

Green Finance Report 2023

Summary

- › Landsvirkjun has established a Green Finance Framework in line with the company's focus on sustainability and climate action
- › Landsvirkjun's Green Finance Framework is based on the ICMA Green Bond Principles and the LMA Green Loan Principles. A second party opinion on the Green Finance Framework has been provided from Sustainalytics stating that the Green Finance Framework is robust, transparent and in alignment with the four components of the ICMA Green Bond Principles and LMA Green Loan Principles
- › No new Green finance instruments were issued in 2023
- › Total Green finance instruments amount to USD 200 million with four outstanding issuances. The Green bonds are all issued in the US Private Placement market
- › All new funding has been green finance or sustainability linked since 2018. Outstanding green finance instruments currently account for about 25% of Landsvirkjun's total outstanding loans
- › Impact indicators show that the avoided GHG emission in 2023 was 2,641,874 tCO₂eq or 0.846 kgCO₂eq/USD

Green Finance Allocation Reporting

As of year-end 2023 the Eligible Green Assets amounted to USD 3,122 million. Outstanding Green Finance Instruments amounted to USD 200 million. All proceeds from the Green Finance Instruments have been allocated to the Eligible Green Assets.

Eligible Green Assets		Green Funding			
	Amount (mUSD)	Instrument	Issuance Date	Due Date	Amount (USDm)
Renewable Energy	3.122	Green bonds	Mar 2018	Mar 2025	30
		Green bonds	Mar 2018	Mar 2028	20
		Green bonds	Nov 2020	Nov 2029	50
		Green bonds	Feb 2021	Feb 2030	100
Total Eligible Green Assets	3.122	Total Green Funding			200

Percentage of Eligible Green Assets allocated to net proceeds of Green Funding: **6,4%**

Percentage of net proceeds of Green Finance instruments allocated to Eligible Green Assets: **100%**

Deloitte, the external auditors of Landsvirkjun, have issued an assurance report on the Green Finance Allocation Report and confirmed that the preparation of the Eligible Green Assets is in accordance with the Eligibility Criteria as described in the Framework. The Green Finance Allocation Report and the Assurance Report are included in the appendix.

Green Finance Impact Reporting

Landsvirkjun's Green Finance climate impact is expressed as avoided greenhouse gas emissions.

The avoided greenhouse gas emissions by using green and renewable energy amounted to 2.6 million tonnes CO₂ equivalents on balance sheet basis.

↓ Landsvirkjun's climate impact on balance sheet and pro-rata basis

	Eligible Green Assets (USDm)	Generation capacity (MW)	Generation output in 2023 (GWh)	Avoided GHG emissions in 2023 (tCO ₂ eq)
Balance sheet basis	3,122	2,146	14,686	2,641,874
Pro-rata basis	200	137	941	169,242

The climate impact is shown both on balance sheet basis and pro-rata basis which is proportional to the amount of outstanding Green Finance Instruments to Eligible Green Assets on the company's balance sheet. The avoided greenhouse gas emissions of Eligible Green Assets on balance sheet basis amounted to 2,641,874 tCO₂-eq or 0.846 kgCO₂-eq/USD in 2023., on balance sheet basis.

The Green Finance Impact Report discloses the climate impact of Landsvirkjun's renewable energy assets for the year 2023 in line with the company's [Green Finance Framework](#) and describes the methodology used. The report is included in the appendix.

Appendix - Annual Green Finance Impact Report

The Green Finance Impact Report discloses the climate impact of Landsvirkjun's renewable energy assets for the year 2023 in line with the company's [Green Finance Framework](#).

The climate impact is expressed as avoided greenhouse gas emissions.

Avoided Greenhouse Gas Emissions

Landsvirkjun's Green Asset's climate impact is shown in the table below. The climate impact is shown both on balance sheet basis and pro-rata basis which is proportional to the amount of outstanding Green Finance Instruments to Eligible Green Assets on the company's balance sheet. At the year end 2023, Landsvirkjun's Eligible Green Assets amounted to USD 3,122 m and Green Finance Instruments amounted to USD 200 m.

↓ **Table 1: Landsvirkjun's climate impact on balance sheet and pro-rata basis**

	Eligible Green Assets (USD m)	Generation capacity (MW) ¹	Generation output in 2023 (GWh) ¹	Avoided GHG emissions in 2023 (tCO ₂ eq)
Balance sheet basis	3,122	2,146	14,686	2,641,874
Pro-rata basis	200	137	941	169,242

The avoided greenhouse gas emissions of Eligible Green Assets on balance sheet basis amounted to 2,641,874 tCO₂-eq or 0.846 kgCO₂-eq/USD in 2023.

Climate Impact Calculation Methodology

The methodology used for impact calculations is based on relevant international standards and guidelines.²

The customers to which Landsvirkjun supplies electricity have been separated into two groups, industry operating within the European Union (EU) Emissions Trading System (ETS) and other industries and households in Iceland. The groups have a different role in contributing to the emission reduction target outlined in the EU 2030 climate and energy framework.

The benchmark emission factors for each group were calculated using the International Financial Institution's (IFI) methodology (combined margin method) and the Harmonized IFI Default Grid Factors Dataset (V3.2).³ The emission factor for each group is multiplied by the group's share in the total supplied electricity by Landsvirkjun as disclosed in the company's [Annual Report 2023](#) (see Table 2). The combined emission factor is 182.9 gCO₂-eq/kWh.

Landsvirkjun's direct (scope 1) emissions are deducted from the benchmark factor to calculate the avoided impact. According to [Landsvirkjun's 2023 Climate Accounts](#), the direct (scope 1) emissions amounted to 44,348 tCO₂-eq or 3.0 gCO₂-eq/kWh. Scope 1 emissions are direct emissions from geothermal operations and hydropower reservoirs, fossil fuel use and SF₆ leakage from the company's electric equipment. Landsvirkjun's climate account is based on the methodology of the Greenhouse Gas Protocol (GHGP), and has been inspected and verified by Bureau Veritas using the international standard ISO 14064-3, with limited assurance.

↓ **Table 2: Supplied electricity and benchmark emission factors for Landsvirkjun's customer groups.**

Customer group	Amount of supplied electricity (GWh)	Share of total supplied electricity (%)	Benchmark emission factor (gCO ₂ eq/kWh)
Industry within EU's ETS	12,552	85.5%	214
Other industries and households	2,133	14.5%	0

1 [Landsvirkjun's Consolidated Financial Statements 2023](#).

2 [International Capital Market Association's and Green Bond Principle's Handbook on Harmonized Frameworks for Impact Reporting \(December 2020\)](#).

3 [Harmonized IFI Default Grid Factors, International Financial Institutions V3.2 \(April 2022\)](#).

Appendix - Green Finance Allocation Reporting

As of 31st December 2023

Eligible Green Assets		Green Funding			
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Total Eligible Green Assets	3.122	Total Green Funding			200

Percentage of Eligible Green Assets allocated to net proceeds of Green Funding: **6,4%**

Percentage of net proceeds of Green Finance instruments allocated to Eligible Green Assets: **100%**

- › The amounts for Renewable Energy are reviewed in accordance with Landsvirkjun's Green Finance Framework issued in September 2020
- › Deloitte's Independent Auditor's Assurance Report in relation to the Eligible Green Assets and respective disclosed amounts is included on the following pages
- › The Green Bonds are all issued in the US Private Placement market



INDEPENDENT AUDITOR'S ASSURANCE REPORT

To the Board of Directors of Landsvirkjun and its green bond holders.

Assurance scope

The scope of our work was limited to assurance over the Green Finance Allocation Reporting (here after referred to as "the Report"). The Eligibility Criteria used for the preparation of the Eligible Green Assets are the Eligibility Criteria as described in the Green Finance Framework.

The Eligible Green Assets needs to be read and understood together with the Eligibility Criteria. Landsvirkjun is solely responsible for selecting and applying these Eligibility Criteria.

Responsibilities of Landsvirkjun

The CEO and CFO are responsible for the preparation of the Report including the Eligible Green Assets in accordance with the Eligibility Criteria as described in the Green Finance Framework. It is important to view the Eligible Green Assets in the context of these Eligibility Criteria.

Responsibility of the auditor

Our responsibility is to express an assurance conclusion on the Report specified above, based on the procedures we have performed and the evidence we have obtained.

We conducted our assurance engagement in accordance with ISAE 3000 Assurance Engagement Other than Audits of Reviews of Historical Financial Information issued by IASB.

Our independence and quality control

We have complied with the 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 ISQM 1 International Standard on Quality Management 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

- Identified areas of the Eligible Green Assets where a material misstatement, whether due to fraud or error, is most likely to occur, designing and performing assurance procedures responsive to these areas, and obtaining assurance information that is sufficient and appropriate to provide a basis for our conclusion.
- Reviewing the second party opinion from Sustainalytics which addresses the applicability of the Eligibility Criteria used in the preparation the Eligible Green Assets in the Report.
- Reviewing the application of the Eligibility Criteria used in the preparation of the Eligible Green Assets in the Report.

Conclusion

Based on the assurance procedures we have performed and the evidence we have obtained, in our opinion, the Report, has been put forth in accordance with the reporting criteria.

Reykjavík, February 27th 2024.

Deloitte ehf.



Jóhann Óskar Haraldsson

State Authorized Public Accountant