

CREDIT OPINION

19 January 2024

Update

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RATINGS

Landsvirkjun

Domicile	Reykjavik, Iceland
Long Term Rating	Baa1
Type	LT Issuer Rating - Fgn Curr
Outlook	Stable

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Landsvirkjun

Update to credit analysis

Summary

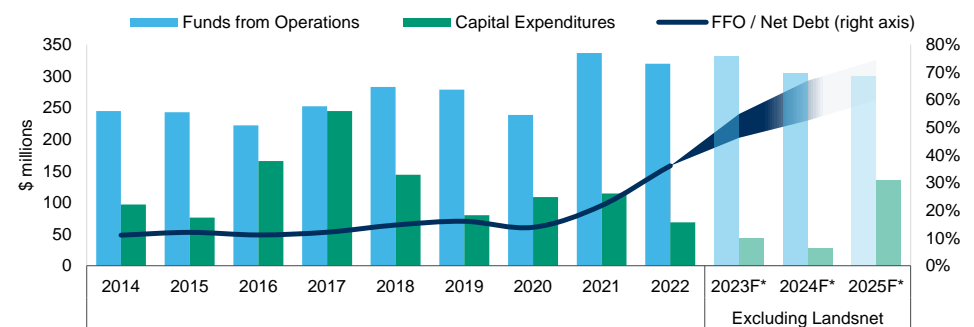
Landsvirkjun's (Baa1 stable) credit quality is underpinned by its dominant position in the Icelandic energy market and its strategic importance as the provider of electricity to power intensive industries, which directly contribute around a third of the country's exports, and its low-cost renewable energy generation assets, which require minimal capital investments for maintenance. Landsvirkjun's funds from operations (FFO)/net debt, around 85% as of the 12 months that ended September 2023, is very strongly positioned for the current rating.

However, Landsvirkjun's credit profile also reflects a dividend policy that allows large distributions when FFO/net debt is at least at 25% and that could potentially constrain its retained cash flow (RCF)/net debt below the mid teens in percentage terms; its large and concentrated exposure to a small number of counterparties, mainly in the aluminium industry, and to volatile aluminium prices; as well as the likelihood of significantly higher capital spending over the next few years.

Given Landsvirkjun's 100% ownership by the [Government of Iceland](#) (A2 positive), Landsvirkjun's Baa1 unguaranteed ratings benefit from three notches of uplift from the company's Baseline Credit Assessment (BCA) of ba1, reflecting the high likelihood of Landsvirkjun receiving extraordinary support in the event of financial distress.

Exhibit 1

Landsvirkjun's low maintenance expenditure supports free cash flow in 2023 and 2024, but expansion expenditure is likely to increase significantly from 2025



All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

*Moody's forecasts (F) are Moody's opinion and do not represent the views of the issuer.

Source: Moody's Financial Metrics™

Credit strengths

- » Dominant position in Icelandic power generation
- » Long-term take-or-pay contracts, which provide significant predictability over volumes
- » Low maintenance capital investment requirements
- » Expectation that the government would provide extraordinary support if required, reflecting Landsvirkjun's core strategic role in Iceland's economy
- » Continuous and considerable leverage reduction on the back of strong cash generation and short-term lower-than-expected expansion capital spending

Credit challenges

- » Large exposure to a small number of counterparties in the aluminium industry
- » Exposure to aluminium price volatility, because around 35% of Landsvirkjun's generation is sold under contracts linked to aluminium prices
- » Likelihood of higher capital spending because of increased electricity needs stemming from the energy transition in the long term
- » Potential for high dividends under a policy with a short track record that allows large distributions if certain financial thresholds are met

Rating outlook

The stable outlook reflects our view that, despite a strong FFO/net debt, Landsvirkjun's RCF/net debt could be constrained if the company were to distribute the maximum allowed dividend in accordance with its policy. The stable outlook further reflects our expectation that Landsvirkjun will continue to prudently manage its exposure to market risks.

Factors that could lead to an upgrade

- » The BCA could be upgraded if Landsvirkjun achieved
 - FFO/net debt consistently above the mid-20s, in percentage terms, and
 - Retained Cash Flow (RCF) /net debt consistently above the mid-teens, in percentage terms.
- » Any potential upgrade to the BCA would also take into account the scale and complexity of the company's capital spending programme.
- » Any upgrade of the unguaranteed rating would take into consideration the BCA, the level of the rating of the Government of Iceland and our view of the likelihood of receiving extraordinary support.
- » The guaranteed ratings could be upgraded if the government's rating were upgraded.

Factors that could lead to a downgrade

- » The BCA and unguaranteed ratings could be downgraded if Landsvirkjun's FFO/net debt appeared likely to decline below the high teens or its RCF/net debt were likely to fall persistently below the low-double digits, both in percentage terms.
- » The ratings could also be downgraded if the government's rating were downgraded, or our assessment of high support for the company were to be revised downward.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

» The guaranteed ratings could be downgraded if the government's rating were downgraded.

Key indicators

Exhibit 2

Landsvirkjun

	2018	2019	2020	2021	2022	2023F*	2024F*	2025F*
(CFO Pre-W/C + Interest) / Interest Expense	4.1x	4.8x	4.8x	8.6x	9.5x	9x-11x	10x-12x	11.5x-13.5x
(CFO Pre-W/C) / Net Debt	14.7%	16.1%	13.9%	21.7%	36.1%	46%-58%	56%-68%	61%-75%
(CFO Pre-W/C) / Debt	13.9%	15.1%	13.2%	20.5%	30.7%	38%-41%	38%-41%	48%-52%
RCF / Debt	13.2%	13.7%	9.0%	17.1%	18.3%	21%-24%	(-7%)-18%	(-3%)-25%

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Periods are financial year-end unless indicated. RCF/debt forecasts

*Moody's forecasts (F) are Moody's opinion and do not represent the views of the issuer. The wide range in respect of the RCF/debt ratio reflects the uncertainty in respect of Landsvirkjun's dividend policy, with the bottom of the range corresponding to the payment of a maximum allowed dividend under the company's current policy.

Source: Moody's Financial Metrics™

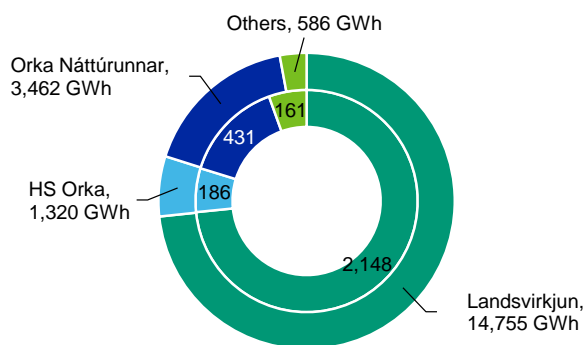
Profile

Landsvirkjun is the dominant power producer in Iceland, responsible for more than 70% of the country's total electricity generation capacity. The company provides 100% renewable energy to public utilities and power intensive industries, particularly under long-term take-or-pay contracts with aluminium smelters.

Landsvirkjun is a partnership company wholly owned by the Government of Iceland. The company is 99.9% directly owned by the state, with the remainder owned by Eignarhlutir hf., a special-purpose vehicle owned by the state.

Exhibit 3

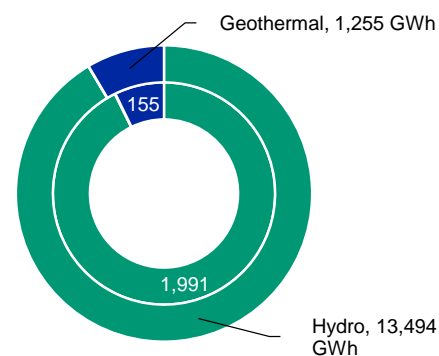
Market share of production (outer) and capacity (inner, MW) (2022)



Source: National Energy Authority

Exhibit 4

Landsvirkjun's production (outer) and capacity (inner, MW) by technology (2022)



For better visibility, 2 MW of wind capacity (5.7 GWh production in 2022) is not represented in the graph.

Source: National Energy Authority

Detailed credit considerations

Landsvirkjun's assets and operations have limited exposure to current seismic activity and volcano eruption

Since October 2023, seismic activity on the Reykjanes peninsula in the southwestern part of Iceland has been increasing, leading to multiple smaller earthquakes, which were first indications that a volcanic eruption could happen. Eventually, on 18 December 2023, there was a volcanic eruption north of the village of Grindavik, leading to an around 4km long fissure with decent lava flows. Since then, the ground continued to inflate again and as of 29 December 2023 reached a similar height as measured just before the eruption. On 14 January a second eruption has started closer to Grindavik, which already was evacuated early November. A power plant in the vicinity, operated by Landsvirkjun's competitor HS Orka, was protected with a wall from potential lava flows. The first eruption

happened around 3 kilometers away from Grindavik, and hence has not directly threatened the village or the power plant. However, the second eruption led to some damages of buildings in the northern part of Grindavik.¹ Because Landsvirkjun's generation assets are located further away from the affected area the company does not expect any business interruptions.

Dominant power generation company in the Icelandic energy market

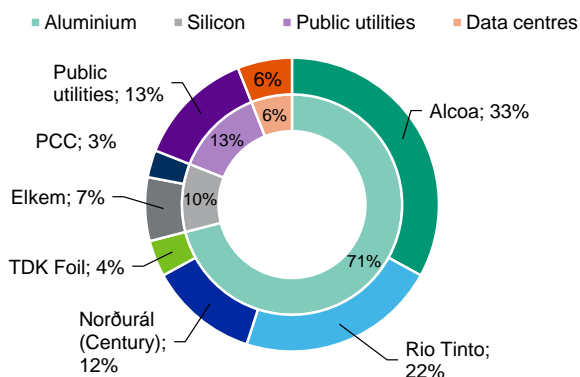
Landsvirkjun is Iceland's largest power producer, with a total installed generation capacity of about 2.1 gigawatts (GW), which represents around 70% of the country's total electricity generation capacity. The company operates 15 hydropower plants, three geothermal plants and two wind turbines.

In 2022, Landsvirkjun generated 91% of its energy from glacier- and reservoir-backed hydropower plants and 9% from geothermal resources. This compares with Iceland's total generation mix of around 70% hydro and 30% geothermal. The Fljótsdalsstöð power station, completed in 2007, accounted for ca. 35% of total output in 2022. Landsvirkjun's sales volume in 2022 increased by around 3% to 14.6 terawatt hours. Power sales are very close to the possible maximum based on the company's generation capacity.

Landsvirkjun has a low marginal cost of production, and faces little competition from domestic competitors and none from imported electricity because of Iceland's geographic isolation. However, these strengths are balanced by the fact that the power market in Iceland is small and highly dependent on demand from power-intensive industries, which use around 80% of all the electricity generated in the country. The aluminium industry, in particular, supports electricity generation that is far higher, relative to GDP, than any other European economy.

Exhibit 5

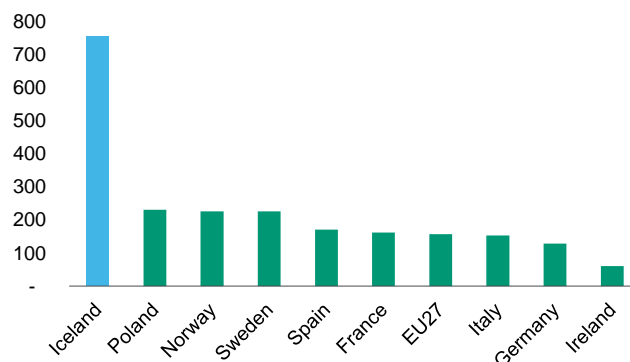
Aluminium smelters purchase around 70% of Landsvirkjun's output Volumes by customer and industry (2022)



Sources: Landsvirkjun and Moody's Investors Service

Exhibit 6

Iceland is Europe's most electricity intensive economy kWh per thousand euro of GDP (2022)



Sources: Statista (Iceland), Eurostat (all other countries) and Moody's Investors Service

Iceland's low-cost and reliable electricity supplies are significant competitive advantages. A study commissioned by Iceland's Ministry of Energy in 2020 found that Icelandic electricity prices were comparable with those of Norway and Quebec, which are also hydro-dominated electricity markets with aluminium smelting industries.² In addition, the energy intensity of aluminium smelters globally has been declining moderately with an average rate of 2% per year in the last decade. To comply with CO₂ emissions reduction goals (i.e. the Net Zero Emissions by 2050 Scenario), the decline needs to accelerate to 4% according to the International Energy Agency (IEA). This means a progressively reducing electricity demand from the industry.³

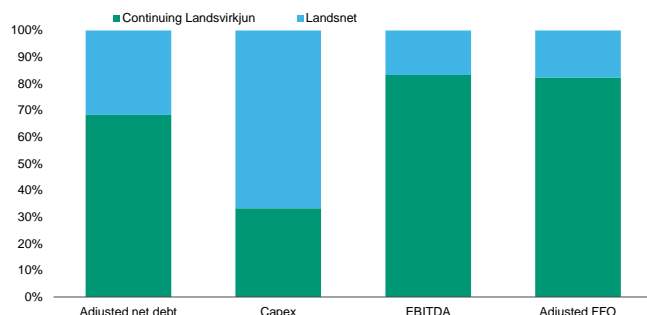
Landsnet disposal has strengthened financial metrics but only slightly decreased diversification

On 30 December 2022, Landsvirkjun announced that it had reached an agreement with Iceland's Ministry of Finance and Economic Affairs to sell its 64.7% interest in Landsnet to the Government of Iceland for \$305 million, around book value.⁴ Minority shareholders have also agreed to sell their stakes on the same terms, with the exception of [Orkuveita Reykjavíkur](#) (Baa3 stable), which continues to own 6.8% of the company. Landsvirkjun has received no upfront cash, but two interest-bearing loans that will be repaid to Landsvirkjun in installments between 2023 and 2027.

Landsvirkjun had formerly fully consolidated Landsnet in its accounts. As of 30 December 2022, Landsnet was no longer part of the group. Landsnet contributed around 18% of Landsvirkjun's total EBITDA and 27% of its Moody's-adjusted debt in 2022. The sale of an integrated utility's regulated transmission business would normally increase business risk. However, 62% of Landsnet's transmission revenue (excluding transmission losses) comes from the same power-intensive customers, principally aluminium smelters, that purchase power from Landsvirkjun. Landsnet's network was also built specifically to serve these users. As a result, we regarded the ownership of Landsnet as providing limited diversification to the group's cash flow.

Exhibit 7

Landsnet's contribution to key financials (2022)

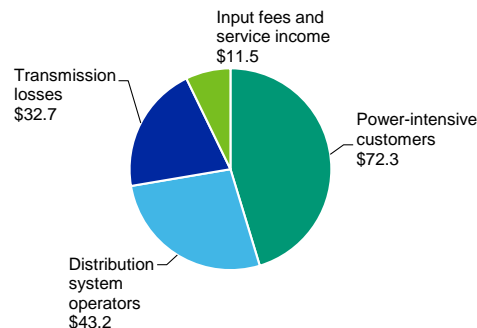


Sources: Landsvirkjun, Landsnet and Moody's Investors Service

Exhibit 8

Most of Landsnet's revenue was derived from Landsvirkjun's power-intensive customers

Components of Landsnet's revenue (2022) in million US\$



Source: Landsnet annual report 2022

Strong financial performance in 2022 and 2023

Landsvirkjun achieved strong results in the full-year 2022 and the first nine months of 2023. Average prices to industrial customers reached a record high of \$42.9/MWh in 2022 and drove a 37% increase in FFO in the full year 2022 compared to 2021. According to company information, 2023 is likely to be a record year for Landsvirkjun, driven by favourable hedges for both commodity and energy prices. A decrease in prices will become visible when hedging contracts are due. The average selling price for 2023 will likely be close to the 2022 price. In the first nine month of 2023, Landsvirkjun repaid \$221 million of long-term debt, resulting in reported net debt of \$565 million. This compares with \$840 million as of year-end 2022 and \$1,501 million in 2021 — a decline of around 62%. The strong operational performance and cash generation could lead to an increased demand for a dividend by Landsvirkjun's governmental shareholder.

Exhibit 9

Cash flow strengthened and substantial reduction in net debt as of the 12 months that ended September 2023 (Moody's-adjusted numbers)

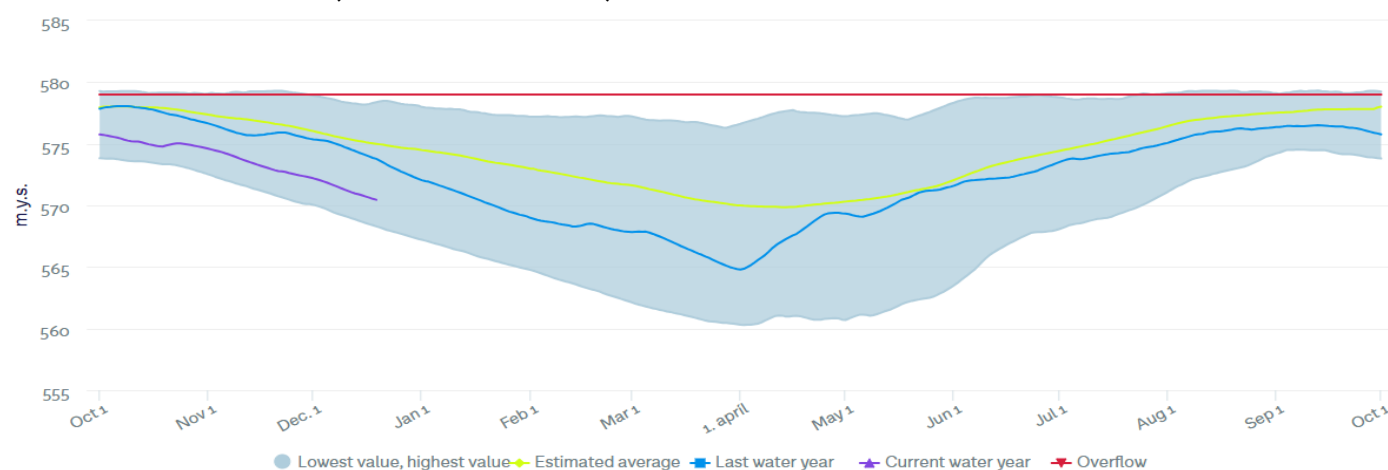
(in \$ millions)	2020	2021	2022	LTM Sep-2023
Funds from Operations (FFO)	238.5	336.3	319.3	520.2
Retained Cash Flow (RCF)	162.2	281.4	190.8	381.7
Free Cash Flow (FCF)	45.0	154.4	239.0	421.7
Gross Debt	1,810.5	1,643.8	1,039.9	820.9
Cash	92.0	97.6	155.5	212.2
Net Debt	1,718.5	1,546.3	884.4	608.7
FFO / Net Debt	13.9%	21.7%	36.1%	85.5%
RCF / Net Debt	9.4%	18.2%	21.6%	62.7%
	2020	2021	2022	LTM Sep-2023
Achieved Price (\$/MWh, industrial customers)	21.1	32.7	42.9	n/a

Sources: Landsvirkjun and Moody's Investors Service

The strong results in the last three years were achieved despite operational challenges. Iceland experienced a drought in the summer and autumn 2021, followed by cold weather in early 2022 that meant precipitation fell as snow rather than rain. Storms in late February 2022 also reduced transmission capacity and caused outages at several power stations. As a result, Landsvirkjun had to reduce power to fish meal factories, large users and district heating plants between January and March 2022. Flexibility options embedded in Landsvirkjun's contracts with large users allowed to reduce supply without any financial penalties. Nevertheless, electricity generation was at a record high in 2022 with the Icelandic electric power system fully used at year end.

After a sharp decline in the winter of 2022-23 and a subsequent recovery until June 2023, water levels were trending towards lower-than-average levels as of early December 2023.⁵ On 19 December 2023 Landsvirkjun announced that supply for some heavy users in the southwest of Iceland needs to be cut from 19 January to 30 April 2024, because water inflow remained minimal in December and water levels dropped to historical lows for Þórisvatn. The reduction in energy supply is compliant with contracts.⁶ This followed some supply reductions (also covered by contract provisions) already announced in November 2023 for customers with subordinated energy contracts such as fishmeal plants, fish dryers and data centres engaged in cryptocurrency mining.⁷

Exhibit 10

Levels at the Þórisvatn reservoir (meters above the sea level)

m.y.s. (metra yfir sjávarmáli) = meters above sea

Source: Landsvirkjun

Long-term take-or-pay contracts provide good visibility, but create counterparty risk

Most of Landsvirkjun's output is sold under long-term take-or-pay, US dollar-denominated contracts extending into the 2040s, which provide good visibility into long-term power demand. However, these contracts result in significant exposure to a small number of counterparties. Landsvirkjun's three largest customers, subsidiaries of Alcoa ([Alcoa Nederland Holding B.V.](#), Baa3 stable), [Rio Tinto plc](#) (A1 stable) and [Century Aluminum Company](#) (B3 stable), are aluminium companies that purchase around 70% of the company's generation output.

Aluminium price volatility affects Landsvirkjun directly because around 35% of its generation output contracts with energy-intensive users on a 12-month forward-looking basis include a direct link to aluminium prices. This ratio has fallen significantly in recent years, particularly following the renegotiation of an important contract in November 2019. Landsvirkjun's exposure to aluminium price under these contracts is limited by caps and floors, and the company enters into short-term hedges to manage its remaining commodity exposure. Landsvirkjun follows a conservative hedging approach with (as of May 2023) only 7% unhedged aluminium positions.

After a decline of aluminium prices in 2017-20, adversely affecting the profitability of the smelters and Landsvirkjun's revenue under aluminium-linked contracts, a significant rise of prices occurred, ultimately peaking at \$3,985/tonne (t) in January 2022. The price movement reflected strong global demand and risks from supply chain disruptions, high transportation costs and power-related smelter capacity curtailments in Europe and China. Despite a sharp decline afterwards, current aluminium prices of around \$2,314/t (as of 28 December 2023) remain higher than historical averages. The aforementioned hedging contracts at still-higher prices contribute positively to Landsvirkjun's results.

We expect prices to remain flattish through 2024, reflecting demand growth easing amid a global economic slowdown, inflation and tight financial policies, all of which restrain manufacturing and construction activities in certain regions.⁸ Average prices still-above historical averages will be positive for the profitability of aluminium smelters globally, and for the credit quality of Landsvirkjun's counterparties.

Exhibit 11

Aluminium prices have fallen from record highs, but are still above the historical average level London Metal Exchange (LME) spot aluminium price

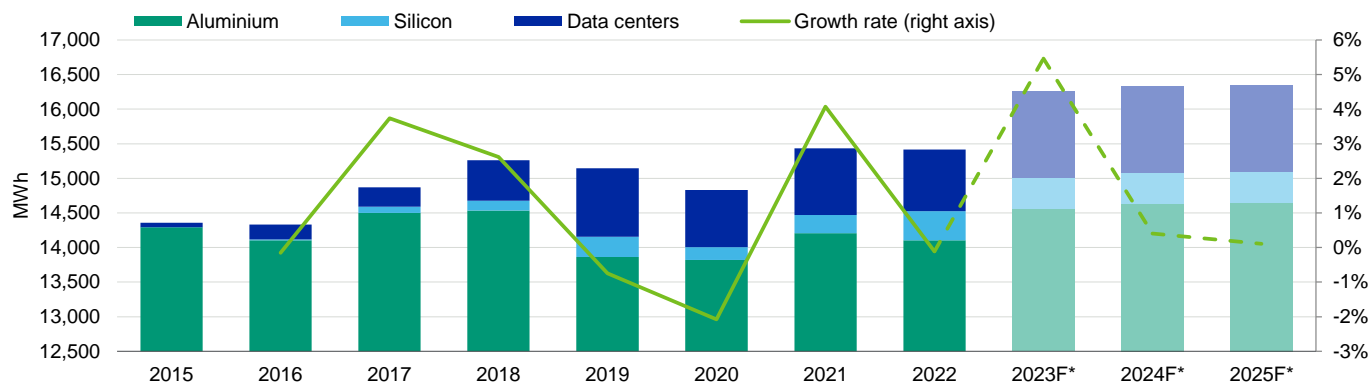


Sources: FactSet and Moody's Investors Service

Total power demand from Iceland's aluminium smelters fell by 3.4% in 2019 and a further 2.0% in 2020, reflecting coronavirus pandemic-related disruptions and reduced demand from heavy industries. After the pandemic-related drop, demand from the aluminium industry has stabilised and was slightly increasing in absolute terms, but decreasing in terms of its share in total demand. According to Orkustofnun, Iceland's National Energy Authority (NEA), the share of the aluminium industry to total demand is steadily declining and was at 67.1% in 2022, compared with 68.5% in 2021 and 69.4% in 2020.⁹

Exhibit 12

Heavy users' demand rebounded from weak 2019 and 2020 levels and will likely stabilise on the higher 2023 level



*Moody's forecasts (F) are Moody's opinion and do not represent the views of the issuer.

Sources: National Energy Authority and Moody's Investors Service

In recent years, Landsvirkjun has entered into long-term power supply contracts with companies in the silicon and data centre industries, which will provide diversification and reduce Landsvirkjun's exposure to aluminium price volatility. In addition, the company announced in 2020 that it will develop a green hydrogen production facility to supply domestic demand, and that it is exploring the feasibility of hydrogen exports. In October 2020, Landsvirkjun signed a Memorandum of Understanding with the Port of Rotterdam to perform a pre-feasibility study of exporting green hydrogen from Iceland to Rotterdam.¹⁰ We believe hydrogen, which is a key element of the European Union's decarbonisation strategy, could provide a long-term opportunity for Landsvirkjun.

Around 44% of Landsvirkjun's contracts with energy-intensive users are linked to US CPI, which provides some protection from still-high, but steadily declining inflation. Sales to small Icelandic energy retailers, which represented 13% of generation output contracts in 2022, are linked to Icelandic inflation.

Significant ramp-up in capital spending expected, but specific timing of execution remains unclear

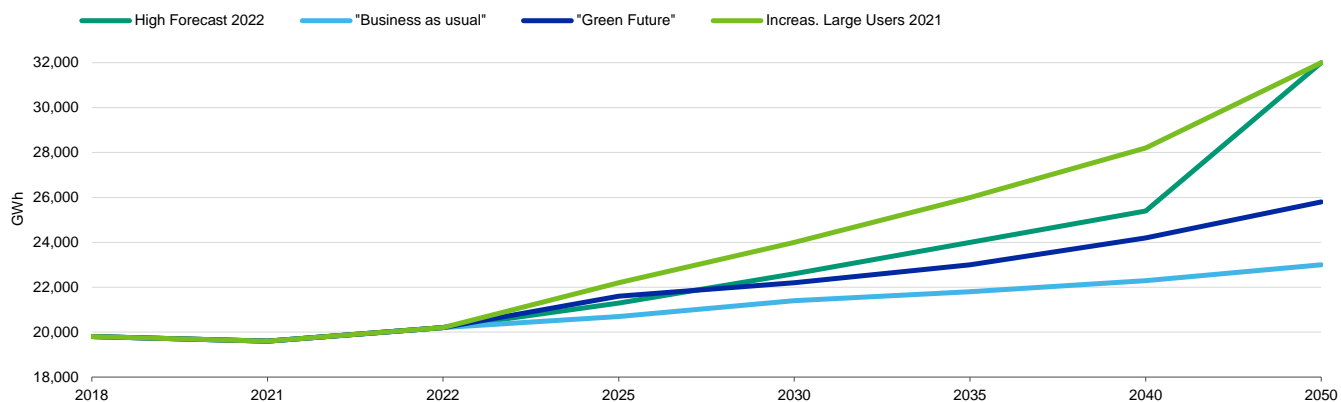
Landsvirkjun operates a modern, well-maintained and developed asset base that does not require significant maintenance investments. Beyond the improvement in the transmission system, which required limited and predictable yearly outflows, capital spending has remained very limited in the past three years for power generation assets.

However, Landsvirkjun's relatively small scale means that periodic expansion projects are large in the context of the company. The last major capital projects were the construction of the Theistareykir geothermal station (90 MW) and expansion of the Búrfell hydropower station (100 MW), completed in 2018. In March 2022, Iceland's Ministry of the Environment, Energy and Climate published a Green Paper that considered a range of future electricity demand scenarios that would require Landsvirkjun and other generators to significantly increase capacity.¹¹ These scenario's have been updated by the NEA in April 2023.¹²

The business as usual forecast, which would meet increased demand from households and small companies but not achieve Iceland's decarbonisation objectives or develop new industries such as hydrogen, assumes 1.2 TWh of additional generation in 2030, compared with 2022 levels, an increase of 6%. The updated green future scenario that achieves Iceland's Paris commitments and other targets would increase demand by 2.0 TWh (10%) by 2030 and 4.0 TWh (20%) by 2040. NEA has added a new high forecast scenario, which is a combined scenario of green future and increased large scale users' consumption. In this scenario, electricity demand will reach 24.0 TWh in 2030 (+19% compared to 2022 level) and 28.2 TWh (+40%) in 2040.

Exhibit 13

Iceland's National Energy Authority has published scenarios of significant electricity demand growth



Sources: Iceland National Energy Authority, [Electricity forecast 2022-2050](#); Ministry of the Environment, Energy and Climate; and Moody's Investors Service

Reflecting this need for additional supply, Landsvirkjun is considering four investment opportunities:

- » Expansion of the Sigalda Hydropower Station (up to 65 MW hydro)
- » Construction of the Hvammsvirkjun Power Station (95 MW hydro), with potential output of 720 GWh/year. This could be the first of three new hydropower stations on the Thjorsa river, located 120 kilometers east of Reykjavik.
- » Expansion of the Þeistareykir Power Station (45 MW geothermal), with potential output of 370 GWh/year
- » Construction of the Búrfellslundur Wind Farm (120 MW)

In November 2022, Landsvirkjun submitted a power station license application to the NEA for Búrfellslundur, which will be the company's first large-scale wind farm, using infrastructure already in place at the company's hydro plants around the rivers Þjórsá and Tungnaá. Landsvirkjun believes wind generation will be complementary to hydro because the efficiency of wind turbines is at its peak during the winter months, when hydro reservoirs are at their lowest. This is further supported by high capacity factors for wind turbines in Iceland. In December 2022, the company received a permit from the NEA for the Hvammsvirkjun project. However, on 16 June 2023, the Environmental and Natural Resource Board of Appeal revoked the already existent permit because of environmental reasons. This will lead to a significant delay in the construction start, which was initially planned for July 2023. After some conditions have been fulfilled since then, the NEA will consider Landsvirkjun's application again with a decision expected by the end of March 2024. If permission is granted, construction could start in the spring 2024.¹³

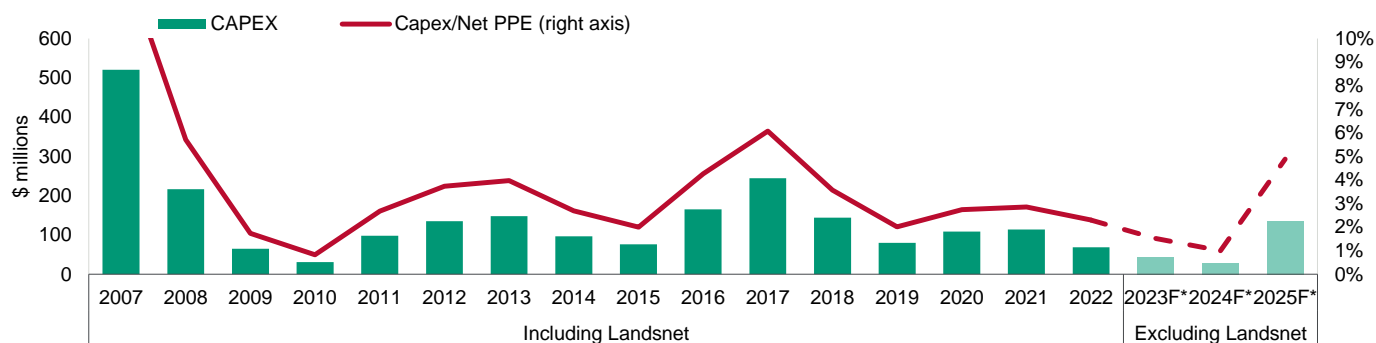
Iceland's location, geography and strict environmental requirements mean project costs tend to be significantly higher than in other markets. For example, the 690 MW Fljótsdalur Power Station, completed in 2007, had a project cost of \$2.0 billion, around \$2.9 million/MW (\$4 million/MW in 2022 prices). This cost pressure will be exacerbated if increases in energy and material costs persist.

If several of the proposed investments are undertaken, we expect Landsvirkjun's capital investment to accelerate sharply from 2025 at the latest, when they enter the development phase. The execution of all the above-mentioned projects simultaneously is unlikely though.

Exhibit 14

Landsvirkjun's capital spending/net PP&E is likely to rise from 2025 at the latest

Capital spending and fixed assets



PP&E stands for property, plant and equipment.

*Moody's forecasts (F) are Moody's opinion and do not represent the views of the issuer.

Sources: Landsvirkjun financial statements and Moody's Investors Service

Such a large capital programme would require some combination of cash retention, by paying dividends far below the maximum allowed under Landsvirkjun's dividend policy, and — depending on the speed of execution — additional borrowing. It would also entail execution risk, although we do not expect this to significantly affect the company's credit profile. Driven by strong operational performance and the delay in the Hvammsvirkjun project, Landsvirkjun was able to reduce its leverage further in 2022 and 2023, creating financial space for the funding of the large investment pipeline.

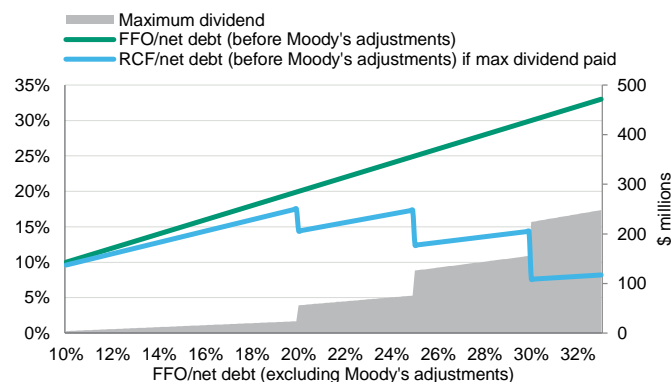
Dividends rose in 2022 and are likely to remain high

Following several years of low dividends, Landsvirkjun's board agreed a new dividend policy in April 2020, which was again amended after the sale of Landsnet early 2023.¹⁴ Under the new policy, maximum dividends are a function of the previous year's cash flow from operating activities and investments, with the payout ratio incrementally increasing as FFO/net debt increases. Dividend payments are subject to certain financial thresholds, that is, FFO/net debt at least at 25% and an equity ratio of at least 40%.

Dividends in 2020 and 2021 have been set close to the maximum permitted level under the policy, rising to \$120 million in 2022. Based on strong cash generation and lower leverage in 2023, the company would have been permitted to pay up to \$288 million, though it was decided to distribute only \$140 million to reflect the anticipated increase in capital investments. A moderate dividend policy will be key to achieving our RCF/net debt guidance; however, the new dividend policy still allows high distributions as we expect FFO/net debt to remain above 25%. The board has committed to reviewing its dividend policy at least once every three years.

Exhibit 15

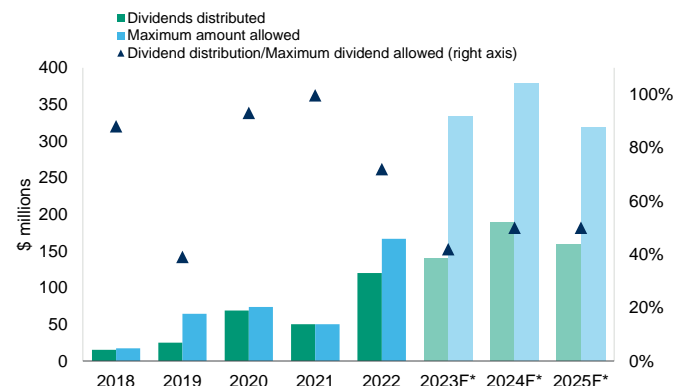
Large dividends permitted when FFO/net debt exceeds 25%
Maximum dividend at various levels of FFO/net debt under the dividend policy



Calculations assume \$1.0 billion net debt, annual investments of \$100 million and no working capital movements.
 Sources: Landsvirkjun policy and Moody's Investors Service calculations

Exhibit 16

Landsvirkjun's dividends have risen sharply and could rise further
Annual dividends and our estimate of the maximum allowed level under policy



Maximum dividends are calculated based on the 2023 dividend policy. 2024-2025 assumption is 50% dividend distribution, close to the 2023 level.
 Sources: Landsvirkjun policy and Moody's Investors Service calculations

Support from the owner provides an uplift to Landsvirkjun's standalone credit profile

Given its 100% ownership by the Icelandic government, Landsvirkjun is considered a Government-Related Issuer under our methodology.

The company's unguaranteed ratings incorporate our expectation that extraordinary financial support from the Icelandic government would be forthcoming, if needed. Our high support assumption reflects (1) Landsvirkjun's strategic importance to Iceland, given the company's position as the country's dominant power producer and the role it plays in providing electricity to the power-intensive industry, which directly contributes to almost 35% of Iceland's exports; and (2) the high level of commitment that the government has shown in the past through the provision of guarantees of collection to support the company's debt. Accordingly, the Baa1 unguaranteed ratings of Landsvirkjun benefit from three notches of uplift from the company's standalone credit quality or BCA of ba1.

Our assessment of very high default dependence balances Landsvirkjun's position as the country's dominant electric utility, with the company's high level of US dollar-denominated revenue coming from contracts with aluminium smelters that have international parent companies.

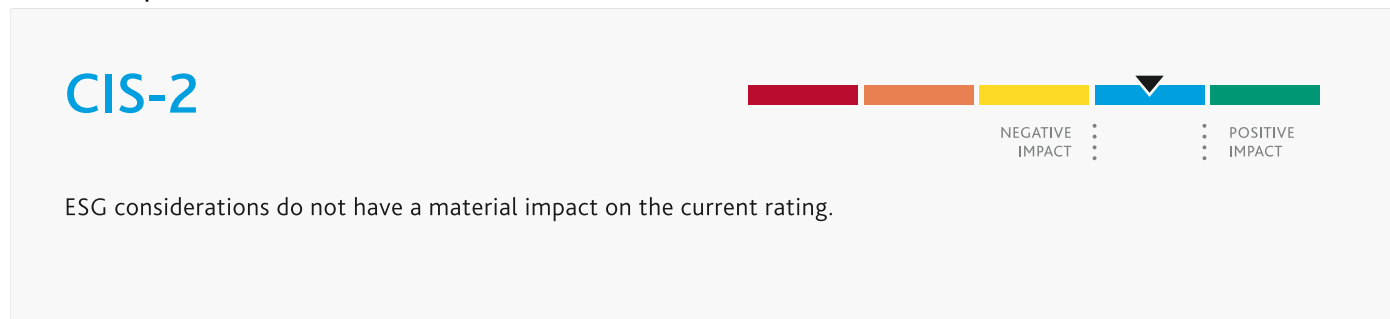
The A3 ratings of Landsvirkjun's guaranteed debt reflect the value of the guarantee of collection issued by the Icelandic government. The guarantees of collection do not offer bondholders the same contractual protection as a timely payment guarantee. Although small, there is a potential risk that the government would not step in with timely repayment should the company fail to meet its obligations because exhaustive administrative and legal procedures must be followed before the shareholders are obliged to pay. The A3 ratings are positioned one notch below the government's rating. This reflects a residual uncertainty over timely payments from a single-A-rated sovereign.

ESG considerations

Landsvirkjun's ESG credit impact score is CIS-2

Exhibit 17

ESG credit impact score



Source: Moody's Investors Service

Landsvirkjun's **CIS-2** indicates that its ESG attributes are not material to its credit rating. Its score reflects low environmental, social and governance risks. The effect of ESG risks to the rating is mitigated by the expectation that its government shareholder would support the company if this were to become necessary.

Exhibit 18

ESG issuer profile scores



Source: Moody's Investors Service

Environmental

Landsvirkjun's **E-2** score reflects positive exposure to carbon transition balanced by moderate physical climate risk. The company's hydroelectric power generation is highly reliable, dispatchable and low-cost, making it attractive to industrial energy users. Because Landsvirkjun's plants are fed by glacial rivers, climate change is likely to increase rather than disrupt potential output. However, Iceland is susceptible to extreme weather events. Public concerns about the natural environment have increased the costs of previous hydro developments.

Social

Landsvirkjun's **S-2** score reflects public concern over environmental, social or affordability issues, which could lead to adverse regulatory or political intervention. Landsvirkjun's risks are lower than other power companies because it does not benefit from above-market regulated prices and Icelandic electricity prices are among the lowest in the world.

Governance

Landsvirkjun is a government-owned company and its **G-2** score reflects the weak independence of the company's board, notwithstanding provisions of the Act on Landsvirkjun (1965) that require board members to be "guided exclusively by the interests of Landsvirkjun." Government ownership is also associated with positive governance features such as transparent reporting and oversight.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

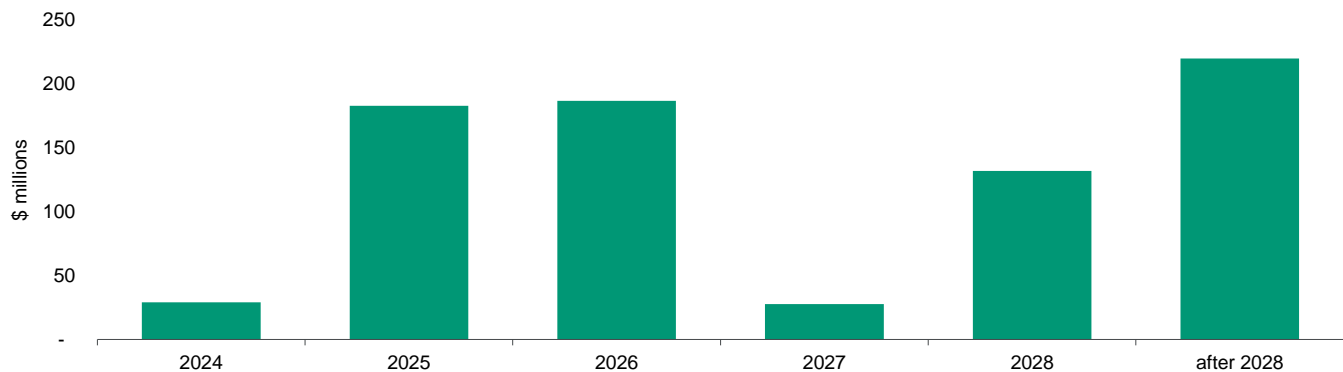
Liquidity analysis

Landsvirkjun's liquidity is strong. As of 30 September 2023, the company's liquidity was at \$212 million of cash and cash equivalents, further supported by a \$125 million undrawn credit facility with a three-year tenor. The bank facility does not contain financial covenants.

After repaying \$65 million in March 2022 and \$50 million in December 2022, Landsvirkjun's remaining debt maturities (per Q3 2023 interim report) in 2023 and 2024 amount to about \$29 million. We expect the company to have enough liquidity to carry it through 2024, given the available cash and credit lines, and positive free cash flow. This is, however, subject to the execution of a moderate dividend policy.

Exhibit 19

Landsvirkjun's debt maturity profile as of September 2023



Sources: Landsvirkjun's financial statements and Moody's Investors Service

Methodology and scorecard

In our assessment of Landsvirkjun's credit profile, we apply our [Unregulated Utilities and Unregulated Power Companies](#) rating methodology, published in December 2023, and our [Government-Related Issuers](#) rating methodology, published in February 2020. Please see the Rating Methodologies page on www.moodys.com for a copy of these methodologies.

Exhibit 20

Rating factors

Landsvirkjun

Unregulated Utilities and Unregulated Power Companies Industry	Current FY 12/31/2022		Moody's 12-18 Month Forward View*	
	Measure	Score	Measure	Score
Factor 1 : Scale (10%)				
a) Scale (USD Billion)	Ba	Ba	Ba	Ba
Factor 2 : Business Profile (35%)				
a) Market Diversification	Ba	Ba	Ba	Ba
b) Hedging and Integration Impact on Cash Flow Predictability	A	A	A	A
c) Market Framework & Positioning	Ba	Ba	Ba	Ba
d) Capital Requirements and Operational Performance	Baa	Baa	Baa	Baa
Factor 3 : Financial Policy (15%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Factor 4 : Leverage and Coverage (40%)				
a) (CFO Pre-W/C + Interest) / Interest (3 Year Avg)	7.2x	Baa	9x - 12x	A
b) (CFO Pre-W/C) / Debt (3 Year Avg)	19.9%	Ba	46% - 75%	A / Aa
c) RCF / Debt (3 Year Avg)	14.1%	Ba	(-7%) - 25%	Caa / Baa
Rating:				
a) Scorecard-Indicated Outcome		Ba1		Baa3 / Baa1
b) Actual Rating Assigned				Baa1
Government-Related Issuer	Factor			
a) Baseline Credit Assessment		ba1		
b) Government Local Currency Rating		A2		
c) Default Dependence		Very High		
d) Support		High		

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

*Moody's forward view is Moody's opinion and does not represent the views of the issuer. The wide range in respect of the RCF/debt ratio reflects the uncertainty in respect of Landsvirkjun's dividend policy, with the bottom of the range corresponding to the payment of a maximum allowed dividend under the company's current policy.

Source: Moody's Financial Metrics™

Appendix

Exhibit 21

Peer comparison Landsvirkjun

(in \$ millions)	Landsvirkjun Baa1 Stable			VERBUND AG A3 Positive			Fortum Oyj Baa2 Stable			Statkraft AS A3 Stable		
	FY	FY	FY	FY	FY	LTM	FY	FY	LTM	FY	FY	LTM
	Dec-20	Dec-21	Dec-22	Dec-21	Dec-22	Sep-23	Dec-21	Dec-22	Sep-23	Dec-21	Dec-22	Sep-23
Revenue	431	534	691	5,652	10,904	13,361	7,598	9,279	8,848	9,851	16,461	11,383
EBITDA	318	334	459	1,912	3,344	5,168	2,634	1,765	2,170	3,765	6,846	7,030
Total Assets	4,344	4,446	3,873	19,647	20,438	20,427	171,424	26,506	21,201	35,139	34,604	28,537
Total Debt	1,810	1,644	1,040	3,893	4,204	3,226	22,591	9,600	7,539	5,061	4,299	4,029
Net Debt	1,718	1,546	884	3,531	3,767	2,345	14,299	5,683	2,720	886	(1,646)	887
FFO / Debt	13.2%	20.5%	30.7%	59.6%	41.5%	91.6%	7.7%	23.6%	26.3%	29.2%	72.9%	33.2%
RCF / Debt	9.0%	17.1%	18.3%	50.2%	29.3%	40.9%	2.6%	12.2%	20.5%	21.1%	48.8%	(7.7%)
(FFO + Interest Expense) / Interest Expense	4.8x	8.6x	9.5x	44.9x	22.3x	24.1x	8.8x	10.1x	7.1x	18.7x	25.7x	10.7x
Debt / Book Capitalization	43.0%	38.9%	29.1%	33.1%	30.0%	20.5%	57.8%	53.3%	44.0%	27.0%	22.2%	20.9%

All metrics are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Exhibit 22

Moody's-adjusted debt reconciliation Landsvirkjun

(in \$ millions)	2018	2019	2020	2021	2022
As Reported Total Debt	2,000.9	1,807.6	1,773.9	1,604.2	1,003.5
Pensions	38.0	36.9	36.6	39.6	36.4
Moody's Adjusted Total Debt	2,038.9	1,844.5	1,810.5	1,643.8	1,039.9

All metrics are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Exhibit 23

Moody's-adjusted EBITDA reconciliation Landsvirkjun

(in \$ millions)	2018	2019	2020	2021	2022
As Reported EBITDA	391.0	380.6	306.7	332.0	613.6
Unusual Items - Income Statement	1.7	0.6	12.7	1.9	(154.8)
Non-Standard Adjustments	(1.4)	(1.1)	(1.2)	0.0	0.0
Moody's Adjusted EBITDA	391.3	380.1	318.2	333.9	458.8

Unusual items include, among others, fair value changes in embedded derivatives, fair value changes in other derivatives and foreign-exchange difference.

All metrics are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Exhibit 24

Overview of Moody's-adjusted financial data Landsvirkjun

(in \$ millions)	2018	2019	2020	2021	2022
INCOME STATEMENT					
Revenue	531	490	431	534	691
EBITDA	391	380	318	334	459
EBIT	266	245	189	235	351
Interest Expense	92	73	63	44	38
Net income	104	102	74	142	64
BALANCE SHEET					
Net Property Plant and Equipment	4,030	3,991	3,973	4,000	2,984
Total Assets	4,445	4,379	4,344	4,446	3,873
Total Debt	2,039	1,844	1,810	1,644	1,040
Cash & Cash Equivalents	116	110	92	98	156
Net Debt	1,923	1,734	1,718	1,546	884
Total Liabilities	2,416	2,283	2,254	2,244	1,576
CASH FLOW					
Funds from Operations (FFO)	283	278	238	336	319
Cash Flow From Operations (CFO)	289	294	230	323	436
Dividends	14	27	76	55	128
Retained Cash Flow (RCF)	269	252	162	281	191
Capital Expenditures	(144)	(80)	(109)	(114)	(68)
Free Cash Flow (FCF)	131	187	45	154	239
INTEREST COVERAGE					
(FFO + Interest Expense) / Interest Expense	4.1x	4.8x	4.8x	8.6x	9.5x
LEVERAGE					
FFO / Net Debt	14.7%	16.1%	13.9%	21.7%	36.1%
RCF / Net Debt	14.0%	14.5%	9.4%	18.2%	21.6%
Debt / EBITDA	5.2x	4.9x	5.7x	4.9x	2.3x
Net Debt / EBITDA	4.9x	4.6x	5.4x	4.6x	1.9x

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Ratings

Exhibit 25

Category	Moody's Rating
LANDSVIRKJUN	
Outlook	Stable
Issuer Rating	Baa1
Senior Unsecured	Baa1

Source: Moody's Investors Service

Endnotes

1 [An eruption has started](#) (source: Icelandic Meteorological Office, 14 January 2024).

- [2 Electricity costs of energy intensive industries in Iceland: A comparison with energy intensive industries in selected countries](#) (source: Fraunhofer ISI, 12 November 2020).
- [3 Aluminium: Tracking report](#) (source: IEA, December 2023).
- [4 Landsvirkjun, Icelandic State acquires Landsvirkjun's share in Landsnet](#), 30 December 2022.
- [5 Landsvirkjun, Reservoir level Thorisvatn](#).
- [6 Landsvirkjun, Reductions in Southern Heavy Users](#), 19 December 2023
- [7 Landsvirkjun, Reductions for fishmeal plants, fish dryers and data centres](#), 27 November 2023
- [8 Moody's, Metals & Mining: Price sensitivity ranges lowered amid soft demand growth; raised for precious metals](#), August 2023.
- [9 Orkustofnun, Electricity use in Iceland 2020-2022](#), April 2023.
- [10 Landsvirkjun, Green hydrogen is an environmentally friendly energy carrier](#), 4 June 2020 and Landsvirkjun, [An agreement made to explore the possibilities of green hydrogen export from Iceland to Rotterdam](#), 23 October 2020.
- [11 Ministry of the Environment, Energy and Climate, Report on the state of affairs and challenges in energy matters](#), March 2022.
- [12 National Energy Authority, Electricity forecasts 2022-2050](#), April 2023.
- [13 Landsvirkjun, The Environment Agency plans to grant permission for Hvammur Power Plant](#), 22 December 2023
- [14 Landsvirkjun's Dividend Policy](#) (source: Landsvirkjun, 15 March 2023).

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