

## 2024 Green Finance Allocation and Impact Report

In 2019, Reykjavík Energy (RE) published a Green Bond Framework, under which the company issued green bonds both in 2019 and 2020. In 2021, RE expanded this framework into a Green Financing Framework enabling the use of additional financing instruments such as green loans. This revision also adopted a 'balance sheet' approach, reflecting RE's strong focus on green activities, both directly and indirectly. In October 2024 RE updated its Green Financing Framework for the second time, with the assessment conducted by Standard & Poor's Financial Services. The update incorporated a Second Party Opinion (Shades of Green) and the integration of the EU Taxonomy, evaluating the company's alignment with these standards. For more details, refer to the updated [Green Financing Framework](#) and the accompanying [S&P Global Second Party Opinion \(SPO\)](#).

In 2022, 2023, and 2024, RE published Allocation and Impact Reports for the years 2021, 2022, and 2023, respectively. During these periods, green financing was issued in the amounts of ISK 13.2 billion, ISK 10.7 billion, and ISK 19.7 billion.

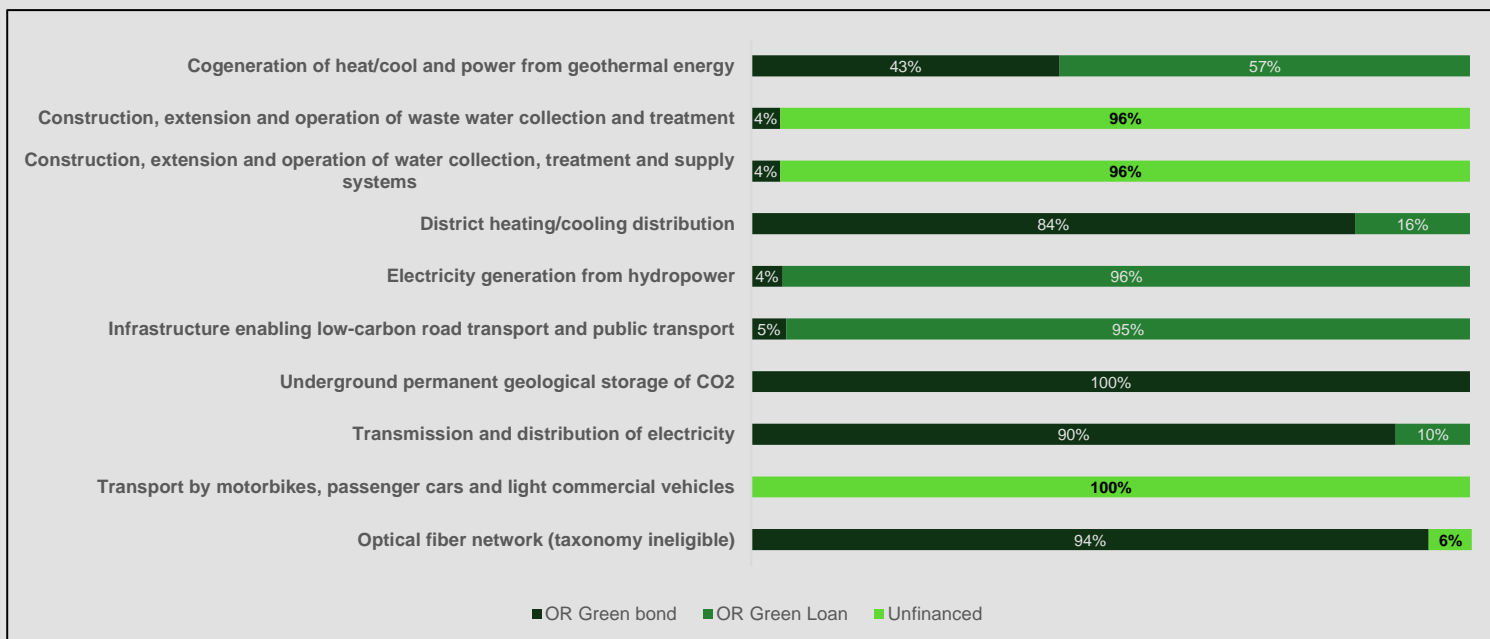
This report presents the 2024 allocation and impact of RE's green financing, totalling approximately ISK 31.3 billion. Of this amount, ISK 24.4 billion was raised through the issuance of green bonds for RE, while ISK 6.9 billion came from green loans. All financing with allocated impacts represented new funding. Additionally, RE refinanced existing green assets within the group for the amount ISK 6.4 billion through the issuance of green bonds; however, this refinancing does not generate any new impacts in this report.

RE's financing has been allocated across its subsidiaries within the defined Project Categories, which include:

- Cogeneration of heat/cooling and power from geothermal energy
- Construction, expansion, and operation of wastewater collection and treatment systems
- Construction, expansion, and operation of water collection, treatment, and supply systems
- District heating/cooling distribution
- Electricity generation from hydropower
- Optical fiber network (EU Taxonomy ineligible)
- Infrastructure supporting low-carbon road transport and public transportation
- Transmission and distribution of electricity
- Transport via motorbikes, passenger cars, and light commercial vehicles
- Underground permanent geological storage of CO<sub>2</sub>

The impacts of the funded assets and projects are detailed in the table below. The accompanying chart illustrates the distribution of funding across these project categories through various financing instruments.

EU Taxonomy category (code)	Indicator	Allocated impact	Impact units
<b>Cogeneration of heat/cool and power from geothermal energy (4.18)</b>	Renewable electricity production	167	GWh
	Renewable heat production	347	GWh
	Emissions avoided from renewable electricity production	21,113	tCO <sub>2</sub> eq. avoided
<b>Construction, expansion, and operation of wastewater collection and treatment systems (5.3)</b>	Sewage infrastructure	0.3	km
<b>Construction, extension, and operation of water collection, treatment, and supply systems (5.1)</b>	Cold water infrastructure	0.5	km
<b>Electricity generation from hydropower (4.5)</b>	Renewable electricity production	1.2	GWh
	Emissions avoided from renewable electricity production	151	tCO <sub>2</sub> eq. avoided
<b>District heating/cooling distribution (4.15)</b>	Heat distribution infrastructure	53	km
<b>Optical fiber network (ineligible)</b>	Fibre optic installed or upgraded	157	km
	Number of homes passed.	3,339	Homes connected
<b>Infrastructure supporting low-carbon road transport and public transportation (6.15)</b>	Installation of public EV charging stations	320	number of EV charging stations installed
<b>Transmission and distribution of electricity (4.9)</b>	Electricity distribution infrastructure	98	km
<b>Transport via motorbikes, passenger cars, and light commercial vehicles (6.5)</b>	Electrification of OR car fleet	0	low-emission vehicles purchased
<b>Underground permanent geological storage of CO<sub>2</sub> (5.13)</b>	Estimated sequestered CO <sub>2</sub> emissions.	3,398	tCO <sub>2</sub> eq. sequestered
	Estimated sequestered H <sub>2</sub> S emissions	1,130	tH <sub>2</sub> Seq. sequestered



## Financed project categories and asset and/or project examples

### Cogeneration of heat/cool and power from geothermal energy

RE's subsidiary, ON Power, operates two geothermal power plants, which supply a significant share of Reykjavík's electricity and hot water. In 2024, the renewable electricity and heat generation attributed to new investments was estimated at 167 GWh of electricity and 347 GWh of thermal energy.

Examples of assets and projects within this category include engine renovations, upgrades to gas management systems, and efficiency improvements at the power plants.

	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
Cogeneration of heat/cool and power from geothermal energy	2024	7,552.8	7,552.8	100%	Renewable electricity production	167	167	GWh
					Renewable heat production	347	347	GWh
					Emissions avoided from renewable electricity production	21,113	21,113	tCO <sub>2</sub> eq. Avoided

### Construction, expansion, and operation of wastewater collection and treatment systems

RE's subsidiary, Veitur Utilities, manages wastewater collection and treatment infrastructure in Reykjavík and in West Iceland. In 2024, Veitur installed 6.3 km of sewage infrastructure, of which 0.3

were allocated to green financing. Example assets and projects include wastewater piping and treatment plants.

Construction, expansion, and operation of wastewater collection and treatment systems	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	2,553.1	96.2	4%	heat distribution infrastructure	6.3	0.3	km

## Construction, extension, and operation of water collection, treatment, and supply systems

RE's subsidiary, Veitur Utilities, manages water supply infrastructure in Reykjavík and in West Iceland. In 2024, Veitur installed 12 km of water supply infrastructure, of which 0.5 were allocated to green financing. Example assets and projects include the purchase of smart meters, water collection equipment and distribution pipes.

Construction, extension, and operation of water collection, treatment, and supply systems	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	2,343.6	91.9	4%	heat distribution infrastructure	12	0.5	km

## Electricity generation from hydropower

ON Power operates a small hydropower plant, new investments are estimated to have contributed to 1.2 GWh of electricity production by the plant in 2024.

	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
Electricity generation from hydropower	2024	76.9	76.9	100%	Renewable electricity production	1.2	1.2	GWh
					Emissions avoided from renewable electricity production	151	151	tCO <sub>2</sub> eq. Avoided

District heating/cooling distribution

RE’s subsidiary, Veitur Utilities manage the heat distribution infrastructure in the Reykjavik capital area and in parts of West and South Iceland. Ensuring a reliable and sustainable delivery of geothermal energy to households, businesses, and industries. In 2024, it installed 53 km of heat distribution infrastructure (where the total network length is 3400 km). Veitur continuously monitors and upgrades its distribution system to enhance energy efficiency, reduce environmental impact, and prevent leaks. To maintain the integrity of the hot water system, Veitur conducts regular inspections, predictive maintenance, and system upgrades. The company utilizes advanced monitoring technologies, including remote sensors and data analytics, to detect anomalies and optimize performance. Additionally, Veitur invests in innovative solutions to improve energy utilization, reduce carbon emissions, and support sustainable urban development.

In November, two new low-temperature geothermal areas were discovered—one in Brimnes, Kjalarnes, and another in Geldinganes. This milestone comes at a crucial time, as demand for hot water for residential heating and industrial use continues to rise in the capital area.



District heating/cooling distribution	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	7,901.5	7,901.5	100%	heat distribution infrastructure	53	53	km

Optical Fiber Network - Ineligible in the EU Taxonomy

RE’s subsidiary, Reykjavík Fibre Network (Ljósleiðarinn), manages fibre optic infrastructure in Iceland. Fiber optic networks are recognized for their energy efficiency and capacity to support sustainable digitalization across sectors. Compared to traditional copper-based networks, fiber optics consume less energy and offer higher bandwidth, aligning with the EU's climate goals. Although fiber optics are not considered taxonomy-eligible, they are included in Reykjavík Energy’s Green Financing Framework. In 2024, Reykjavík Fibre Network installed 167 kilometers of high-efficiency fibre optic cables, extending connectivity to 3,552 homes.

	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
Information and communication	2024	2,150.7	2,027.3	94%	Fibre optic installed or upgraded	167	157	km
					Number of homes passed.	3,552	3,339	homes

Infrastructure enabling low-carbon road transport and public transport

ON, a subsidiary of RE, aims to lead the transition to sustainable transportation in Iceland by establishing an extensive network of fast-charging stations for electric vehicles (EVs) nationwide. ON has developed charging infrastructure and now operates approximately 60 fast-charging stations encircling the country. To enhance accessibility, ON has introduced neighbourhood charging stations in urban areas, allowing users to charge their vehicles while attending to errands. The company has also developed digital solutions, such as the ON app, providing users with information on station locations, availability, and facilitating payments. In 2024, 320 EV charging connections were installed across Iceland.

Infrastructure enabling low-carbon road transport and public transport	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	770.7	770.7	100%	Installation of public EV charging stations	320	320	Number of EV charging stations installed

Transmission and distribution of electricity

RE’s subsidiary, Veitur Utilities oversees the distribution of electricity to over half the population in six municipalities in the bay of Faxaflói. A unique feature of Veitur Utilities’ electrical grid in Iceland is its network of high-voltage cables which connects 13 substations within its distribution area. This structure ensures the reliable and efficient distribution of electricity to homes and businesses within Veitur's service area.

In 2024, Veitur installed 98 km of electricity distribution infrastructure (where the total network length is 5,400 km)

Veitur has made significant progress in modernizing and enhancing the intelligence of its electricity distribution system. Currently, 100 distribution stations—about 10% of the company's nearly one thousand stations—are remotely controllable and readable. This eliminates the need for on-site visits by staff to transfer loads between cables during normal operations, improving safety. Additionally, the system can identify fault locations during power outages, reducing downtime. The Remote Terminal Unit (RTU) technology is now standard in all new distribution stations, with older stations being upgraded. This advancement enhances both employee safety and operational efficiency.



Transmission and distribution of electricity	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	4,679.7	4,679.7	100%	Electricity distribution infrastructure	98	98	km

## Transport by motorbikes, passenger cars and light commercial vehicles

RE aligns itself with the general governmental objectives concerning the energy transition in transportation and promotes the use of renewable energy sources, in line with its sustainability and social responsibility strategy. RE is working to replace its current vehicle fleet with zero emissions vehicles with the goal of the car fleet to be fully non-emitting of GHG by 2030. In 2024 RE purchased no zero-emission vehicles. The vehicle fleet is comprised of 50% low-emission vehicles.

Transport by motorbikes, passenger cars and light commercial vehicles	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	82.6	82.6	0%	Electrification of OR car fleet	0	0	low-emission vehicles purchased

## Underground permanent geological storage of CO<sub>2</sub>

Carbfix is a global leader in carbon capture and storage, sequestering carbon emissions from RE's largest geothermal plant, Hellisheiði, which is operated by ON Power. In 2024, a total of 12,142 tonnes of CO<sub>2</sub> and 4,036 tonnes of H<sub>2</sub>S were sequestered from geothermal power plants. Of this, 3,398 tonnes of CO<sub>2</sub> and 1,130 tonnes of H<sub>2</sub>S were attributed to new financing (see methodology below).

Notable assets financed in 2024 by ON Power include the construction of Silverstone capture plant, which will fully scale up the Carbfix technology at Hellisheidi powerplant, allowing for an estimated 95% capture rate of CO<sub>2</sub>.

Carbfix has invested in assets such as an electric drill designated for creating injection wells. The Coda Terminal project is under development, aiming to receive carbon dioxide (CO<sub>2</sub>) and by utilizing the Carbfix technology, the CO<sub>2</sub> will be injected into basaltic bedrock, where it mineralizes into stone in less than two years.

Underground permanent geological storage of CO <sub>2</sub>	Year	Total financing m ISK	Green financing m ISK	Green financing percentage	Indicator	Total impact	Allocated impact	Unit
	2024	1,691.6	1,691.6	100%	Estimated sequestered CO <sub>2</sub> emissions (in tonnes) per year.	3,398	3,398	tCO <sub>2</sub> eq. sequestered
					Estimated sequestered H <sub>2</sub> S emissions (in tonnes) per year.	1,130	1,130	tH <sub>2</sub> Seq. Sequestered

## Methodology

The impacts outlined in this report represent the positive outcomes facilitated by RE's green financing. The methodologies used for calculating avoided emissions and other impacts adhere to relevant international guidelines and standards, ensuring reliability and compliance with recognized global practices.

For the **cogeneration of heat/cooling and power from geothermal energy** and **electricity generation from hydropower**, the amount of renewable electricity and heat produced is measured per production facility, where meters measure this production.

OR supplies renewable electricity to users in Iceland. For the avoided emissions calculations, this is relevant because the electricity users in Iceland have been divided into two types as shown below. Both will contribute to the EU's 2030 emission reduction targets defined in the Paris Agreement but will have a different role in the EU's 2030 climate & energy framework. Methodologies used for avoided emission calculations are based on relevant international guidelines and standards.

Type 1: Industry operating within the European Union (EU) Emission Trading System (ETS), representing ~60-65% of OR's sold electricity.

- The benchmark emission factor for this group was calculated using a methodology from the International Financial Institutions (IFI)<sup>1</sup> using the combined margin method and the Harmonized IFI Default Grid Factors 2021 v3.1.
- The IFI benchmark emission factor for the year 2024 for firm energy production (which is the relevant description for geothermal energy) is estimated to be 214 gCO<sub>2</sub>e/kWh, based on the combined margin grid emissions in EU 27.

Type 2: Other Industries and households in Iceland, representing ~35-40% of RE's sold electricity.

- The benchmark emission factor for Type 2 users was calculated using the same methodology as used for Type 1 users.
- The Icelandic benchmark emission factor for the year 2024 is estimated to be 0 gCO<sub>2</sub>e/kWh.

Using the above methodology, the comparative weighted average benchmark according to approximate sales to ETS industries was estimated to be 133.8 CO<sub>2</sub>eq./kWh, which is the average displaced electricity emission factor. Using RE's reported carbon footprint of 7.3 gCO<sub>2</sub>eq./kWh<sup>2</sup>, comparing this value to the benchmark to calculate, the avoided impact was estimated to be 126.5 gCO<sub>2</sub>eq. per kWh produced.

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<sup>1</sup> International Finance Institution (2022). *Methodological Approach for the Common Default Grid Emission Factor Dataset*. IFI TWG - AHG-001. Version 2021 3.2

<sup>2</sup> Reykjavik Energy. *Annual Report 2024*. Reykjavik Energy. Reykjavik.



Since it is difficult to measure the additionality of impacts associated with the investments made in 2024, to allocate the impacts from investment in that year, the amount invested was constructed as a ratio of the end of year balance sheet value of the ON Power subsidiary (where new investments represented 5% of the total balance sheet).

For the **district heating/cooling distribution & transmission and distribution of electricity & Optical Fiber network (ineligible)**, the length of infrastructure installed is sourced from Veitur Utilities' GIS based infrastructure management system, where all infrastructure laid during the year is updated into this system.

For **infrastructure supporting low-carbon road transport and public transportation & transport via motorbikes, passenger cars, and light commercial vehicles**, the number of eco-friendly vehicles purchased and charging stations installed are sourced from internal asset system data.

For the **underground permanent geological storage of CO<sub>2</sub>** project category, the total CO<sub>2</sub> and H<sub>2</sub>S sequestered is measured according to monitoring systems both during the capture and storage phase. During the capture phase, the CO<sub>2</sub> and H<sub>2</sub>S is a percent of capture of the non-condensable gasses emitted at the Hellisheidi power station. Capture data is collected from monitors in this stage. The rate of sequestration is then measured and sequestration rates at this site been academically published.<sup>3</sup> To allocate the additionality impacts from investment in the year 2024, the amount invested in 2024 was constructed as a ratio of the end of year balance sheet value of the Carbfix subsidiary (where new investments represented 28% of the total balance sheet).

For the **Construction, expansion, and operation of wastewater collection and treatment systems & Construction, extension, and operation of water collection, treatment, and supply** categories, the length of infrastructure installed is sourced from Veitur Utilities' GIS based infrastructure management system, where all infrastructure laid during the year is updated into this system.

*KPMG initially assisted in preparing previous years' impact reports, it provided advise on setup, methodology, and calculations of environmental/climate change impact. However, the preparation for this report is entirely performed by RE's internal experts.*

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<sup>3</sup> Matter, J. M., Stute, M., Snæbjörnsdottir, S. Ó., Oelkers, E. H., Gislason, S. R., Aradottir, E. S., ... & Broecker, W. S. (2016). Rapid carbon mineralization for permanent disposal of anthropogenic carbon dioxide emissions. *Science*, 352(6291), 1312-1314.



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## **Independent Auditor's Assurance Report**

To the Board of Directors of Orkuveita Reykjavíkur and Green Bond holders

### **Assurance scope**

The scope of our work was limited to verifying that the proceeds of the Green Financing obtained were used for funding selected eligible projects as reported in the 2024 Green Finance Allocation and Impact Report.

### **Responsibilities of Orkuveita Reykjavíkur**

The net proceeds from Green Financing is managed by the Financial Department of Orkuveita Reykjavíkur. It is the responsibility of Orkuveita Reykjavíkur to allocate the proceed to the eligible projects selected by a Selection Committee and approved by the Board of Directors of Orkuveita Reykjavíkur. The Financial Department of Orkuveita Reykjavíkur is also responsible for preparation of a Green Finance Allocation and Impact Report which is free from material misstatements, whether due to fraud or error, in accordance with the Green Financing Framework from 2021.

### **Responsibility of the auditor**

Our responsibility is to express an assurance conclusion for the subject matter at hand and which is included in the Green Finance Allocation and Impact Report, based on the procedures we have performed and the evidence we have obtained.

We conducted our assurance engagement in accordance with *ISAE 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial information* issued by the IASB.

### **Our independence and quality control**

We have complied with independence and other ethical requirements of the Code of Ethics for professional Accountants issued by the International Ethics Standards Boards for Accountants which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We apply *ISQC 1 International Standard on Quality Control* and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

### **Work performed**

During our assurance engagement we reconciled the list of funded projects to the selected eligible projects. We performed assurance procedures on accounting transactions and capital movements in the Green Account. We have also reviewed the 2024 Green Finance Allocation and Impact Report and performed assurance procedures on the completeness and accuracy of reported information as described in the Green Financing Framework.



## **Conclusion**

Based on the assurance procedures we have performed and the evidence we have obtained, we conclude, in all material aspects, that the proceeds of Green Financing obtained has been used to fund the selected eligible projects as reported in the 2024 Green Finance Allocation and Impact Report.

Reykjavík, 7 March 2024

On behalf of Grant Thornton endurskoðun ehf

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Davíð Arnar Einarsson

State Authorized Public Accountant

Undirritunarsíða

State Authorized Public Accountant  
Davíð Arnar Einarsson