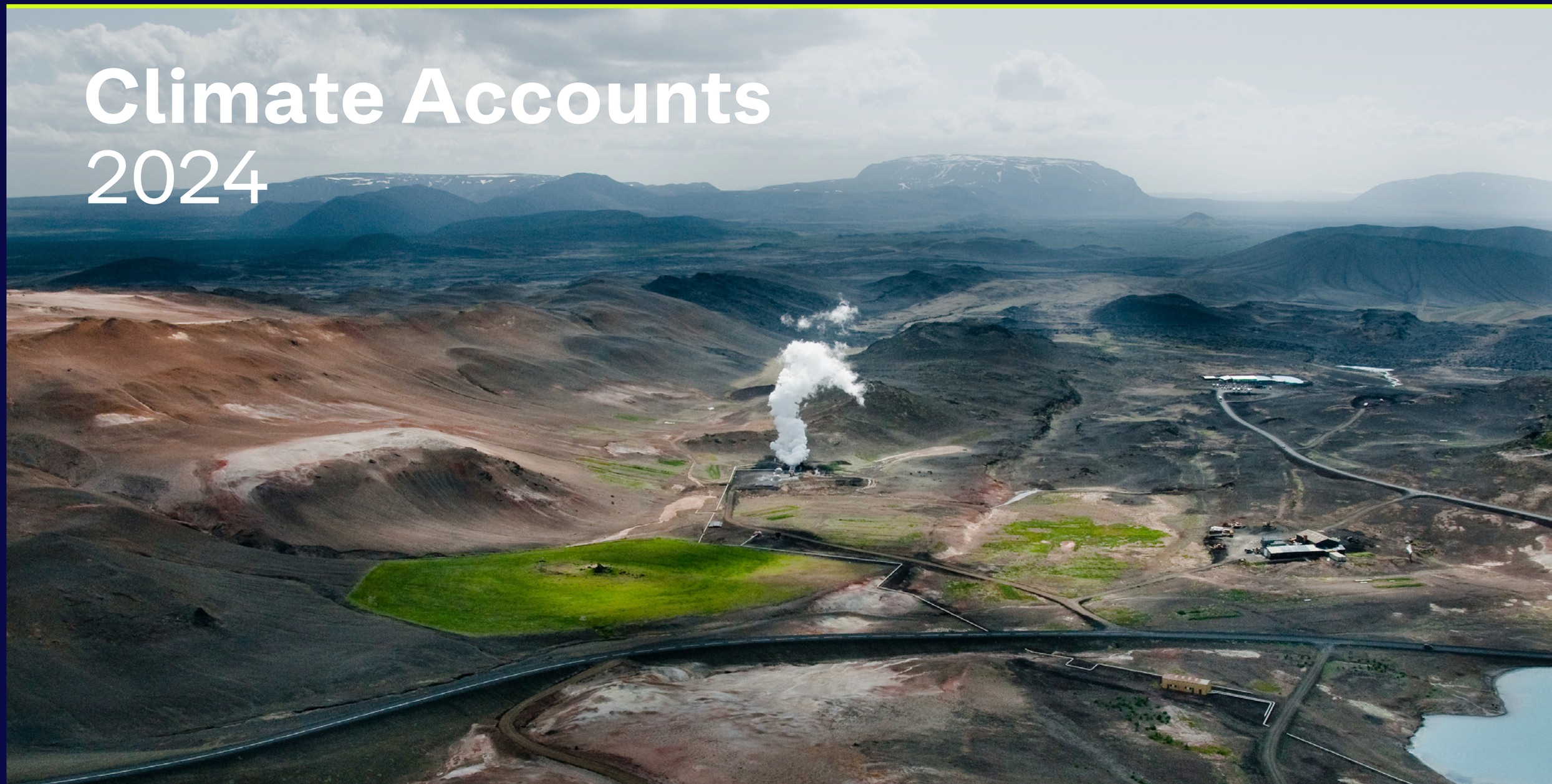
Landsvirkjun

Climate Accounts
2024



Climate Accounts 2024

I hereby confirm Landsvirkjun's Climate Accounts and net emissions for 2024.

Hörður Arnarson, forstjóri

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Our vision is a sustainable world, powered by renewable energy. We take climate change very seriously and take pride in our climate contribution. Landsvirkjun's fully renewable energy generation classifies amongst key economic activities for achieving the goals of a sustainable world where global warming is limited to 1.5°C above pre-industrial levels.

The Climate Accounts contain numerical information on Landsvirkjun's greenhouse gas emissions and carbon sequestration for 2024, as well as information on the status of the Company's climate targets.

↓ Key figures

Electricity generation
14,171 GWh ↓3.8%

Generation-related carbon intensity
3.3 g CO_2-eq/kWh ↑5.6%

Total GHG emissions
68,834 t CO_2-eq ↓0.1%

Carbon intensity
4.9 g CO_2-eq/kWh ↑3.9%

Carbon sequestration
36,438 t CO_2-eq ↑1.8%

Avoided emissions
2,533,823 t CO_2-eq ↓4.1%

Net emissions
32,396 t CO_2-eq ↓2.2%

Net carbon intensity
2.3 g CO_2-eq/kWh ↑1.7%

Climate Action Plan

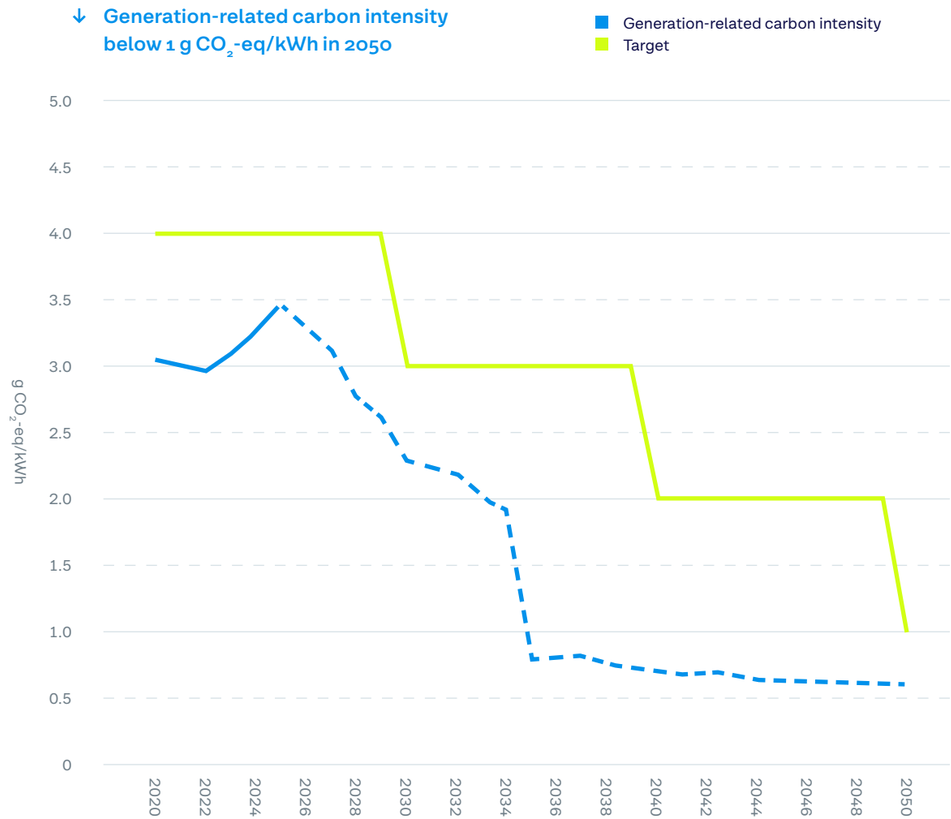
Our Climate Action Plan guides our path forward

Action prioritisation

Prevent emissions	**Priority**
Reduce current emissions	**Priority**
Implement mitigation measures	

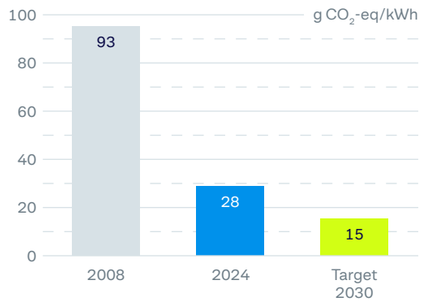
Our Climate Action Plan →
The Climate Action Plan dashboard →

↓ **Generation-related carbon intensity below 1 g CO_2-eq/kWh in 2050**



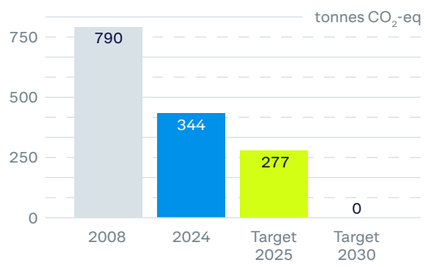
Climate Targets and Progress

↓ **80% reduction in geothermal carbon intensity in 2030 vs. 2008**



↓ **Purchases of fossil fuel will end in 2030**

65% reduction in emissions from combustion of fossil fuels in 2025 vs. 2008



↓ **Maintain carbon intensity below 9.1 gCO_2-eq/kWh**

Climate Accounts

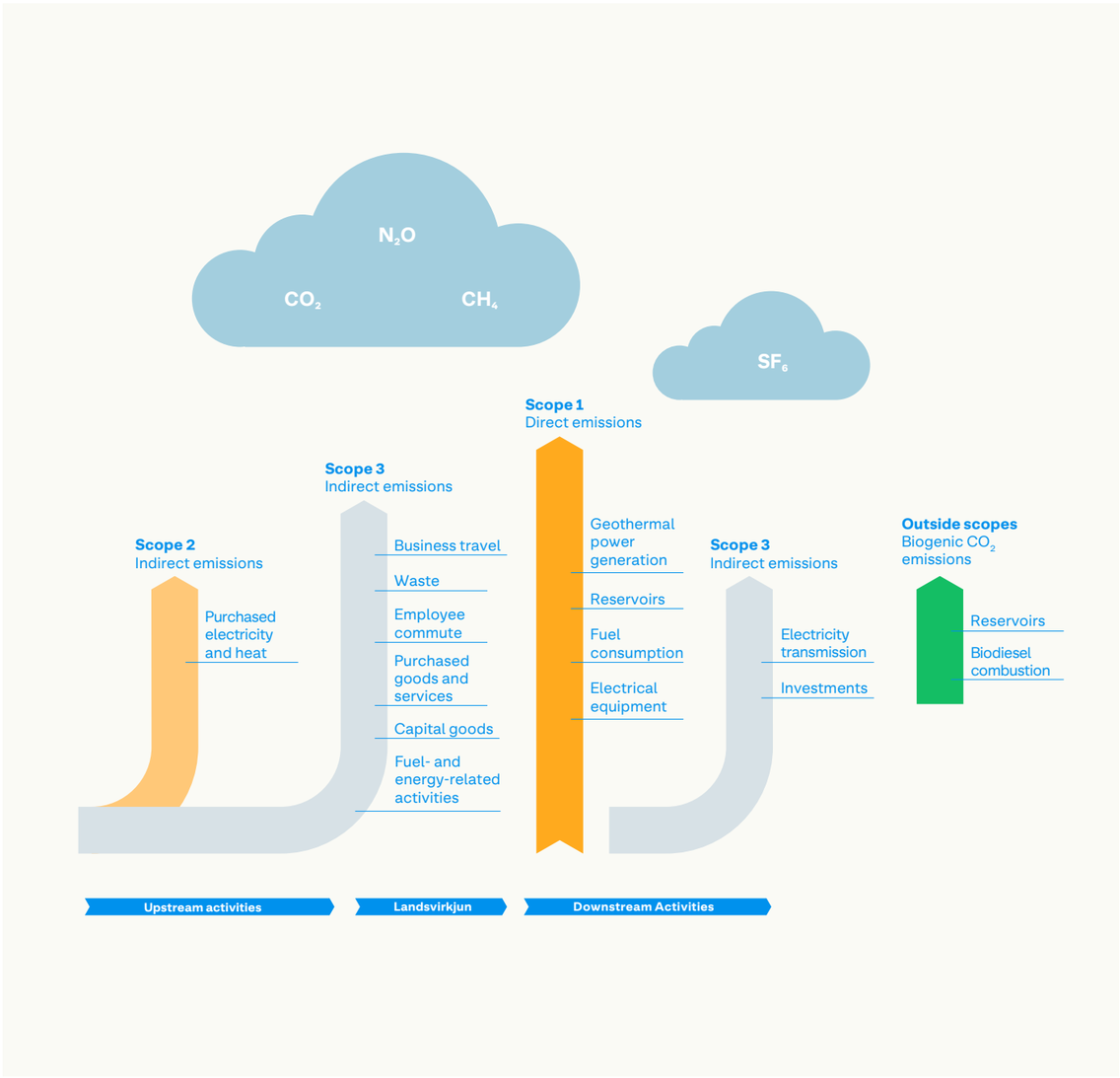
We use the Greenhouse Gas Protocol (GHGP) methodology for our Climate Accounts, a well-renowned international standard for measuring greenhouse gas (GHG) emissions and sequestration measures.

The methodology for calculating emissions in Scope 3 has been changed from the previous year and now includes all relevant categories according to the Greenhouse Gas Protocol. Scope 3 now includes all emissions from purchased goods and services, as well as capital goods, in addition to the inclusion of emissions from Landsvirkjun's investments and purchased electricity for resale. Emissions for the year 2023 have been updated accordingly, which means that Scope 3 emissions are higher than those published in the 2023 climate accounts.

We include emissions from our operations and subsidiaries, Landsvirkjun Power and Icelandic Power Insurance. The Appendix (Climate Accounting Methodology) provides more detailed information about the methodology we use to calculate the Company's carbon footprint.

We are committed to providing correct and transparent information. The international audit company Bureau Veritas has reviewed and confirmed our Climate Accounts, according to ISO 14064-3, with limited assurance (see below).

↓ Landsvirkjun's emissions sources categorised by scope



Greenhouse Gas Emissions

GHG emissions (t CO_2-eq)	2020	2021	2022	2023	2024	Change since 2023
Scope 1						
Geothermal energy	30,651	32,288	34,225	35,767	37,166	3.9%
Reservoirs (CH_4)	7,711	7,519	7,459	8,111	7,429	-8.4%
Fuel combustion	349	443	380	338	344	1.8%
Electrical equipment (SF_6)	15	105	68	132	200	51%
Total Scope 1	**38,726**	**40,354**	**42,132**	**44,348**	**45,139**	**1.8%**
Scope 2						
Purchased electricity, location-based	9.0	5.5	6.4	6.3	4.6	-27%
Purchased electricity, market-based	9.0	5.5	6.4	2.2	1.6	-27%
Purchased heating	21	14	19	19	21	6.0%
Total Scope 2, location-based	**30**	**20**	**25**	**26**	**25**	**-2.1%**
Total Scope 2, market-based	**30**	**20**	**25**	**22**	**22**	**2.7%**
Scope 3						
Purchased goods and services, total	1,657	1,295	1,091	10,821	9,807	-9.4%
Fertiliser	1,657	1,295	1,091	1,186	1,238	4.4%
Other purchased goods and services	-	-	-	9,635	8,569	-11%
Capital goods, total	997	630	294	10,108	9,965	-1.4%
Construction	997	630	294	1,323	492	-63%
Other capital goods	-	-	-	8,785	9,473	7.8%
Fuel- and energy-related activities, total	94	123	171	99	470	375%
Fuel production	94	118	109	99	105	5.7%
Purchased electricity for resale	0	4	62	0	366	-
Waste	28	30	24	39	34	-13%
Business travel, total	131	143	248	330	346	5%
Air travel	67	82	189	258	260	0.71%
Rental car travel	64	61	59	71	85	20%
Employee commtuing	69	107	95	94	119	26%
Downstream electricity transmission	2,262	1,929	1,518	1,151	1,059	-8.0%
Investments	-	-	-	1,182	1,171	-0.93%
Total Scope 3	**5,237**	**4,256**	**3,442**	**23,824**	**22,970**	**-3.6%**
Outside Scopes						
Reservoirs (CO_2)	591	549	613	624	599	-4.0%
Biodiesel combustion (CO_2)	55	61	83	84	100	20%
Total outside Scopes	**645**	**610**	**697**	**708**	**699**	**-1.2%**
Total emissions	**44,639**	**45,239**	**46,295**	**68,905**	**68,834**	**-0.1%**
Carbon Sequestration	**-33,000**	**-34,400**	**-35,151**	**-35,794**	**-36,438**	**1.8%**
Net emissions	**11,639**	**10,839**	**11,144**	**33,111**	**32,396**	**-2.2%**

Changes Between Years

Scope 1

Geothermal energy

Geothermal power stations' GHG emissions increased by 4% annually. The increase can be attributed to a 5% increase in energy generation. Carbon intensity was slightly lower than the previous year.

Reservoirs (CH_4)

Methane emissions from reservoirs decreased 8% from the previous year, with 2024 experiencing fewer ice-free days than 2023. The number of ice-free days influences reservoir emissions.

Fuel

Fossil fuel emissions increased by 2% year on year. The increase can mainly be attributed to the increased use of diesel oil for backup power generators, mostly due to equipment testing. Fuel tanks for backup genarators are periodically filled and the corresponding emissions are part of the given year's Climate Accounts.

Our aim is to stop purchasing fossil fuels by 2030 and we are actively focused on the energy transition of our vehicle and equipment fleet. At year-end, 90% of our passenger vehicle fleet ran on clean energy. In addition, we use hydrotreated vegetable oil (HVO) to run part of our fleet of non-electrical vehicles, thereby decreasing our purchase of fossil fuels. The use of HVO increased by 20% between years.

Electrical equipment

In 2024, the leakage of SF_6 insulation gas from electrical equipment in the Þjórsá and Fljótsdalur station areas was 8.5 kg. As SF_6 is a highly potent greenhouse gas, this emission is equivalent to 200 tonnes of CO_2, representing a 51% increase compared to 2023. The significant difference between years can mainly be attributed to SF_6 refills in equipment every few years due to slow leaks, with emissions recorded in the refilling year.

Scope 2

Purchased electricity

Both location-based and market-based emissions due to purchased electricity decreased by 27% from the previous year. The decrease can be attributed to a decrease in the purchase of electricity.

Purchased heating

Emissions from purchased hot water production increased by 6% compared to 2023. The increase is due to more hot water use in the Company's new offices in Reykjavík compared to the use in its previous offices.

Scope 3

The methodology for calculating emissions in Scope 3 has been changed from the previous year and now includes all relevant categories according to the Greenhouse Gas Protocol. Scope 3 now includes all emissions from purchased goods and services, as well as capital goods, in addition to the inclusion of emissions from Landsvirkjun's investments and purchased electricity for resale. Emissions for the year 2023 have been updated accordingly, which means that Scope 3 emissions are higher than those published in the 2023 climate accounts.

Purchased goods and services

Emissions from purchased goods and services decreased by 9% year-over-year. Emissions from fertiliser use in our land reclamation and afforestation projects increased by 4% between years, partly due to a higher volume of fertiliser purchased in 2024. The difference in fertiliser purchases between years is due to variations in ongoing projects. For example, the same amount of fertiliser is not needed every year, and fertilisation is paused as vegetation becomes more established. We apply an internal carbon price when evaluating fertiliser procurement offers, thereby accounting for emissions in our purchasing decisions. Emissions from other purchased goods and services decreased by 11% year-on-year. These emissions are calculated based on spend, and the spend on purchased goods and services decreased between years.

Capital goods

Emissions from capital goods decreased by just over 1% from the previous year. Emissions from construction projects decreased by over 60%, but these emissions can fluctuate significantly between years depending on the scale of the projects. Emissions from other capital goods increased by 8% year-over-year. These emissions are calculated based on spend, and the spend on capital goods increased between years.

Fuel- and energy-related activities

Emissions from fuel- and energy-related activities in Scope 3 increased by 375% year-over-year. This includes emissions from the production and transportation of the fuel used in our own vehicles and equipment, as well as emissions from purchased electricity that is resold to customers. Emissions from the production and transportation of fuel increased by nearly 6% between years, as we purchased more fuel for our vehicles and equipment compared to 2023. Emissions from purchased electricity that was resold to customers amounted to 366 tons of CO_2 equivalents, whereas no such electricity was purchased the previous year, resulting in zero emissions from this source.

Waste

Emissions from waste treatment decreased by 13% year-on-year. The quantity of waste generated from operations can fluctuate significantly annually, mainly depending on the number and scope of renovation and maintenance projects ongoing at any given time.

Business Travel

Emissions from employee business travel increased by 5% year-on-year. Emissions from employee air travel saw a slight increase, just under 1%, while emissions from rental cars used for work-related trips increased by 20%.

Electricity transmission

Electricity transmission emissions decreased by 8% between years. This reduction is linked explicitly to emissions from the insulation medium SF_6, used in electrical equipment in Landsnet's substations. The decrease between years can be attributed to Landsnet's enhanced monitoring and proactive equipment maintenance practices.

Employee commuting

Employee commuting emissions to and from work increased by 26% between years, while the number of employees increased by 14%. Employees who commute to and from work sustainably are offered transportation benefits. The proportion of salaried employees utilising transportation benefits was 43%.

Investments

Emissions from the operations of companies in which Landsvirkjun holds shares decreased slightly year-on-year. The emission calculations are based on the average emissions of the sectors in which these companies operate, which also saw a slight decrease between years.

Outside Scopes

Reservoirs (CO_2)

Carbon dioxide emissions from reservoirs decreased by 4% between years, attributable to an decrease in ice-free days relative to the previous year, affecting the emission levels based on the duration of ice-free periods.

Biodiesel combustion (CO_2)

CO_2 emissions from the combustion of hydrotreated vegetable oil (HVO) increased by 20% from the previous year. We use HVO in our operations due to its limited effect on climate, compared to the use of fossil fuels.

Carbon Sequestration

Carbon sequestration increased by just under 2% between years. Most of the carbon sequestration stems from land reclamation activities, or 91%. Additional carbon sequestration efforts on our part come from afforeastation and wetland restoration projects. The year-on-year rise is credited to continued efforts and expanding land reclamation and forest growth. Data on carbon sequestration is predicated on evaluations conducted by Land and Forest Iceland (previously the Icelandic Forest Service and the Soil Conservation Service of Iceland), with comprehensive information on the methodology available in the chapter on Climate Accounting Methodology.

Electricity Generation

Electricity generation (GWh)

	2020	2021	2022	2023	2024	Change since 2023
Geothermal energy	972	1,052	1,255	1,248	1,305	4.6%
Hydropower	12,458	13,074	13,494	13,480	12,859	-4.6%
Wind power	6.7	6.1	5.7	6.2	6.7	7.3%
Total electricity generation	**13,437**	**14,132**	**14,755**	**14,734**	**14,171**	**-3.8%**
Own consumption	87	85	95	102	88	-14%
Losses	49	50	55	54	38	-30%
Electricity delivered to the grid	**13,302**	**13,996**	**14,605**	**14,578**	**14,045**	**-3.7%**

In 2024, Landsvirkjun's electricity generation totalled 14,171 GWh, with 14,045 GWh fed into the grid, a 4% decrease from the previous year. Landsvirkjun accounted for 75% of the electricity supplied to the grid during the year.

Carbon Intensity

Carbon intensity (CO_2-eq/kWh)

	2020	2021	2022	2023	2024	Change since 2023
Geothermal energy (Scope 1)	32	31	27	29	28	-0.66%
Hydropower (Scope 1)	0.62	0.58	0.55	0.60	0.58	-4.0%
Emissions from electricity generation (Scope 1)	2.9	2.8	2.8	3.0	3.1	5.7%
Other emissions	0.42	0.34	0.27	1.7	1.7	3.6%
Carbon intensity	**3.3**	**3.2**	**3.1**	**4.7**	**4.9**	**3.9%**
Net carbon intensity	**0.87**	**0.77**	**0.76**	**2.2**	**2.3**	**1.7%**

	2020	2021	2022	2023	2024	Change since 2023
Generation-related carbon intensity*	3.1	3.0	3.0	3.1	3.3	5,6%

*Generation-related carbon intensity includes emissions from Scope 1 and 2, in addition to emissions from electricity transmission in Scope 3.

Carbon intensity was 4.9 gCO_2-eq/kWh in 2024, an increase of 4% between years. Emissions from geothermal electricity generation were 28 gCO_2-eq/kWh, a slight decrease year-on-year. Hydropower emissions were 0.58 g CO_2-eq/kWh, a decline of 4% due to shorter ice-free periods on reservoirs compared to the preceding year. The net carbon intensity (emissions less carbon sequestration) was 2.3 gCO_2-eq/kWh, a 2% annual rise.

Avoided Emissions

↓ Avoided emissions from Landsvirkjun's operations

	2022	2023	2024	Change since 2023
Energy sold (GWh)	14,629	14,686	14,118	-3.9%
Benchmark factor (gCO_2-eq/kWh)	185	183	183	0%
Direct emissions, scope 1 (tCO_2-eq)	42,122	44,348	45,139	1.8%
Avoided emissions (tCO_2-eq)	**2,664,328**	**2,641,874**	**2,533,823**	**-4.1%**

Our electricity has a very low carbon footprint and prevents carbon emissions from the use of other energy sources with a larger carbon footprint. This reduction in emissions is crucial for our efforts to address climate change. Each year, in line with Landsvirkjun's green finance framework, we assess the climate impact or avoided emissions due to our eligible green assets. In 2024, our electricity generation avoided around 2.5 million tonnes of CO_2-eq, a 4% decrease compared to the previous year. This decrease can be attributed to a decrease in electricity sales. More information on calculation methods for avoided emissions can be accessed in the Green Finance Impact Report.[1]

GHG Emissions

↓ Emissions in Scope 1 separated by greenhouse gases (tonnes)

	Geothermal energy	Hydropower	Fossil fuel	Biodiesel	Electrical equipment	Total
CO_2	34,480		332			**34,812**
CH_4	23	265	0.0062			**288**
N_2O			0.014			**0.014**
SF_6					0.0085	**0.0085**
CH_4 and N_2O*				1.5		**1.5**

*A separate itemisation of CH_4 and N_2O from biodiesel combustion is unavailable. Emission factors in the Company's calculations do not provide such itemisation. These emissions are recorded as CO_2-eq

1 Green Finance. Landsvirkjun, 2023.

Climate Accounting Methodology

Landsvirkjun is leading the way in climate action and actively participates in the global fight against climate change. We generate 100% renewable energy with a negligible carbon footprint and operate under an ambitious climate and environmental action plan.

Our action plan is based on a comprehensive mapping of the company's carbon footprint. We are dedicated to knowing our emissions, monitoring our progress, and responsibly providing information about the Company's climate impact.

Our real-time monitoring of GHG emissions from our operations enables us to make informed decisions, analyse the effectiveness of actions, and track our progress steadily throughout the year. We compile information about GHG emissions, sequestration, and net emissions in our Climate Accounts, which detail emission sources, changes in emissions, and target progress.

We use the Greenhouse Gas Protocol (GHGP)[2] methodology for our Climate Accounts, the leading global corporate standard for reporting GHG emissions and carbon sequestration. Since 2018, our Climate Accounts have been verified by an independent certification body, and Landsvirkjun was the first Icelandic company to have their climate accounts verified by an external certification body.

Climate accounting methodology and assumptions are discussed below.

Defining the Company's impact

We include emissions from all our operations and any emissions from our subsidiaries we directly manage, i.e. Landsvirkjun Power and Icelandic Power Insurance.

2 The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard Revised Edition. World Resources Institute og World Business Council for Sustainable Development, 2004.

Greenhouse gases in Landsvirkjun's operations

Landsvirkjun's operations produce the greenhouse gases carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), as well as sulphur hexafluoride (SF_6).

CO_2	Carbon dioxide is mainly emitted by combusting fossil fuels, the decomposition of organic matter in reservoirs and is also a geothermal gas. GHG emissions are expressed in carbon dioxide equivalents (CO_2-eq).
CH_4	Methane is a greenhouse gas 28 times more potent than carbon dioxide, emitted by the decomposition of organic matter in reservoirs, landfills, and the combustion of fossil fuels. It is also a geothermal gas.
N_2O	Nitrous oxide is a greenhouse gas 265 times more potent than carbon dioxide and is emitted by combusting fossil fuels and using fertilisers.
SF_6	Sulphur hexafluoride (SF_6) is a manufactured gas used in Landsvirkjun and Landsnet's operations to insulate electrical equipment. When it leaks, it can be released into the atmosphere. SF_6 is a greenhouse gas 23,500 times more potent than carbon dioxide.

Scope of operations

When we talk about the scope of the activity, we mean the definition of factors involved in the emission of greenhouse gases from our operations. These can be "direct emissions" (Scope 1) or "indirect emissions" (Scopes 2 and 3), according to the GHGP definition.

Scope 1 – emissions the Company is directly responsible for, i.e., emissions from operations under its control. Emission reduction measures such as eliminating fossil fuel consumption from operations would reduce these emissions.

Scope 2 – indirect GHG emissions from purchased electricity and heating consumption.

Scope 3– emissions not produced by the Company itself, i.e., from other products or services used by us or from waste disposal. We can affect our use but cannot control how production, services, or disposal takes place. Scopes 2 and 3 emissions are from operations we do not directly manage. However, we can indirectly influence these emissions by choosing whom we do business with and requiring our suppliers and service providers to incorporate climate mitigation measures.

According to the GHGP methodology, biogenic carbon dioxide emissions, such as those from biodiesel combustion, are considered **outside scopes**.

See figure on page 5 of Climate Accounts:
Emission sources in Landsvirkjun's operations categorised by scope

Reasons for categorisation
By only examining and reporting on direct emissions from our operations (Scope 1), we would only include emissions from geothermal energy generation, reservoirs, our own fuel consumption, and sulfur hexafluoride (SF_6) emissions from electrical equipment. Our Climate Accounts would therefore not include emissions from the value chain. As a result, there would be no incentives to require contractors to reduce fuel consumption or limit purchases of high-carbon-footprint products. We could also ostensibly reduce our emissions by using rental cars instead of company-owned vehicles, despite no actual reduction taking place. This would give a misleading impression of lower emissions in our Climate Accounts without any real reduction taking place.

By reporting emissions in Scope 2 and 3, we take responsibility not only for the company's direct emissions but also for all emissions occurring throughout our value chain. This comprehensive approach to greenhouse gas emissions creates incentives to make informed choices when selecting suppliers and puts pressure on companies in our value chain to reduce their emissions.

Verification
The international auditing firm Bureau Veritas has reviewed and verified the GHG emissions from our operations since 2018 and our carbon sequestration measures since 2020. Emissions and carbon sequestration have been reviewed and verified in accordance with the international standard ISO 14064-3, with limited assurance. This ensures that our reported results accurately reflect the emissions generated by our activities. Bureau Veritas also reviewed and verified direct emissions (Scope 1) in 2008, in accordance with ISAE 3000, with limited assurance. The year 2008 is the base year of our emissions reduction targets, and verification from Bureau Veritas confirms our reduced emissions.

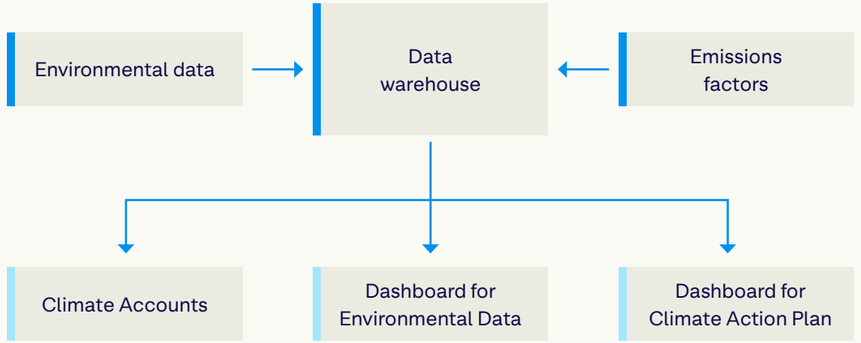
Further information on verifying Landsvirkjun´ s GHG emissions and carbon sequestration is provided in Bureau Veritas' Independent Assurance Report, which is included in our Climate Accounts.

Data Collection and Handling

As part of our climate accounting process, we follow a clearly defined procedure to ensure data quality. The data we use (environmental data and emission factors) are read into a database, a so-called data warehouse. This data is either read automatically from our accounting system and direct data from suppliers or manually recorded based on the obtained information. Climate accounting data and how it is obtained are detailed in the section Emissions calculated by source.

The data is published in an environmental data dashboard, where it can be accessed, and the progress of climate targets and other environmental matters can be monitored in real time. Additionally, we monitor the progress of our emission reduction targets using a climate dashboard accessed on our website.[4]

↓ Model for Environmental Data



4 Climate Dashboard. Landsvirkjun, 2024.

Net Emissions Calculations

Landsvirkjun's net emissions are total emissions from its operations, calculated using the GHGP methodology, less carbon sequestration from the Company's activities.

Net emissions = GHG emissions - carbon sequestration

We include biogenic CO_2 emissions in our total greenhouse gas emissions. The GHGP methodology categorises these emissions as outside of scope and, often, they are not included in company emissions inventories because they are not thought to increase the greenhouse effect overall. Our decision to include biogenic emissions is based on best practice standards in corporate net emissions assessment.[3]

3 Science Based Targets Initiative, Net-Zero Standard.

Emissions Calculations by Source

Geothermal energy
During geothermal heat extraction for electricity generation in high-temperature zones, geothermal fluid is extracted through wells from geothermal reservoirs around 2,000 meters below the surface. The geothermal fluid used in the process contains various gases, including the greenhouse gases carbon dioxide, originating from magma degassing, and methane. Both national and international studies have shown that carbon dioxide is naturally emitted from the soil in geothermal areas. The precise influence of geothermal energy generation on the natural release of greenhouse gases in these areas is still relatively unclear. Still, ongoing research at Landsvirkjun's sites aims to provide more insight.

Emissions from geothermal power stations are calculated for each geothermal well. The wells are either active (in production) or idle. Chemical composition tests are carried out annually in each well to assess the concentration of GHGs in the geothermal fluid. Annual well testing is carried out using the tracer dilution method, and monthly tests are carried out to estimate well output and temperature. The results show the production capacity for each well. The concentration of GHGs in each well is multiplied by the total amount of steam and liquid released from each well to show the total emissions from geothermal energy generation. An appropriate emission factor is used to convert methane emissions into CO_2-eq. Emissions from geothermal energy generation are direct emissions from our operations and fall under Scope 1.

↓ Emission factor for methane

	Emission factor ($kgCO_2$-eq/kg)	Reference
Methane (CH_4)	28	IPCC, 2013[4]

4 Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC, 2013.

Hydropower
Vegetation and soil are submerged when a reservoir is filled. These organic materials decompose and subsequently release the greenhouse gases carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions can vary between reservoirs, but the amount of vegetation and organic matter initially submerged significantly impacts emissions. Nitrous oxide emissions have not been detected in reservoirs in Iceland and are therefore not included in Landsvirkjun's Climate Accounts (the same is true for Iceland's National Inventory Report, NIR). We use the IPCC guidelines[5] to calculate GHG emissions from our hydropower station reservoirs, which are also used for Iceland's NIR.

Carbon dioxide is usually not emitted from reservoirs when an ice layer covers them because the water temperature is too low for microorganism activity, and gas formation is negligible. Ice cover and ice-free days are monitored at the Blanda and Fljótsdalur Reservoirs. Ice-free days are not recorded in reservoirs, where less organic matter was submerged during filling. The estimated number of ice-free days in these reservoirs is 215. Carbon dioxide and methane emissions from reservoirs are calculated using specific emission factors compiled by experts at the Icelandic University of Agriculture based on several studies and peer-reviewed articles.

No conclusive evidence exists on how much biogenic carbon is released into the atmosphere or how much is bound in reservoirs. Therefore, these emissions are registered as atmospheric emissions until more data becomes available.

In 2019, the IPCC issued updated guidelines for assessing reservoir emissions. According to these guidelines, the breakdown of organic matter slows over time and typically ceases after 20 years (or even earlier). After the first 20 years, the release of carbon dioxide from reservoirs can largely be attributed to organic matter from the water catchment area. These emissions are classified as part of emissions in other land use categories rather than reservoir emissions, and thus, carbon dioxide emissions from reservoirs older than 20 years are not considered relevant.

According to the GHGP methodology, the release of methane from reservoirs falls under Scope 1. In contrast, the release of carbon dioxide is considered outside of scopes because vegetation (during growth) binds as much carbon dioxide as it releases during decomposition.

5 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Agriculture, Forestry and Other Land Use, Chapter 7. IPCC, 2019.

↓ Emission factors for reservoirs

Reservoirs	Year formed	CO_2 ice-free ($kgCO_2/ha{\cdot}d$) Reservoirs ≤ 20 years*	CO_2 ice ($kgCO_2/ha{\cdot}d$)	CH_4 ice-free ($kgCH_4/ha{\cdot}d$)	CH_4 ice ($kgCH_4/ha{\cdot}d$)
Þórisvatnsmiðlun	1972	0.162	0	0.0065	0.000051
Sauðafellslón	1972	0.162	0	0.0065	0.000051
Krókslón	1977	0.230	0	0.0092	0
Hrauneyjalón	1981	0.106	0	0.0042	0
Bjarnalón	1969	0.076	0	0.0030	0
Blöndulón	1991	4.67	0	0.187	0.0040
Blöndulón, stækkun	1996	4.67	0	0.187	0.0040
Gilsárlón	1991	12.9	0	0.524	0.012
Hágöngumiðlun	1998	0.162	0	0.0065	0.000052
Kvíslavatn 1	1985	0.162	0	0.0065	0.000052
Kvíslavatn 2	1985	2.11	0	0.085	0.0018
Dratthalavatn 1	1985	0.162	0	0.0065	0.000052
Dratthalavatn 2	1985	2.11	0	0.085	0.0018
Eyvindarlón	1985	0.162	0	0.0065	0.000052
Hreysislón	1985	0.162	0	0.0065	0.000052
Þjórsárlón	1996	0.162	0	0.0065	0.000052
Sultartangalón	1984	0.083	0	0.0033	0
Hálslón	2007	0.392	0	0.016	0.00036
Ufsarlón	2009	0.902	0	0.036	0.00080
Kelduárlón	2009	0.770	0	0.031	0.00071
Grjótárlón	2009	0.247	0	0.0099	0
Vatnsfellsveita	2001	0	0	0	0
Sporðöldulón 1	2013	0.162	0	0.0065	0.000052
Sporðöldulón 2	2013	2.11	0	0.085	0.0018

* For reservoirs over 20 years of age, the CO_2 emission factor on ice-free days is 0.

Fuel consumption

We use fuel for our vehicles and other equipment, power generators, backup power generators, and rental cars. GHGs are emitted from combusting fuel and during the production and transportation of fuel. We keep a detailed record of our fuel consumption and purchases. Emissions are calculated per litre of fuel based on relevant emission factors. Emissions from each vehicle and all mechanical equipment are calculated.

Emission factors for fuel consumption ($kgCO_2$-eq/l)

Fuel type	Scope	Emission factor ($kgCO_2$-eq/l)	Reference
Diesel	1	2.72	UST, 2024[6]
Diesel	3	0.624	DEFRA, 2024[7]
Petrol	1	2.34	UST, 2024[6]
Petrol	3	0.607	DEFRA, 2024[7]
Biodiesel (HVO)	1	0.0356	DEFRA, 2024[7]
Biodiesel (HVO)	3	0.559	DEFRA, 2024[7]
Biodiesel (HVO)	Outside Scopes	2.43	DEFRA, 2024[7]
Hydrogen	3	1.78	Zhao et al., 2018[8]

Emission factors for fuel consumption by gas type

Gas type	Diesel	Petrol	Biodiesel (HVO)	Reference
Carbon dioxide ($kgCO_2$-eq/l)	2.63	2.34	2.43	DEFRA, 2024[7]
Methane ($kgCO_2$-eq/l)	0.00029	0.00820	-	DEFRA, 2024[7]
Nitrous oxide ($kgCO_2$-eq/l)	0.0331	0.00597	-	DEFRA, 2024[7]
Methane and nitrous oxide ($kgCO_2$-eq/l)*	-	-	0.0356	DEFRA, 2024[7]

*Emission factors from DEFRA do not differentiate between methane and nitrous oxide emissions from biodiesel combustion.

Emissions from the combustion of fossil fuels fall under Scope 1. Emissions of methane and nitrous oxide from the combustion of biofuel also fall under Scope 1, but carbon dioxide emissions are outside Scopes. Emissions from the production and transportation of all fuels fall under Scope 3.

Electrical equipment

Sulphur hexafluoride (SF_6) is used as an insulator and must be added to electrical equipment every few years because SF_6 slowly leaks from equipment. The supply and status of SF_6 refilling are monitored to provide an overview of emissions from SF_6 leakages. The appropriate emissions factor is used to convert emissions into CO_2 eq. SF_6 leakage emissions are included in Scope 1.

Emission factor for SF_6

	Emission factor ($kgCO_2$-eq/kg)	Reference
Sulphur hexafluoride (SF_6)	23,500	IPCC, 2013[9]

Purchased electricity & heating

Electricity and heating emissions from the Company's operations are calculated based on invoiced amounts for purchased electricity and heating. This is done by multiplying the amount of electricity and hot water with the appropriate emission factors.

As per the GHGP guidelines, companies must disclose emissions from purchased electricity through location-based and market-based methods. Location-based emissions stem from the average emissions during electricity generation within the Icelandic grid, determined using the Environment Agency's emission factor. On the other hand, market-based emissions consider the electricity's origin. For our operations, we cancel guarantees of origin equal to our annual purchases, using the emission factor for our electricity generation in emission calculations.

Emissions from purchased electricity and heating fall under Scope 2.

Emission factors for electricity and heating

	Emission factor	Reference
Electricity, location-based (gCO_2-eq/kWh)	8.54	UST, 2024[6]
Electricity, market-based (gCO_2-eq/kWh)	3.3	Landsvirkjun, 2023[10]
Hot water (gCO_2-eq/m^3)	434	UST, 2024[6]

For Scope 2 emissions in 2024, the emission factors for electricity and hot water from 2022 was used, as the Environmental Agency has not updated the factors for 2023 and 2024

6 Emission Factors, 6th Edition. Environment Agency of Iceland, 2024.
7 Greenhouse gas reporting: conversion factors 2024. Department for Environment, Food & Rural Affairs, 2024.
8 Zhao, Pedersen. Life Cycle Assessment of Hydrogen Production and Consumption in an Isolated Territory. Procedia CIRP, 69, 529-533, 2018.
9 Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC, 2013.
10 Climate Accounts 2023. Landsvirkjun, 2023.

Fertiliser
Landsvirkjun purchases inorganic fertiliser for land reclamation, afforestation, fields, gardens, and general maintenance of areas surrounding our power stations. We track our fertiliser purchases, as well as our project partners' fertiliser use in collaborative projects.

Emissions calculations include emissions from production and transportation, as well as soil emissions. When greenhouse gas emission data related to the production, transportation, and use are available from the manufacturer, these data are used in our calculations.
If information from the fertiliser manufacturer is unavailable, average emission factors based on emission factors from the Ecoinvent database, World Food LCA, and the Environment Agency of Iceland are used. Emissions from fertiliser use fall under Scope 3.

↓ Emission factors for fertiliser

	Emission factor	Reference
Production, Sprettur NPK 20-10-10 (kg CO_2-eq/kg N)	2.7	Origin Fertilisers, 2020
Production, Sprettur NP 25-5 (kg CO_2-eq/kg N)	3.88	Origin Fertilisers, 2020
Production, Sprettur NPK 12-11-20 (kg CO_2-eq/kg N)	3.2	Origin Fertilisers, 2020
Soil emissions, average (kg CO_2-eq/kg N)	4.16	UST, 2024[11]
Transport by land, average (kg CO_2-eq/kg fertiliser)	0.02	SCS, 2021[12]
Transport by sea, average (kg CO_2-eq/km*kg fertiliser)	0.07	SCS, 2021[12]

Other emission factors used in the calculations are obtained from non-publicly available databases and cannot be disclosed.

Other purchased goods and services
Emissions from other purchased goods and services are calculated based on spend and the average emissions of the relevant sector for the respective goods and services. Each category in our financial accounting is matched with the appropriate emission factors, which are then multiplied by the spend within each category. Emission factors from the CEDA[12] database are used for these calculations.

We contact suppliers of the goods and services with the highest emissions and request their emission data. If suppliers can provide emission data verified by an independent third party, we use that data in our calculations instead of the average emission factors for the relevant sector.

Emissions from purchased goods and services fall under Scope 3.

11 Emission Factors, 6th Edition. Environment Agency of Iceland, 2024.
12 Hagræn áhrif og loftslagsáhrif áburðarnotkunar. Soil Conservation Service of Iceland, 2021.

Construction
Contractors involved in all large-scale earthwork projects on our behalf must report data concerning the volume of waste generated and fuel consumption. Additionally, we seek information on the quantity and carbon footprint of steel and cement used in these projects.

Emissions are calculated by multiplying the quantities by the relevant emission factors. We use the same emission factors for fuel and waste from construction projects as for our operations. Whenever possible, we rely on emission factors provided by steel and cement manufacturers. In instances where such data is unavailable, average emission factors are employed.

Emissions from construction fall under Scope 3.

Other capital goods
Emissions from other capital goods are calculated based on spend and the average emissions of the relevant sector for the respective capital goods. Each category in our financial accounting is matched with the appropriate emission factors, which are then multiplied by the spend within each category. Emission factors from the CEDA[13] database are used for these calculations.

We contact suppliers of the capital goods with the highest emissions and request their emission data. If suppliers can provide emission data verified by an independent third party, we use that data in our calculations instead of the average emission factors for the relevant sector.

Emissions from capital goods fall under Scope 3.

Purchased electricity for resale
Emissions from the generation of purchased electricity that is resold to customers are based on the average emissions from electricity generation in the Icelandic power grid. The same emission factor is used as in the calculation of location-based emissions from purchased electricity in Scope 2.

Emissions from purchased electricity for resale fall under Scope 3.

13 Comprehensive Environmental Data Archive (CEDA). Watershed, 2024.

Waste

Waste generated from company operations is categorised, and its quantity is recorded. Information on waste quantities is obtained from invoices or data connections with service providers. Information on waste disposal is acquired from suppliers. Emissions resulting from waste treatment are calculated by multiplying the amount of waste with appropriate emission factors. These emissions fall under Scope 3.

↓ Emission factors for waste

Waste category	Mode of disposal	Emission factor ($kgCO_2$-eq/t)	Reference
General unsorted waste	Landfill	1,104	UST, 2024[14]
	Incineration with energy recovery	6.41	DEFRA, 2024[15]
Bulky waste	Landfill	520	DEFRA, 2024[15]
Inert waste (glass, soil & minerals)	Landfill	1.23	DEFRA, 2024[15]
	Reuse	0	DEFRA, 2024[15]
Organic waste	Aerobic compost	176	UST, 2024[14]
	Anaerobic compost	27	UST, 2024[14]
Metals and scrap metal	Recycling	6.41	DEFRA, 2024[15]
	Reuse	0	DEFRA, 2024[15]
Paper	Recycling	6.41	DEFRA, 2024[15]
Plastic	Recycling	6.41	DEFRA, 2024[15]
Hazardous waste	Incineration without energy recovery	6.41	DEFRA, 2024[15]
	Recycling	6.41	DEFRA, 2024[15]
	Reuse	0	DEFRA, 2024[15]
Timber	Recycling	6.41	DEFRA, 2024[15]
	Reuse	0	DEFRA, 2024[15]

Air travel

We keep records of the number of employee flights, along with the departure and destination locations of each flight.

Our domestic flight emissions are calculated based on emission factors prepared by a consultant and a study on aircraft emissions.[16] Air travel emissions are measured using seat kilometres, which vary depending on the length of the flight and the type of aircraft; short flights with fewer passengers produce higher emissions per seat kilometre than flights with a higher number of passengers travelling longer journeys. The effect of distance on emissions per seat kilometre is explained by the increase in emissions during take-off and landing. These emissions are not dependent on flight distance.

Emissions from international flights are automatically included in invoices from our travel agency and are based on the ICAO carbon calculator.[17]

Emissions from employee air travel fall under Scope 3.

Rental car travel

We maintain detailed records of the fuel used in rental cars that employees use for business travel. The fuel volume is obtained from invoices from rental car companies.

Emissions from the combustion, production, and transportation of the fuel used in rental cars are calculated using the appropriate emission factors. The same emission factors are used as in the calculation of emissions from the combustion, production, and transportation of fuel used in company-owned vehicles and equipment.

Emissions from business travel using rental cars fall under Scope 3.

Employee commuting

Employee commuting GHG emissions are estimated through a survey on commuting habits sent to all employees annually. Employees are asked how they commute, how far, and how often they work from home. Annual commuting trips are calculated by subtracting the number of working days from home and the average number of holidays and sick days from the total number of working days each year. Emissions are calculated by multiplying the trips by the distance between home and the workplace and the appropriate emissions factor. The average emissions of survey participants are multiplied by the total number of full-time employees at the Company.

Emissions from employee commuting fall under Scope 3. Some of our employees commute using company cars. These emissions are accounted for in emissions from fuel consumption that fall under Scope 1 and excluded from commute emissions.

↓ Emission factors for employee commuting

Mode of transportation	Emission factor (gCO_2-eq/km)	Reference
Private vehicle – electric	1.6	UST, 2024[14]
Private vehicle – petrol	207	UST, 2024[14]
Private vehicle – diesel	188	UST, 2024[14]
Private vehicle – hybrid	137	UST, 2024[14]
Private vehicle – methane	2.6	UST, 2024[14]
Motorbike - petrol	67	UST, 2024[14]
Bus*	50	-

*Emission factor for bus travel is estimated from accurate figures on fuel consumption and the distance driven by buses, as reported by Strætó in its annual report 2023. Landsvirkjun assumes an average of 20 passengers per trip.

14 Emission Factors, 6th Edition. Environment Agency of Iceland, 2024.
15 Greenhouse gas reporting: conversion factors 2024. DEFRA, 2024.
16 Cox, et al. Life cycle assessment of air transportation and the Swiss commercial air transport fleet. Transport and Environment, 58, 1-13, 2018.
17 ICAO Carbon Emissions Calculator. ICAO, 2024.

Electricity transmission
Sulphur hexafluoride (SF_6) is used for insulation at the national transmission system operator's (Landsnet) substations. Reports on SF_6 leakages in Landsnet's operations are requested annually. Landsvirkjun's emissions from electricity distribution are calculated by multiplying Landsnet's total SF_6 emissions with Landvirkjun's portion of transmitted electricity within Landsnet's transmission system. The appropriate emission factor is used to convert emissions into CO_2-eq.

Emissions from electricity distribution fall under Scope 3.

↓ Emission factor for SF_6

	Emission factor ($kgCO_2$-eq/kg)	Reference
Sulphur hexafluoride (SF_6)	23,500	IPCC, 2013[18]

Investments
Emissions from investments are calculated based on Landsvirkjun's share in the respective companies, their revenues, and the average emissions of the sectors in which they operate. Emission factors from the CEDA[19] database are used for these calculations.

Information on company revenues for 2024 has not yet been published. Therefore, revenue data from 2023 is used to calculate emissions for the year 2024.

18 Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC, 2013.
19 Comprehensive Environmental Data Archive (CEDA). Watershed, 2024

Carbon Sequestration Calculations

Carbon sequestration activities are evaluated in regions where land reclamation, afforestation, and wetland restoration initiatives are conducted either independently by us or in partnership with others. These efforts include mitigation strategies linked to construction, land improvements near the Company's power stations, and projects aimed at sequestering carbon within soil and vegetation.

Land and Forest Iceland, formerly known as the Soil Conservation Service and Forest Service, assesses carbon sequestration from land reclamation and afforestation activities as the basis for climate accounting. Carbon sequestration on forestry lands owned by Landsvirkjun was evaluated in 2021, with the initial assessment dating back to 2011. The first evaluation of carbon sequestration on land reclamation sites also took place in 2011 and was updated in 2016. While the results have not been publicly disclosed, efforts are being made to update the evaluation. As per recommendation, wetland restoration to decrease carbon emissions is expected to reduce 20 tonnes of CO_2 equivalents per hectare annually. Land and Forest Iceland adhere to the IPCC methodology.[20]

Land reclamation projects carried out as carbon sequestration measures are located at Rangárvellir and Hólasandur. Similar afforestation projects are located at Eiðsstaðir, close to the Blanda Hydropower Station, in Belgsá in Fnjóskadalur, in Laxaborg in Haukadalur, in Skarfanes in Landsveit, and Skálmholtshraun in Flóahreppur. Wetlands have also been restored in Sogn in Ölfus and Ytri-Hraundalur in Mýrar and Skálholt. Other projects have been carried out with landowners and relevant professionals.

↓ A map of Landsvirkjun's sequestration projects

20 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands. IPCC, 2014.

Independent Assurance Report

1. Introduction and Objectives of Work
Bureau Veritas UK Limited (Bureau Veritas) has been engaged by Landsvirkjun (Landsvirkjun) to provide Limited Assurance of its selected sustainability performance indicators for inclusion in the Climate Account 2024 Report (the 'Report'). The objective is to provide assurance to Landsvirkjun and its stakeholders over the accuracy and reliability of the Selected Information and data.

2. Scope of Work
The scope of our work was limited to assurance over the following information included within the Report for the period 1st January to 31st December 2024 (the 'Selected Information'):

- Direct (Scope 1) GHG Emissions (tCO_2e)
  - Category breakdown in Section 8
- Indirect (Scope 2) GHG Emissions (location and market-based) (tCO_2e)
  - Category breakdown in Section 8
- Selected Other Indirect (Scope 3) emissions (tCO_2e)
  - Category breakdown in Section 8
- Out of scope GHG Emissions (tCO_2e)
- Performance compared to 2023 tCO_2e as a percentage change

3. Reporting criteria
The Selected Information needs to be read and understood together with the basis of reporting in the Climate Account 2024 Report, as set out at www.landsvirkjun.com/climate-action/climate-accounts

4. Limitations and Exclusions
Excluded from the scope of our work is assurance of information relating to:

- Activities outside the defined assurance period;
- Positional statements of a descriptive or interpretative nature, or of opinion, belief, aspiration or commitment to undertake future actions; and
- Other information included in the Report other than the Selected Information.

The following limitations should be noted:

- This Limited Assurance engagement relies on a risk based selected sample of sustainability data and the associated limitations that this entails.
- The reliability of the reported data is dependent on the accuracy of metering and other production measurement arrangements employed at site level, not addressed as part of this assurance.
- This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

5. Responsibilities
This preparation and presentation of the Selected Information in the Report are the sole responsibility of the management of Landsvirkjun.

Bureau Veritas was not involved in the drafting of the Report or of the Reporting Criteria. Our responsibilities were to:

- obtain limited assurance about whether the Selected Information has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- report our conclusions to the Directors of Landsvirkjun.

6. Assessment Standard
We performed our work to a limited level of assurance in accordance with ISO 14064-3: 2019 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements.

7. Summary of work performed
As part of our independent assurance, our work included:

1 Conducting interviews with relevant personnel of Landsvirkjun – 13 data owners were interviewed.

2 Reviewing the data collection and consolidation processes used to compile Selected Information, including assessing assumptions made, and the data scope and reporting boundaries;

3 Reviewing documentary evidence provided by Landsvirkjun;

4 Agreeing a selection of the Selected Information to the corresponding source documentation;

5 Reviewing Landsvirkjun systems for quantitative data aggregation and analysis;

6 Assessing the disclosure and presentation of the Selected Information to ensure consistency with assured information.

7 Reperforming a selection of aggregation calculations of the Selected Information.

8 Reperforming greenhouse gas emissions conversions calculations.

9 Comparing the Selected Information to the prior year amounts taking into consideration changes in business activities, acquisitions and disposals.

10 Evaluating the design of internal systems, processes and controls to collect and report the Selected Information.

A 5% materiality threshold was applied to this assurance. It should be noted that the procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

8. Conclusion
On the basis of our methodology and the activities and limitations described above nothing has come to our attention to indicate that the Selected Information is not fairly stated in all material respects. However, it should be noted that:

› Scope 3 Category 15 of the 2024 data is derived from the 2023 financial data of the investment companies, as their 2024 reports were not yet published at the time of Landsvirkjun's reporting.

Indicator category 2024	Indicator 2024	Data (tCO_2e)	% Change 2023-24
Direct (Scope 1) GHG Emissions	**Total Scope 1**	**45,139**	**+1.8%**
	Geothermal	37,166	+3.9%
	Hydropower Reservoirs (CH_4)	7,429	-8.4%
	Fuel Combustion	344	+1.8%
	Electrical Equipment (SF_6)	200	+51%
Indirect (Scope 2) GHG Emissions	**Total Scope 2 (location-based)**	**25.3**	**-2.1%**
	Total Scope 2 (market-based)	**22.3**	**+2.7%**
	Purchased Electricity (location-based)	4.6	-27%
	Purchased Electricity (market-based)	1.6	-27%
	Purchased Heating	20.6	+6%
Selected Other Indirect (Scope 3) GHG Emissions	**Total Scope 3**	**22,970**	**-3.9%**
	Category 1: Purchased Goods and Services Total	9,807	
	Category 1: Fertiliser	1,238	+4.4%
	Category 1: Other	8,569	-11.1%
	Category 2: Capital Goods Total	9,965	
	Category 2: Construction	492	-63.1%
	Category 2: Other	9,473	+7.8%
	Category 3: Fuel and Energy Related Activities Total	471	
	Category 3: Production and Transport of Fuel	99	+5.7%
	Category 3: Energy Purchased and Resold	366	0%
	Category 5: Waste Generated in Operations	34	-22.5%
	Category 6: Business Travel Total	346	
	Category 6: Air Travel	260	+0.7%
	Category 6: Rental Cars	85	+20%
	Category 7: Employee Commuting	119	+26%
	Category 9: Downstream Transportation and Distribution (SF_6)	1,059	-8%
	Category 15: Investments	1,171	-0.9%
Outside of Scope GHG Emissions	**Out of Scope Emissions Total**	**699**	**-1.2%**
	Hydropower Reservoirs (CO_2)	599	-4%
	Biodiesel (HVO) Combustion	100	+20%

Indicator category 2023	Indicator 2023	Data (tCO_2e)
Selected Other Indirect (Scope 3) GHG Emissions	Category 1: Purchased Goods and Services (other)	9,635
	Category 2: Capital Goods (other)	8,785
	Category 15: Investments	1,182

9. Statement of Independence, Integrity and Competence
Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with over 190 years history.
Its assurance team has extensive experience in conducting verification over environmental, social, ethical and health and safety information, systems and processes.

Bureau Veritas operates a certified[21] Quality Management System which complies with the requirements of ISO 9001:2015, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, quality reviews and applicable legal and regulatory requirements which we consider to be equivalent to ISQM 1 & 2.[22]

Bureau Veritas has implemented and applies a Code of Ethics, which meets the requirements of the International Federation of Inspections Agencies (IFIA)[23], across the business to ensure that its employees maintain integrity, objectivity, professional competence and due care, confidentiality, professional behaviour and high ethical standards in their day-to-day business activities. We consider this to be equivalent to the requirements of the IESBA code.[24] The assurance team for this work does not have any involvement in any other Bureau Veritas projects with Landsvirkjun.

Bureau Veritas UK Limited
London
18th February, 2025

21 Certificate available on request
22 International Standard on Quality Management 1 (Previously International Standard on Quality Control 1) & International Standard on Quality Management 2
23 International Federation of Inspection Agencies – Compliance Code – Third Edition
24 Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants

Independent Assurance Report

1. Introduction and objectives of work
Bureau Veritas UK Limited ('Bureau Veritas') has been engaged by Landsvirkjun to provide Limited Assurance of its selected sustainability performance indicators for inclusion in its Climate Account 2024 report and Carbon Sequestration (the 'Report'). The objective is to provide assurance to Landsvirkjun and its stakeholders over the accuracy and reliability of the Selected Information.

2. Scope of Work
The scope of our work was limited to assurance over the following information included within the Report for the period January 1st to December 31st 2024 (the 'Selected Information'):

Carbon Sequestration Projects

Land reclamation

- Auðkúluheiði
- Eyvindarstaðaheiði
- Bolholt
- Hólasandur
- Fljótsdalsstöð (Hraunasvæði, Hálslón, Húsey)
- Landbótasjóður Norður-Héraðs
- Kot-Steinkross
- Krákárbotnar og Katlar
- Víkingslækur
- Hrútatorfur
- Sporöldulón

Afforestation

- Blöndustöð
- Laxárstöð
- Belgsá
- Laxaborg
- Skarfanes
- Skálmholtshraun
- Kaldárhöfði
- Sogsstöðvar
- Búrfell
- Búrfellsstöð
- Bjarnalón

Wetland Restoration

- Skálholt
- Sogn
- Ytri Hraundalur

3. Reporting criteria
For the Carbon Sequestration, the Selected Information has been prepared in accordance with internal definitions and methodologies developed by Landsvirkjun, as set out in the Climate Accounts Report landsvirkjun.com/climate-accounts with reference to relevant external guidelines, models and tools for carbon sequestration accounting, such as the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands and the IPCC Good Practice Guidance for Land Use[25] and the IPCC Guidance for Land Use Change and Forestry.[26]

4. Limitations and Exclusions
Excluded from the scope of our work is assurance of information relating to:

- Activities outside the defined assurance period;
- Positional statements of a descriptive or interpretative nature, or of opinion, belief, aspiration or commitment to undertake future actions;
- Other information included in the Report outside the selected information; and
- For the carbon sequestration review, Bureau Veritas relied on information relayed by third parties to Landsvirkjun, this includes information from the following:
  - Land reclamation areas and carbon sequestration provided is based on data from 2019 provided by the Soil Conservation Service (SCS) to the Company.
  - Growth rate projections of reforestation areas per year, provided by the following study commissioned by the Company to the Icelandic Forest Service experts: 'Úttekt á kolefnisbindingu skógræktar Landsvirkjunar 2021, LV-2022-035'.
  - Carbon sequestration factor used for wetlands, provided by the Soil Conservation Service (SCS) to the company, and based on IPCC's factors for rich boreal grassland and rewetted area: 'Endurheimt votlendis á tveimur jörðum og vöktun á árangri, LV-2022-036'.

25 2013 Supplement to the 2006 IPCC Guidelines. IPCC, 2014.
26 Good Practice Guidance for Land Use, Land-Use Change and Forestry. IPCC, 2003.

Moreover, excluded from our scope of work and conclusion is:

- The appropriateness of the Reporting Criteria for the Selected Information;
- Any calculation input data provided by third parties, together with any potential errors, discrepancies or gaps identified in this input data by Bureau Veritas raised during the course of the engagement;

The following limitations should be noted:

- This limited assurance engagement relies on a risk based selected sample of sustainability data and the associated limitations that this entails.
- This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

5. Responsibilities

This preparation and presentation of the Selected Information in the Report are the sole responsibility of the management of Landsvirkjun.

Bureau Veritas was not involved in the drafting of the Report or of the Reporting Criteria. Our responsibilities were to:

- obtain limited assurance about whether the Selected Information has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- report our conclusions to the Directors of Landsvirkjun

6. Assessment Standard

We performed our work to a limited level of assurance in accordance with the ISO 14064-3: 2019, Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.

7. Summary of work performed

As part of our independent assurance, our work included:

1. Conducting interviews with relevant personnel of Landsvirkjun;
2. Reviewing the data collection and consolidation processes used to compile Selected Information, including assessing assumptions made, and the data scope and reporting boundaries;
3. Reviewing documentary evidence provided by Landsvirkjun;
4. Agreeing a selection of the Selected Information to the corresponding source documentation;
5. Reviewing Landsvirkjun systems for quantitative data aggregation and analysis;
6. Assessing the disclosure and presentation of the Selected Information to ensure consistency with assured information.
7. Comparing the Selected Information to the prior year amounts

A 5% materiality threshold was applied to this assurance. It should be noted that the procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

8. Conclusion
On the basis of our methodology and the activities and limitations described above nothing has come to our attention to indicate that the Selected Information is not fairly stated in all material respects.

Carbon Sequestered
Landsvirkjun total Carbon Sequestration in 2024: 36,438 tonnes of CO_2e

9. Statement of Independence, Integrity and Competence
Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with over 190 years history.
Its assurance team has extensive experience in conducting verification over environmental, social, ethical and health and safety information, systems and processes.

Bureau Veritas operates a certified[27] Quality Management System which complies with the requirements of ISO 9001:2015, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, quality reviews and applicable legal and regulatory requirements which we consider to be equivalent to ISQM 1 & 2.[28]

Bureau Veritas has implemented and applies a Code of Ethics, which meets the requirements of the International Federation of Inspections Agencies (IFIA)[29], across the business to ensure that its employees maintain integrity, objectivity, professional competence and due care, confidentiality, professional behaviour and high ethical standards in their day-to-day business activities. We consider this to be equivalent to the requirements of the IESBA code.[30] The assurance team for this work does not have any involvement in any other Bureau Veritas projects with Landsvirkjun.

Bureau Veritas UK Limited
London
6th February, 2025

27 Certificate available on request
28 International Standard on Quality Management 1 (Previously International Standard on Quality Control 1) & International Standard on Quality Management 2
29 International Federation of Inspection Agencies – Compliance Code – Third Edition
30 Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants

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