

The Semi-Annual Climate Account

Landsvirkjun's semi-annual Climate Account for the first half of 2022 shows that greenhouse gas emissions from the Company's operations were approximately 23,700 tonnes CO₂e, an increase of 12% year on year. Landsvirkjun's carbon sequestration was almost 17,900 tonnes CO₂e, an increase of 4% year on year. The Company's carbon footprint, i.e., greenhouse gas emissions and removals, was approximately 5,900 tonnes CO₂e, an increase of 47% year on year.

Increased greenhouse gas emissions are mainly due to increased electricity generation at the Landsvirkjun's geothermal power stations, as emissions from geothermal energy are the single largest source of emissions in the Company's operations. Low water levels in hydropower station's reservoirs, as well as increased demand for electricity in the first two quarters of the year, led to increased electricity generation from geothermal energy year on year. Emissions from hydropower reservoirs increased by 8% year on year, but those emissions depend on the number of days that the reservoirs are frozen.

Landsvirkjun's emissions from fossil fuel combustion were reduced by 3% year on year, as the Company systematically replaces its diesel or petrol engine vehicles and equipment with new ones fuelled by clean energy.

Carbon intensity for the first half of 2022 was 3.3 gCO₂e/kWh, an increase of 7% year on year. Net carbon intensity was 0.82 gCO₂e/kWh, an increase of 40% year on year.

Avoided emissions from Landsvirkjun's electricity generation for the first half of 2022 was approximately 1.6 million tonnes CO₂e, an increase of 13% year on year.

↓ Key Figures

Carbon footprint

5,870 tonnes CO₂e ↑47%

Net carbon intensity

0.82 gCO₂e/kWh ↑40%

GHG emissions

23,745 tonnes CO₂e ↑12%

Carbon intensity

3.3 CO₂e/kWh ↑7%

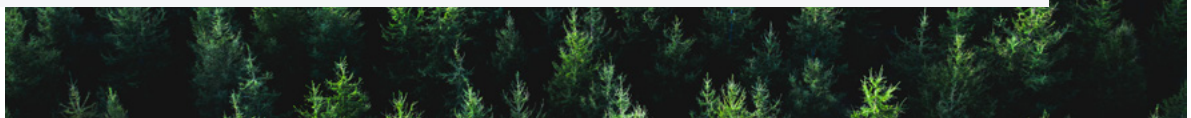
Carbon sequestration

17,875 tonnes CO₂e ↑4%

Avoided GHG emissions

1,597,101 tonnes CO₂e ↑13%

[Year on year changes](#)



Carbon footprint first six months

1st of January – 30th of June 2022

Scope 1 (t CO ₂ e)	2018	2019	2020	2021	2022	Change from 2021
Geothermal energy	20,402	16,118	15,326	15,774	17,977	14%
Reservoirs (CH ₄)	1,801	2,896	1,836	1,751	1,892	8%
Fuel	252	216	176	191	185	-3%
Electrical equipment	136	16	0	15	0	-100%
Total Scope 1	22,592	19,246	17,337	17,732	20,055	13%
Scope 2 (t CO₂e)						
Purchased electricity and heating	6.4	4.2	5.7	4.5	5.2	15%
Total Scope 2	6.4	4.2	5.7	4.5	5.2	15%
Scope 3 (t CO₂e)						
Fertiliser	413	479	619	684	815	19%
Fuel	122	94	72	73	77	5%
Employee commute	59	47	35	54	54	0%
International air travel	174	158	24	0	33	100%
Domestic air travel	129	83	27	30	49	65%
Construction	3,157	1,638	211	165	47	-71%
Electricity distribution	1,215	717	1,131	964	964	0%
Waste	18	14	22	30	42	40%
Total Scope 3	5,286	3,231	2,140	2,001	2,083	4%
Outside of scopes (t CO₂e)						
Reservoirs (CO ₂)	1,483	2,479	1,514	1,438	1,566	9%
Fuel (CO ₂)	12	22	16	27	36	33%
Total outside of scopes	1,495	2,500	1,529	1,465	1,602	9%
Total emissions (t CO₂e)	29,380	24,981	21,012	21,202	23,745	12%
Carbon sequestration (t CO₂e)	-15,643	-15,950	-16,500	-17,200	-17,875	4%
Carbon footprint (t CO₂e)	13,737	9,031	4,512	4,002	5,870	47%
Electricity generation (GWh)						
Geothermal energy	537	536	572	467	642	38%
Hydropower	6,555	6,628	6,246	6,388	6,557	3%
Wind power	1.5	3.3	3.7	3.2	2.9	-9%
Total electricity generation	7,094	7,167	6,822	6,857	7,201	5%
Carbon intensity (g CO₂e/kWh)	4.1	3.5	3.1	3.1	3.3	7%
Net carbon intensity (g CO₂e/kWh)	1.9	1.3	0.66	0.58	0.82	40%

The Semi-Annual Climate Account Methodology

The publication of Landsvirkjun's semi-annual Climate Account contains further information on the Company's progress in executing its Climate Action Plan, and analyses how the Company is doing in meeting its ambitious goals of carbon neutrality and emissions reductions. Landsvirkjun's semi-annual Climate Account provides insights into annual emissions, which are calculated at year-end; inspected and verified by an independent certification body and published in Landsvirkjun's annual Climate Account.

Landsvirkjun's Climate Account is based on the methodology of the Greenhouse Gas Protocol (GHGP), which is a leading global standard for disclosure on corporate greenhouse gas emissions. Information on GHG emissions of various origins is available in the Company's climate dashboard and is inspected and reviewed after each quarter.

Further information on the methodology of the Climate Account can be found in the [Climate Account 2021](#). The emissions factors that information on emissions is based on are from the [Icelandic Environment Agency](#), the [United Kingdom](#), and the National Inventory Report of Iceland, and are part of the annual verification by an independent certification body.

Annual estimate of avoided emissions due to Landsvirkjun's electricity generation is part of its disclosure of green financing. Estimated avoided emissions due to the low carbon intensity of the Company's electricity generation is based on emissions factors issued by the International Financial Institution, and the division of electricity sales to large end-users and wholesale for the first half of 2022. The benchmark is 226.4 gCO₂e, however, for further information on the methodology see the [Annual Green Finance Impact Report](#).

