



# Community, Environment, and Employees

Norðurál CSR Report 2022

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Information in this report pertains to the companies included in the consolidated financial statements of Norðurál Grundartangi ehf. and Norðurál ehf. This is our second ESG publication based on GRI Standards, addressing all GRI disclosures related to Norðurál's performance. Disclosures are listed in the GRI Content Index. The report reflects the assessment of a steering committee concerning the operations, strategy, values, and objectives of the company. Materiality assessment was conducted with assistance from the GRI-certified consulting firm Langbrók ehf.

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Editor: Sólveig Kr. Bergmann, solveig@nordural.is

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# Challenges and responsibilities

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## Message from the Managing Director

This year marks the 25th anniversary of Norðurál's operations at the Grundartangi smelter. Since its establishment, Norðurál has grown steadily to become one of Iceland's largest industrial companies, amongst its largest energy consumers, and amongst its largest workplaces. With such achievements come great responsibilities.

[GRI 102-12](#)

[GRI 102-14](#)

[GRI 102-54](#)

Our primary aim is to produce aluminum, and one of our main objectives is to do so in harmony with the environment. To this end, we have adopted an ambitious climate action plan that applies both to production itself and to the broader environmental impacts that come with running a sizeable company. We were honored and grateful to have this acknowledged when we were named Iceland's 2022 Environmental Company of the Year. Along with the company's successes in its environmental and climate-related efforts, we are proud of the recognition this award confers.

**It is striking to note that if all the world's smelters produced aluminum the way Norðurál does, global CO<sub>2</sub> emissions would decrease by 550 million tons each year. By comparison, Iceland's annual emissions total 4.5 million tons.**

But we can still do more. Our climate actions are nowhere near complete, and we know we must carry our fair share of the burden. We therefore aim for carbon neutrality in our operations — a goal we believe is attainable.

At the heart of our social responsibility lies this very goal: value creation in a sustainable, responsible manner and with a positive impact on society. To achieve this, we actively pursue research and development projects seeking to capture, sequester, or harness the CO<sub>2</sub> released through our aluminum production. A number of these projects are underway, and many of them hinge upon the knowledge and ingenuity of our experts at Norðurál. We have high hopes for these endeavors.

Ever since Norðurál was founded, we have worked continuously to minimize the environmental impact of our operations, using energy and raw materials in the best ways possible. These principles — along with the health, safety, and well-being of our employees — are what Norðurál represents, past, present, and future.

**Gunnar Guðlaugsson**



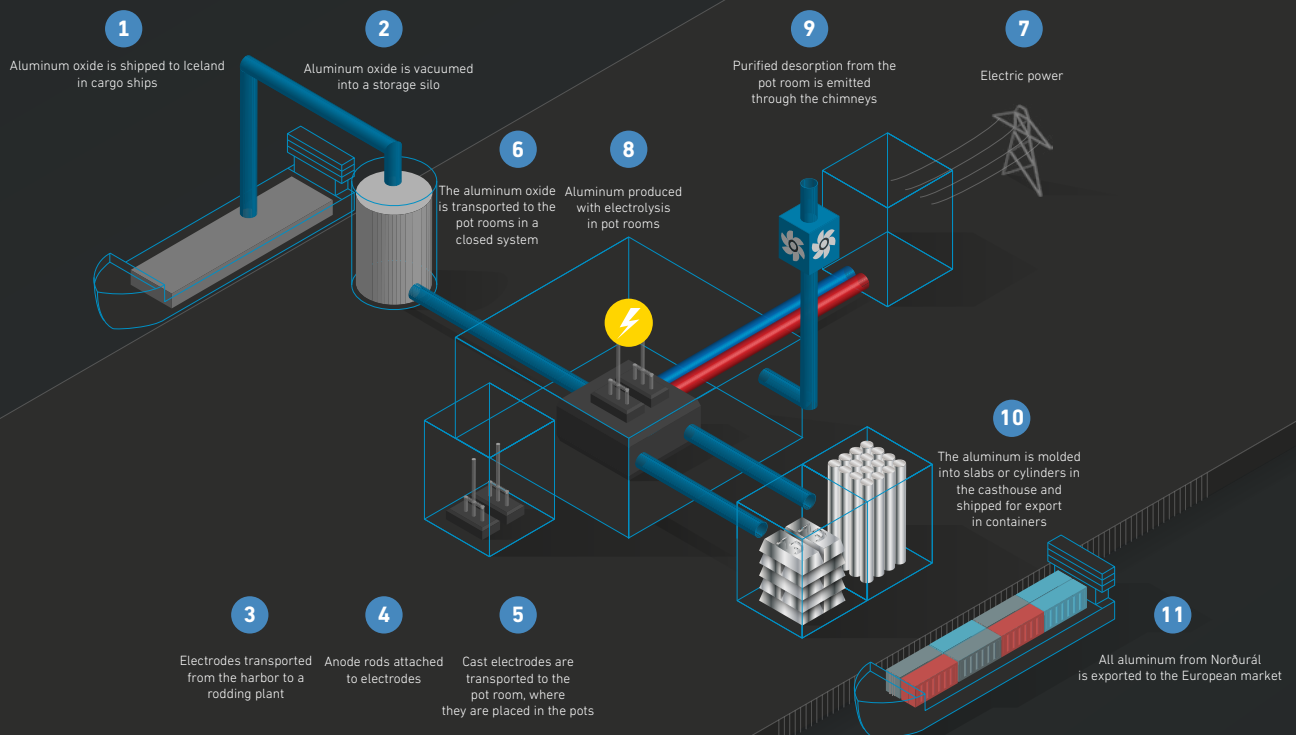
# About Norðurál

- GRI 102-1
- GRI 102-2
- GRI 102-3
- GRI 102-5
- GRI 102-6
- GRI 102-7
- GRI 102-9

Norðurál Grundartangi ehf. is a producer of aluminum and aluminum alloys for the international market. The company is licensed for an annual output of 350,000 metric tons of aluminum. In addition to our smelter in Grundartangi in western Iceland, we also have offices on Skógarhlíð in Reykjavík.

Norðurál Grundartangi is a private limited company owned entirely by Norðurál, a subsidiary of the US-based producer Century Aluminum. The Board of Norðurál Grundartangi oversees the company's organization and management, develops long-term objectives, and monitors day-to-day operations.

In 2022, Norðurál Grundartangi held contracts with Concord Resources Limited and Glencore International for sales of all aluminum for production and delivery during the year. Our contracts were based on London Metal Exchange reference prices and included a premium for sales across the European Union.



## Norðurál's social responsibility

At Norðurál, we strive to respect the environment, our community, and human rights. We work continuously to minimize the environmental impact of our activities and to use energy and raw materials more efficiently. The health, safety, and well-being of our staff are top priorities. We ensure all employees' rights to equal opportunities and remuneration irrespective of gender, sexual orientation, religion, or national origin, and we remain committed to staff career development throughout our value chain. Further, we strive to undertake our procurement with integrity, in line with the company's values.

Norðurál adheres to a strong internal risk management framework based on four categories of risk: strategic, financial, operational, and environmental.

Our operations are greatly affected by fluctuations in the market value of aluminum, energy prices and supply, payroll expenditure, and procurement costs of essential materials such as alumina and anodes. Salaries, taxes, and other operational expenses are in ISK, while the company's revenue is mostly in USD. Adverse changes to any of these factors could have considerable impacts on the company's operations.

Main strategic opportunities for Norðurál lie in the small carbon footprint of Icelandic aluminum, as well as the country's location within a market area where demand for aluminum is high.

**Norðurál is one of Iceland's largest industrial companies, amongst its largest workplaces, and one of the largest consumers of Icelandic electricity. Creating long-term value in a sustainable and responsible manner — with a positive impact on society — is at the heart of our corporate social responsibility.**

## Focus areas

### Production in harmony with the environment

We work continuously to minimize our environmental impact through responsible use of energy and raw materials. We also aim to increase environmental awareness amongst our employees, encouraging staff participation in procedural reforms. Norðurál satisfies the requirements for its operating licenses and complies with environmental laws and regulations.

### Climate action plan

Norðurál's ambitious climate target is a 40% reduction in greenhouse gas emissions outside the EU Emissions Trading System by 2030.

### Targeted environmental monitoring

Environmental monitoring in and around Hvalfjörður considers around 100 indicators for air quality, seawater and freshwater quality, and livestock and plant health.

Such monitoring is undertaken by independent entities to ensure the company's operations do not adversely impact our local environment.

### Waste reduction and efficient resource use

Norðurál uses the accounting system through the Green Steps Program (Græn skref) to keep detailed records of all materials going in and out of the smelter. We aim to use materials as efficiently as possible and to maintain comprehensive reports of waste disposal.

### People first

We strive to conduct our operations and professional activities with respect for human rights. Norðurál ensures all employees' rights to equal career opportunities and remuneration irrespective of gender, sexual orientation, religion, or national origin. The company aims for continuous improvements in these regards and complies with all relevant laws and regulations.

### Staff participation in occupational risk management

The health and safety of staff is of utmost importance. Employees are trained in best practices and are informed of risks, ensuring work is not carried out in unsafe conditions. We emphasize active staff participation in accident prevention and improvements to workplace safety. Norðurál complies with all laws and regulations concerning health and safety.

### Commitment to the community

Our company is part of a larger community that includes our families, our neighbors, and the local environment as a whole. We are proud of our community, and we hope the community will be proud of us.

### Responsible business practices

Norðurál believes social responsibility includes sharing our expertise with the academic community and innovative industries alike. Through dynamic collaboration and cooperation, we hope to become more efficient in our operations and reduce our greenhouse gas emissions.

### Responsible procurement

Norðurál undertakes all procurement with integrity, responsibility, and efficiency in mind. We take quality and environmental and health considerations into account when contracting suppliers and continue to make improvements in these regards. The company complies with all applicable laws and regulations on procurement.

### Continuous improvement

It is our belief that there is always room for improvement. Rather than resting on laurels, we actively pursue opportunities for the company to evolve.

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# 2022 in review

GRI 102-10

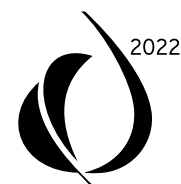
GRI 102-12

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## Environmental Company of the Year 2022

On October 5, the Confederation of Icelandic Enterprise announced Norðurál as the Environmental Company of the Year. The jury praised the company for setting clear and reasonable goals through a climate action plan with well-defined objectives.

While the carbon footprint of Norðurál's aluminum products is amongst the lowest in the world, our aim is to achieve carbon neutrality. To this end, the company collaborates in research and development projects seeking innovative technical solutions to make this possible. We offer environmentally conscious consumers products under the Natur-Al™ brand, marketed as Icelandic aluminum. These products are traceable from cradle to gate through a life-cycle assessment carried out by an independent party. From the extraction of raw materials to delivery of consumer products, emissions per ton of Natur-Al™ aluminum are under a quarter of the global average for aluminum production.



UMHVERFISVERÐLAUN  
ATVINNULÍFSINS



## New casthouse

In January 2022, ground was broken in Grundartangi for a new billet casthouse with a footprint of around 8200 m<sup>2</sup>. Construction of the building's steel frame began at the end of the year. The new casthouse will enable Norðurál to take a further step in the value chain of aluminum production, meeting European consumers' high demand for the aluminum billets used in vehicles, construction, and electronics. Production of billets is expected to begin in 2024 once the casthouse is complete.

The billet casthouse represents an investment of around 120 million USD (nearly 16 billion ISK) and received green financing from Arion Bank. Ístak and its contractors are responsible for construction based on engineering primarily designed by Verkís. Others involved in the project are the engineering and consulting companies Efla, Lota, Mannvit, and HSE.

## Energy shortage

Due to unusually low water levels in reservoirs at the beginning of 2022, Landsvirkjun cut its electricity supply to customers — including Norðurál — for three months. This nationwide energy shortage had a major impact on our operations, including the amount of aluminum produced during the year.

## Graduation from the School of Heavy Industry

In December, ten students graduated from the Norðurál School of Heavy Industry. Nearly two hundred students have completed courses at the school since it opened in 2012. The school supports value creation by strengthening the company's competitive edge, improving workplace safety, and increasing job satisfaction.

The Norðurál School of Heavy Industry operates in cooperation with the Centre for Continuing Education in West Iceland and the Comprehensive College of West Iceland. Courses are also taught by specialists from Norðurál.

## Equality Scale award

For the second year in a row, Norðurál was awarded the Equality Scale from the Association of Businesswomen in Iceland (FKA). The award recognizes companies that have achieved a 40/60 gender ratio at the executive level.

## Norðurál Tournament

As always, there was vim and vigor in Akranes at the Norðurál Tournament, where many young players take their first steps on the football field. The tournament began on June 16 with matches for eight-year-olds; there were 570 participants across 80 boys' teams and 18 girls' teams. On June 17, Icelandic National Day, the seven-year-olds began their games after a parade through Akranes, with 1150 boys competing. The total number of participants was around 1700, making Norðurál's tournament one of the nation's largest.





# Certifications, quality standards, ethics, and laws

GRI 102-9  
GRI 102-11  
GRI 102-12  
GRI 102-13  
GRI 102-22  
GRI 102-25  
GRI 412-3  
GRI 414-1  
GRI 414-2

Norðurál has ASI certification for environmentally friendly and responsible production, an ISO 9001-certified quality management system, and an environmental and safety management system certified according to ISO 14001 and ISO 45001 standards. The company has been awarded the PwC Gold standard for equal pay according to ÍST 85:2012. Strategic management objectives are planned in accordance with GRI standards. In accordance with our focus areas in social and environmental concerns, we are also guided by four of the UN Sustainable Development Goals.

## ASI certification

The ASI (Aluminium Stewardship Initiative) is an international association of leading producers of primary aluminum and raw materials, environmental organizations, and CSR organizations, together with producers of aluminum and aluminum alloy products. The organization aims to encourage corporate social responsibility and environmentally friendly practices in aluminum production and use, from primary raw material processing to final product and aluminum recycling. From mining companies to world-renowned brands in the beverage, automotive, and consumer electronics markets, the association brings together partners from all sectors and from all over the world.

In January 2020, Norðurál became the first aluminum company in Iceland to receive ASI certification. This certification confirms the company's business practices and production are socially and environmentally responsible.



## ISO certifications

Norðurál uses an ISO 9001-certified quality management system, as well as an environmental and safety management system certified according to ISO 14001 and ISO 45001 standards. Certification extends to Norðurál's production of aluminum and alloys.

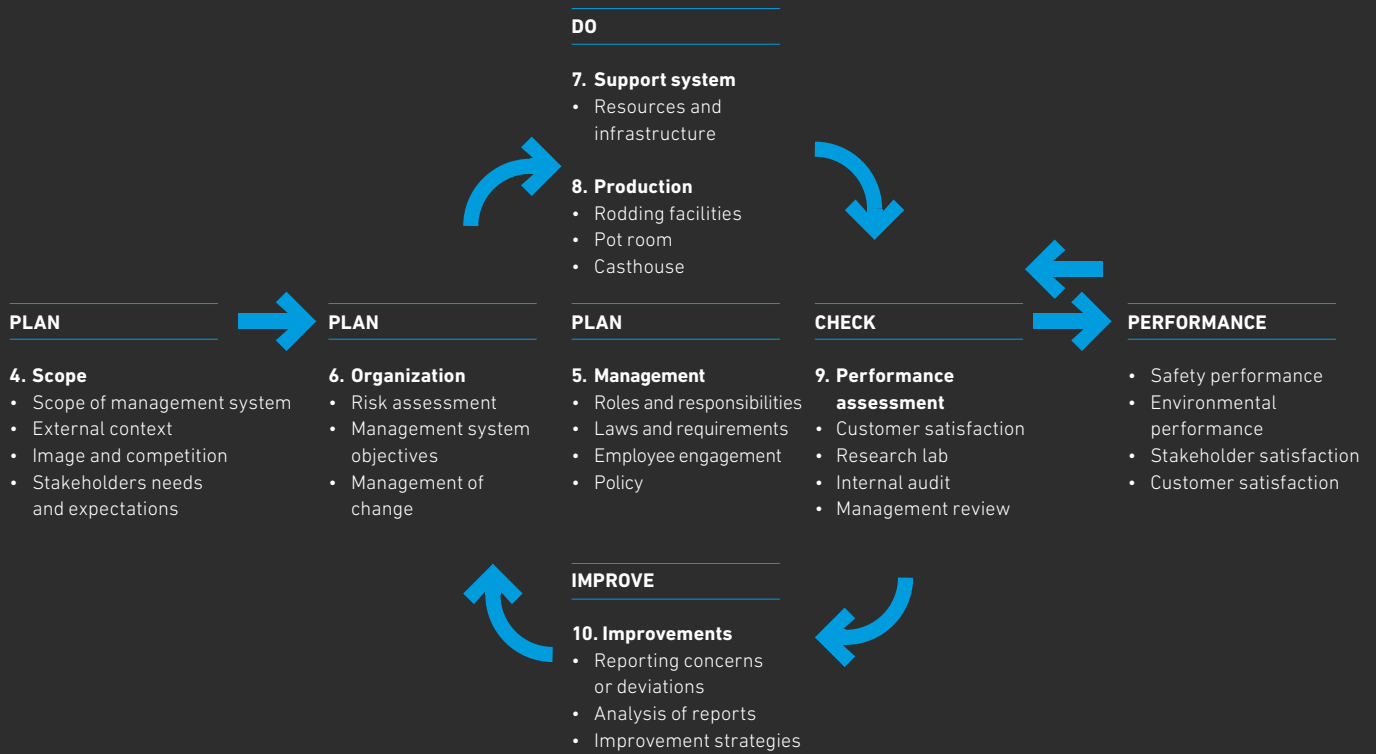
ISO standards are based on the Plan-Do-Check-Act principle of continuous improvement and require an integrated management system designed to comply with conditions of the standards. Management systems are maintained through third-party audits as well as periodic internal evaluations. Our management system audits were first conducted in 2012 (ISO 9001) and 2013 (ISO 14001 and ISO 45001).

Norðurál has implemented the Equal Pay Standard ÍST 85:2012 and has received certification with the PwC Gold standard.

**Management system overview**

**Company activities**

**Business environment and society**



Norðurál's management system follows a handbook with guidelines for quality and best practices, as well as a feedback system for reporting deviations or concerns. Such reports are reviewed and followed by strategies for prevention and improvement. The management system extends to all Norðurál operations, including staff and contractors.

- GRI 102-12
- GRI 102-25
- GRI 102-40
- GRI 102-42
- GRI 102-43

We operate in compliance with regulations pertaining to financial statements, private limited companies, workplace hygiene and safety, consumer protection, data protection, and money laundering, in addition to general corporate legislation and national law. The company satisfies all requirements for its operating licenses, complies with environmental laws and regulations, and operates pursuant to Iceland's commitments to the Paris Agreement on the reduction of emissions outside the ETS system.

Emphasis is placed on employees' awareness of and participation in the company's policies on the environment, health and safety, and human rights.

Norðurál's policies can be found [here](#).

GRI 102-12  
 GRI 102-13  
 GRI 102-40  
 GRI 102-42  
 GRI 102-43  
 GRI 102-44  
 GRI 207-3  
 GRI 413-1

## Stakeholder partnerships

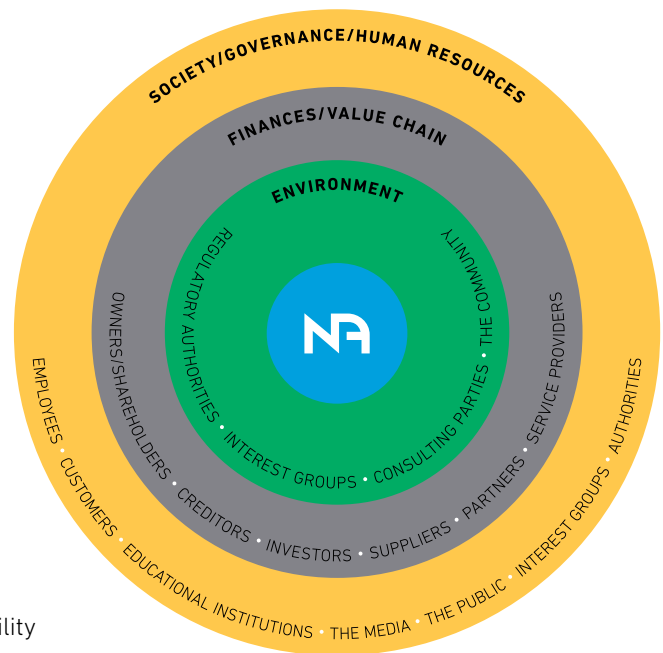
**Much of our work is the result of cooperation and dialogue with our partners. Relationships with these parties are based on our commitment to honest and transparent communication — an integral part of the company’s continued success.**

Many aspects of our partnerships, including the frequency of communications, are determined by the nature of different stakeholder organizations. Information is exchanged according to a communications plan, and project implementation is tracked through the company’s management systems. Suppliers and contractors are expected to uphold Norðurál’s environmental and safety standards as well as the company’s Code of Ethics. We value feedback from our partners and respond to all queries.

Partnerships are based on grounds for cooperation and common interests.

### Norðurál has partnered with the following organizations and associations:

- Aluminium Stewardship Initiative (ASI)
- Álklasinn — Aluminium Industry Cluster Initiative
- European Aluminium
- Festa — Icelandic Center for Corporate Social Responsibility
- Grænvangur — Green by Iceland
- Samál — Association of Icelandic Aluminium Producers
- Samtök atvinnulífsins — Confederation of Icelandic Employers
- Samtök iðnaðarins — Federation of Icelandic Industries



## Role



Creating value in a competitive manner



Producing aluminum that meets consumers' needs



Operating in a socially responsibly manner

## Vision



To be a world-class company



To be an accident-free workplace



To be a sought-after employer

## Values



Efficiency



Unity



Integrity

## Ethics and integrity

Century Aluminum, the parent company of Norðurál, and all its subsidiaries are committed to upholding the highest professional standards for honesty, ethics, and integrity. All directors and managers must abide by the company's Code of Ethics, which defines clear guidelines on anti-corruption and professional conduct in accordance with our standards. No employee may promise, offer, or accept payment in cash or other valuables, whether directly or through an intermediary, to parties public or private, nor to the spouse, partner, child, or other relative of such a party, for the purpose of influencing or rewarding the actions or decision-making of such parties, or for personal gain. Suspected violations of the Code of Ethics may be reported to the General Counsel ([generalcounsel@centuryaluminum.com](mailto:generalcounsel@centuryaluminum.com)) or anonymously through Ethical Advocate, an independent third-party reporting system. Reports can be made 24 hours a day, 7 days a week, by calling 800 9610. All reports are taken seriously and are subject to internal investigation.

**Norðurál expects all associates and suppliers — whether customers, contractors, agents, or consultants — to operate with honesty and integrity.**

**GRI 102-11**

**GRI 102-12**

**GRI 102-17**

**GRI 102-25**

**GRI 102-38**

**GRI 205-1**

**GRI 205-2**

**GRI 412-3**

**GRI 414-1**

# UN Global Goals

GRI 102-12  
GRI 102-38

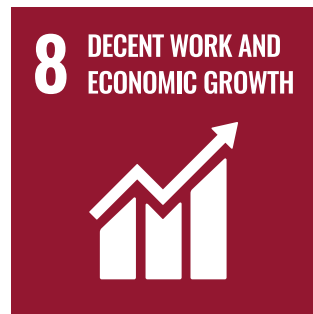
Iceland is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) as well as to the Kyoto Protocol and the Paris Agreement. The UNFCCC is the main forum for the nations of the world to agree on a coordinated response to climate change. It is essential that major Icelandic companies improve their environmental performance to support the government in upholding its commitments.

The United Nations has defined 17 Global Goals with 169 targets ranging from domestic affairs to global cooperation. These intertwined goals support the three pillars of sustainable development: economic, social, and environmental responsibility.

## Norðurál focuses systematically on the following four UN Global Goals:



Norðurál's equal pay certification, our policy and objectives on equality and human rights, and our equality plan all support Global Goal 5: **achieving gender equality and empowering all women and girls.**



Our health and safety policy and objectives, as well as our policy and objectives on human rights and equality, help us **promote sustained, inclusive, and sustainable economic growth; full and productive employment; and decent work for all.**



The company's quality policy and objectives, environmental policy and objectives, procurement policy and objectives, operating license, and environmental monitoring guide us in **ensuring sustainable consumption and production patterns.**



Norðurál's environmental policy and objectives, climate action plan, procurement policy and objectives, and participation in research and innovation projects are the company's key actions supporting Global Goal 13: **urgent action to combat climate change and its impacts.**

# Annual revenue and value for the community

GRI 102-7  
GRI 201-1  
GRI 203-2  
GRI 204-1  
GRI 207-1

As in 2021, market conditions were favorable in 2022. Reference prices for aluminum had decreased in 2020, dropping as low as 1,460 USD per ton in April; prices then rose as the year progressed, for an annual average of 1,700 USD. This trend has continued, with prices per ton of aluminum averaging 2,480 USD in 2021 and 2,820 USD in 2022.

Norðurál's exports amounted to 141 billion ISK in 2022. Of this revenue, 64.5 billion ISK was paid to Icelandic parties in the form of public levies, salaries, and procurement from domestic suppliers and service providers. Salaries and payroll expenses amounted to 7.9 billion ISK, with an average annual salary of 9.8 million ISK.

Norðurál contributes to the community in a variety of ways. The company's tax footprint in 2022 was 5.0 billion ISK. Through revenue in foreign currency, purchase of domestic goods and services, payment of taxes and public fees, creation of well-paid jobs, and wide-ranging support of the west Iceland community, Norðurál has a positive impact on the national economy.

**Norðurál's aluminum production in 2022 was 306,267 tons, a decrease of around 9,000 tons from the previous year. This decrease is mainly a result of the energy cut in the first quarter of the year, when electricity supplied to major consumers was reduced due to a national shortage. Around 63,000 tons of Norðurál's output is in the form of value-added product or alloy. Profits in 2022 amounted to 29.7 ISK.**

Key figures for 2022	ISK (millions)
Revenue	140,897
Profit	29,712
EBIDTA	16,188
Investments	5,983
Equity ratio	70%
Return on equity	25.1%
Employees	632
Aluminum production (tons)	306,267

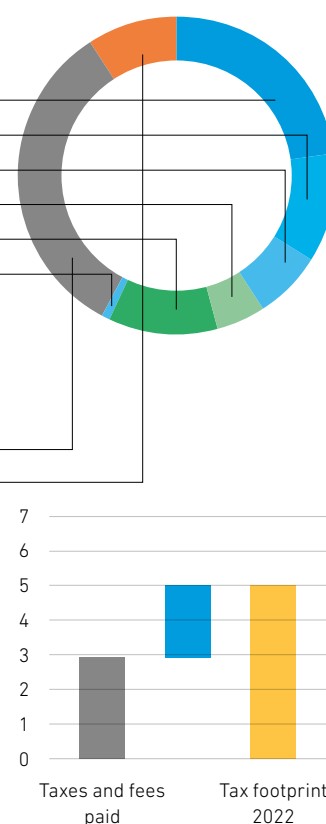
In 1997, Norðurál signed an investment agreement with the Icelandic government effective until October 31, 2018. In 2016, Norðurál activated the contractual provision on changes to taxation so that as of 2017, the company has forfeited previous privileges and has been subject to national tax regulations.

The investment agreement is available [on the website of the Ministry of Industries and Innovation](#).

## Norðurál's tax footprint

In 2022, the economic value of the company's operations — including sales revenue, capital gains, and profits from sales of assets — amounted to over 167 billion ISK. Of this, 64.5 billion ISK was returned to the domestic economy through salaries, payroll expenditures, purchase of electricity, procurement of goods and services, and taxes and other public fees.

Norðurál's tax footprint, 2022	ISK (millions)	%
<b>Taxes and fees paid</b>		
Income tax	0	0%
Pension fund contributions	1,133	23%
Social security contributions	553	11%
Property tax	360	7%
Harbor fund payments	267	5%
Carbon tax	529	11%
Environmental protection	40	1%
Other taxes and fees	7	0%
<b>Total taxes and fees</b>	<b>2,888</b>	
<b>Taxes collected</b>		
Salaries and payroll expenses	1,640	33%
Pension fund premiums	435	9%
<b>Total taxes collected</b>	<b>2,075</b>	
<b>2022 tax footprint</b>	<b>4,963</b>	100%



Norðurál's tax footprint includes all taxes and fees paid or collected by the company in Iceland, as well as reciprocal contributions to employee pension funds. Taxes collected as a result of the company's operations are not considered costs but do have associated administrative costs. The economic contribution (value) of the company's operations in 2022 amounted to 141 billion ISK and consisted of sales revenue, capital gains, and profits from sales of assets.

	2020	2021	2022
Salary payments and payroll expenses	7.9	7.4	7.9
Total payments to domestic parties	28.4	44.4	64.5
Total export value	77.2	100.5	140.9
Domestic payments as share of total revenue	36.7%	44.2%	45.8%
Tax footprint	4.7	5.8	5.0
Average annual salary of employees	10.7	9.7	9.8
Economic value generated	77.9	106.2	167.0

Amounts in millions ISK at the average exchange rate of each year.

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## EU Emissions Trading System

Greenhouse gas emissions directly linked to Norðurál's production process fall under the scope of the EU Emissions Trading System (EU ETS), which aims to reduce industrial emissions from major European companies through the purchase and sale of emissions allowances. The EU ETS therefore functions as an economic incentive for businesses to reduce their emissions. In 2022, Norðurál paid 529 million ISK for emissions allowances.

## Green financing for new casthouse

Construction of Norðurál's billet casthouse went well in 2022 and is scheduled to be completed in the first half of next year. The new casthouse will enable domestic production of more valuable aluminum products with a lower carbon footprint. Billet production in Iceland will reduce energy consumption by around 40%.

The casthouse represents an investment of around 120 million USD, or almost 17 billion ISK. Construction was financed by Arion Bank through its new Green Financing Framework, which is based on International Capital Market Association (ICMA) guidelines as well as EU classification systems and the UN Global Goals.

## Business integrity

Norðurál's parent company, Century Aluminum, and its subsidiaries are committed to ethical conduct and lawful operations worldwide. American and international laws and regulations prohibit corrupt practices and transactions, such as misleading or fraudulent accounting and reporting.

Our detailed policy documents, which define our standards and protocols, ensure the company fulfils all legal and social requirements for the ethical conduct of an honest and reputable organization.



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# Environment

Norðurál has been successful in its efforts to limit greenhouse gas emissions, reduce waste, and improve our use of raw materials. As a result of efficient production methods and careful monitoring, emissions per ton from our aluminum are amongst the lowest in the world. We constantly seek ways to reduce other operational emissions, guided by a detailed action plan and clear goals.

At Norðurál, we aim to conduct our operations in harmony with the environment, minimizing our impact and practicing responsible use of energy and raw materials. The company promotes environmental awareness amongst employees and encourages staff contributions to workplace reforms. Norðurál satisfies all requirements for its operating licenses and complies with environmental laws and regulations.

## Environmental objectives

- **Reduction of emissions**
- **Employee awareness of environmental impacts**
- **Responsible recycling and waste management**

## Carbon neutrality

**Norðurál's aluminum products have one of the lowest carbon footprints in the world. From the extraction of raw materials to delivery of consumer products, emissions per ton are under a quarter of the global average for primary aluminum production. We aspire to be the first smelter in the world to produce carbon-neutral aluminum.**

The largest source of greenhouse gas emissions from smelters is the CO<sub>2</sub> released when carbon electrodes are burned through electrolytic reduction. Despite all available technology, there is no other way for smelters to extract pure aluminum from aluminum oxide. For that reason, there are two options considered viable for reducing emissions:

1. Developing a new type of anode that does not result in the binding of carbon and oxygen, which would result in negligible CO<sub>2</sub> emissions.
2. Carbon capture from potroom and chimney exhaust. The main challenge with this approach is that the CO<sub>2</sub> concentration of exhaust gasses is low, approximately the same as atmospheric levels.

**Through participation in innovative research and development initiatives, Norðurál aims to make its aluminum production completely carbon neutral. The following are some of the projects carried out in Iceland that depend upon the ingenuity and expertise of Norðurál's specialists:**

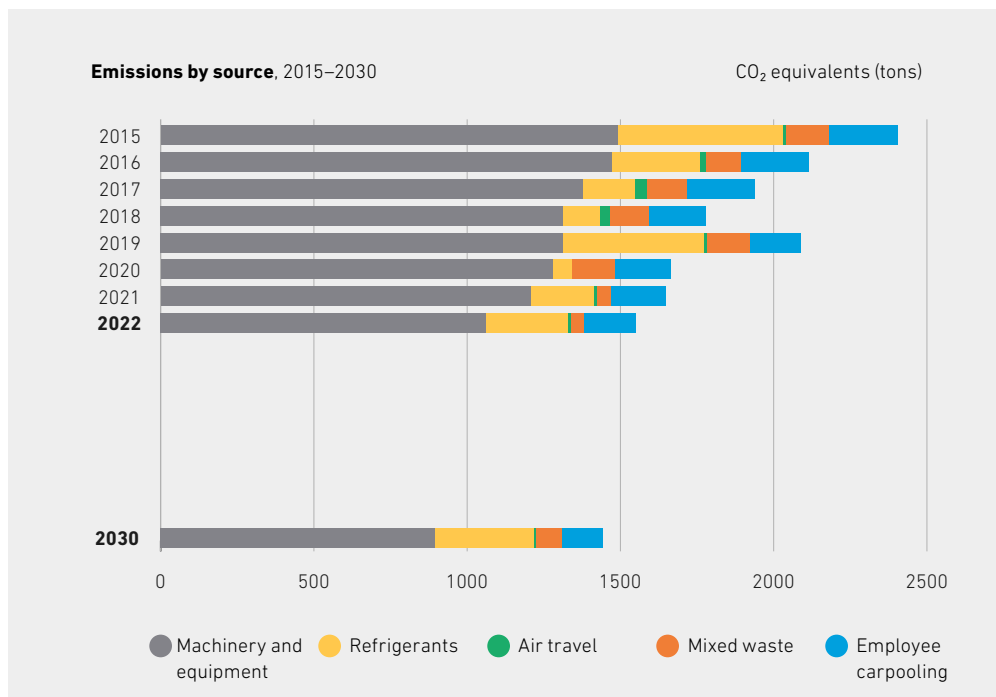
- Norðurál is working with Norwegian company Ocean Geoloop to capture emissions from the production process. Hydroelectric technologies will utilize CO<sub>2</sub> from the smelter to generate electricity, resulting in an automatic carbon-capture solution for Norðurál.
- A collaboration with the Qair Group, a producer of renewable electricity, also seeks to develop solutions for the capture and sequestration of carbon emitted through aluminum production. Qair plans to use CO<sub>2</sub> to produce e-fuel.
- Students at Reykjavík University have been sponsored by Norðurál to help develop methods for achieving carbon neutrality. Support has been provided through grant applications and access to data and experts.
- Guðrún Arnbjörg Sævarsdóttir, Professor in the Department of Engineering at Reykjavík University, has received a Research Fund grant to find ways to increase the CO<sub>2</sub> concentration in Norðurál's chimney exhaust. Higher concentrations would enable sequestration solutions such as CarbFix to be used.
- Along with the Icelandic government and Reykjavík Energy, Norðurál has signed a declaration of intent to investigate whether CarbFix might be a viable option for reducing industrial CO<sub>2</sub> emissions. As Reykjavík Energy's biggest customer, we have been involved in the CarbFix project since its inception.
- Norðurál has assisted Arctus Metal in their efforts to develop carbon-free anodes.

## Climate action plan

Environmental impacts of greenhouse gas emissions from Norðurál's operations are twofold. First, there is the emissions impact of aluminum production itself, which is regulated by the EU Emissions Trading System. There is also the general emissions impact that comes with the operation of a large company. For this reason, we maintain two types of environmental accounting: one focused on production and another to track emissions from the company's other activities.

While we have set ambitious targets for aluminum production itself, we are equally determined to minimize greenhouse gas emissions that do not fall under EU ETS regulation. This is in line with Iceland's commitment to the Paris Agreement, which stipulates an emissions reduction of at least 40% of 2015 levels by the year 2030; it also calls for a 40% reduction of waste sent to landfill compared to 2015 amounts.

Positive results have already been achieved. Emissions of greenhouse gasses within the scope of our climate action plan have decreased by 35% and the amount of non-recyclable waste by 70%.



**Fuel consumption for machinery and equipment is the largest share of non EU ETS emissions, and a 29% reduction has already been achieved.**

**Our climate action plan includes ten actions for mitigating emissions from activities not under the scope of the EU ETS, or not part of aluminum production itself.**

<b>Machinery and equipment</b>	
Objective: 940-ton reduction of CO <sub>2</sub> equivalents .....	<b>Action 1:</b> Conversion to electric equipment
<b>Refrigerants</b>	
Objective: 40% reduction .....	<b>Action 2:</b> Improved recordkeeping on refrigerants use
.....	<b>Action 3:</b> Review of refrigerant types
<b>Employee transport via carpooling</b>	
Objective: 40% reduction of emissions .....	<b>Action 4:</b> Action plan for conversion to electric vehicles
<b>Employee international air travel</b>	
Objective: 40% reduction .....	<b>Action 5:</b> Review of approval process: employees must provide sufficient reasons for international travel
<b>Recycling and waste disposal</b>	
Objective: Reduce disposal of general waste by 40%	
.....	<b>Action 6:</b> Reduction in use of plastic
.....	<b>Action 7:</b> Identify opportunities for recycling production waste otherwise sent to landfill
.....	<b>Action 8:</b> Coordination of waste labeling
.....	<b>Action 9:</b> Staff education on waste and environmental issues
.....	<b>Action 10:</b> Support of industry-related research projects

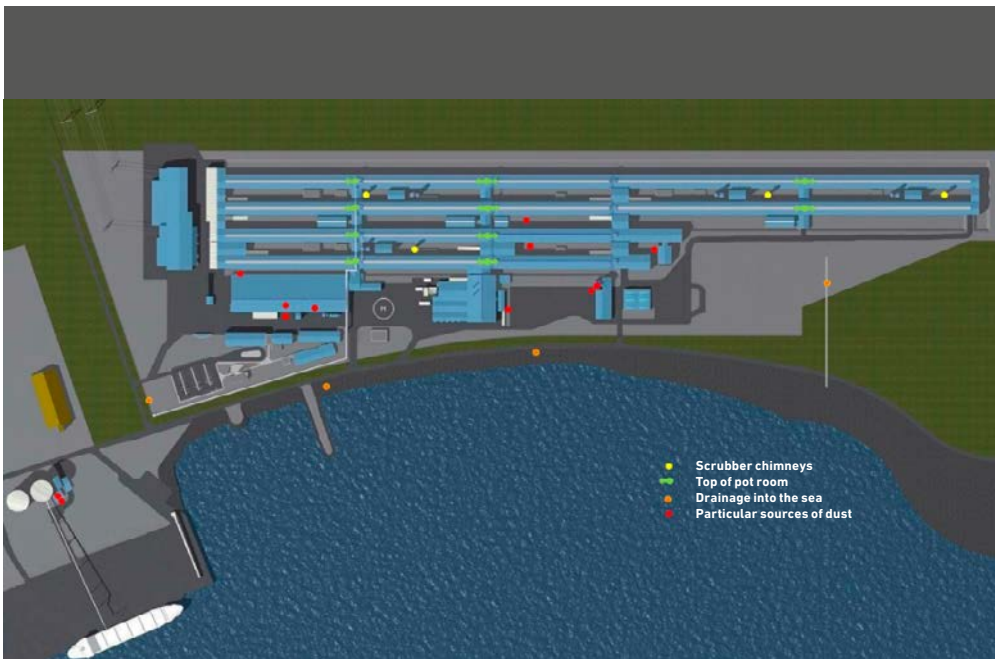
Additional information on our Climate Action Plan can be found [here](#)

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## Environmental monitoring

Norðurál's immediate environment around the port of Grundartangi is one of Iceland's most studied areas. Environmental monitoring in and around Hvalfjörður considers around 100 indicators for air quality, seawater and freshwater quality, and livestock and plant health. Such monitoring is undertaken by independent entities to ensure the company's industrial activities at Grundartangi do not adversely impact the local environment. Monitoring of the Grundartangi site follows a plan set in accordance with requirements for operating licenses and approved by the Environment Agency of Iceland. Elkem Ísland, Norðurál Grundartangi, and Alur Álvinnsla participate in monitoring of the area.

Our latest environmental monitoring report can be found [here](#)



Monitoring locations for local emissions

## Continuous monitoring in production areas

In addition to annual monitoring by independent parties, continuous measurements are taken in production areas to monitor fluoride, dust, and sulfur dioxide emissions from potrooms and scrubbers. Fluoride emissions from potrooms are assessed, on the one hand, through measurements of internal fluorine gas concentrations via diode laser absorption spectroscopy and, on the other hand, through measurements of air volume in potroom exhaust via airflow sensors.

# Green accounting

GRI 301-1  
GRI 302-1  
GRI 303-5  
GRI 405-1

We strive to use our raw materials as efficiently as possible and to accurately report how we dispose of waste. Norðurál uses an accounting system through the Green Steps Program (Græn skref) to keep detailed records of all materials going in and out of the smelter. These records clearly demonstrate our efforts have yielded significant results in a number of areas, from greater material efficiency to organic waste composting in the canteen.

## Employees, raw materials and resource consumption

Quantity	2020	2021	2022	Unit
Employees	581	601	631	
Electricity	4,626,000	4,669,000	4,566,844	MWh
Oil	466,822	440,690	387,619	litres
Gas	33	32	22	tonnes
Fresh water	180,611	177,116	163,733	m <sup>3</sup>
Sea water	7,884,000	7,884,000	7,884,000	m <sup>3</sup>
Total raw materials used	2.37	2.39	2.38	t/t Al
Imported raw material	2.37	2.39	2.38	t/t Al
Hazardous substances (solid)	605,101	614,410	592,526	tonnes
Hazardous substances (liquid)	493,990	466,947	417,715	litres
Misc. packaging	< 400	< 400	< 400	tonnes

# Emissions and waste management

GRI 301-2  
GRI 305-1  
GRI 306-1  
GRI 306-2

Quantity	2020	2021	2022	Unit
<b>Atmospheric emissions</b>				
Fluoride (gaseous and particles)	0.38	0.38	0.40	kg/t Al
Sulphur dioxide SO <sub>2</sub>	8.64	10.62	11.69	kg/t Al
Dust	0.70	0.71	0.71	kg/t Al
Carbon Dioxide CO <sub>2</sub>	1.50	1.53	1.55	t/t Al
Fluorocarbons, PFC CO <sub>2</sub> equivalents	0.14	0.15	0.13	t CO <sub>2</sub> eq. /t Al
Polyaromatic hydrocarbons PAH <sub>16</sub>	0.000058	0.000056	0.000079	kg/t Al
<b>Release into surface water/groundwater/sea</b>				
Sludge	0.07	0.05	0.05	kg/t Al
Oil/fat in cooling agents from potroom and rectifiers	< 0.5	< 0.5	< 0.5	ppm
<b>Release into municipal sewage system</b>				
From septic tanks	0.07	0.05	0.05	kg/t Al
<b>Waste disposal</b>				
Compactable waste	0.50	0.40	0.45	kg/t Al
Seashore repository	36	33	28	kg/t Al
<b>Recyclable waste</b>				
Anode waste and coal dust	109	111	114	kg/t Al
Aluminum slag	8.8	9.2	8.5	kg/t Al
Wood	1.0	1.1	0.9	kg/t Al
Scrap metal	2.1	2.6	2.1	kg/t Al
Cardboard	0.12	0.12	0.12	kg/t Al
Plastic	0.04	0.03	0.05	kg/t Al
<b>Hazardous waste for disposal</b>				
Total waste	0.02	0.01	0.03	kg/t Al

Norðurál no longer sends non-recyclable industrial waste to landfill. Instead, it is compacted into pellets and exported, primarily to Denmark, and used as refuse-derived fuel (RDF). This RDF both decreases the use of fossil fuels and reduces domestic greenhouse gas emissions associated with landfills.

# Waste

Quantity	2020	2021	2022	Unit
<b>Material from the sewer</b>				
Sludge	21.2	16.4	14.9	tonnes
Other waste (from septic tanks)	8.4	6.6	3.2	tonnes
<b>Recyclable waste</b>				
Anode butts	32,769	33,750	33,429	tonnes
Carbon dust	1,266	1,302	1,409	tonnes
Bath material	2,888	1,823	2,982	tonnes
Aluminum dross	2,762	2,890	2,603	tonnes
Busbars	1,986	1,714	1,341	tonnes
Anode stub metal	-	-	-	tonnes
Scrap iron	645	830	640	tonnes
Timber	307	362	273	tonnes
Cardboard	38	37	36	tonnes
Plastic	13	10	14	tonnes
Waste oil	29	4	7	tonnes
Rubber tires	1.7	9.8	9.4	tonnes
Batteries and electronics	5.1	3.9	5.7	tonnes
Textile	4.1	2.9	1.9	tonnes
Light bulbs	0.20	0.17	0.26	tonnes
Oil contaminated waste	9	8	9	tonnes
Asphalt	-	-	-	tonnes
<b>Hazardous waste</b>				
Electronics – hazardous waste	0.00	0.4	-	tonnes
Hazardous waste	4	2	7	tonnes
Paint	0.8	0.4	0.8	tonnes
<b>Substances in flood pits</b>				
Spent potlining	8,289	7,008	5,793	tonnes
Carbon from rodding shop	1,275	1,409	1,221	tonnes
Carbon from pot rooms	1,224	1,242	1,110	tonnes
Dust from sweeper	-	-	-	tonnes
Residual refractory material	498	413	274	tonnes
Spent refractory material	121	127	51	tonnes
Earth materials	-	75	-	tonnes
<b>Solid waste</b>				
Waste for compacting	157	125	138	tonnes
Organic waste	8	10	13	tonnes



# Emissions to air

GRI 301-1  
GRI 305-1  
GRI 305-6  
GRI 305-7

Quantity	2020	2021	2022	Unit
<b>Substances</b>				
CO <sub>2</sub>	467,721	481,595	474,498	tonnes
CF <sub>4</sub> /C <sub>2</sub> F <sub>6</sub>	43,137	46,860	38,753	t CO <sub>2</sub> eq.
SO <sub>2</sub>	2,700	3,348	3,580	tonnes
Polyaromatic hydrocarbons	18.1	17.6	24.2	Kg
Total fluoride	120	121	122	tonnes
Dust (PM10)	218	222	216	tonnes

# Use of hazardous chemicals (Xn, T, Tx, C, Xi, E, Fx, F, O, N)

Quantity	2020	2021	2022	Unit
DAG 2671 (O, T, N)	-	-	-	litres
DAG 554/20 (C, N, Xn)	19,540	18,937	20,027	litres
Plicast strong mix	152	-	97	tonnes
Ramming paste (T)	758	660	535	tonnes
Flange paste (T)	1,452	1,219	1,417	tonnes
Propane (Fx, F, E)	33	32	22	tonnes
Diesel oil (Xn, O)	466,822	440,690	387,619	litres
Hydraulic oil	7,628	7,320	10,069	litres
Sodium hydroxide (Xi)	249	227	297	tonnes
Aluminum fluoride (Xn)	4,551	4,233	4,306	tonnes
Aluminum oxide (Xn)	597,881	608,015	585,833	tonnes
Ferromanganese (Xn)	10	10	10	tonnes
Ferrophosphorus (Xn)	15	13	9	tonnes

# Production and raw material consumption

GRI 301-1  
GRI 302-1

Quantity	2020	2021	2022	Unit
<b>Aluminum production</b>				
Primary aluminum production	312,629	315,182	306,267	tonnes
Aluminum oxide	597,881	608,015	585,833	tonnes
Aluminum fluoride	4,551	4,233	4,306	tonnes
Prebaked anodes (net consumption)	130,604	133,658	131,222	tonnes
Propane	33	32	22	tonnes
Diesel oil	466,822	440,690	387,619	litres
Sodium hydroxide	249	227	297	tonnes
Flange paste	1,452	1,219	1,417	tonnes
Cast iron	871	836	581	tonnes
Anode rods	513	596	509	tonnes
Electricity	4,626,000	4,669,000	4,566,844	MWh
Industrial water	108,367	106,269	98,240	m <sup>3</sup>
Drinking water	72,244	70,847	65,493	m <sup>3</sup>
Sea water	7,884,000	7,884,000	7,884,000	m <sup>3</sup>
Silicon	3,239	4,199	4,656	tonnes
Magnesium	126	153	176	tonnes
Titanium	46	65	73	tonnes
Strontium	16	18	21	tonnes
Hydraulic oil	7,628	7,320	10,069	litres
Oil for cooling	2,804	3,057	1,709	litres
Oil removing chemicals	1,970	2,035	1,800	litres
Lubricating oil	6,997	2,820	5,899	litres
Ferrosilicon	23	20	17	tonnes
Ferromanganese	10	10	10	tonnes
Ferrophosphorus	15	13	9	tonnes
Carbon	66	53	48	tonnes
Steel pellets	78	86	34	tonnes
Wood sticks	17,200	12,250	12,250	pcs.
Batteries	72	67	58	pcs.

# Carbon emissions

GRI 102-12  
GRI 302-2  
GRI 305-1  
GRI 305-2  
GRI 305-3  
GRI 305-4  
GRI 305-5

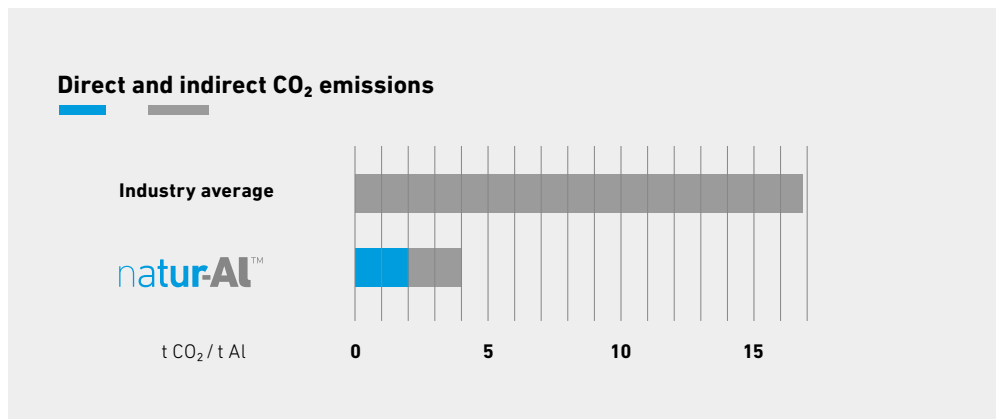


**Norðurál's Natur-Al™ product line was developed in response to greater consumer demand for transparency, disclosure, and reduced environmental impact.**

It is not enough to simply claim a product is green: such statements must be supported by data and traceability of the entire production process. Our assessment has therefore considered all aspects of the company's aluminum production, from the excavation of bauxite to the final products we deliver to customers.

This cradle-to-gate life cycle analysis includes the production and transport of raw materials, local emissions, generation of waste, and the shipping of our finished aluminum products for sale on the European market. A model of the entire value chain was prepared with information from the International Aluminium Institute (IAI) along with data from Norðurál's production process. Analysis was conducted in accordance with ISO standards 14040:2006 and 14044:2006 using Thinkstep's GaBi software and additional information from international data banks. Where possible, average data across five years of Norðurál's operations was used in order to obtain a clearer picture of the process.

As a result of these efforts, we offer our customers products under the name Natur-Al™, a registered trademark on both sides of the Atlantic. Our entire process — from bauxite acquisition and aluminum oxide processing to the extraction of aluminum and transport to the buyer — the carbon footprint of Natur-Al™ products is less than 4 tons of CO<sub>2</sub> equivalents per ton of aluminum. Considering the global average CO<sub>2</sub> equivalent emissions per ton of primary aluminum is 18 tons, the carbon footprint of Natur-Al™ production is less than a quarter of the industry average around the world.



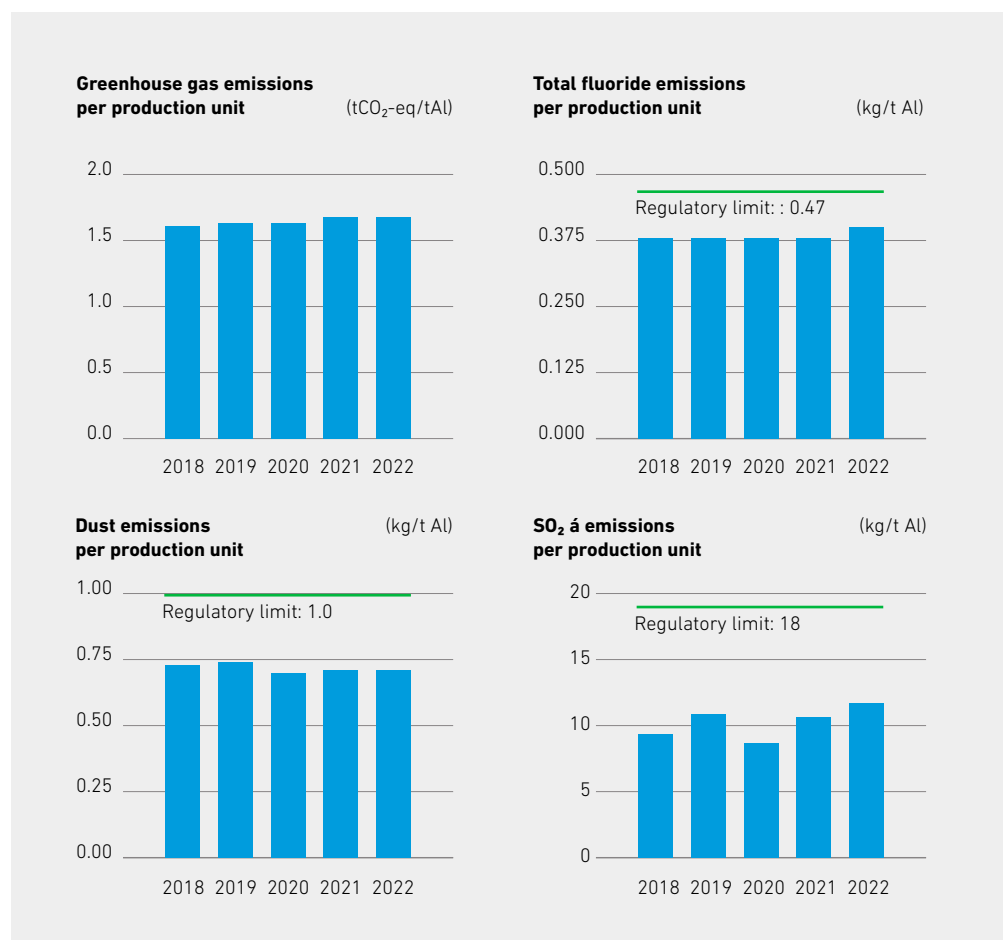
Our life-cycle assessments are carried out by an independent party. Customers can access all data necessary to analyze the carbon footprint of consumer products made from Natur-Al™ aluminum.

Norðurál is convinced that a sustainable future lies in this type of product development. Our endeavors also demonstrate the importance of continued research and innovation in sectors such as ours.

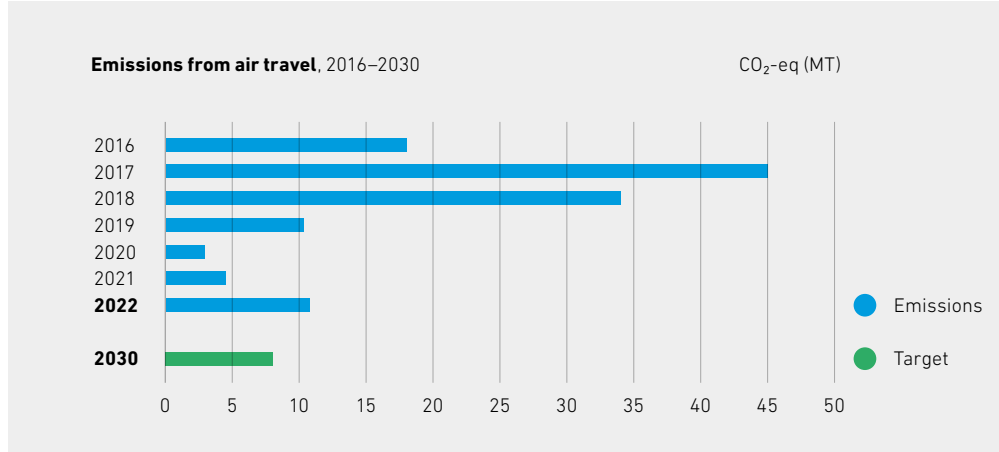
## Change between years

MT/t Al

	2018	2019	2020	2021	2022
Direct CO <sub>2</sub> emissions from production	512,404	514,731	510,858	528,455	513,251
Volume of emissions per production unit	1.61	1.63	1.63	1.68	1.68

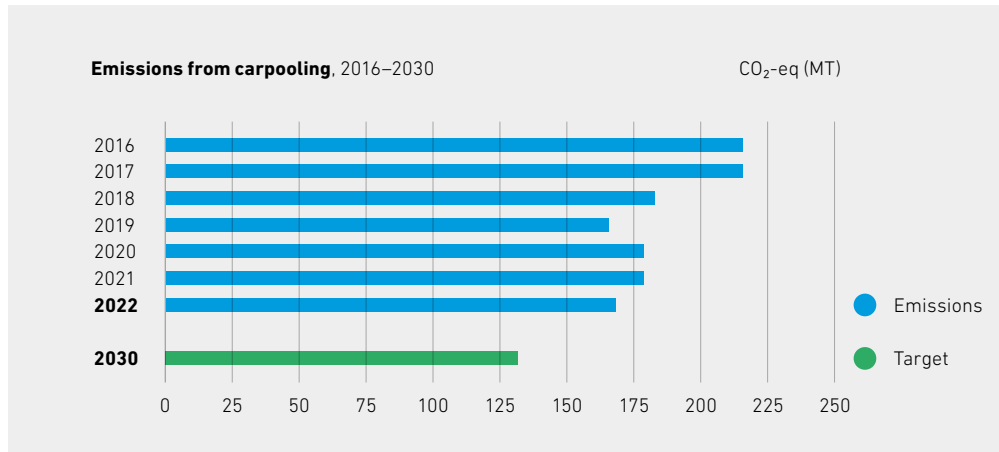


## Transport emissions



**Emissions from international air travel by Norðurál employees totaled less than 11 tons of carbon equivalents in 2022, a 5% reduction since 2015.**

A large proportion of Norðurál’s employees commute together in company vehicles. Carpooling significantly reduces the total number of car trips to and from work, thereby reducing indirect emissions from our operations. Thanks to the company’s purchase of 48 electric vehicles, emissions from carpooling have continued to decrease. We also emphasize the economic use of cars as well as the number of passengers per vehicle. These actions have resulted in an emissions reduction of 54 tons, or nearly 20,000 liters of fuel — a 24% reduction from 2015.



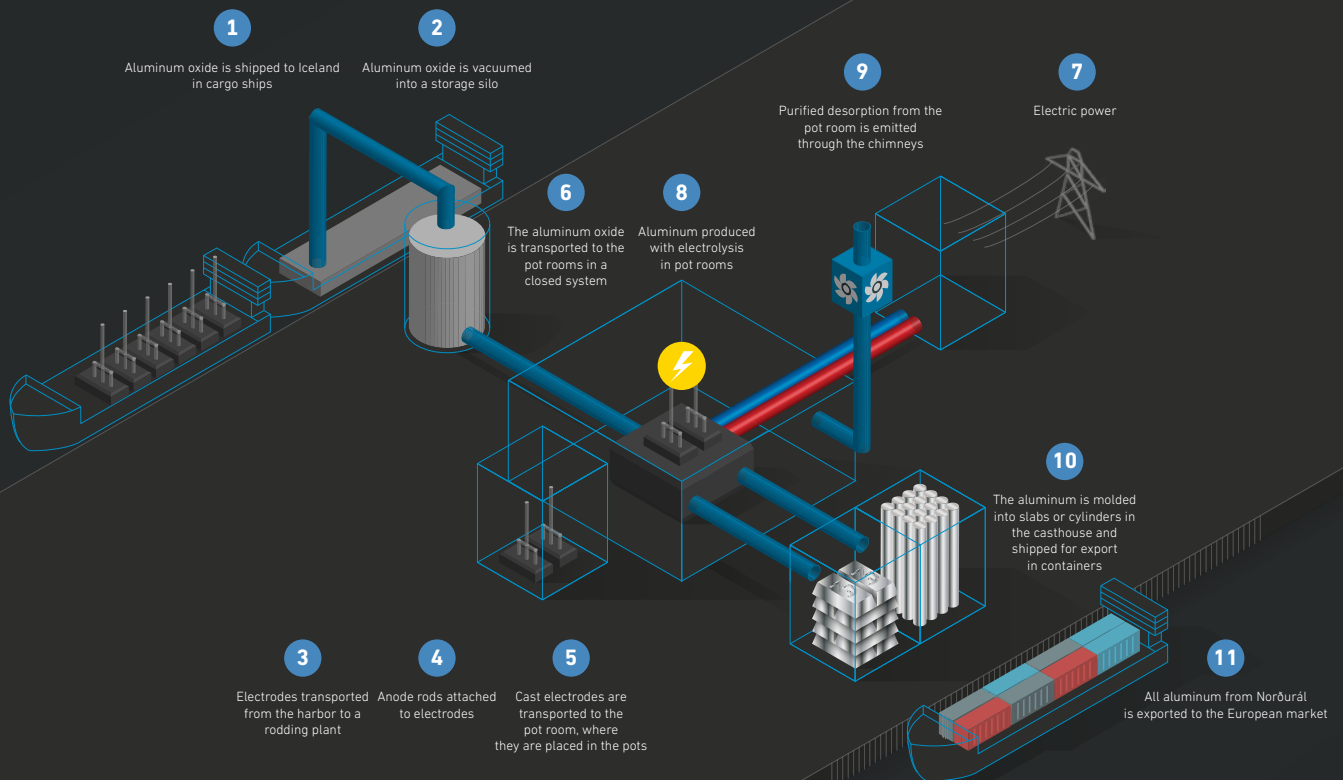
## Use of materials

We choose our raw materials as carefully as possible in order to produce a value-added, environmentally friendly product. CO<sub>2</sub> emissions from aluminum processing are lower in Iceland than anywhere else in the world as the result of outstanding employees and operational stability, as well as the use of sustainable energy sources. Environmental awareness plays a key role at every stage of production, from resource acquisition in remote corners of the world to maximum utilization and recycling of raw materials.

GRI 301-2

GRI 414-1

GRI 414-2



## Increasing efficiency

Scrubbers in the Norðurál production area ensure that fluorides in exhaust gasses can be reused. Over 99% of fluoride emitted through the aluminum extraction process is captured in the scrubbers, then used again and again. Once our anodes are spent, they are returned to the manufacturer in Vlissingen in the Netherlands, where they are used to produce new anodes for Norðurál's smelter. The slag from our production is processed in Grundartangi by our neighbors at Alur. Aluminum is recovered from the slag, then used again in Norðurál's production.

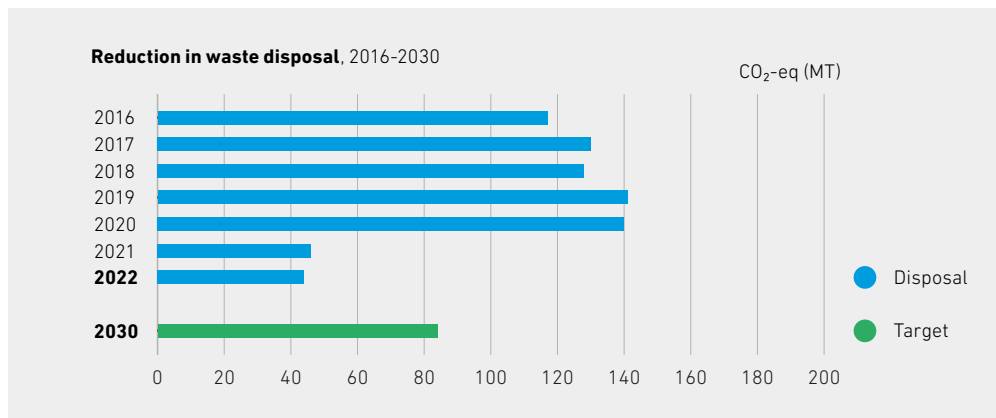
GRI 301-2

## Recycling and waste management

Norðurál is deeply committed to reducing the amount of waste we produce and increasing the amount we recover. Waste from our operations can be categorized as recyclable materials, non-recyclable industrial waste sent to coastal flood pits, solid waste sent to landfill, sewage, and hazardous waste.

Our climate action plan addresses emissions due to waste disposal from other aspects of our operations, both unsorted waste from canteens and other general solid waste, as well as the composting of organic waste. As landfilling of unsorted waste from Norðurál's operations was stopped in the spring of 2021, emissions in this category have decreased significantly. What remains is non-incinerable solid waste unsuitable for use as refuse-derived fuel, but we will continue working on solutions for minimizing waste disposal and reprocessing materials.

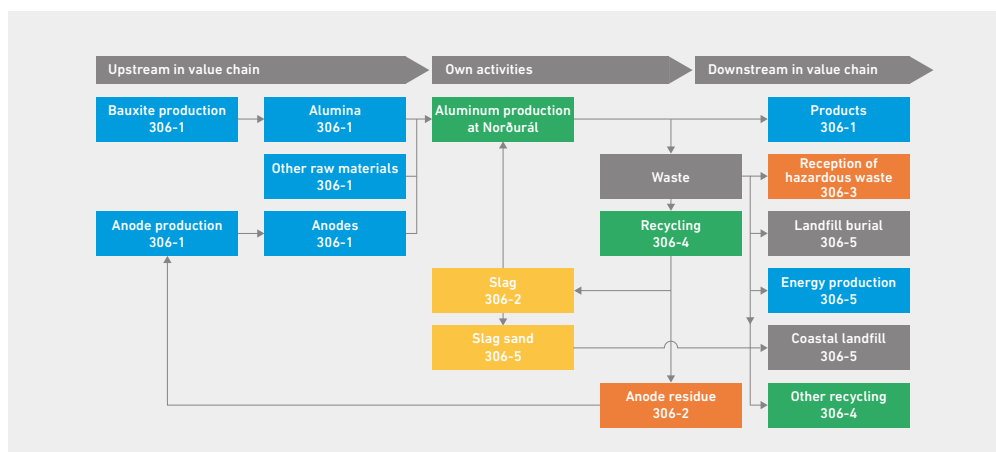
**Since 2015, emissions from management of non-recyclable waste have decreased by 96 tons of CO<sub>2</sub> equivalents, or about 68%.**



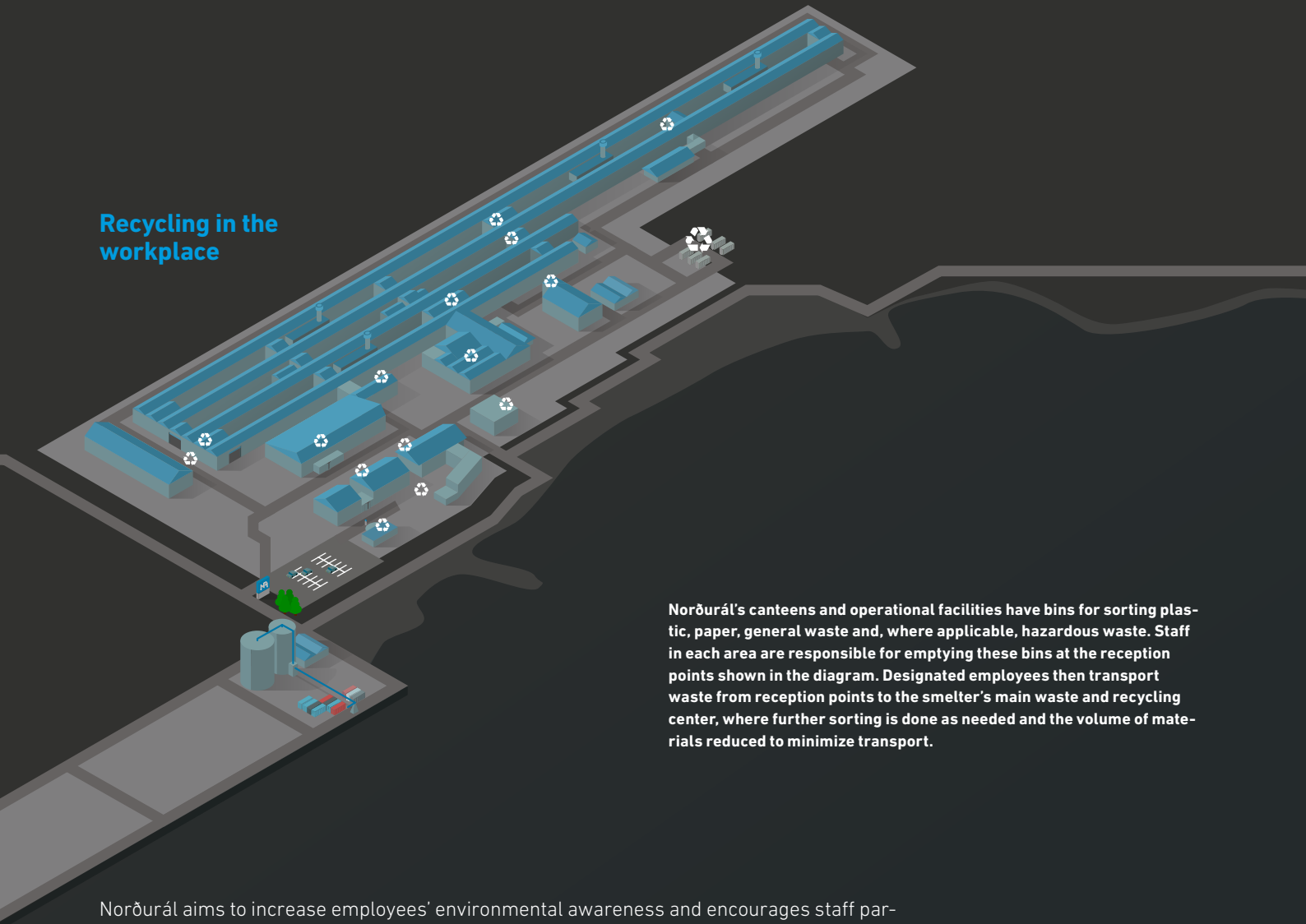
**Waste disposal has decreased by 68% since 2015.**

In 2022, over 80% of waste generated by Norðurál's operations was recovered. Industrial waste such as cathode waste and coal dust comprised the largest share. Alongside our goal of more efficient use of raw materials, we have actively sought ways to reduce non-production waste and increase recycling rates. For instance, in 2016 we began sorting organic waste in the canteen; this is processed by Sorpa to become nutrient-rich fertilizer and methane fuel. Another major step was replacing plastic bags with reusable trays for carrying cafeteria meals to lunchrooms within the facilities. This change was instigated by employees studying at Norðurál's School of Heavy Industry: they calculated that the switch to reusable trays would replace the use of 12,500 plastic bags each year.

**Norðurál aims to increase employees' environmental awareness and encourages staff participation in workplace reforms. The company's environmental performance is considered when determining employee bonuses.**



## Recycling in the workplace



Norðurál's canteens and operational facilities have bins for sorting plastic, paper, general waste and, where applicable, hazardous waste. Staff in each area are responsible for emptying these bins at the reception points shown in the diagram. Designated employees then transport waste from reception points to the smelter's main waste and recycling center, where further sorting is done as needed and the volume of materials reduced to minimize transport.

Norðurál aims to increase employees' environmental awareness and encourages staff participation in workplace reforms. The company's environmental performance is considered when determining employee bonuses.

We no longer have bins for unsorted waste in offices or production facilities, as these have all been replaced with sorting stations.

## Energy consumption

Iceland is one of only a few countries in the world where energy is generated almost entirely from renewable sources. We use a great deal of this energy to extract pure aluminum from aluminum oxide, with Iceland contributing around 2% of the global output. In 2022, Norðurál used 4,567 GWh of clean renewable energy for production, about one quarter of the electricity generated in Iceland during the year. Electricity consumption by the smelter per ton of aluminum produced was 13.8 MWh.

## Increasing energy efficiency

Norðurál uses 100% renewable energy for production. Our aluminum is then exported for further processing in Europe, relying on energy with higher carbon intensity. However, our new product line will be a step toward a more finished aluminum product: the casting of billets will not result in any additional emissions, and energy requirements will be much lower than if these billets were molded overseas. Energy savings are estimated at 40%.

GRI 301-1

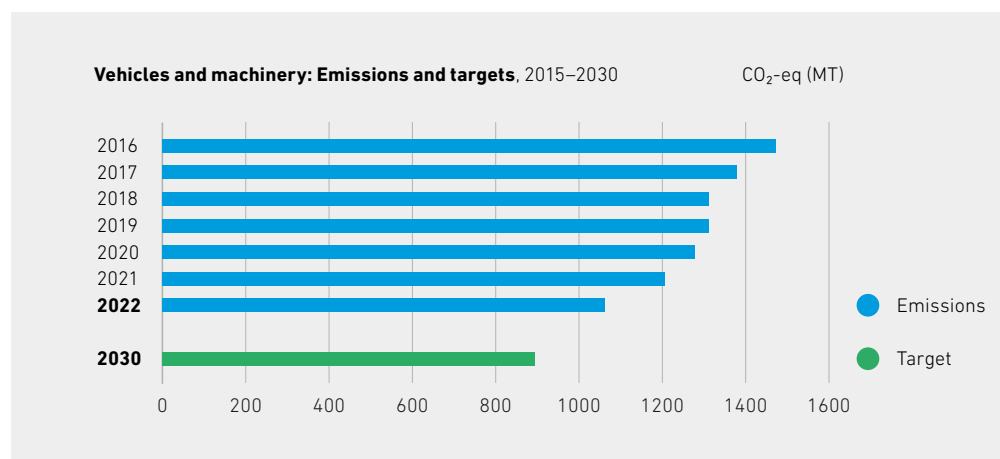
GRI 302-1

GRI 302-3

GRI 302-4



Fuel consumption for vehicles and machinery is the largest share of the company's total fuel use, and Norðurál's climate action plan has found that the greatest opportunities lie in energy exchange upon renewal of equipment. Sixteen electric vehicles, including tractors and forklifts, have been put into use in recent years, and further replacements are scheduled for next year. Results of these measures are already visible: between 2015 and 2022, fuel consumption for vehicles and machinery decreased by a total of 157,000 liters, an emissions reduction of 429 tons.



**Emissions from vehicles and machinery, with a target reduction of 40%**

## Water and sewerage

Water supplied to Norðurál comes from the Tunga and Hlíðarfótur springs in Svínadalur.

Approximately 163,733 m<sup>3</sup> of water was consumed in 2022. Of this, potable water accounted for 65,493 m<sup>3</sup>, and water for production was 98,240 m<sup>3</sup>. The cooling system uses 7,884,000 m<sup>3</sup> of seawater each year.

Monitoring of chemical concentrations in Norðurál's sewerage is conducted in the area on a quarterly basis, and analysis of oils in cooling water from rectifiers and casting basins is carried out twice per year. Verkís monitors the sewerage for fluoride, aluminum, suspended solids, and oil or grease. Chemical analyses of cooling water are carried out by the Department of Pharmacology and Toxicology at the University of Iceland.

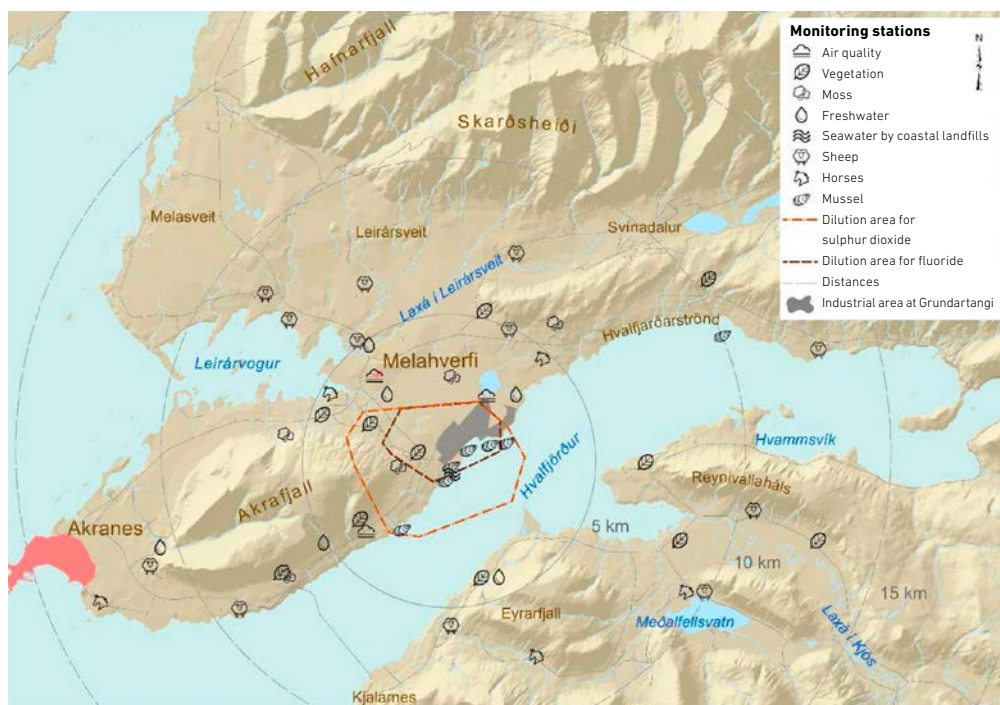
## Biodiversity

Environmental monitoring in Hvalfjörður near the Grundartangi industrial site considers around 100 indicators. This monitoring is undertaken by different independent entities to ensure the company's operations do not adversely impact our local environment.

During the year, monitoring was conducted to assess the condition of air quality (atmospheric and precipitation), groundwater, seawater by coastal flood pits, vegetation (grass, leaves, and pine needles), and livestock (sheep and horses).

In 2022, around 400 samples were collected from approximately 120 sites.

The 2022 report can be accessed [here](#)



## Notifications of deviation

Norðurál's smelter in Grundartangi has an operating license to produce up to 350,000 tons of aluminum each year. This license is issued by the Environment Agency of Iceland and is valid until December 16, 2031.

The Environment Agency conducted two site inspections in 2022, carried out according to the operating license and monitoring schedule.

Reports from site inspections can be found [on the Environment Agency website](#).

Environmental monitoring around the industrial area at Grundartangi follows a monitoring schedule approved by the Environment Agency, in effect until 2028.

In addition, Norðurál keeps environmental records according to Icelandic legislation on green accounting (Regulation no. 851/2002) and submits audited accounts to the Environment Agency by May 1 each year. Emissions accounts are also kept according to Regulation no. 990/2008 on pollutant release registers.

### **The Environment Agency received three notifications related to our operations in 2022:**

1. Notification of a cyberattack on Norðurál's parent company, which caused internal environmental monitoring data to be lost during input. This applied to a limited amount of data in week seven.
2. Notification of temporary reduction in the dry scrubber's capacity due to maintenance. The scrubbing system was non-operational for 40 minutes and at 85% capacity for almost 24 hours.
3. Notification about air quality measurements at Krúvarða from April to July 2022.
4. Notification of planned maintenance during filter replacement in the dry scrubber.

## Environmental impact of suppliers

A life-cycle assessment of aluminum produced by Norðurál has been conducted by the engineering and consulting company Efla. This analysis is based on a cradle-to-gate life cycle, including extraction and transport of raw materials, local pollutant emissions, and generation of waste. Documenting and assessing the environmental impact of all links in the production chain provides a clear picture of where and how we can implement changes to procurement and production processes in order to minimize impact.

As we seek to conduct our business with responsible alumina producers, certain suppliers have been excluded due to concerns over quality and environmental impact. Foreign suppliers are subject to standards and requirements of Norðurál's parent company, Century Aluminum.

Instead of importing anodes from China, we operate our own anode plant at Vlissingen in the Netherlands, which reduces our environmental impact.

Norðurál Grundartangi was the first aluminum company in Iceland to receive international ASI certification, confirming the company's business practices and production are socially and environmentally responsible. Our ASI certification extends to 59 factors related to the company's operations, from acquisition of raw materials from around the world to our finished products.

# West Iceland's largest workplace

**We are proud of Norðurál's economic importance and the part we play in utilizing of one of Iceland's most valuable resources: the clean and sustainable energy harnessed from rivers and geothermal steam. But we are no less aware of the company's social value as the region's largest workplace by far. We strive to maintain a safe and enjoyable workplace for all employees, and we actively support a wide range of socially beneficial causes.**

## Our employees

As west Iceland's largest employer, Norðurál is committed to maintaining a desirable workplace that offers a variety of challenging jobs for all genders. In 2022, the company had 600 permanent employees, of whom 21% were women and 79% were men. Employees' average age was 40.2 years, 40.6 years for men and 38.6 for women. The average length of employment was 8.6 years, 9.2 for men and 6.3 for women. Around 67% of staff live north of Hvalfjörður, with 57% in Akranes, and around 30% live in the Reykjavík area.

### Permanent staff in 2022 (full-time equivalent)

	Production crew	Tradespeople	Specialists and clerical staff	Managers and middle managers
F	82	3	30	9
M	316	86	41	36
Non-binary	0	0	0	1
<30	135	22	11	0
30-50	202	36	44	23
>50	61	31	16	23

Numbers reflect the status of permanent staff at year-end 2022.

The average number of full-time equivalent positions during the year was 604.

Staff turnover in 2022 was 13.73%, and the gender ratio of those who terminated their employment reflected the gender ratio as a whole. The company welcomed 57 new employees to permanent full-time positions. In addition, 64 staff members who previously held temporary positions were given permanent jobs. During the summer, 185 students worked as substitutes for permanent employees; of these, 100 were new to the company, while 85 returned for their second or third summer. Although we did not achieve our goal of an equal gender ratio for seasonal employees, 42% of temporary summer staff were women.

Gender equality is a primary objective in our recruitment, and we endeavor to balance gender ratios with new hires. This means there are opportunities to recruit more women as production staff and tradespeople, as well as engineers and technicians in middle management.

As in the previous year, Norðurál received an Equality Scale award from the Association of Businesswomen in Iceland (FKA). The award recognizes companies that have taken measures to increase the number of women in senior management and that have achieved a more balanced gender ratio at the executive level. FKA aims for a 40/60 gender ratio on executive boards of Icelandic companies by 2027. Of the seven members of Norðurál's board, three are women.

Norðurál has a certified equal pay system in accordance with the ÍST 85:2012 standard and has been awarded a Gold standard in PwC's equal pay audit for four consecutive years, or since the audit was first conducted. In 2022, a maintenance audit of the equal pay system by BSI confirmed the system is designed to achieve the objectives of the company's equal pay policy. The unexplained gender pay gap at Norðurál is 1.8%.

The vast majority, or 85%, of Norðurál's workforce belongs to the labor unions VLFA, FIT, RAF-IS, StéttVest, and VR. A collective bargaining agreement between Norðurál and the unions was signed in October 2020 and will remain in effect until 2025.

## Commitment to health and well-being

**Norðurál is committed to the high standards of its facilities and to providing a safe workplace. The company's values of economy, unity, and integrity are reflected in our focus on human resources, the environment, and health and safety.**

Transportation is provided between the smelter and Akranes, where nearly 60% of employees reside. Our staff represent a considerably larger area, however, with about 20% commuting daily from the Reykjavík capital area. The company owns or rents around 60 vehicles used by daily carpool commuters; these are offered to employees who live south of the Hvalfjörður tunnel and in Borgarnes. About 52% of the company's carpool cars are electric, thus supporting our efforts to reduce energy consumption. There are 40 vehicle charging stations at the Grundartangi smelter, which are free for employees to use.

Norðurál has partnered with Vinnuvernd to offer wellness checks and annual occupational health examinations. Our aim is to monitor employees' health with regard to any potentially harmful effects of the work environment, to improve the work environment where needed, and to remind employees of the importance of good health and encourage lifestyle improvements. Vinnuvernd submits annual reports on the general health of our staff. In 2022, 539 wellness checks were conducted, and overall results from the occupational health report were presented virtually to employees via Teams. All handling of personal information by Vinnuvernd complies with data protection laws; Norðurál only receives information about individual employees in terms of their capacity to work at any given time.

Norðurál is a substance-free workplace, and all new recruits must undergo a drug test. Random tests are also carried out onsite to ensure no one is under the influence of illegal substances in the workplace.

The majority of Norðurál's employees, around 490 people, are employed as production or maintenance staff based on a collective bargaining agreement. Contracts for managers, middle managers, specialists, and some clerical staff are not linked to collective agreements. The notice period for permanent staff is one week during the trial period, one to three months during the first year of employment, and at least three months subsequently. Under the collective agreement, employees retire during the month they reach age 67. Nine employees retired in 2022, and 21 will turn 67 in the next three years. The company offers those nearing retirement age a course addressing a variety of issues to be considered at such a juncture.

In 2022, 60 people took parental leave, 23% of them women and 77% men. Of these, 2% resigned at the end of their leave, all of them women. In 2021, 61 took parental leave, 20% of them women and 80% men. Of these, 88% are still employed with the company.

No cases of work-related illness were reported during the year. According to the report by Vinnuvernd, the majority of Norðurál staff do not have difficulties performing their duties due to work-related discomfort (78%). Around 22% have experienced problems carrying out their duties (rarely/sometimes/often) due to work-related discomfort. The vast majority of employees are satisfied with the social environment in the workplace: 87% feel staff morale is good, compared with 82% the previous year.

STNA, Norðurál's employee association, is highly active and holds a number of events each year, including organized hikes and various family events. The company also provides entertainment subsidies, including discounts on cinema and theater tickets, shopping promotions, and offers for activities in west Iceland and the capital area.

## Workforce analysis and job satisfaction

Workforce analyses are generally carried out every two to three years. In June 2022, a pulse survey was conducted to follow up on the job satisfaction survey from autumn 2021. Results from the pulse survey broadly support those from the previous year and reflect the measures that were subsequently taken. Employee engagement rose slightly between surveys: the average in June 2022 was 3.62, compared to 3.58 in 2021.

## Bullying and harassment

Norðurál has internal procedures to address bullying, sexual and gender-based harassment, and other forms of violence. These procedures and expectations, which are applicable to all employees, are communicated to new hires and subsequently at regular intervals, and they are also considered in workforce analyses. Under no circumstances are bullying, sexual or gender-based harassment, or other forms of violence to be tolerated in the workplace. Such unacceptable behaviors are considered violations of professional standards, and all complaints are thoroughly investigated. Thirteen cases were reported in 2022; the majority of these involved communication problems and were resolved with assistance from managers and other staff. Two cases resulted in job transfers, and one ended with dismissal.

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# Safety first

GRI 102-12  
GRI 102-15  
GRI 403-1  
GRI 403-2  
GRI 403-3  
GRI 403-5

**At Norðurál, we place great emphasis on occupational health and safety to prevent accidents and minimize hazards. To ensure the safety of staff, contractors, and visitors to the site, everyone who enters the facilities must familiarize themselves with and abide by the company's safety rules. As reducing risk depends upon the joint effort of all employees at Norðurál, our motto is "One for all!" We look after one another and perform our duties as sensibly and safely as possible.**

## Managing occupational health and safety

Norðurál's Health, Safety, and Environment (HSE) Committee is led by the Managing Director and includes representatives from executive management as well as safety officers. The committee advises the company on relevant policies, helps set targets for improvements, and identifies ways to implement preventative measures. Pursuant to Act no. 46/1980, the HSE Committee considers matters relating to facilities, hygiene, and safety within the company. Alternating committee chairs and secretaries are elected by safety officers and other committee members.

### The statutory role of the HSE Committee is to

- assist in preparing and following up on risk assessments
- familiarize employees with occupational health and safety risks and ensure proper training in safety procedures
- ensure no bullying occurs in the workplace
- ensure that machinery and equipment, hazardous materials, and work procedures do not pose risks to employees
- ensure that personal protective equipment is available, in good condition, and used appropriately
- monitor the reporting of accidents, incidents, and occupational illness

The HSE Committee appoints professional councils for safety and risk management, employee engagement and communications, site inspections, facilities, employee well-being, and environmental issues. These councils meet regularly and have contact with staff, both to gain and to impart knowledge. In addition, they consult with the HSE Committee on a regular basis.

Norðurál's Security Department employs a group of specialists in fields such as risk assessment, risk management, and incident investigation. The company's safety management system is based on the principle of continuous improvement and follows ISO standards.

Procedures for risk management and incident investigation are part of Norðurál's key management system and are reviewed through internal audits. Individual incidents are reviewed in meetings with management, which are held on a weekly basis. Risk analyses are reviewed regularly, and guidelines for regular work procedures are based on such analyses.

All work carried out at Norðurál must follow established procedures that have undergone a risk analysis. Work procedures are included in the company's Quality Manual and are accessible via Norðurál's intranet and from supervisors. New job-related tasks are required to undergo risk assessment before they commence.

The company's safety rules apply to everyone at Norðurál, from employees and contractors to visitors to the site. Contractors are given an orientation and safety training before starting work.

Norðurál's safety rules can be accessed [here](#)

Incident investigations are used to understand the root causes of incidents and to determine which preventative measures should be taken in the future.

All incidents, accidents, and damages are recorded in Norðurál's reporting system. As we believe all accidents come with forewarning, we also encourage the reporting of near-miss accidents and safety or environmental incidents. Reports are taken seriously, and changes are implemented when appropriate.

### Summary of accidents

	2019	2020	2021	2022
Lost workday accidents	5	1	4	3
Accidents requiring treatment	2	1	6	4
Recordable incidents	7	2	10	7
Rate of lost workday accidents	0.93	0.19	0.81	0.61
Rate of accidents requiring treatment	0.37	0.19	1.21	0.82
Rate of recordable incidents	1.30	0.38	2.02	1.43

\*Rate of occupational accidents is given as number of accidents per 200,000 working hours, corresponding to the work of 100 employees over the year.



## Education and training

**New hires at Norðurál receive onboarding training focused on safety matters and environmental concerns. They are also given an overview of the company's policies and production procedures before beginning intensive training specific to their position. In 2022, employees received an average of 21 hours of training. In the spring, team training on workplace analysis, safety, and environmental concerns was organized for all staff. Training for managers began in December 2021 and continued until the spring of 2022, with sixteen shift managers and workstation supervisors receiving 140 hours of training during the period.**

Specialized training is provided for new employees, including a "lockout/tagout/test" course as well as courses on fall protection and working in confined spaces. Training needs for permanent staff are based on skills criteria. Contractors are given a general training presentation each year and additional courses as needed.

The training schedule includes refresher courses for various aspects of occupational safety, including first aid training for supervisors as well as retraining in incident investigation and fall protection. Production staff review guidelines for regular work procedures annually. In addition to this training, Norðurál's policies on quality standards, the environment, health and safety, human rights, and equality are visibly displayed throughout Norðurál's facilities and through the company's communication channels.

### **Total training hours: 12,718**

- 296.5 hours of incident investigation training
- 994 hours of training in safety procedures
- 793 hours of management training
- 4,496 hours of team training
- Over 6,000 hours of additional types of training

In the summer of 2022, a new human resources and payroll system was introduced that holds great potential in terms of education and training. The system also offers staff access to basic information such as training progress and certifications.

## A culture of safety

The primary focus of staff training in 2022 was behavior-based safety (BBS) and incident investigation. Group training days also covered material from the Safety, Environment, and Development Department, including reviews of Norðurál's contingency plan, the main environmental impacts of production, and waste management.

In 2011, Norðurál implemented a BBS system intended to promote safety awareness amongst staff and develop a strong culture of safety. Employees are encouraged to view all procedures and the work environment through the lens of safety and to establish safer habits in their daily tasks. Such a practice is considered established when a given task is performed safely and with 100% accuracy for 21 consecutive days or shifts, and employees cheer when a safe routine has been achieved.

Behavior-based safety is in employees' hands: we strive to activate everyone at Norðurál to increase workplace safety for themselves and for their colleagues. Staff education is an important part of this process, and we make sure to provide appropriate training to all employees for whom safety procedures are relevant.

Last year, we emphasized retraining and refresher courses for experienced staff, while also ensuring intensive training for new staff, or those who have worked for the company for less than three years.

Managers and specialists were also retrained in incident investigation in the autumn. In addition, practical exercises were conducted, and real-life examples of incidents from participants' departments were gathered and analyzed.

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## Norðurál School of Heavy Industry

In December 2022, ten students completed all three semesters of the basic course at the Norðurál School of Heavy Industry. The share of women in the program was 23%. In January 2022, fifteen students enrolled in the school's advanced course, also three semesters in length. The Norðurál School of Heavy Industry — run in cooperation with the Centre for Continuing Education in West Iceland and the Comprehensive College of West Iceland — was established in 2012 and has 190 graduates. Its courses are aligned with Iceland's upper secondary education system; the curriculum is developed and approved by the Education and Training Service Centre, and students can receive up to 45 upper secondary credits for both the basic and advanced classes. The school enables staff to gain an understanding of the company's production process, familiarize themselves with other areas of internal operations, complete coursework at the upper secondary school level, and undertake projects to improve the work environment.

## Performance reviews

Annual employee reviews, along with corrective and constructive feedback, are an important part of regularly assessing staff performance and contributing to career development. The Human Resources Department aims to ensure all employees have at least one performance review each year. Around 85% of employees had one or more formal conversations with their manager by the end of 2022.

## Rights and respect

The staff at Norðurál have six representatives from the unions that are parties to the company's collective bargaining agreement, along with a primary representative. No cases related to violations of labor law were reported during the year.

## Community interests









Norðurál supports a number of community causes, with more than 20 million ISK given to activities and organizations in 2022. We are a proud sponsor of theÍA football club in Akranes and the Valur football club in Reykjavík, with a particular focus on young players.

Additional sponsorship agreements have been made with Fablab and Leynir Golf Club. We have also given funding to the Mothers' Support Committee, the Akranes ICE-SAR team, and other parties.








**NORÐURÁL'S STRATEGIC MANAGEMENT GOALS**

	GOAL	OBJECTIVE
QUALITY	Satisfied customers	<ul style="list-style-type: none"> <li>• Monitor key aspects of customer service</li> </ul>
	Efficient production	<ul style="list-style-type: none"> <li>• Ensure quality documents are updated</li> <li>• Ensure audits of production guidelines are carried out</li> <li>• Improve procedural efficiency and waste recovery</li> <li>• Ensure smelting in potroom is according to schedule</li> <li>• Ensure casthouse production is according to schedule</li> <li>• Ensure efficient metal use in casting</li> <li>• Ensure efficient production in casting</li> <li>• Monitor production and deviations</li> </ul>
	High-quality products	<ul style="list-style-type: none"> <li>• Adhere to quality control standards in casthouse</li> </ul>
HEALTH AND SAFETY	Accident-free workplace	<ul style="list-style-type: none"> <li>• Improve guidelines for preventative measures</li> <li>• Emphasize training in risk management</li> <li>• Improve quality and process of site inspections</li> <li>• Strengthen risk and safety management</li> <li>• Practice behavior-based safety</li> </ul>
	Employee health and safety	<ul style="list-style-type: none"> <li>• Maintain healthy work environment</li> </ul>
	Staff participation in preventative measures	<ul style="list-style-type: none"> <li>• Encourage participation in accident/incident prevention</li> <li>• Internal communication: staff involvement</li> </ul>
ENVIRONMENT	Emissions reduction (Global impact)	<ul style="list-style-type: none"> <li>• Reduce GHG emissions subject to EU ETS</li> <li>• Reduce GHG emissions not subject to EU ETS</li> </ul>
	Emissions reduction (Local impact)	<ul style="list-style-type: none"> <li>• Reduce internal fluoride levels</li> <li>• Reduce fluoride emissions in exhaust gas</li> <li>• Reduce internal dust levels</li> <li>• Reduce dust emissions in exhaust gas</li> <li>• Reduce sulfur emissions</li> </ul>
	Staff awareness of company's environmental impact	<ul style="list-style-type: none"> <li>• Increase staff understanding of Norðurál's responsibilities and climate commitments</li> </ul>
	Responsible waste management	<ul style="list-style-type: none"> <li>• Decrease volume of unsorted waste (mixed waste for incineration + general waste for landfill) by 5%</li> <li>• Coordinate waste labeling</li> </ul>
		<ul style="list-style-type: none"> <li>• Separate management of personal data from other company data</li> <li>• Comply with data storage regulations using WP</li> </ul>
		<ul style="list-style-type: none"> <li>• Ensure data is stored in reliable, well-defined locations</li> </ul>
INFORMATION AND DATA HANDLING	Secure data storage	<ul style="list-style-type: none"> <li>• Ensure regular communication between data managers and IT</li> <li>• Increase staff knowledge and skills in data management</li> </ul>
	Reliability of company data	
	Staff proficiency in information management	
EQUALITY AND HUMAN RIGHTS	Prevention of bullying, harassment, and other forms of violence	<ul style="list-style-type: none"> <li>• Update material related to the field</li> <li>• Reinstate the Welfare Committee</li> </ul>
	Job satisfaction	<ul style="list-style-type: none"> <li>• Assess employee satisfaction through surveys</li> </ul>
	Promotion of gender equality	<ul style="list-style-type: none"> <li>• Increase the share of women amongst staff</li> </ul>
	Equal pay for equal work	<ul style="list-style-type: none"> <li>• Minimize unexplained pay gaps</li> </ul>
PROCUREMENT	Responsibility, honesty, and efficiency	<ul style="list-style-type: none"> <li>• Update procurement processes with respect to social/ environmental sustainability GRI</li> <li>• Implement system for evaluating suppliers</li> </ul>
	Operational security and quality guaranteed	<ul style="list-style-type: none"> <li>• Minimize product shortages</li> <li>• Streamline inventory and procurement</li> <li>• Include terms and conditions of sales in English (when applicable)</li> </ul>
	Staff knowledge about responsible procurement	<ul style="list-style-type: none"> <li>• Provide overview of hazardous substances in SAP</li> <li>• Ensure SDS sheets are available for products containing hazardous materials</li> <li>• Educate managers and employees who handle products containing hazardous materials</li> </ul>

GRI DISCLOSURE	DESCRIPTION	REPORTING	PAGE	UN GLOBAL GOALS
	<b>STRATEGY</b>			
102-14	Statement from the Managing Director	Yes	3	
102-15	Key impacts, risks, and opportunities	Yes	17, 36, 39	
	<b>ORGANIZATIONAL PROFILE</b>			
102-1	Name of the organization	Norðurál Grundartangi ehf.	4	
102-2	Main products and services	Yes	4	
102-3	Location of headquarters	Yes	4	
102-4	Number and name of countries where the organization operates and has a significant impact on the local community	Yes	Company operates in Iceland	
102-5	Ownership and legal form	Yes	4	
102-6	Markets served	Yes	4	
102-7	Scale of the organization	Yes	4, 14	
102-8	Information on employees and other workers	Yes	36	
102-41	Collective bargaining agreements	Yes	36	
102-9	Supply chain	Yes	4, 9	
102-10	Significant changes to the organization	Yes	7, 8	
	<b>PARTICIPATION IN EXTERNAL INITIATIVES</b>			
102-11	Precautionary principle or approach	Yes	9, 12	
102-12	External social, economic, and environmental initiatives and regulations	Yes	3, 5, 6, 7, 9, 10, 11, 12, 13, 16, 17, 19, 27, 31, 34, 36, 41	
102-13	Memberships in associations and national/international advocacy organizations; associations where the company has a representative on the board, contributes money, or considers membership strategic	Yes	9, 11	
	<b>SCOPE AND LIMITATIONS OF THE CONTENTS OF THE REPORT</b>			
102-45	Entities included in the consolidated financial statements	Yes	Information applies to Norðurál Grundartangi	
102-46	Defining report content, report process, and topic boundaries	Yes	2	
102-47	List of material topics for defining report content	Yes	2	
103-1	Explanation of the material topic and its boundaries	Yes	2	
102-48	Restatements of information given in previous reports	N/A		
102-49	Significant changes from previous reports in the list of material topics and topic boundaries	N/A		
	<b>STAKEHOLDER ENGAGEMENT</b>			
102-40	List of stakeholder groups engaged by the organization	Yes	10, 11	
102-41	Collective bargaining agreements	Yes	36, 38	
102-42	Identifying and selecting stakeholders	Yes	10, 11	
102-43	Approach to stakeholder engagement, e.g., frequency of engagement by type and stakeholder group	Yes	10, 11, 18, 42	
102-44	Key topics and concerns raised through stakeholder engagement	Yes	11	
102-45	Entities included in the consolidated financial statements	Yes	2	
102-46	Defining report content and topic boundaries	Yes	2	
102-47	List of material topics	Yes	2	
	<b>CONTENT OF THE REPORT</b>			
102-50	Reporting period	January 1 to December 31, 2022	2	
102-51	Date of most recent report	August 2022	2	
102-52	Reporting cycle	Annual reports		
102-53	Contact for questions regarding the report	Sólveig Kr. Bergmann, Dir. of Comms.	solveig@nordural.is	
102-54	Preparation of report in accordance with the GRI Standards	Yes	2, 3	
102-56	External assurance and assurance process for the preparation of the report	Langbrók ehf.	2	
102-55	GRI content index		2	
102-22	Composition of the highest governance body and its committees		9	
102-23	Disclosure of whether the chair of the highest governance body is also an executive officer in the organization	Chair of the Board does not have managerial role		

GRI DISCLOSURE	DESCRIPTION	REPORTING	PAGE	UN GLOBAL GOALS
<b>GOVERNANCE</b>				
102-25	Processes for the Board to ensure conflicts of interest are avoided		9, 10, 12, 16	
102-34	Nature and number of critical concerns communicated to the Board	N/A		
102-35	Remuneration policies for senior executives	Yes	Salary of Managing Director based on average salaries for comparable positions	
<b>ETHICS AND INTEGRITY</b>				
102-16	Values, principles, standards, and norms of behavior	Yes	5, 6, 12, 15	
102-17	Advice about ethical and legal concerns	Yes	12	
102-17	Internal and external mechanisms for seeking advice about unethical or unlawful behavior and organizational integrity	Yes	12	
<b>ECONOMIC IMPACTS</b>				
201-1	Direct economic value generated and distributed	Yes	14	
201-2	Financial implications and other risks and opportunities due to climate change	Yes	5, 16	
201-3	Defined benefit plan obligations	Yes	Employees pay statutory insurance for pension rights; Norðurál pays statutory contribution to private savings and employees pay 2-4%	
201-4	Financial assistance received from government	Yes (specify)	No investment agreement with the state	
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Yes	Wages based on collective bargaining, regardless of gender	
202-2	Proportion of senior management hired from the local community	Yes	Three senior managers at Norðurál are from Akranes	
203-1	Infrastructure investments and services supported	Yes	16	
203-2	Significant indirect economic impacts	Yes	15	
204-1	Proportion of spending on local suppliers	Yes	15	
205-1	Risk assessment and methods to identify corruption	Yes	12, 16, 35	
205-2	Communication and training about anti-corruption	Yes	12, 16, 41	
205-3	Confirmed incidents of corruption and actions taken	Yes (no incidents)		
206-1	Number of legal actions taken and outcomes concerning anti-competitive behavior, anti-trust, and monopoly practices	Yes	No cases	
207-1	Approach to tax, tax strategy, and disclosure	Yes	14, 15	
207-2	Tax governance, control, and risk management	11	15	
207-3	Stakeholder engagement (i.e., tax authorities) related to tax	Yes, outlined in communications	11	
207-4	Country-by-country reporting	Report only covers activities in Iceland		
<b>ENVIRONMENT</b>				
<b>USE OF MATERIALS</b>				
301-1	Materials used by weight or volume	Yes	22, 25, 26, 32	
301-2	Percentage of recycled input materials	Yes	23, 30	
301-3	Percentage of reclaimed products and their packaging materials	Yes (if no cases, report)		
<b>ENERGY</b>				
302-1	Energy consumption within the organization	Yes	22, 26, 32	
302-2	Energy consumption outside of the organization	Yes	27	
302-3	Energy intensity for production	Yes	32	
302-4	Methods to reduce energy consumption	Yes	19, 20, 32	
302-5	Methods to reduce energy requirements of products and services	Yes	19, 20	
<b>WATER AND EFFLUENTS</b>				
303-1	Process for water use by source	Yes	33	
303-2	Management of water discharge-related impacts	Yes	33	
303-3	Water withdrawal: total volume used and renewed	Yes	33	
303-4	Water discharge and breakdown of types	Yes	33	
303-5	Water consumption	Yes	22, 33	
<b>BIODIVERSITY</b>				
304-1	Operational sites in or near protected areas	N/A		

GRI DISCLOSURE	DESCRIPTION	REPORTING	PAGE	UN GLOBAL GOALS
304-2	Impacts of activities on biodiversity	Yes	20, 34	
304-3	Habitats protected or restored	No		
304-4	Number of conservation list species with habitats in areas affected by operations	No		
305	<b>EMISSIONS</b>			
305-1	Direct (Scope 1) GHG emissions from production	Yes	23, 25, 27, 28	
305-2	Indirect (Scope 2) GHG emissions from energy use	Yes	27	
305-3	Other indirect (Scope 3) GHG emissions	Yes	27, 29	
305-4	GHG emissions intensity	Yes	27, 28	
305-5	Methods to reduce GHG emissions	Yes	19, 27	
305-6	Emissions of ozone-depleting substances (ODS)	Yes	25	
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other air emissions	Yes	25	
306	<b>EFFLUENTS AND WASTE</b>			
306-1	Water discharge by quality and destination	Yes	23	
306-2	Waste by type and disposal method	Yes	23, 24, 31, 33	
306-3	Number and volume of significant spills	No	No incidents	
306-4	Transport of hazardous waste	Yes	Transported by licensed parties	
306-5	Water bodies affected by water discharges and/or runoff	Yes	No incidents	
307	<b>ENVIRONMENTAL COMPLIANCE</b>			
307-1	Non-compliance with environmental laws and regulations	Yes	35	
308	<b>SUPPLIER ENVIRONMENTAL ASSESSMENT</b>			
308-1	New suppliers screened using environmental criteria	Yes, in part	35	
308-2	Negative environmental impacts in the supply chain and actions taken	Yes	35	
400	<b>SOCIAL DISCLOSURES</b>			
401	<b>EMPLOYMENT</b>			
401-1	New employee hires and employee turnover by age group	Yes, in part	36	 
401-2	Benefits for full-time employees that are not provided to temporary or part-time employees	Yes	37, 38	
401-3	Percentage of employees returning to work after parental leave	Yes	38	
402	<b>LABOR/MANAGEMENT RELATIONS</b>			
402-1	Minimum notice periods to employees regarding operational changes	Yes	Article 8.09.1 of collective bargaining agreement	
403	<b>OCCUPATIONAL HEALTH AND SAFETY</b>			
403-1	Occupational health and safety management system	Yes	40	
403-2	Hazard identification, risk assessment, and incident investigation	Yes	40	
403-3	Occupational health services in hazardous sectors (increased risk of occupational illness)	Yes		
403-4	Worker participation in health and safety education and accident prevention (relevant topics in collective bargaining agreements)	Yes	37, 41, 42	
403-5	Worker training on occupational health and safety	Yes	40, 41, 42	
403-6	Promotion of worker health	Yes	42	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	No		
403-8	Workers covered by an occupational health and safety management system	Yes	42	
403-9	Work-related injuries	Yes	41, 42	
403-10	Work-related ill health	Yes	37, 38	
404	<b>TRAINING AND EDUCATION</b>			
404-1	Average hours of training per year per employee by gender and employee category	Yes	42	 
404-2	Programs for upgrading employee skill and transition assistance programs	Yes	42	
404-3	Percentage of employees receiving regular performance and career development reviews, by gender and employee category	Yes	42	

GRI DISCLOSURE	DESCRIPTION	REPORTING	PAGE	UN GLOBAL GOALS
<b>405</b>	<b>DIVERSITY AND EQUAL OPPORTUNITY</b>			
<b>405-1</b>	Diversity of governance bodies and employees	Yes	22, 36	
<b>405-2</b>	Ratio of basic salary and remuneration of women to men by employee category and workplace	Yes	37	 
<b>406</b>	<b>NON-DISCRIMINATION</b>			
<b>406-1</b>	Incidents of discrimination and corrective actions taken	Yes	43 (no reported violations)	
<b>407</b>	<b>FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING</b>			
<b>407-1</b>	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Yes	No reported cases	
<b>408</b>	<b>CHILD LABOR</b>			
<b>408-1</b>	Operations and suppliers at significant risk for incidents of child labor	N/A		
<b>409</b>	<b>FORCED OR COMPULSORY LABOR</b>			
<b>409-1</b>	Operations and suppliers at significant risk for incidents of forced or compulsory labor	N/A		
<b>410</b>	<b>HUMAN RIGHTS</b>			
<b>410-1</b>	Employees trained in human rights policies or procedures	Yes	42	
<b>411</b>	<b>HUMAN RIGHTS</b>			
<b>411-1</b>	Incidents of violations involving rights of indigenous peoples	N/A		
<b>412</b>	<b>HUMAN RIGHTS</b>			
<b>412-1</b>	Operations subject to human rights reviews	N/A		
<b>412-2</b>	Employee training on human rights policies or procedures	Yes	42	
<b>412-3</b>	Significant agreements that include human rights clauses or that underwent human rights screening	Yes, in part	9, 12, 35	
<b>413</b>	<b>LOCAL COMMUNITIES</b>			
<b>413-1</b>	Operations with local community engagement, impact assessments, and development programs	Yes	11, 18, 43	
<b>413-2</b>	Operations with potential negative impacts on local communities	Yes	20, 34	
<b>414</b>	<b>SUPPLIER SOCIAL ASSESSMENT</b>			
<b>414-1</b>	New suppliers screened using social criteria	Yes, in part	9, 12, 30, 35	
<b>414-2</b>	Negative social impacts in the supply chain and actions taken	Yes, in part	9, 30, 35	
<b>415</b>	<b>PUBLIC POLICY</b>			
<b>415-1</b>	Political contributions	No	No government financial contributions	
<b>416</b>	<b>CUSTOMER HEALTH AND SAFETY</b>			
<b>416-1</b>	Assessment of the health and safety impacts of products and services	N/A		
<b>416-2</b>	Incidents of non-compliance concerning health and safety impacts	Yes	No incidents identified in 2022	
<b>417</b>	<b>MARKETING AND LABELING</b>			
<b>417-1</b>	Requirements for product and service information and labeling	N/A		
<b>417-2</b>	Incidents of non-compliance concerning product and service information and labeling	N/A		
<b>417-3</b>	Incidents of non-compliance concerning marketing communications	N/A		
<b>418</b>	<b>CUSTOMER PRIVACY</b>			
<b>418-1</b>	Complaints concerning breaches of customer privacy and losses of customer data	No	No cases	
<b>419</b>	<b>SOCIOECONOMIC COMPLIANCE</b>			
<b>419-1</b>	Non-compliance with laws and regulations in the social and economic area	No	No cases	



