaged in lava flow on 16 March. Carried out in collaboration with HS Veitur Utilities.
- Collaboration with Landsnet in elevating transmission towers on the Svartsengi line, including adapting operation of the power plant to construction work on the line.
- Collaboration with the Department of Civil Protection and Emergency Management in operating a backup power station at Svartsengi to supply electricity to the community in Grindavík municipality following the volcanic eruption on 21 November.





## **Reinforcement of District** Heating Utility 🥝

Hot water demand has risen steadily over the last few years, and plans by the municipalities continue to expect growth, both in the number of households and use by enterprises.

Svartsengi has been providing hot water for the entire Reykjanes Peninsula for the past few decades. It is expected that Svartsengi will continue to fulfill this role and increase its production capacity alongside the growth of neighbouring communities.

However, the resource at Svartsengi is not inexhaustible and, given the development plans of the municipalities, it will be necessary to harness more areas to meet demand. The recent seismic activity has shown that it is necessary to have active means of backup in the event of a prolonged halt to hot water production at Svartsengi. In the longer term, it is also desirable to spread development across more areas.

#### **Reinforcement of Production in Svartsengi**

In recent years, work has been undertaken to increase the production of hot water at Svartsengi, consisting of several independent projects designed to increase production capacity by 25%. Work on the following projects related to this were carried out during the year:

- Renovation and expansion of the preheating system (part of the SVA7 investment project).
- Renovation and expansion of the separation station providing heating and deaerator systems with hot liquid.
- Design for expanding heating and deaerator systems.
- Preparation for a new Njarðvík pipeline to increase delivery capacity from Svartsengi.
- Work on expanding the Grindavík municipality pipeline completed.

#### **Development of Backup Heating Resources** for Reykjanes Peninsula

Since the start of the volcanic activity near Svartsengi, HS Orka has been working in cooperation with the Department of Civil Protection and Emergency Management and HS Veitur Utilities to

provide backup heating resource for the district heating system in the Reykjanes Peninsula, which could be used in the event of prolonged hot water outages from Svartsengi. Following the rupture of the Svartsengi line, work on building emergency boiler installations and drilling for low-temperature geothermal resources began. The project was initiated by HS Orka. The Ministry for the Environment, Energy and Climate was responsible for financing and project management with the help of Verkís. HS Orka and HS Veitur Utilities have assisted the project by sharing their professional knowledge of systems and infrastructure.

The principal projects during the year were the following:

- Three boreholes were drilled in three locations near Reykjanesbær where hot water was considered most likely to be found. Each borehole is 1,000-1,500 metres deep.
- One exploratory drill produced satisfactory results: a well located at Rosmhvalanes, by the old U.S. army barracks named "Rockville", midway between Sandgerði and Keflavík. However, the temperature of the borehole is not high enough to deaerate the water, so steam boilers must be used for further heating.
- Four mobile deaerators were built. The deaerators receive steam from steam boilers, which is then used to heat cold water for domestic heating. The deaerators also use water from boreholes to reduce the need for steam from steam boilers.
  - Lease of oil-fuelled steam boilers for one deaerator.

• Installation of one deaerator at the lowtemperature geothermal well in "Rockville".

Further emergency response work has also been carried out by preparing the installation of more deaerators and the leasing of additional steam boilers. HS Veitur Utilities has been working on boosting the capacity of transformer substations to increase domestic heating with electricity. The response is based on utilising all possible measures in the event of a prolonged interruption to hot water production, namely: Production of hot water in deaerators (with steam boilers and low-temperature geothermal boreholes), domestic heating with electric radiators and curtailments for heavy users.

#### **Future Development of District Heating Utilities Outside Svartsengi**

HS Orka has co-operated with HS Veitur Utilities on developing a strategy and vision for district heating in the region, aiming to meet demand and diversify risk. The following options are under consideration: • Hot water production from the Reykjanes power

- plant.
- Development of Stóra-Sandvík near the Reykjanes Power Plant (a power option in the Master Plan's utilisation category).
- Low-temperature geothermal utilisation.
- Connections with the capital area.
- Utilisation of other streams besides geothermal energy, such as waste incineration or other industry.

### **Development Projects**

#### Hvalá Power Plant

- VesturVerk, which is majority-owned by HS Orka, has long worked on the preparation of the Hvalá power plant in Árneshreppur in Strandir. The plant will harness the flow of the rivers Hvalá, Rjúkandi and Eyvindarfjarðará and its estimated capacity is 55 MW with an annual output of 320 GWh. VesturVerk is also considering other power options in the Westfjords, including plants at Skúfnavötn (16 MW) and Hvanneyradalur (13.5 MW) in Ísafjarðardjúp.
- In 2024, investments were made in the continued development of the project, with a focus on researching catchment areas. Various improvements were made to the project related to design, organisation and permits.
- In autumn 2024, an independent third-party assessment of the project's preparation stage was performed, based on the global Hydropower Sustainability Standard. The assessment report is expected to undergo a public consultation process in the summer of 2025.
- An agreement was reached with Landsnet for the preparations of connecting Hvalá Power Plant to the distribution grid.

- Disclosure and communications with municipalities and stakeholders have been strengthened. In August 2024, an information meeting for the residents of Árneshreppur was held, which included a presentation by representatives from Landsnet.
- We are following the ongoing boundary disputes between landowners in Eyvindafjörður and Drangavík, which will be brought before the Supreme Court of Iceland in 2025. While VesturVerk is not a party to the case, the Supreme Court ruling may affect the progress of the project.

#### Krýsuvík

 The geothermal area of Krýsuvík is divided into four sections: Austurengjar, Sveifluháls, Sandfell and Trölladyngja. The prospect of harvesting geothermal energy in Krýsuvík has a long history, with Hafnarfjörður municipality and landowners in Sveifluháls and Austurengjar having shown an interest in the area for decades, both for generating electricity and hot water for urban district heating. Many shallow boreholes were drilled in Krýsuvík in the last century, but deep exploratory boreholes have only been drilled in Trölladyngja by HS Orka.



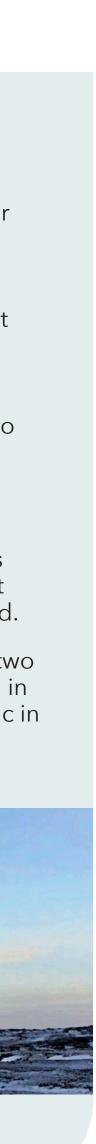
- During the year, a conceptual model of the Krýsuvík area was developed from scratch. The model combines geophysical, geological and geochemical data from the area, and was used to determine drilling targets for Krýsuvík.
- HS Orka has an exploration permit until 31
   October 2025 extending to all four sectors
   in Krýsuvík. In May 2024, HS Orka and the
   municipality of Hafnarfjörður signed an
   agreement authorising research, land use, lot
   lease, and utilisation of resource rights for the
   potential harnessing of resources in Krýsuvík.
- During the year, Hafnarfjörður extended HS Orka's development permit for exploratory drilling, and construction of a rig near Hverahlíð began in late 2024.

#### Wind Power

- HS Orka has three options for consideration under the Master Plan, along with an additional one through its subsidiary, VesturVerk. In particular, the prospect of a wind power plant in Reykjanes was followed up on as it is under discussion by project management over the course of the year. According to the preliminary categorisation by project management, this option is expected to be classified as pending, like the other nine wind power options under consideration by project management during the period.
- LIDAR surveying continued in two locations. A radar was installed in Reykjanes to monitor bird traffic in the area.



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# Safety and Work Environment

The purpose of HS Orka's occupational safety and health programme is to ensure that everyone who works for the company, both contractors and employees, returns home safely from work. The core of the program is employee training, risk assessment of tasks, and incident registration (HSE incident reports). The number of HSE incident reports is a sign of an active safety system that catches incidents. That makes it possible to learn from incidents and introduce improvements.

In recent years the main emphasis has been on the prevention of fatal accidents or serious, potentially fatal incidents. However, this emphasis does not change the importance of striving to prevent all accidents.

# Management of Topic

Matters relating to occupational health and safety fall under the Technical Services division where the safety manager manages and carries out daily operations relating to the topic. There is a steady flow of information to the Executive Board and from there to the Board of Directors. The

status of objectives and key occupational health occupational health and safety are a collaborative and safety issues are reviewed at all process effort between everyone in the company. Risk council meetings. Information is disclosed to assessments for safety and health follow the staff by various means, both formal, such as same processes as the company's other risk through training and monthly staff and safety controls. The approach is discussed under "Risk meetings, and informal, such as through daily Assessment and Critical Controls" in this section. communication with staff and management.

HS Orka has a safety council, which is composed of the CEO, the EVPs of Technical Services and Operations, the safety manager, Operations supervisors, and staff safety representatives. The council's monthly meetings are intended to ensure that decisions and messages relating to



#### Key HSE Indicators 2024

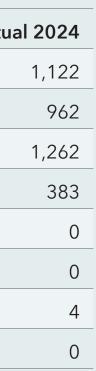
		Targets	Actu
	HSE incident reports	600 over the year	
ding	Closed HSE actions	600 over the year	
Leading	Take five	960 over the year	
	Number of HSE reviews/	240 over the year	
	Lost time incidents	0	
ging	Environmental incidents	0	
Lagging	Medical treatment cases	≤ 4	
	First aid incidents	≤ 4	

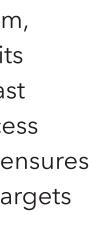
# **Occupational Health and Safety Policy**

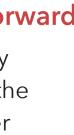
• HS Orka's Occupational Health and Safety Policy The policy describes how we must all work together to create a good safety culture and strive for the objective that no one gets hurt while working for HS Orka. The policy is part of the company's internal management system, and the safety manager is responsible for its development. The policy is reviewed at least every two years and submitted to the process council for approval. The Executive Board ensures that the policy is implemented by setting targets and ensuring appropriate measures.

# **Principal Projects in 2024 and Going Forward**

• This year's projects were largely shaped by the danger posed by seismic activity and the emergency response of HS Orka and other responders. We will continue to focus on







continuous review and improvement as regards the risk caused by seismic activity.

- Management and follow-up on occupational health and safety in the expansion and renovation project at the Svartsengi plant has been a major part of recent work under the topic. The fact that the project site is within the embankments and in a geologically hazardous area, has had a significant impact on this work.
- Technical solutions will be developed to make it easier for managers to verify that the defined critical controls, such as the Golden Rules, are always used.
- During the year, a comprehensive review of contractor management in construction projects and small and medium-sized investment projects will be undertaken. Some of the planned improvement projects are intended to improve risk controls and follow-up on compliance with HSE requirements in the wide range of work carried out by contractors in HS Orka's operating areas.

## **Targets and Results 2024**

The table shows an overview of HS Orka's key performance indicators (KPIs) in HSE matters, as well as targets and results for the year 2024. In short, all HSE targets for the year were met. The fact that the performance of certain indicators far exceeds targets warrants raising targets, as shown in the table for the 2025 targets.

In 2024, a total of 1,122 notifications were received

concerning safety, health, and the environment. Thereof, four incidents required emergency room treatment and four were "near accidents". No workrelated incidents have been reported or are known to have occurred where employees have suffered permanent injuries. The total number of hours worked by employees and contractors in HS Orka's work areas was 371,207 hours, with a lost time incident frequency rate (LTIFR) of 0 per 200,000 working hours. The recording of contractor hours is not complete and some of the smaller tasks done by contractors are missing from the total.

### **Risk Assessment and Critical Controls**

A summary of risks, critical controls, and risk levels from the job safety analysis for each risk category is recorded in the company's risk register. The figure shows a risk matrix that clarifies the level of risk after the application of controls, i.e. residual risk. Contractors who carry out larger tasks for the company submit a risk assessment before the work starts. The risk assessment is part of the work permit for the contractor's temporary and occasional tasks. "Take five" is a short and simple risk assessment that anyone can do for simple tasks that have not been systematically risk assessed.

The assessed risk level of all identified risk categories under the topic can be seen in the picture. The first matrix shows the risk level before



#### **Risk score before mitigations (Inherent risk)**

		Inherent Impact					
		Negligible	Low	Medium	High	Severe	
Inherent probability	Almost certain						
	Very likely		1	2			
	Likely			2	6	7	
Inherer	Unlikely		1	1	5	4	
	Very unlikely						

#### Risk score after mitigations (Residual risk)

		Residual Impact				
		Negligible	Low	Medium	High	Severe
Residual probability	Almost certain					
	Very likely	1				
	Likely					
Residua	Unlikely			2	3	4
	Very unkikely	2		4	7	6

the implementation of critical controls, and the second after their implementation.

# **My Golden Rules**

Where risk assessments have revealed the possibility of the most serious consequences, such as fatalities or severe permanent negative effects on the quality of life, critical safeguards called "My Golden Rules" have been defined. These rules are simple and easy for everyone to understand and enforce, as indicated by their name. The rules apply to all work carried out on behalf of HS Orka and form an important part of the regularly

scheduled reviews for larger construction projects. The Golden Rules are presented and visible to everyone entering the work areas. Below is an example of how the Golden Rules are displayed in HS Orka's work areas.

# Targets for 2025

- The 2025 targets will be as shown in the table.
- The same indicators used in recent years will be used in 2025. However, work will be undertaken to develop and adapt new indicators that, among other things, better measure the daily effectiveness of critical controls.

		Targets
	HSE incident reports	800 over the year
Leading	Closed HSE actions	800 over the year
Lead	Take five	960 over the year
	Number of HSE reviews/	240 over the year
	Lost time incidents	0
Lagging	Environmental incidents	0
Lag	Medical treatment cases	<ul> <li>≤ 4</li> </ul>
	First aid incidents	≤ 4

#### Key HSE Indicators 2025





LOCK	LDEN RULES
	l identify energy sources
	I isolate energy sources
	I lock at lockout points
	I inform colleagues by tagging lockouts
	I verify by testing if the lockout is working
l en:	sure that it is safe to re-energize upon task completion
	LDEN RULES
	I analyze electricity
	I break the electrical circuit
	I lock at lockout points
	I inform colleagues by tagging lockouts
	I wear arc flash rated clothing
l en:	
MY GO	I wear arc flash rated clothing
MY GO CRAN	I wear arc flash rated clothing sure that it is safe to re-energize upon task completion
MY GO CRAN	I wear arc flash rated clothing sure that it is safe to re-energize upon task completion I Wear arc flash rated clothing I Wear arc flash rated clothing I Wear arc flash rated clothing HS ORKA I Wear arc flash rated clothing HS ORKA
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MY GO CRAN	I wear arc flash rated clothing sure that it is safe to re-energize upon task completion Image: Complete the second state of the second state
MY GO CRAN	I wear arc flash rated clothing sure that it is safe to re-energize upon task completion <b>IDEN RULES</b> <b>IDEN RULE</b>

# Human Resources and Equality 🥝

HS Orka strives to ensure that the workplace is characterised by professional knowledge, honesty, equality and mutual respect.

To meet the targets set, HS Orka has qualified, motivated and well-educated staff who assume responsibility and demonstrate progress in their work, respond to constantly changing needs and play an active role in the company's progress. We are constantly looking for opportunities and new ways to maintain good morale and improve job satisfaction.

# **Policies**

HS Orka's Human Resources Policy

The policy is reviewed annually and republished in HS Orka's management system. The policy undergoes an in-depth review at least every three years and is submitted to the process council for approval. The review, revision, and presentation of the policy is the responsibility of the Human Resources Manager. The Executive Board ensures that the policy is implemented

by setting targets and ensuring appropriate measures.

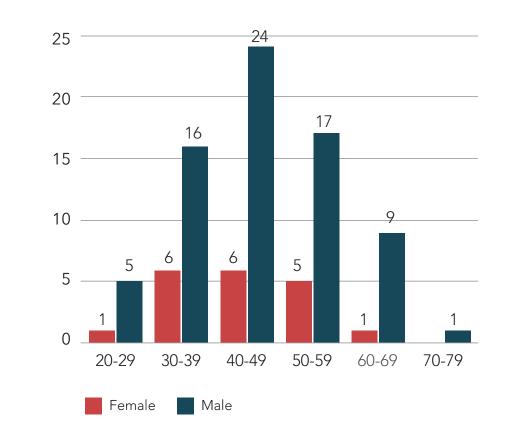
- Equality Policy (accessible to staff on the intranet)
- Policy Against Bullying, Sexual and Gender-Based Harassment and Violence (accessible to staff on the intranet)

HS Orka's policy is to ensure full equality between women and men and people registered as nonbinary with Registers Iceland, and that employees are valued regardless of age, gender, sexual orientation, ethnicity, skin colour, religion or political beliefs. This includes the right to work, facilities, flexibility, education and benefits for work of equal and/or equivalent value. With the above, HS Orka is acting in accordance with Act no 150/2020 on Equal Status and Equal Rights Irrespective of Gender.

Age distribution by gender



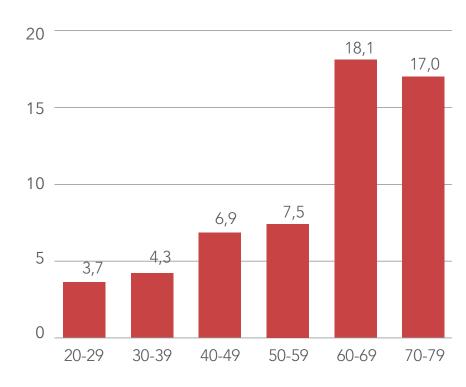
#### Development in the number of employees 2017 2018 2019 2020 2021 2022 2023 72 90 59 63 66 77 85



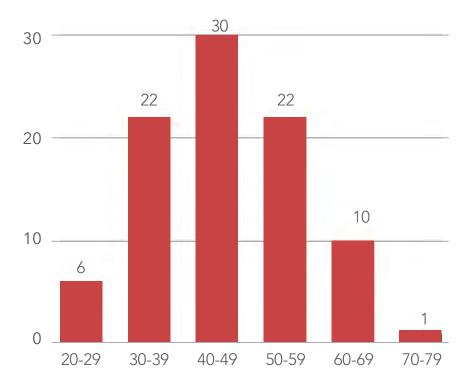
# **Projects and Indicators**

- Those who start working for HS Orka receive induction training related to safety, environmental issues, and information technology as well as other aspects related to the operations. Part of that training takes place on a learning network for employees. The average number of training hours for staff was 18 hours in 2024.
- As part of the training program, employees are invited to a performance interview at least once a

#### Average length of service by age group



#### Age distribution







2024	Skilled workers and specialised positions	Experts/project managers	Managers	Total		
Female	1	13	5	19		
% of the total	1%	14%	5%	21%		
Male	29	29	14	72		
% of the total	32%	32%	15%	79%		
Total	30	42	19	91		
Age distribution						
Under 30	5	1	0	6		
% of the total	5%	1%	0%	7%		
30 - 50 years	13	31	11	55		
% of the total	14%	34%	12%	60%		
Over 50 years	12	10	8	30		
% of the total	13%	11%	9%	33%		
Total	30	42	19	91		

#### Gender breakdown and the nature of the work

year with their immediate superior. Participation in performance interviews was 89% in 2024.

- In 2023, monthly human resources metrics were introduced to monitor employees' well-being and other factors such as job satisfaction, work conditions, and workplace well-being. Average job satisfaction in 2024 was 8.2 out of 10, which is 0.5 above the average for companies measured.
- was 76% (2023: 81%).
- In 2024, staff participation in the health check-ups • HS Orka has an equal pay system in accordance with the 2018 equal pay standard ÍST 85:2012. A maintenance audit and reissue of the certificate • The right to parental leave is ensured by law. took place in November 2024. The total wages The total number of staff who went on parental of women according to a regression analysis leave during the year was five (one female and were 3.0% higher than the total wages of men, four male), a decrease of four between years. Everyone who completed their parental leave which is considered a statistically non-significant returned to work. difference.



#### New hires and end of employment

New hires	Female	Male	Total
Number	2	9	11
Percentage	18%	82%	100%
Age distribution	Under 30 years	30-50 years	Over 50 yea
Number	1	6	4
Percentage	9%	55%	36%

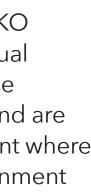
#### End of employment

End of employment	Female	Male	Total
Number	1	6	7
Percentage	14%	86%	100%
Age distribution	Under 30 years	30-50 years	Over 50 yea
Number	0	4	3
Percentage	0%	57%	43%

• In December, all staff participated in an EKKO survey (on bullying, gender-based and sexual violence and other forms of violence). These surveys are conducted on a regular basis and are important for a healthy working environment where everyone has the right to work in an environment characterised by respect and fairness.







# The Value Chain

HS Orka's value chain extends both domestically and overseas. More than six hundred suppliers provide HS Orka with important and often specialised products and services, enabling the company's value creation.

#### Transaction overview

	2022	2023	2024
Total transactions (ISK millions) with suppliers	6,549	6,158	10,711
Transactions (ISK million) with domestic suppliers	5,523	4,180	8,326
Transactions (ISK million) with suppliers abroad	1,025	1,978	2,385
Number of domestic suppliers	491	516	554
Number of suppliers abroad	47	70	92

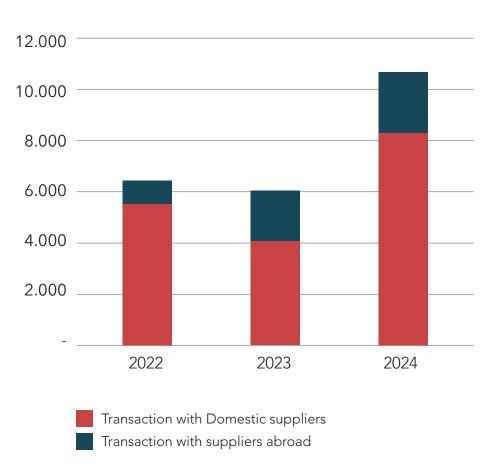
Transactions with suppliers includes all procurement of products and services. Applies for HS Orka hf. (the parent company)

# **Sustainability Assessment of Suppliers and** Follow-Up

In 2023, a sustainability assessment was conducted for 10 key HS Orka suppliers, followed by a risk analysis based on sustainability factors. In the first half of 2024, HS Orka met with

management teams from four key suppliers to review the sustainability assessment results and discuss expectations, communications and opportunities. In 2024, a sustainability assessment was conducted for 12 additional key HS Orka suppliers.





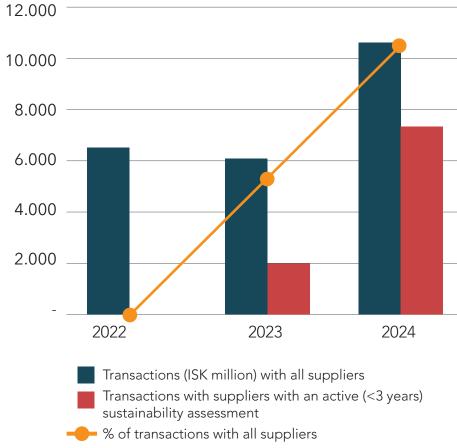
Transactions with suppliers 2022 - 2024

HS Orka's transactions with suppliers with an active (less than 3 years old) sustainability assessment more than tripled from 2023 to 2024, increasing from ISK 2.1 billion to ISK 7.3 billion. This increased their share of total procurement from 33.8% to 68.6%.

# **Collaboration with Reitun and EcoVadis**

In 2024, a sustainability assessment was carried out on 12 HS Orka suppliers. The assessments were conducted by the Icelandic analysis and evaluation company Reitun (10 suppliers) and the global rating agency EcoVadis (2 suppliers). In

Transactions with suppliers with an active (<3 years) sustainability assessment 2022 - 2024



SK

#### Supplier ratings in Reitun's 2023 and 2024 sustainability assessments



#### Transactions with suppliers with an active (<3 years) sustainability assessment\*

	2022	2023	2024
Transactions (ISK million) with all suppliers	6,549	6,158	10,711
Transactions with suppliers with an active sustainability assessment	0	2,082	7,346
% of transactions with all suppliers	0	33.9	68.6

\* Transactions with suppliers include all procurement of products and services. Applies for HS Orka hf. (the parent company)

Reitun's assessment, analysts collect information through interviews with the suppliers, while in the EcoVadis assessment, the suppliers themselves fill out a questionnaire and submit the relevant documentation for verification. For both companies, analysts are responsible for evaluating the data and performance on key sustainability factors, as well as assessing risk factors and opportunities for improvement.

Reitun's ratings are mostly average, with many suppliers rated B2, B3, and C1. Only one supplier is rated A. Three suppliers in 2024 are rated C2 and C3, which is subpar. One supplier received a red flag, which indicates high risk.

Reitun analyses how well suppliers meet specific criteria for key sustainability parameters. The results show, in particular, a lack of key parameters related to sustainability reporting

and review of ESG data, as well as equality policies, carbon footprint of sold products and measurement of environmental aspects.

#### Reitun's ESG supplier assessments - 2024

Key parameter	% of suppliers
Measurement of environmental aspects	60%
Environmental policy	90%
Carbon footprint of sold products	60%
ESG data reviewed	10%
Equality policy	60%
Supply chain framework	70%
Certified management system	70%
Sustainability report	30%



Two key foreign suppliers, both large companies, were assessed by the rating agency EcoVadis. This is the first time that HS Orka has worked with EcoVadis on the supplier sustainability assessment. As a part of this initiative, HS Orka itself underwent the EcoVadis assessment. HS Orka's sustainability assessment from EcoVadis is discussed later in the report, in the Governance section.

The results of EcoVadis's assessment of overseas suppliers are presented in a scorecard highlighting the key findings. One supplier received a score of 40/100. The other company received a score of 61/100 and a bronze rating, indicating that their performance is in the top 35% of rated companies. More detailed assessments are carried out for each sustainability factor, along with a list of key opportunities for improvement.

### **Projects and Objectives**

- Work on a comprehensive supplier policy for HS Orka.
- Development of sustainability guidelines and a new code of conduct for contractors.
- Third party audit of chain liability with major suppliers.
- Transactions with suppliers with an active sustainability assessment will be over 70% in 2025.

# **Procurement of Materials**

In accordance with the requirements of GRI standards, and now ESRS E1, the company has collected information on greenhouse gas emissions related to procurement for construction projects.

Emphasis is placed on covering the largest material streams. The ESRS E5 standard introduces new disclosure requirements regarding the resource inflows to the company. There are synergies between climate accounting according to ESRS E1 and data collection on material purchases, which

means that historical data from the start of the Reykjanes Power Plant expansion are available. The company aims to increase cooperation with suppliers on sustainability issues to improve transparency, data accuracy and promote continuous improvement.

#### Procurement by type of material

Material (t)*	<b>2022</b> <sup>1</sup>	<b>2023</b> <sup>2</sup>	<b>2024</b> <sup>3</sup>
Metals (t)	1,273	411	1,725
Minerals (t)	2,325	1,728	6,103
Oils (I)	56,862	51,334	89,500
Plastic and composite materials (t)	Not collected	Not collected	79

\* Data based on bills of quantities, information from suppliers and invoices.

<sup>1</sup> Construction work was underway on the expansion of Reykjanes Power Plant.

<sup>2</sup>At year-end, construction began on the expansion of Svartsengi.

<sup>3</sup> Construction work was underway on the expansion of Svartsengi.

# HS Orka and the Community

# **Stakeholders**

It is inherent in an infrastructure company like HS Orka that its activities involve numerous points of contact with various stakeholders. HS Orka considers it a key priority to collaborate with the community, and it is to everyone's benefit that this cooperation is based on high-quality communication and information sharing. The purpose of the sustainability report is to provide feedback on issues that are important to both the company and its stakeholders.

#### HS Orka's Community Fund

HS Orka's Community Fund was established in 2023 with the objective of supporting socially beneficial projects managed by individuals or groups. Grants are allocated twice a year, focusing on clearly defined projects that have a positive impact on Icelandic society, quality of life and everyday living. While grant applications are accepted from all parts of the country, special emphasis is placed on supporting projects near the company's power plants. When selecting projects, the UN's sustainable development goals that HS Orka has implemented are considered,

among other criteria. HS Orka's Community allocation of grants.

Council reviews applications and announces the In 2024, special grants were awarded to Icelandic search and rescue teams, with a total of ten SAR teams or funds receiving such grants during the year. All SAR teams on the Reykjanes Peninsula were supported in this effort, as well as teams near HS Orka's facilities and projects in different parts of the country.

#### Different types of stakeholders - HS Orka

# Environment

#### Authorities Iceland Icelandic laws and regulations International organizations Institutions of the European Union Regulators and referees The Environment Agency of Iceland Licensors Health authority (operating permits) National Energy Authority (power plant and energy license) The Planning Agency (assessment obligation)

Local communities Local authorities All of Iceland

**Educational and research institutions** Universities Natural science centres Private parties

**General public** Neighbouring communities All of Iceland

**Non-governmental organizations** Green associations

**Certifications and competent authorities** Parties in Iceland

## Society

Authorities Department of Civil Protection and Emergency Management

### Customers

Local authorities Utility firms Companies in the Resource Park Other companies Individuals

Suppliers Resources Contractors Service providers Others

**Employees** Employees Contractors

#### Non-governmental organizations Professional and other organizations Charities Other NGOs

International organizations The United Nations (Sustainable Development Goals)

#### Governance and economy

Authorities Iceland Foreign/Global

#### Owners Jarðvarmi (50%) *Icelandic pension funds* Ancala (50%) *Foreign pension funds Other investors*

**Investors and financiers** Financial institutions National and foreign investors

# International organizations

Assessors and credit rating companies Global Reporting Initiative Task Force on Climate-Related FD

#### **Certifications and assurance providers** Parties in Iceland Parties abroad

#### HS Orka's Community Fund - allocations in 2024

First alloc	ation 2024	Second allocation 2024			
Project	Recipient	Project	Recipient		
Lead capture in Hafnarheiði	Keflavík Shooting Range	Kvikuvikan	Reykjanes UNESCO G		
Asylum seeker outreach	Knattspyrnudeild Keflavíkur	Ástráður - sex education	Ástráður		
Kriki by Elliðavatn Kriki by Elliðavatn Sjálfsbjörg, the National Confederation of Physically Disabled People		Reykjanes vaknar - Photography exhibition	ICE-SAR		
Rock laying class in Hafnir	Sveinn Enok Jóhannsson	Frú Ragnheiður	The Suðurnes Red Cro		
Act Alone arts festival	Act Alone	Singer-songwriters in Suðurnes	Dagný Maggýardóttir		
The Suðurnes Science and Learning Forum	The Suðurnes Science and Learning Center	Krýsuvík Sustainability Centre	Worldwide Friends		
Skiphóll - magazine	Steinbogi	Platform equipment	Keflavík Theatre Com		
Outdoor facilities	Verzlunarfjelag Árneshrepps	Njarðvík in a New Setting	UMFN basketball tear		
Cultural tourism	Margrét Tómasdóttir	Asylum seeker outreach	Knattspyrnudeild Kefla		
Jazz concerts in Suðurnes	Jóhann Páll Kristbjörnsson	Growing Roots	GETA hjálparsamtök		
Equipment and operations	Suðurnes SAR team	Equipment and operations	Trinton SAR team		
Equipment and operations	Sigurvon SAR team	Equipment and operations	Eyvindur SAR team		
Equipment and operations	Ægir SAR team	Equipment and operations	Ísólfur SAR team		
Equipment and operations	Skyggnir SAR team	Equipment and operations	Strandasól SAR team		
Equipment and operations	Þorbjörn SAR team	Equipment	Suðurnes Lifeboat Fur		



# Governance

EcoVadis Sustainability Assessment of HS Orka

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Green Financing Report 2024



# **EcoVadis Sustainability Assessment** of HS Orka 🥝

In 2024, HS Orka underwent its first comprehensive sustainability assessment with the global rating agency EcoVadis. This detailed assessment required documented evidence of actions within different sustainability categories.

The results are based on EcoVadis' evaluation of seven indicators across four sustainability themes: Environment, Labor & Human Rights, Ethics and Sustainable Procurement. The EcoVadis scorecard also reviews key strengths as well as opportunities for improvement under each theme.

HS Orka received an overall score of 76/100, earning the EcoVadis Gold rating and placing the company in the top 5% of more than 150,000 companies rated by EcoVadis worldwide.

# Strengths and Opportunities for Improvement

According to EcoVadis' results, HS Orka's strengths when it comes to sustainability are in the areas of environmental issues and the

**Suggestions regarding Ethics and** protection of working conditions/human rights. Strategies and targets are followed up with **Procurement** decisive actions in environmental matters, safety Various opportunities for improvement were and working conditions, and the strengthening identified in EcoVadis' assessment of HS Orka's of human resources. Other positive factors performance regarding ethics and sustainable identified in the assessment include the various procurement. Most of these relate to the certifications and standards on which the documentation of strategies and more formal company's management system is based, thirdprocedures in sustainable procurement, as well party assurance of non-financial information, as a code of conduct and sustainability guidelines and life-cycle assessments of the environmental for suppliers. The assessment also stresses the impact of power plants. importance of staff presentations and training in the criteria and rules that apply if ethical The assessment also highlights various opportuniconsiderations arise.

ties for improvement. It suggests that policies, targets and actions could be clarified and made more specific, and that climate targets could be further defined and aligned with global standards.





# **Governance**

HS Orka's values are responsibility, agility, progressiveness and teamwork. More information about HS Orka's values, objectives and policies can be found on our website.

### **Sustainability Management**

The results of the last materiality analysis clearly show how HS Orka's main topics in the field of sustainability reflect the company's core operations and key long-term challenges. In other words, sustainability is an integral part of HS Orka's operations and future vision.

The company's management system (Gangverkið) ensures that important sustainability issues are dealt with in an orderly and regular manner at the level of the process council, which consists of the executive board and key personnel in terms of material topics. In 2022, a sustainability department was established that reports directly to the CEO's office. The department's tasks are related to continuous improvements and information provision in the field of sustainability, across other divisions of the company. Direct

communication with stakeholders takes place through the executive board and other personnel.

As the company's operations are linked to sustainability in various ways, as evidenced by the materiality assessment, the company's management regularly addresses issues relating to sustainability, as defined in this report. In addition, the board receives a quarterly overview of specific targets and improvement projects from the sustainability department. The company's main support policies are presented to the board once a year.

### **Organisational Structure**

The board of directors of HS Orka hf. stresses the importance of maintaining good management practices in accordance with Guidelines for Corporate Governance, version 6, published by the Iceland Chamber of Commerce. The

company's corporate governance statement accompanies the annual accounts, which are available on our home page.

The company's highest authority is in the hands of the shareholders, while the company's Board of Directors manages the company between the annual shareholders' meetings. The Board has four members who are nominated by each shareholder individually and elected at the company's general meeting for a one-year term. Two sub-committees of the Board of Directors were active in 2023, the Audit Committee and the Remuneration Committee.

The company's CEO oversees the company's daily operations and represents the company. The company's senior management consists of the managers of the Legal division, Finance and IT division, the Sales and Services division, the Production division, the Resources and Project Development division, the Technical Services division and the division of Strategy and Improvement. Eight members sit on the Executive Board, which is responsible for strategic planning and decisions in accordance with the purpose, vision and values of the company, as approved by the Board of Directors.

# Internal Management System - Gangverkið

HS Orka's management system ("Gangverkið") is certified according to international management

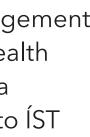


standards, "ISO 9001 Quality Management Systems", "ISO 14001 Environmental Management Systems" and "ISO 45001 Occupational Health and Safety Management Systems". HS Orka also has equal pay certification according to ÍST 85:2012.

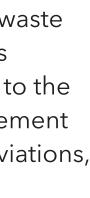
The management system describes how the company operates according to defined processes with efficient collaboration and waste minimisation as guiding principles. Process owners annually present each key process to the process council. They also present improvement projects, registered risks, stakeholders, deviations, internal audits, and the context with other processes and the company's policies. Whereas managers are responsible for day-to-day execution, process owners are responsible for the design, safety and improvement of processes.

#### **Deviations**

The company's deviation process describes how deviations in the operations are handled, root cause analysis is carried out and improvement projects are implemented. Within the company, a system has been developed to keep track of









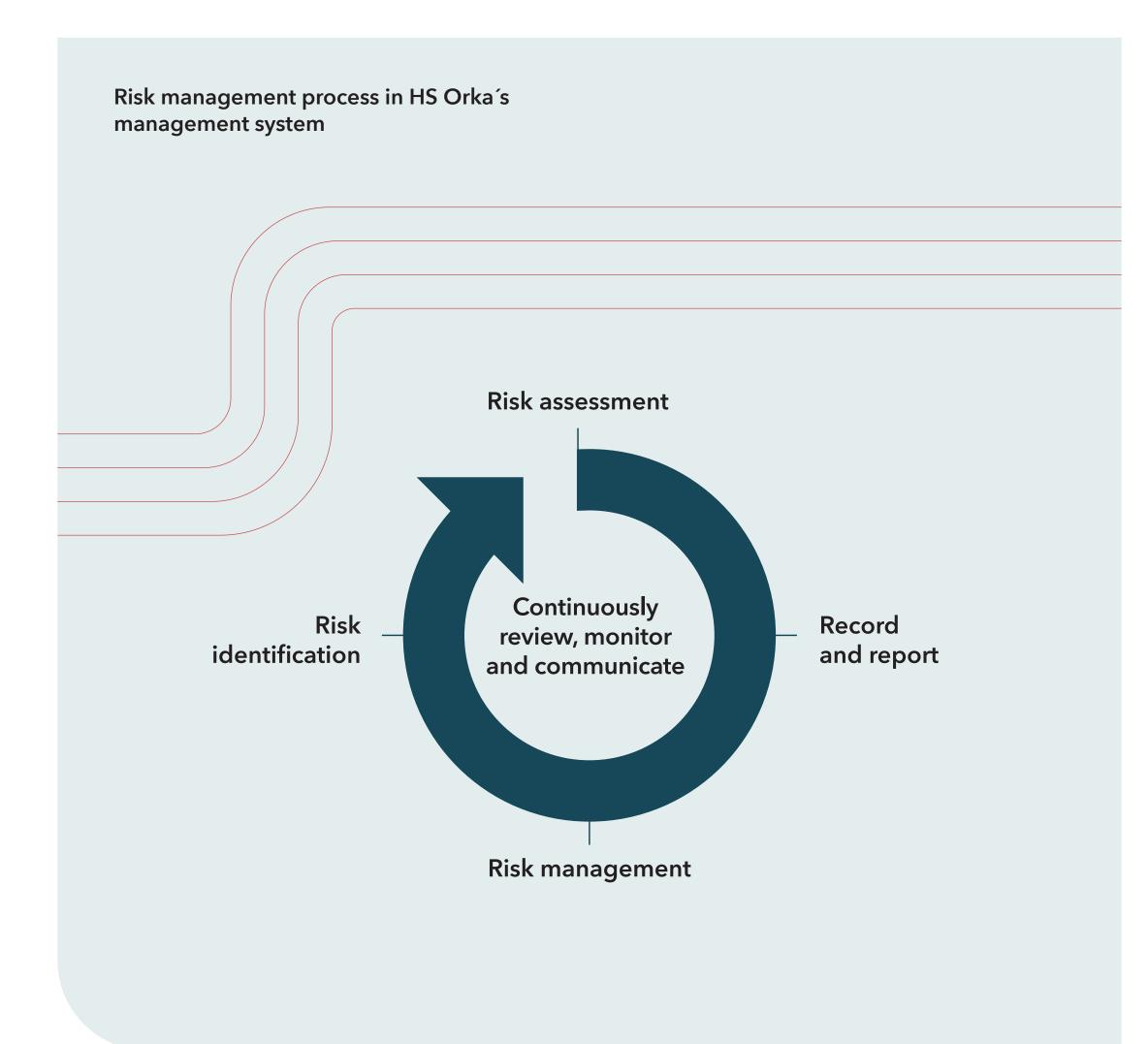
all recorded deviations within all key processes. Larger deviations are dealt with at process council meetings, where decisions are made on appropriate measures to prevent negative impacts within different topics. At the same time, emphasis is placed on employee training to prevent deviations. In addition to employee training, a training pathway for contractors working for HS Orka has been added, as discussed in the "Safety and Work Environment" section.

### **Risk management**

HS Orka follows a risk management process based on ISO 31000 to identify and manage the company's key risks. HS Orka's management system is intended to ensure transparency and active risk controls for each key process. Risk factors that have been identified are recorded in a risk register and given a score for before and after controls. The owners of the main processes present the risk analysis to the process board, which reviews the assessment before it goes to the board of directors. More details on the climate risk assessment and TCFD scenario analysis can be found in the section "TCFD Climate Risk Assessment 2024".

# **Information Security**

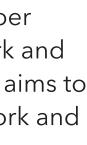
Act No. 78/2019 on the Cyber and Data Security of Critical Infrastructure was passed in June





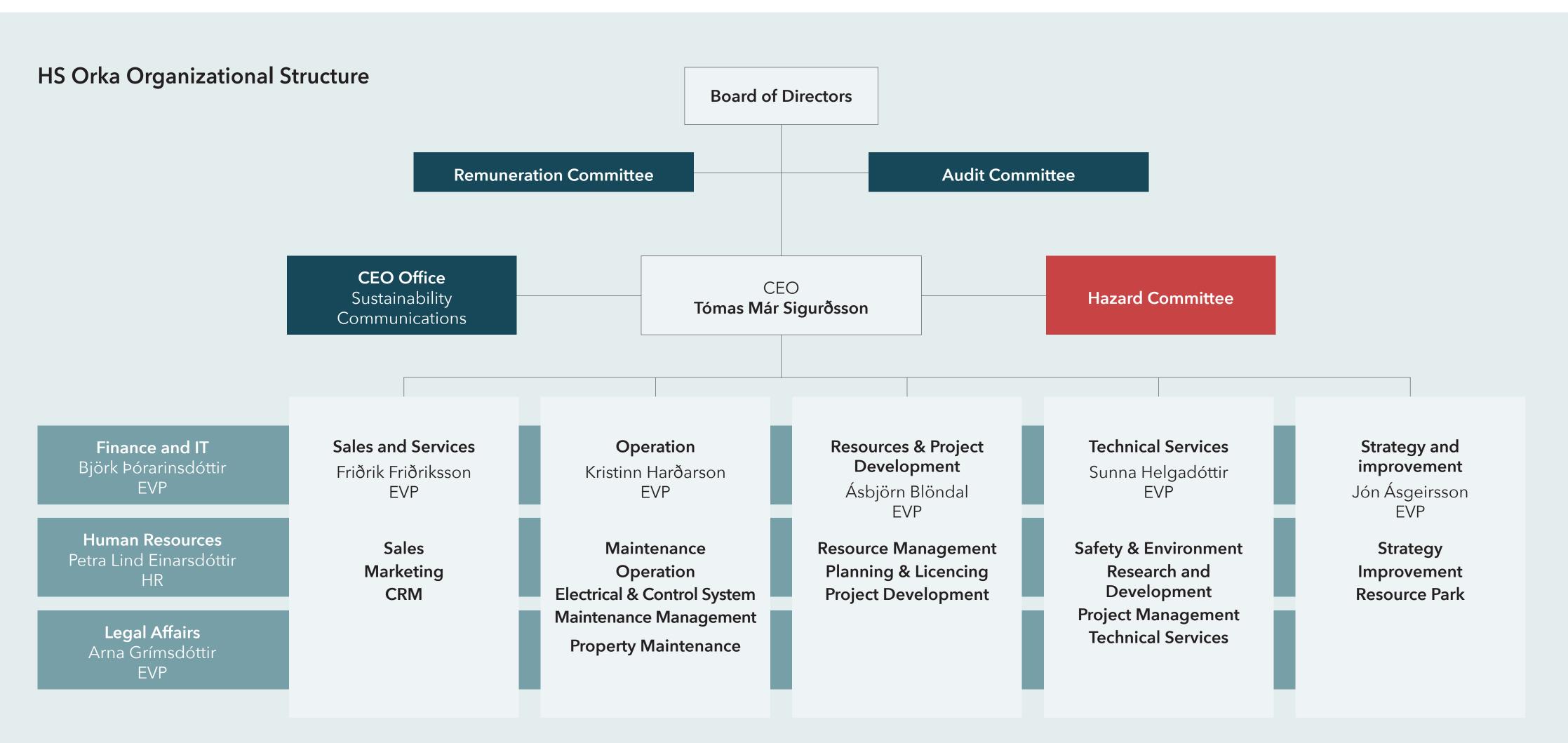
2019 and entered into force on 1 September 2020. The Act is based on the EU's Network and Information Security (NIS) Directive, which aims to achieve a high common standard of network and information security.

The Directive is intended to enhance the ability of member states to increase cybersecurity capabilities and respond to cybersecurity incidents. It is also designed to promote coordination between member states and the effective domestic and cross-border dissemination of cybersecurity information. The Directive focuses largely on entities in sectors of high criticality, as defined in the text of the Directive.











# Green Financing Report 2024

# Summary

- In 2022, HS Orka published the Green Financing Framework based on ICMA Green Bond Principles (2021) and Green Loan Principles (LMA/APLMA/LSTA, 2020).
- HS Orka's Green Financing Framework was assessed by the international rating agency CICERO, receiving an overall rating of "Dark Green" and confirmation that the framework complies with the aforementioned criteria.
- In 2024, HS Orka completed the refinancing of the company's debt and secured lines of credit for continued development. The refinancing is largely covered by the company's Green Financing Framework.
- HS Orka's total green financing at the end of 2024 amounted to ISK 31,523 million.
- Green financing accounted for approximately 94% of the company's outstanding debt financing at the end of 2024.
- HS Orka's emissions intensity was 35 gCO2eq/kWh in 2024. The year-on-year increase is explained by the effects of seismic activity in Svartsengi. The impact is detailed in the environmental section of the sustainability report for 2024.
- Avoided GHG emissions in 2024 are estimated at 71,224 tCO2eq, taking into account European climate reference benchmarks.

# Use of Proceeds 2024

HS Orka's green financing framework identifies the types of assets that the company's green financing can support. Eligible assets are divided into four main categories with descriptions of the types of assets and projects that belong to each category. The four main categories are "Renewable energy", "Clean transportation", "Pollution prevention and control" and "Sustainable water and wastewater management". The majority of HS Orka's eligible assets fall under the category of "Renewable energy", which includes the company's assets in power plants and energy infrastructure.

- Eligible assets amounted to ISK 73,253 million at the end of 2024.
- The total amount of green financing amounted to ISK 31,523 million at the end of 2024.
- The ratio of green financing to assets eligible under the green financing framework was 43.0% at the end of 2024.
- The proportion of green financing allocated to assets eligible under the green financing framework is 100%.

The Appendix contains an external assurance report by our auditor, KPMG ehf., for this Green Financing Report 2024. It includes a confirmation that the presentation of eligible assets in the

Assets	Amount (ISK m)	Green financing	Issue date	End of loan period	Am (ISł
Renewable energy, Clean transportation, Pollution prevention and control, Sustain- able water and wastewater management	73,253	Green bonds	July 24	July 32	7,6
		Green bank loans	July 24	July 29	23,

#### **Eligible assets - Green Financing Framework**





report is in line with HS Orka's green financing framework.

# **2024 Impact Assessment**

#### Information in the 2024 Sustainability Report

HS Orka's sustainability report for 2024 includes information on the installed capacity of power plants, own energy consumption and other indicators related to HS Orka's main infrastructure and projects in the field of renewable energy production. Key information about the production of renewable energy and the installed capacity of power plants can be found in the section "Security of Power Supply and Related Infrastructure". Further information on the operation of the company's power plants and development projects can be found in the sections "Preventive Measures and Contingency Plans", "Reinforcement of District Heating Utility" and "Development Projects". Key information on own energy consumption and resource utilisation can be found in the sections "Own Energy Consumption" and "Resource Streams."

Information on the development of key climate indicators can be found in the "Climate" section. HS Orka's main indicators with regard to climate are for total emissions (tCO<sub>2</sub>eq) and emissions intensity (gCO<sub>2</sub>eq/kWh).

Life cycle assessments have been carried out for HS Orka's power plants in Svartsengi and Reykjanes and are available on the company's website. The life cycle assessments are based on ISO 14067:2018 and are reviewed and confirmed by an external party.

Additionally, the Green Financing Report provides information on avoided CO<sub>2</sub> emissions, a key indicator of environmental impact under HS Orka's Green Financing Framework.

# **Avoided GHG emissions**

The methodology for calculating avoided emissions is based on international standards and guidelines.<sup>3</sup>

When avoided emissions are calculated, HS Orka's customers are divided into two categories, those operating within the framework of the EU's ETS emissions system, and other customers. The methodology only considers sale of electricity to customers within the ETS system, for estimated avoided emissions. The proportion of buyers in the ETS system for HS Orka's electricity sales is assigned a reference value<sup>4</sup> (191 gCO<sub>2</sub>eq/kWh) for emissions in the European electricity market.

Key indicators - HS Orka's climate impact

	2024	EU Taxonomy Criteria for Environmental Sustainabil
Total emissions (tCO <sub>2</sub> eq)	142,979**	
Emissions intensity (gCO <sub>2</sub> eq/kWh)	35	100

\*For significant contribution to the environmental objective "Climate change mitigation" \*\*Scope 1, 2, and 3. For details, see the 2024 Sustainability Report.

#### Calculations according to the methodology

Customers	Delivered electric power (MWh)	% of delivered electricity	Reference values for GHG emissions*	Emissions based on reference values (tCO <sub>2</sub> eq)	HS Orka emissions (tCO <sub>2</sub> eq)	Estim avoide emission (tCC
Within the EU ETS system	631,447	44.8%	191	120,606	22,101	98
Other customers	779,489	55.2%	0	0	27,282	- 27,
Total	1,410,936	100.0%				71,

\*NPSI Position Paper 2024

In accordance to the methodology, the sale of electricity to other customers receives a reference value of 0 for emissions intensity, which means that HS Orka's avoided emissions are lowered by the emissions associated with the production sold to those customers. The average combined

emissions factor for all HS Orka's electricity sales is thus 85.5 gCO<sub>2</sub>eq/kWh. The total avoided greenhouse gas emissions from HS Orka's renewable energy production are estimated at 71,224 tonnes of CO<sub>2</sub> in 2024.







<sup>3</sup> International Capital Market Association's and Green Bond Principle's Handbook on Harmonized Frameworks for Impact Reporting (June 2024)

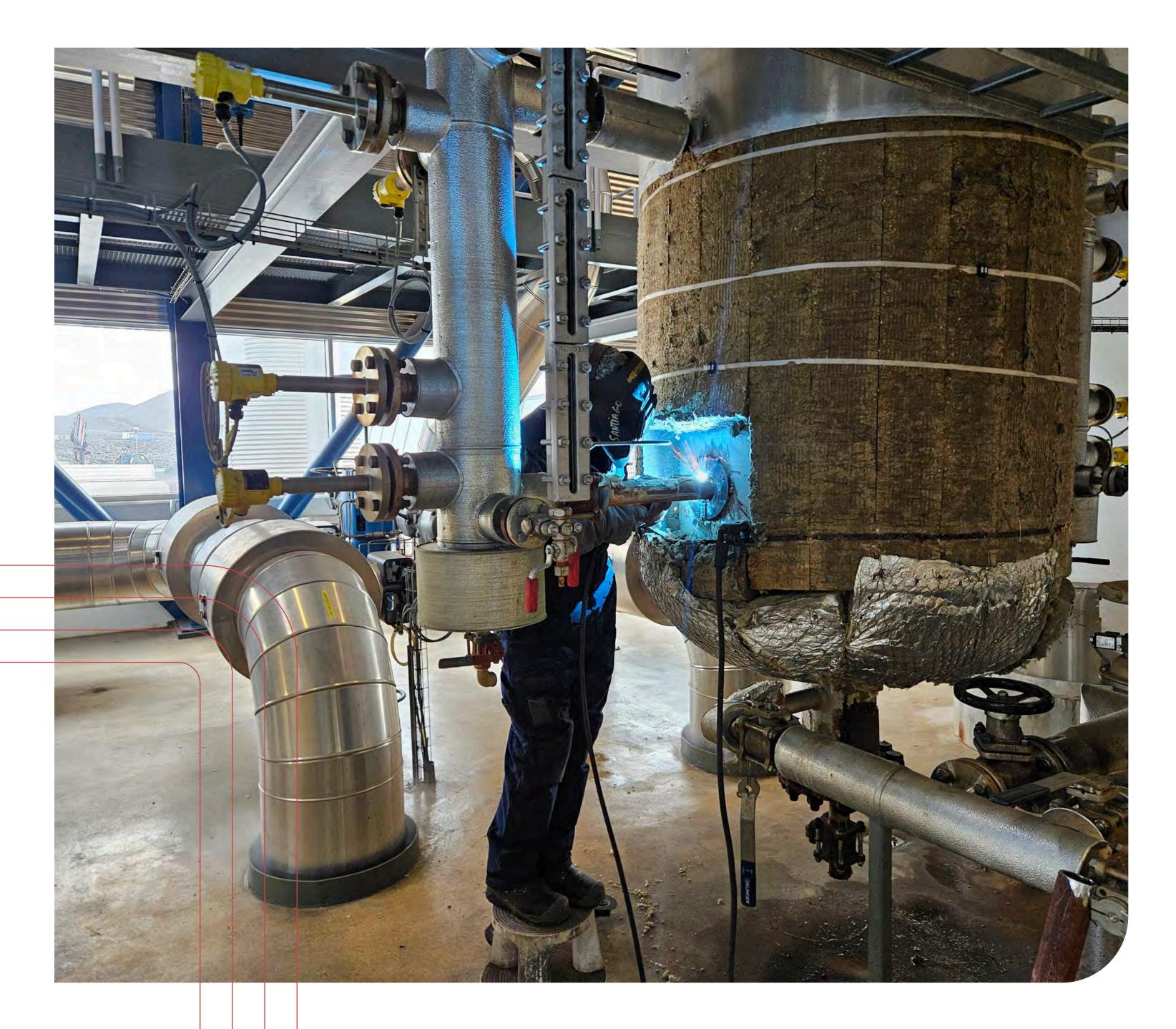
<sup>4</sup> NPSI Position Paper on Green Bonds Impact Reporting 2024

# Appendix

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  - A2. ESRS standards and material topics
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- 64 A.4. Auditor's Limited Assurance Report
- 66 A.5. Auditor's Limited Assurance Report Green Finance



# **Appendix 1:** IRO analysis for material topics

# Security of Power Supply and Infrastructure

	Topics	Impacts/Risks/Opportunities	Description		Topics	Impacts/Risks/Opportunities	Description
<b>Positive impact</b> (OA/VC)	Sustainable energy production	Supply of renewable energy in Iceland, in the form of both electricity and geothermal energy	Concerns both developing and improving current energy infrastructure to support the efficient and sustainable utilisation of the resources. Part of the impact is also mapping and developing new energy options to ensure sufficient supply of energy and security of supply.	<b>Positive impact</b> (OA)	Knowledge and monitoring	Sustainable use of natural resources	Active resource monitoring is fundamental to deepening our understanding of the resources on which our business relies. Through in-depth research, we can base decisions on production on the best possible data and with regard to the company's goa for sustainable and efficient use of resources.
	Sustainable energy production	Energy transition in Iceland	The prerequisite for a full energy transition in Iceland is sufficient supply of renewable energy.		Use of resources	Development projects and research on unutilised resources	The goal is to develop opportunities for increasing the sustainal production of electricity and geothermal energy. This increases diversification and long-term positive financial and societal imparts
	Security of supply	Secure the supply of hot water for district heating on the Reykjanes Peninsula	HS Orka is a key supplier of hot water for residents and businesses on the Reykjanes Peninsula. The company influences the security of supply of production by maintaining and strengthening current infrastructure, as well as researching and developing new	<b>Positive impact</b> (VC)	Use of resources	Electrification of drilling projects	HS Orka's focus on using electric-powered drills has a positive external impact on contractors in the value chain in terms of sustainability and climate matters.
Negative impact (OA/VC)	Sustainable energy production	Negative environmental impact	opportunities and ways to meet increasing demand.	<b>Negative</b> impact (OA)	Use of resources	Environmental impact and disturbance of geothermal production	The utilisation of geothermal areas inevitably involves disturban and environmental impact. To minimise negative impact, mitiga measures are investigated and selected on the basis of external impact.
			other activities. The company works continuously to monitor and minimise the negative external impacts of current operations and development projects.	Risk (OA)	Seismic activity	Changes in the properties of geothermal systems affecting energy production	The physical and chemical properties of the geothermal system are affected by natural hazards. The risk is that the production capacity of the areas will change in such a way as to necessitate costly countermeasures or reduced production capacity.
Risk (OA/VC)	Sustainable energy production	Production is halted due to malfunction	The risk is that the company may suffer financial loss. The reduced production and delivery of products has a negative impact on the local community.		Use of resources	Overexploitation of geothermal resources	The risk is that the production capacity of areas will be greatly reduced compared to long-term utilisation plans – that overexploitation will have a positive short-term effect while
	Sustainable energy production	Effects of natural disasters on production	The risk is that natural disasters, such as seismic activity, will disrupt the supply of electricity or hot and cold water.				reducing long-term capacity.
Opportunities for improvement (OA/VC)	Security of supply	Alternate routes and strengthening of connections for energy production	<ul> <li>Heating utility: The seismic activity in Svartsengi has highlighted the need to ensure alternatives, for both the production and transport of hot water.</li> </ul>	Risk (VC)	Use of resources	Overexploitation of freshwater wells	Businesses and communities on the Reykjanes Peninsula rely or the area's fresh water supply, and it is in the common interest of Orka and other stakeholders to ensure that their use is within lin that ensure the long-term quality and capacity of the water supp
			<ul> <li>Electricity production: Back-up connections from power plants, more options for connections to the main transmission grid.</li> <li>Cold water: Mapping and developing alternate means of sourcing cold water. This is part of ensuring the availability</li> </ul>	<b>Opportunities</b> <b>for</b> <b>improvement</b> (OA)	Use of resources	Use of new drilling techniques	Cleaning drills or employing methods which make it possible to clean boreholes while flowing. This way, the wells don't have to cooled down which can have a negative effect on the lining.
			of drinking water on the Reykjanes Peninsula, as well as the production of geothermal energy.			on about our approach and s topical chapters.	

(**OA**) Own activities (**VS**) Value chain actions in this report's topical chapters.

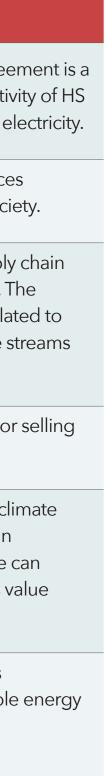
#### Sustainable Use of Natural Resources



# Safety and Work Environment

Topics	Impacts/Risks/Opportunities	Description		Topics	Impacts/Risks/Opportunities	Description
Safety and work environment	Good safety culture among HS Orka staff	The HS Orka Occupational Health and Safety Policy describes how we must all work together to create a good safety culture and strive for the objective that no one gets hurt while working for HS Orka.	<b>Positive impact</b> (OA)	Climate change mitigation	Production of renewable energy	A key prerequisite for meeting the goals of the Paris Agreer reduction in the use of unrenewable energy. The core activi Orka is to use renewable resources to produce heat and ele
ve impactSafety and work environmentImprovements in the safety culture of contractorsSafety culture among contractors and suppliers is important to HS Orka and the issue is approached in the same way as for the company's employees.		HS Orka and the issue is approached in the same way as for the company's employees.		Climate change adaptation	Resilience of the community	Reliable production of renewable domestic energy sources strengthens the resilience and competitiveness of the socie
		<ul> <li>There are clear HSE requirements for contractors and service providers and the requirements are followed up on on a regular basis.</li> <li>All contractors are required to complete HSE training before commencing work for HS Orka.</li> <li>HS Orka contributes to improving the safety culture in the community.</li> </ul>	<b>Positive impact</b> (VC)	Climate change mitigation	Energy transition in the value chain	HS Orka influences suppliers and contractors in the supply of by setting sustainability and climate action requirements. The company also influences the development of projects related the energy transition, including the utilisation of resource str from energy production.
isk (OA/VC)     Safety and work environment     Fatal accidents	Five risk factors have been identified as potentially fatal: "Fall from a height", "Contact with voltage", "Hazardous atmosphere",	Risk (OA)	Climate change mitigation	Costs of investing in technologies to reduce CO2 emissions	Uncertain investments in new technologies for reducing or greenhouse gas emissions, e.g. to reinject or utilise CO <sub>2</sub>	
		Based on the analysis of these risks, five sets of "golden rules" have been designed to prevent fatal accidents.	Risk (VC)	Climate change adaptation		Global actions and external requirements to respond to clim change result in challenges and potentially higher costs in procuring supplies. The consequences of climate change ca cause delays, disruption and price increases in HS Orka's val
Safety and work	Utilise the best techniques and methods	Opportunities are constantly sought for improving how technologies and methods are utilised:				chain.
		<ul> <li>Use of the best technology available for education and training.</li> <li>Promoting and defining ways for in-house communications about safety and the work environment.</li> </ul>	Opportunities for improvement (OA/VC)	Climate change mitigation	Energy transition	Necessary steps for the energy transition create business opportunities, including in relation to e-fuel and renewable for transport.
Operations and procurement	Developing sustainability guidelines for contractors and suppliers			See further informati actions in this report	on about our approach and ´s topical chapters.	
	Safety and work environment Safety and work environment Safety and work environment Safety and work environment	Safety and work environmentGood safety culture among HS Orka staffSafety and work environmentImprovements in the safety culture of contractorsSafety and work environmentFatal accidentsSafety and work environmentUtilise the best techniques and methodsSafety and work environmentUtilise the best techniques and methods	Safety and work environmentGood safety culture among HS Orka staffThe HS Orka Occupational Health and Safety Policy describes how we must all work together to create a good safety culture and strive for the objective that no one gets hurt while working for HS Orka.Safety and work environmentImprovements in the safety culture of contractorsSafety culture among contractors and suppliers is important to HS Orka and the issue is approached in the same way as for the company's employees. • There are clear HSE requirements for contractors and service providers and the requirements for contractors and service providers and the requirements are followed up on on a regular basis. • All contractors are required to complete HSE training before community.Safety and work environmentFatal accidentsFive risk factors have been identified as potentially fatal: "Fall from a height", "Contact with voltage", "Hazardous atmosphere", "Uncontrolled energy", "Crushing". Based on the analysis of these risks, five sets of "golden rules" have been designed to prevent fatal accidents.Safety and work environmentUtilise the best techniques and methodsOpportunities are constantly sought for improving how technologies and methods are utilised: • Use of the best technology available for education and training. • Promoting and defining ways for in-house communications about safety and the work environment.Operations andDeveloping sustainabilityDefining and developing HSE requirements and criteria for the	Safety and work environmentGood safety culture among HS Orka staffThe HS Orka Occupational Health and Safety Policy describes how we must all work together to create a good safety culture and strive for the objective that no one gets hurt while working for HS Orka.Positive impact (OA)Safety and work environmentImprovements in the safety culture of contractorsSafety culture among contractors and suppliers is important to HS Orka and the issue is approached in the same way as for the company's employees. • There are clear HSE requirements for contractors and service providers and the requirements are followed up on on a regular basis. 	Safety and work environment       Good safety culture among HS Orka staff       The HS Orka Occupational Health and Safety Policy describes how we must all work together to create a good safety culture and strive for the objective that no one gets hurt while working for HS Orka.       Positive impact       Climate change mitigation         Safety and work environment       Improvements in the safety culture of contractors       Safety culture among contractors and suppliers is important to HS Orka and the issue is approached in the same way as for the company's employees.       Positive impact       Climate change adaptation         Safety and work environment       Improvements in the safety culture of contractors       Safety culture among contractors and suppliers is important to HS Orka and the requirements are followed up on on a regular basis.       Positive impact       Climate change adaptation         Safety and work environment       Fatal accidents       Five risk factors have been identified as potentially fatal: "Fall from a height," "Contact with voltage", "Hazardous atmosphere", "Uncontrolled energy", "Crushing".       Risk (OA)       Climate change adaptation         Safety and work environment       Utilise the best techniques and environment       Opportunities are constantly sough for improving how technologies and methods are utilised: -Use of the best technology available for education and training, -Promoting and defining ways for in house communications about safety and the work environment.       Opportunities for improvement       Climate change mitigation         Opportunities       Defining and developing HSE requirements and criteria for th	Safety and work       Good safety culture errong HS       The HS Orka Occupational Health and Safety Policy describes how we must all work together to create a good safety culture and strive for the objective that no one gets hut while working for HS Orka.       Positive impact       Climate change adaptation       Production of renewable energy         Safety and work       Imporvements in the safety       Safety culture and the issue is approached in the same way as for the company's employees. There are clear HSE requirements are followed up on on a regular basis. - There are clear HSE requirements for the company's employees. - There are clear HSE requirements are followed up on on a regular basis. - All contractors are required to complete HSE training before community.       Climate change mitigation       Resiltence of the community chain.         Safety and work environment       Five risk factors have been identified as potentially fata: "Fall from a height?" Contact with voltage, "Hazardous strices for golden rules" have been identified as potentially fata: "Fall from a height?" Contact with voltage, "Hazardous strices for golden rules" have been designed to prevent fatal accidents.       Risk (OA)       Climate change mitigation       Coasts of investing in technologies to reduce CO2 emissions         Safety and work environment       Five risk factors have been identified as potentially fata: "Fall from a height?" Contact with voltage, "Hazardous strices for "golden rules" have been designed to prevent fatal accidents.       Risk (VC)       Climate change mitigation       Climate change mitigation       Challenges in procurement of supplies is imposing how technologies and methods are uillised: "Uncont for the bast technology availab

#### Climate



# The Resource Park and circularity

	Торісз	Impacts/Risks/Opportunities	Description		Topics	Impacts/Risks/Opportunities	Description
Positive impact (OA/VC)	Multi-use of resource streams	Ecological footprint: Reduced emissions intensity and waste metrics Financing costs and options Supports the energy	<ul> <li>With the multi-use of by-products that would otherwise have become waste, the company reduces waste in the value chain while increasing profitability and sustainability.</li> <li>The utilisation of residual heat from energy production has a highly positive effect on the overall measurements of the company's emissions intensity (gCO<sub>2</sub>eq/kWh).</li> </ul>	<b>Positive impact</b> (OA)	Waste management	Sorting of waste	• HS Orka has set ambitious targets for the sorting of was measured in % of total weight. Waste sorting performan part of the sustainability performance indicators in its g financing, which the company completed last year, whe good performance improves credit terms.
		transition Generates revenue Reputation	<ul> <li>Innovation and responsible resource use create a positive example and good reputation, both for HS Orka and its partners.</li> <li>A proven track record of sustainability can pave the way for new sources of financing and even improve credit terms.</li> </ul>	<b>Positive impact</b> (VC)	The supply chain	Sustainability assessment for suppliers	<ul> <li>69% of total procurement for the year was with supplier which HS Orka has commissioned a third-party sustaina assessment. Suppliers are informed about the results ar follow-up is intended to support improvements.</li> </ul>
<b>Positive impact</b> (VC)	Multi-use of resource streams	New business opportunities Economic growth and employment	<ul> <li>Innovation and the development of activities based on multi- use attracts companies for the long term.</li> <li>Influences the local community through a wider range of jobs and economic growth which supports services and infrastructure development.</li> </ul>	<b>Negative</b> impact (OA)	Waste management/ resource streams	Disposal of run-off water	• Environmental impact of pipelines that transport run-off water from production to the sea. On land, piping can d disturbance and visual impact. According to the compa operating permit, offshore conditions must be monitore potential negative impact on water quality.
Negative impact (OA)	Long-term contracts in the Resource Park	Lower earnings	<ul> <li>Long-term contracts for the utilisation of resource streams can result in lower revenues and higher costs if contracts do not factor in developments since the contract was originally made.</li> </ul>	Risk (OA/VC)	Waste management/ nature conservation	Environmental accident related to hazardous materials	• A mishap or unsafe handling of hazardous materials may on a negative environmental impact. Responsible handling of materials in the area is an urgent issue for HS Orka to mini the risk of soil or groundwater becoming contaminated.
Risk (OA/VC)	E-fuel production	There is a risk that CO2 from geothermal power plants used for CCU projects will not be deductible in HS Orka's carbon accounting.	• The risk is based on the current state of regulations and interpretation of the European Union and Iceland when it comes to the treatment of CCU projects (SGGI for example) in HS Orka's carbon accounting. This would affect key criteria of the project for both parties.	Opportunities for improvement (OA/VC)	Resource streams	Loss of geothermal energy and unutilised streams	<ul> <li>HS Orka is continuously looking for ways to make better use of the resource streams from energy production and to minimise all waste. There are opportunities to further develop the mapping of resource processes and performance indicators.</li> <li>A major climate issue involving co-operation with foreign p concerns the utilisation of the carbon dioxide which passe</li> </ul>
Opportunities for improvement	Eco-Industrial Park	<ul> <li>Strengthening the competitiveness of long-term customers in the vicinity of Reykjanes power plant through co-operation in sustainability issues</li> <li>The development of clear criteria and performance indicators for the whole park is intended to give businesses within it a competitive advantage when it comes to marketing, financing and reputation.</li> </ul>				through the processing channels of HS Orka's geotherma plants, to produce e-fuels and other valuable by-products	
(OA)			Opportunities for improvement (VC)	Nature conservation and monitoring	Synergies with other stakeholders	<ul> <li>Increased external requirements for monitoring of con and impacts, including with regard to the EU Water Framework Directive, involve costs for individual comp There may be opportunities for companies to share</li> </ul>	
( <b>OA</b> ) Own activities ( <b>VS</b> ) Value chain	See further informatic actions in this report's	on about our approach and s topical chapters.					knowledge and costs when it comes to research, monit and reporting. This could for instance include companie within the Resource Park.
				( <b>OA</b> ) Own activities ( <b>VS</b> ) Value chain	See further information	on about our approach and s topical chapters.	

#### $\longleftarrow \quad \mathsf{TABLE OF CONTENTS}$

# Responsible consumption and production

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# Appendix 2: ESRS standards and material topics

# 1. Discussion of material topics

Material topics according to the materiality assessment	Section headings in the report	Discussion	ESRS standards	Reporting	External assurance*
Security of power supply and infrastructure			ESRS 2	In part	
	Security of Power Supply Infrastructure	Pages 32-33			Ø
	Preventive Measures and Contingency Plans	Page 34			Ø
	Expansion of District Heating	Page 35			Ø
	Development Projects	Page 36			Ø
Sustainable use of natural resources			ESRS 2	In part	
	Resource Management	Pages 16-18			Ø
Safety and work environment			ESRS 2	In part	
	Safety and Work Environment	Pages 37-39			Ø
Climate			ESRS 2	In part	
	Climate	Pages 19-21			Ø
	Natural Emissions from Geothermal Areas	Page 22			Ø
	Own Energy Consumption	Page 23			Ø
	Climate Risk Assessment 2024	Pages 24-25			Ø
Resource Park and circularity			ESRS 2	In part	
	Resource Park and Multi-Use of Resources	Pages 25-26			Ø
Responsible consumption and production			ESRS 2	In part	
	Resource Streams	Page 27			Ø
	Waste Management	Pages 28-29			Ø
	Nature Conservation and Monitoring	Pages 29-30			Ø
	The Value Chain	Pages 42-43			Ø
	Material Purchases	Pages 44			Ø

\*Llimited assurance by an independent auditor (KPMG ehf.)

ESRS E1 Climate Change	Description	Information	Reporting
E1-1	Transition plan for climate change	Climate	In part
	mitigation	E1-1-16a. The company's backup generators are powered by fossil fuels and are tested monthly, for about an hour at a time. Installed backup power generators have a minimum lifespan of 20 years and can therefore be classified as a carbon neutral technology. However, the proportion of emissions from fossil fuel combustion is less than 0.1% of total emissions in 2024 and the proportion of fossil fuels in the company's own energy consumption is 0.8%. The impact on the company's GHG emissions and energy efficiency targets is therefore negligible.	
		E1-1-16f. The company has not invested in activities related to coal, oil and gas.	
		E-1-16g. The company is not exempt from the European Union's Paris-aligned Benchmarks.	
E1-2	Policies related to climate change mitigation and adaptation	Climate	In part
E1-3	Actions and resources in relation to climate change policies	Climate Natural Emissions from Geothermal Areas Resource Park and Multi-Use of Resources	In part
E1-4	Targets related to climate change mitigation and adaptation	Climate	In part
E1-5	Energy consumption and mix	Own Energy Consumption	In part
E1-6	Gross scopes 1, 2, 3 and Total GHG emissions	Climate	In part
E1-7	GHG removals and GHG mitigation projects financed through carbon credits	<ul> <li>GHG removals have not been part of HS Orka's climate policy and HS Orka has not financed mitigation projects through carbon credits.</li> <li>E1-7-5. Carbon offsetting through the purchase of carbon credits is not part of HS Orka's climate policy at this time, but it is expected that carbon offsetting will be considered for a small portion of emissions (&lt;1% of total emissions), such as the operation of backup power generators and other emissions that are impossible to eliminate by other methods.</li> </ul>	Yes

# 2. ESRS Reference Table - Topic Standards

E1-8	Internal carbon pricing	HS Orka has not applied internal carbon pricing.	Yes
E1-9	Anticipated financial from material physical and transition risks and potential climate-related opportunities	Climate Risk Assessment 2024	In part
ESRS S1 Own Workforce	Description	Information	Repor
S1 14	Health and safety metrics	Safety and work environment The numbers for lost days of work for contractors have not been included. But there have not been lost time incidents for the last 3 years.	Yes
ESRS E5 Resource use and circular economy	Description	Information	Report
E5-1	Description of the processes to identify and assess material pollution-related impacts, risks and opportunities	HS Orka´s Sustainability Policy (www.hsorka.is)	In part
E5-2	Policies related to resource use and circular economy	Waste Management	In part
E5-3	Actions and resources related to resource use and circular economy	Waste Management	In part
E5-4	Resource inflows	The Value Chain	In part
E5-5	Resource outflows	Waste Management	In part
E5-6	Potential financial effects from resource use and circular economy-related impacts, risks and opportunities	The company has made estimates regarding those issues on a case-by-case basis.	In part



# **Appendix 3** - GRI Reference Table 2024

		CDU			0		N	Commence			
GRI	Indicator description	GRI Issue Reporting	Disclosure	2	-9	Governance structure and composition	Yes	Governance www.hsorka.is			
2-1	Organisational profile	Yes	Company Name: HS Orka hf. Ownership and legal form: Limited Liability Company Location of headquarters: Orkubraut 3, 241 Grindavík Location of operations: Iceland Information on website: www.hsorka.is								See also under GRI 2-12. The company's board of directors manages its operations within the li set by law, the company's Articles of Association and the Shareholders Agreement. The board operates in accordance with the company's Ar of Association and the board's Rules of Procedure. All the company's directors are self-governing and independent of the company and its
2-2	Entities included in the organisation's sustainability reporting	Yes	Unless otherwise stated, HS Orka's sustainability report deals with HS Orka hf. and its subsidiaries.					management. No Director has, directly or indirectly, ownership in the company, has worked for the company or has other interests with the company's main business partners and competitors. All directors are			
2-3	Reporting period, frequency and contact point	Yes	The sustainability report is for the year 2024. The report is published together with the company's annual accounts. Inquiries regarding the report can be sent to hsorka@hsorka.is.		com size a and		size and composition takes into account the con			company is owned by only two shareholders. The evaluation of the bo size and composition takes into account the company's operations, po and practices and the knowledge, experience and expertise of each D	
2-4	Restatements of information         External assurance	Yes	Climate Waste Management Own Energy Consumption Last year, the UK government updated the emission factors used by HS Orka to assess GHG emissions from waste management. The update affects emissions from waste management in the last year; the adjusted GHG emissions are 3 tonnes higher than those reported in last year's report. The value has been corrected and the totals are consistent with the corrected value. The UK government adjusted the energy content of diesel and petrol. This leads to a slight increase in the use of non-renewable energy. Historical data have been updated. Confirmation with limited assurance by the independent auditor (KPMG ehf.)					<ul> <li>The board considers that its size and composition is in line with the boot objectives: to perform its duties in an efficient manner with integrity in best interest of the Company. The gender ratio in the board in 2024 we equal. Shareholders nominate directors, no other stakeholders or min groups are represented on the board. The board has good knowledg economic, environmental and social aspects. Information about the dis is accessible on HS Orka's website.</li> <li>Senior management reports to the CEO and supports the CEO in day operations. The managers have diverse backgrounds; they are specia in different fields, and three out of seven senior management membe are women. None of the managing directors or the CEO own shares in company, nor do they have any other interest than working for the correct.</li> </ul>			
Ζ-J			HS Orka hired an independent party (KPMG ehf.) for limited assurance of the company's sustainability report for the year 2024. The limited assurance applies to information that is disclosed in the report, but not information from previous years.	2	-10	Nomination and selection of the highest governance body	Yes	Each shareholder nominates two directors. The board appoints two or their directors as members of the audit committee and the remunerat committee. In addition, the board appoints one independent member Audit Committee. The board hires the CEO and the CEO hires the div			
2-6	Activities, value chain and other business relationships	Yes	Various sections of the report, see in particular: <b>The Value Chain</b>					managers. - See also under GRI 2-9			
2-7	Employees	Yes	Human Resources and Equality	2	-11	Chair of the highest governance body	Yes	The chairman of the board is not the CEO of the company.			
2-8	Workers who are not employees	Yes	99% of the workforce are permanent employees. 100% of employees are in a full 100% position. There are no cases of non-intermediary contracts with non-employees.								

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2-12	Role of the highest governance body in overseeing the management of impacts	Yes	<b>Governance</b> The board of directors emphasizes maintaining good management practices. Once a year, the company's main policies are presented to the board. The board reviews the company's main sustainability issues on a regular basis, and receives a quarterly overview of specific targets and improvement projects from the sustainability department. There is no act special board subcommittee in the field of sustainability. The company's various sustainability-related issues and their handling are reviewed more (and depending on the circumstances) at the level of senior management and process council. The company publishes an annual sustainability rep that is approved by the board.
2-13	Delegation of responsibility for managing impacts	Yes	Governance See under GRI 2-12.
2-14	Role of the highest governance body in sustainability reporting	Yes	Governance The sustainability report, including a materiality analysis of sustainability issues, is submitted to the board for approval before its publication. In oth respects, reference is made to GRI 2-12.
2-15	Conflicts of interest	Yes	An assessment of the board's conflict of interests takes place at the beginning of each operating year before the general meeting, after the shareholders have nominated board members. Annually, information is requested from the board, the CEO and managing directors on related parties due to the audit of the company's annual accounts in accordance with Article 63 of the Act on annual accounts. The assessment of conflict of interests is not accessible to stakeholders.
2-16	Communication of critical concerns	Yes	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 if necessary. Senior management meetings are held weekly, and the senior management starts each working day with a short information session. The company does not keep track of how often urgent issues are submitted to the board and/or senior management.
2-17	Collective knowledge of the highest governance body	Yes	The board emphasizes that knowledge of sustainability issues is develop and embraced by the company's employees. Urgent sustainability issues presented to the board as the occasion arises. Information about the board is to be found on our home page: www.hsork See also GRI 2-9 and 2-14.

	2-18	Evaluation of the performance of the highest governance body	Yes	The board of directors, the audit committee and the remuneration committee carry out an annual self-evaluation of their work and the w the CEO of the company. The self-evaluation includes, among other sustainability issues.
tive hthly ht bort	2-19	Remuneration policies	Yes	The company has a remuneration policy that is reviewed annually and submitted for approval at the company's annual general meeting. The stipulates that the salaries of the board and sub-committees are fixed that severance payments are not permitted. It specifies that the salaries the CEO and senior management are fixed, and includes provisions a authorization of wage premiums if certain conditions are met. Several payments in excess of what is stated in the employment contract or in of statutory rights or criteria are not permitted. If a performance or ind payment has been allocated on the wrong grounds, the employee m the company back to the extent of the misstatement. Retirement been not expected. When evaluating performance and/or incentive payment the company's senior management, the company's goals and achiev are reviewed in relation to safety and environmental issues, HR issues the company's performance. When determining performance payment business practices. Remuneration to managers should be consistent purpose and long-term interests of the company.
e of le f lr he to	2-20	Process to determine remuneration	Yes	The remuneration committee is a sub-committee of the company's board of directors and is appointed by and acts on behalf of the boar The remuneration committee operates in accordance with its rules of procedure and has two representatives nominated by each sharehol remuneration committee assists the board in ensuring that remunerate supports the company's objectives and meets relevant legal requirer The remuneration committee lays down guidelines regarding the hir managers, i.e. ensures their engagement and motivation in accordant the company's policy. No external advice has been sought when dete salaries, other than the fact that Intellecta's salary survey has been tak account in relation to salary development.
oed s are	2-21	Annual total compensation ratio	In part	The multiple of the second highest-paid employee's total salary and median total salary of full-time employees is 4.2.
ka.is	2-22	Statement on sustainable development strategy	Yes	From the CEO HS Orka Sustainability Policy (www.hsorka.is)

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2-23	Support policies	Yes	Governance EU Taxonomy www.hsorka.is Policies are approved by the process council, which consists of senior management and most other process owners. New and changed policies are presented to employees at monthly staff meetings, and when people start working for HS Orka, they receive an introduction to the company's policies. The company's code of conduct is not published on the external network, but it is accessible to employees on the internal website. HS Orka code of conduct guides all of our work, with the interests of the company, customers, and other stakeholders in the forefront. The code is based on honesty, equality and respect, and these values shall be used as a guiding light for all employees. Whereas the company has not adopted a separate human rights policy, human rights are a guiding principle in various of the company's support policies. The main policies are available on the company's home page.
2-24	Embedding policy commitments	Yes	Governance Safety and work environment The Value Chain
2-25	Processes to remediate negative impacts	Yes	Governance see GRI 403-2 and 2-26.
2-26	Mechanisms for seeking advice and raising concerns	Yes	The company has an in-house procedure for how concerns should be processed within the company so that they reach the right people for resolution. The legal department, together with relevant personnel, processes comments related to the company's business conduct. Comme about the company's business practices can be submitted to the company general email address hsorka@hsorka.is, or by contacting the company's general phone number. Moreover, e-mail addresses of all employees are available on the website: www.hsorka.is In 2024, a message box was added to the website for anonymous tips, and an in-house procedure to process such tips was established.
2-27	Compliance with laws and regulations	Yes	No cases of non-compliance with laws and regulations.

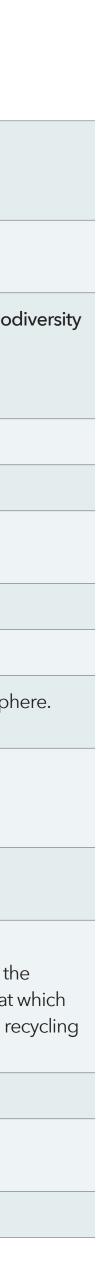
'S	2-28	Membership association	Yes	HS Orka is a member of numerous social organisations and particip projects in various fields of the community. Among the associations company is a member of are: Green by Iceland; Mannauður, the Association of Human Resources Managers; Icelandic New Energy (Íslensk Nýorka); Orkuklasinn (Icel Renewable Energy Cluster); Reykjanes GeoPark; the Confederation Employers in Reykjanes; IPMCA Iceland; Stjórnvísi (Excellence Icelan Icelandic Centre for Corporate Social Responsibility; Iceland's Charr of Commerce; the Confederation of Icelandic Employers; the Geoth Association of Iceland; EGEC (European Geothermal Energy Counc
	2-29	Approach to stakeholder engagement	Yes	Materiality Assessment HS Orka and the Community
	2-30	Collective bargaining agreements	Yes	All of HS Orka employees are paid according to collective agreeme
	3-1	Process to determine material topics	Yes	Materiality Assessment
	3-2	List of material topics	Yes	Materiality Assessment
	3-3	Management of material topics	Yes	Materiality Assessment ESRS standards and discussion in the report
	201-2	Financial implications and other risks and opportunities due to climate change	Yes	Climate Risk Assessment 2024 Climate
nts 's	202-2	Proportion of senior management hired from the local community	Yes	All managers are Icelandic and are therefore considered to be from Orka's local community.
k	203-1	Infrastructure investments and services supported	Yes	Security of power supply and infrastructure EU Taxonomy Green Financing Report
	204-1	Proportion of spending on local suppliers	Yes	The Value Chain
	205-3	Operations assessed for risks related to corruption	Yes	No cases.
	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Yes	No pending or closed case in 2024 related to anti-competitive beha trust and monopoly practices in which HS Orka was a party.





207-1	Tax approach	Yes	HS Orka's tax approach consists of paying the correct taxes on time, without uncertainty and doubt to the extent possible. A special policy regarding the company's tax matters beyond this has not been approved.
207-2	Tax governance, control, and risk management	Yes	Supervision and responsibility for control and risk management for tax matters lies with the financial manager. The Audit Committee and the board of directors are regularly informed about the state of affairs. If there is any doubt or uncertainty about the interpretation of tax laws, an external expert opinion on tax issues is obtained.
207-3	Stakeholder engagement and management of concerns related to tax	Yes	The company strives to ensure that all communications with tax authorities are timely. Emphasis is placed on transparency and compliance with laws and regulations.
207-4	Country-by-country reporting	Yes	The company pays taxes where income is generated. HS Orka paid only taxes in Iceland in 2024.
301-1	Materials used by weight or volume	Yes	Resource streams
302-1	The company's energy consumption	In part	Own Energy Consumption
302-3	Energy intensity	Yes	Own Energy Consumption
302-4	Reduction of energy consumption	Yes	Own Energy Consumption
303-1	Interactions with water as a shared resource	In part	Resource management Resource streams Nature conservation and monitoring
303-3	Water withdrawal	Yes	Resource streams Security of power supply and infrastructure
303-4	Water discharge	Yes	<b>Resource streams</b> HS Orka's power plants are far from water discharge systems, so the company operates septic tanks that are emptied annually.
303-5	Water consumption	In part	Resource streams
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity	In part	Nature conservation and monitoring

but he	304-2	Significant impacts of activities, products and services on biodiversity	In part	Nature conservation and monitoring
ard	304-3	Habitats protected or restored	In part	Nature conservation and monitoring
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by	Yes	Sustainability report 2022 - Nature conservation, ecosystem and bio
es		operations	la a sut	Climate
	305-1	Direct GHG emissions (scope 1)	In part	Climate
	305-2	Indirect GHG emissions (scope 2)	Yes	Climate
	305-3	Other indirect GHG emissions (scope 3)	In part	Climate
	305-4	GHG emissions intensity	Yes	Climate
	305-5	Reduction in GHG emissions	In part	Climate
	305-6	Ozone depleting substances (ODS) emissions	Yes	HS Orka does not emit ozone-depleting substances into the atmosp
	305-7	Nitrogen oxides (Nox), sulfur oxides (Sox), and other significant air emissions	In part	Nature conservation and monitoring
	306-1	Waste generation and significant waste-related impacts	In part	Waste Management Resource streams
	306-2	Management of significant waste- related impacts	In part	Waste Management Of the waste generated in the operation, sorted and unsorted, with t exception of waste with enhanced levels of natural radiation and that
				was dumped in HS Orka's landscaping area, 86% found its way into and reuse.
	306-3	Waste generated	Yes	Waste Management
	306-3 (2016)	Significant spills	Yes	No significant spills occurred in 2024.
	306-4	Waste diverted from disposal	Yes	Waste Management



308-1	New suppliers that were screened using environmental criteria	In part	The Value Chain	
308-2	Negative environmental impacts in the supply chain and action taken	In part	The Value Chain HS Orka Sustainability Policy (www.hsorka.is)	
401-1	New employee hires and employee turnover	Yes	Human Resources and Equality	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Yes	Human Resources and Equality There is no difference in benefits depending on the employment rate.	
401-3	Parental leave	Yes	The right to parental leave is ensured by law. The total number of staff who went on parental leave during the year was five (one female and four male), an increase of two between years. Everyone who completed their parental leave returned to work.	
402-1	Minimum notice periods regarding operational changes	Yes	The general minimum notice period for permanent employees is three months.	
403-1	Occupational health and safety management system	Yes	Safety and work environment At HS Orka, safety and occupational health supervision is based on an occupational health and safety policy that is part of the company's operating system. HS Orka's safety management system covers all the company's personnel, contractors, service providers and visitors who come to the company's work areas. The safety management system is certified according to ISO 45001 and it also takes into account and ensures that the company complies with legal requirements such as occupational health and safety legislation and related regulations.	
403-2	Hazard identification, risk assess- ment, and incident investigation	Yes	Safety and work environment Governance	
403-3	Occupational health services	Yes	Safety and work environment	
403-4	Employee participation, consultation and communication on occupational health and safety	Yes	Safety and work environment 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 environmental matters in the work environment. The safety and environment committee's meetings take place at least four times a year.	

	403-5	Worker training on occupational health and safety	Yes	Safety and work environment Everyone who works in HS Orka's work area, whether they are employ of the company or contractors, receives training in safety, health and environmental issues before they can start their work. Skills are also maintained through courses, meetings and other training.
	403-6	Promotion of worker health	Yes	Human Resources and Equality The company pays into sickness benefit funds or operates according specific rules on these aspects. Employees can apply for various gran health club membership, massage, etc. HS Orka offers fitness facilities company's head office as well as host various health-related events.
	403-8	Workers covered by an occupational health and safety management system	Yes	Safety and work environment
_	403-9	Work-related injuries	Yes	Safety and work environment
	403- 10	Work-related ill health	Yes	Safety and work environment
	404-1	Average hours of training per year per employee	In part	Human Resources and Equality Figures are not broken down by gender and occupation.
	404-2	Programs for upgrading employee skills and transition assistance programs	Yes	Human Resources and Equality
	404-3	Percentage of employees receiving regular performance and career development reviews	In part	Human Resources and Equality Figures are not broken down by gender and occupation.
_	405-1	Diversity of governance bodies and employees	Yes	Human Resources and Equality
	405-2	Ratio of basic salary and remuneration of women to men	Yes	Human Resources and Equality
	414-1	New suppliers that were screened using social criteria	Yes	The Value Chain



### **Appendix 4:** Auditor's Limited Assurance Report

To the Board of Directors of HS Orka hf.

#### Conclusion

We have performed a limited assurance engagement on whether the 2024 sustainability report (report) of HS Orka hf. has been prepared in accordance with management's criteria which is based on GRI standards, selected ESRS criteria and the EU Taxonomy regulation, as is described further in the chapter "About the report" on p. 2.

Based on the procedures performed and evidence obtained, nothing has come to our attention to cause us to believe that presentation and information in HS Orka hf.'s 2024 sustainability report are not, in all material respects, in accordance with HS Orka hf.'s management criteria presented in the report and in compliance with the EU Taxonomy regulation.

#### **Basis for conclusion**

We conducted our engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB). Our responsibilities under those standards are further described in "Our responsibilities" section of our report.

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants, including International Independence Standards, issued by the International Ethics Standards Board for Accountants (IESBA).

Our firm applies International Standard on Quality Management (ISQM) 1, Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements, issued by the IAASB. This standard requires the firm to design, implement and operate a system of quality management, including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

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

#### **Emphasis of matter**

Without qualifying our conclusion, we draw attention to a discussion in a sub chapter of disclosures on the EU Taxonomy regulation, D Does not cause significant harm to the other environmental objectives, pollution prevention and control p. 14, where benchmarks and measures of certain chemicals in the air.

#### **Responsibilities for the sustainability report**

The report is presented by the Board of Directors and the CEO of the company and they are responsible for the decision of presenting the report in accordance with the selected criteria. They are responsible for designing, implementing, and maintaining internal control relevant to the preparation of the sustainability report. Furthermore, they are responsible for gathering, analysing and presenting the information in the report and that the report is free from material misstatements, whether due to fraud or error. The Board of Directors and the CEO are responsible for the appropriate training of the employees involved in the processing and presentation of the report and that information systems used are appropriate.

#### Appendix 4 - Auditor's Limited Assurance Report - Continued

#### Inherent limitations in preparing and presenting the sustainability report

The preparation and presentation of a sustainability report is based on the evaluation and assumptions of management which affects the information presented in the sustainability report. Future final results may differ from present evaluation and assumptions.

#### **Our responsibilities**

We are responsible for providing independent limited assurance on the company's sustainability report. We are responsible for planning and performing the engagement to obtain limited assurance about whether the sustainability report is free from material misstatement, whether due to fraud or error. We are responsible for forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained and reporting our conclusion to the Board of Directors of HS Orka hf.

#### Work performed as the basis for our conclusion

We exercised professional judgment and maintained professional scepticism throughout the engagement. We designed and performed our procedures to obtain evidence about the sustainability report that is sufficient and appropriate to provide a basis for our conclusion. Our procedures selected depended on our understanding of the report and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise. In carrying out our engagement, the procedures we performed primarily consisted of:

- Obtaining information from HS Orka hf. 's employees, in particular those responsible for the information presented in the report, analyse, evaluate and obtain confirmations as appropriate.
- Inquiries to management and other relevant employees to obtain understanding of HS Orka hf. 's process of preparing and reviewing the sustainability report.
- Obtain understanding of the company's process of preparing information on eligible and aligned operations in accordance with the EU Taxonomy regulation. As well as reviewing processes and information for key performance indicators (KPIs) and presentation of information in accordance with the EU Taxonomy regulation.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Reykjavík, 7th of March 2025

KPMG ehf.

Arni Claessen

# **Appendix 5:** Auditor's Limited Assurance Report - Green Finance

To the Board of Directors of HS Orka hf.

#### Conclusion

We have performed a limited assurance engagement on the allocation and impact of financing in the accompanying green finance report (report) which includes the financing of HS Orka hf.'s (company) liabilites in the year 2024. The financing is covered by the company's Green Finance Framework published in July 2022. The Framework is presented in accordance with Green Bond Principles, published by International Market Association (ICMA) in 2021, and Green Loan Principles, published by Loan Market Association (LMA) in 2023.

Based on the procedures performed and evidence obtained, nothing has come to our attention to cause us to believe that the allocation and impacts of the financing covered in the report is, in all material respects, in accordance with HS Orka hf.'s green financing framework.

#### **Basis for conclusion**

We conducted our engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB). Our responsibilities under those standards are further described in "Our responsibilities" section of our report.

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants, including International Independence Standards, issued by the International Ethics Standards Board for Accountants (IESBA).

Our firm applies International Standard on Quality Management (ISQM) 1, Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements, issued by the IAASB. This standard requires the firm to design, implement and operate a system of quality management, including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

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

#### **Responsibilities for the Green Finance Report**

The report is presented by the Board of Directors and the CEO of the company and they are responsible for the decision of presenting the report in accordance with the selected criteria. They are responsible for designing, implementing, and maintaining internal control relevant to the preparation of the report. Furthermore, they are responsible for gathering, analysing and presenting the information in the report and that the report is free from material misstatements, whether due to fraud or error. The Board of Directors and the CEO are responsible for the appropriate training of the employees involved in the processing and presentation of the report and that information systems used are appropriate.

Appendix 5 - Auditor's Limited Assurance Report - Green Finance - Continued

#### **Our responsibilities**

We are responsible for providing independent limited assurance on the company's green finance report. We are responsible for planning and performing the engagement to obtain limited assurance about whether the report is free from material misstatement, whether due to fraud or error. We are responsible for forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained and reporting our conclusion to the Board of Directors of HS Orka hf.

#### Work performed as the basis for our conclusion

We exercised professional judgment and maintained professional scepticism throughout the engagement. We designed and performed our procedures to obtain evidence about the report that is sufficient and appropriate to provide a basis for our conclusion. Our procedures selected depended on our understanding of the report and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise. In carrying out our engagement, the procedures we performed primarily consisted of:

- Obtaining information from HS Orka hf. 's employees, in particular those responsible for the information presented in the report
  - Analyse and evaluate the information
  - Obtain confirmation of the information presented in the report, as appropriate
- Inquiries to management and other relevant employees to obtain understanding of HS Orka hf. 's process of preparing and reviewing the report.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Reykjavík, 7th of March 2025

KPMG ehf.

Arni Claessen

Árni Claessen endurskoðandi