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INVESTORS SERVICE

CREDIT OPINION

15 June 2022

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

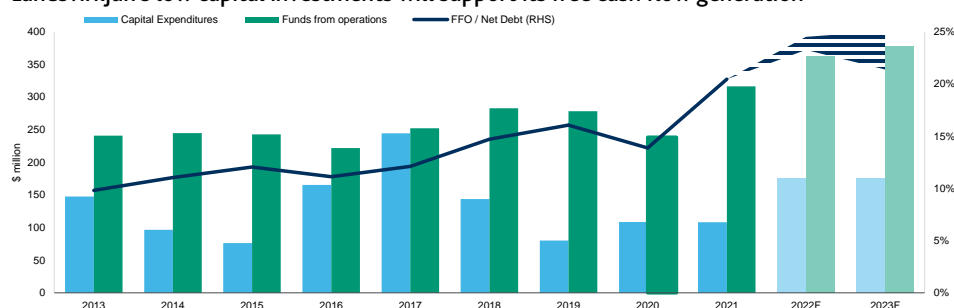
[Landsvirkjun's](#) (Baa1 stable) credit quality reflects the company's dominant position in the Icelandic energy market and its strategic importance as the provider of electricity to power intensive industries, which directly contribute around a third of the country's exports, and low-cost renewable energy generation assets, which require minimal capital investments for maintenance.

However, Landsvirkjun's credit profile is constrained by (1) its large and concentrated exposure to a small number of counterparties, mainly in the aluminium industry, and to volatile aluminium prices; (2) the likelihood of higher capital spending over the next few years; (3) significant dividend payments when funds from operations (FFO)/net debt exceeds 20%; and (4) uncertainty over the terms of the expected divestiture of the company's controlling interest in Landsnet, Iceland's electricity transmission system owner

Given Landsvirkjun's 100% ownership by the [Government of Iceland](#) (A2 stable), the company is rated according to our methodology for Government Related Issuers. The Baa1 unguaranteed ratings of Landsvirkjun benefit from three notches of uplift from the company's Baseline Credit Assessment (BCA) of ba1. This uplift reflects the high likelihood of Landsvirkjun receiving extraordinary support from the sovereign in the event of financial distress. The A3 guaranteed ratings of Landsvirkjun reflect the benefit of the guarantee of collection issued by the Icelandic government.

Exhibit 1

Landsvirkjun's low capital investments will support its free cash flow generation



All figures and ratios presented are based on 'Adjusted' financial data and incorporate [Moody's Global Standard Adjustments for Non-Financial Corporations](#). 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 shareholder would provide extraordinary support if required, reflecting Landsvirkjun's core strategic role in Iceland's economy

Credit challenges

- » Large exposure to a small number of counterparties in the aluminium industry
- » Exposure to aluminium price volatility, because around a third 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
- » Potential for high dividends under a policy that effectively caps the ratio of retained cash flow (RCF) to net debt
- » Uncertainty over timing and terms of the expected divestiture of the company's controlling interest in Landsnet, the electricity transmission system owner, although the parties have agreed that the change of ownership should not "negatively affect the financial strength" of Landsvirkjun

Rating outlook

The stable outlook reflects our expectation that Landsvirkjun will maintain broadly stable net debt, following significant reductions in recent years, and continue to prudently manage its exposure to market risks. The outlook also reflects our expectation that any disposal of Landsnet will be completed on terms that do not result in a deterioration of Landsvirkjun's credit quality.

Factors that could lead to an upgrade

- » The BCA could be upgraded if Landsvirkjun achieved
 - Funds from operations (FFO)/net debt consistently above the mid-20s, in percentage terms, *and*
 - RCF/net debt consistently above the mid-teens, in percentage terms. This is not anticipated, given the company's current dividend policy
- » Any potential upgrade of the unguaranteed rating would take account of 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 was 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 declined below the low-double digits, both in percentage terms. The ratings could also be downgraded if the government's rating was downgraded, or if our assessment of high support for the company was to be revised downward.
- » The guaranteed ratings could be downgraded if the government's rating was downgraded.

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's.com> for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Landsvirkjun

	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22 F	Dec-23 F
(CFO Pre-W/C + Interest) / Interest	4.2x	4.1x	4.8x	4.8x	5.9x	7x-8x	6.5x-7.5x
(CFO Pre-W/C) / Net Debt	12.1%	14.7%	16.1%	13.9%	20.5%	23%-25%	22%-24%
(CFO Pre-W/C) / Debt	11.4%	13.9%	15.1%	13.2%	19.2%	22%-24%	22%-24%
RCF / Debt	10.8%	13.2%	13.7%	9.0%	15.9%	13%-15%	11%-13%

All ratios are based on 'Adjusted' financial data and incorporate [Moody's Global Standard Adjustments for Non-Financial Corporations](#). For definitions of Moody's most common ratio terms, please see the accompanying [User's Guide](#).

Moody's Forecasts (F) and Estimates (E) are Moody's opinion and do not represent the views of the issuer. Periods are financial year-end unless otherwise indicated.

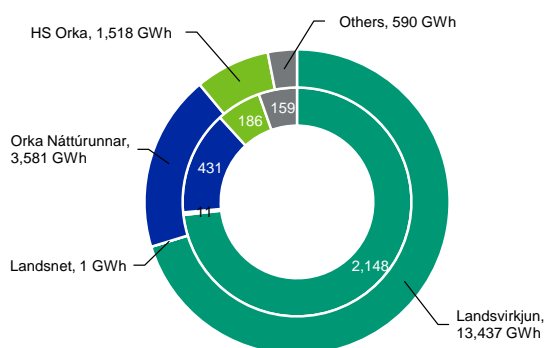
Source: Moody's Financial Metrics™

Profile

Landsvirkjun is the dominant power producer in Iceland, responsible for over 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. In addition, Landsvirkjun is the majority owner (64.7%) of Landsnet, the country's fully regulated electricity transmission system owner and operator.

Exhibit 3

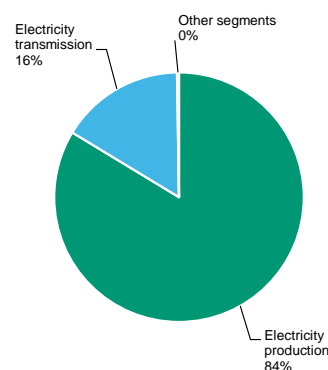
Share of production (outer, GWh) and capacity (inner, MW) 2021



Source: Landsvirkjun's 2021 audited financial accounts

Exhibit 4

EBITDA by business segment 2021, excluding intragroup sales



Source: Landsvirkjun's 2021 audited financial accounts

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

Detailed credit considerations

Dominant power generation company in the Icelandic energy market

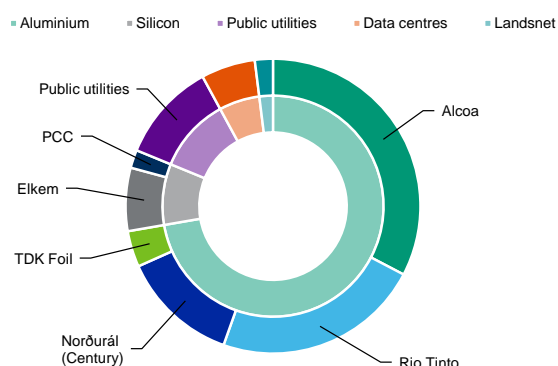
Landsvirkjun is Iceland's largest power producer, with a total installed generation capacity of about 2.1 gigawatts (GW), which represents around 70% of the country's total electricity generation capacity. The company operates 15 hydropower plants, three geothermal plants and two wind turbines.

Landsvirkjun generates 93% of its energy from glacier- and reservoir-backed hydropower plants and 7% from geothermal resources. This compares to Iceland's total generation mix of around 70% hydro and 30% geothermal. The Fljótsdalsstöð power station, completed in 2007, accounted for 36% of total output in 2020. Landsvirkjun's sales volume in 2021 increased by 5% to 14.1 terawatt hours.

Landsvirkjun has a low marginal cost of production, and faces little competition from domestic competitors and none from imported electricity because of its 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

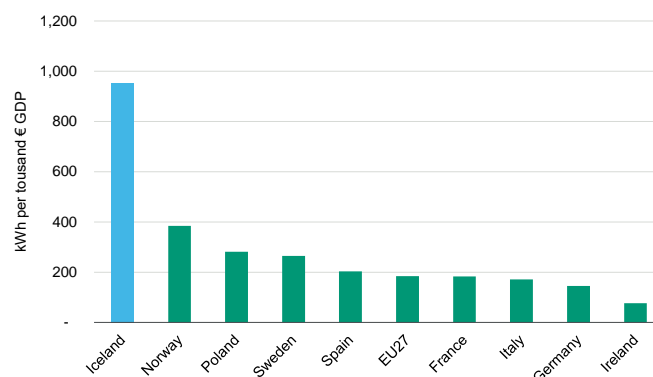
Aluminium smelters purchase around 70% of Landsvirkjun's output 2021 volumes by customer and industry



Source: Landsvirkjun, Moody's Investors Service

Exhibit 6

Iceland is Europe's most electricity intensive economy



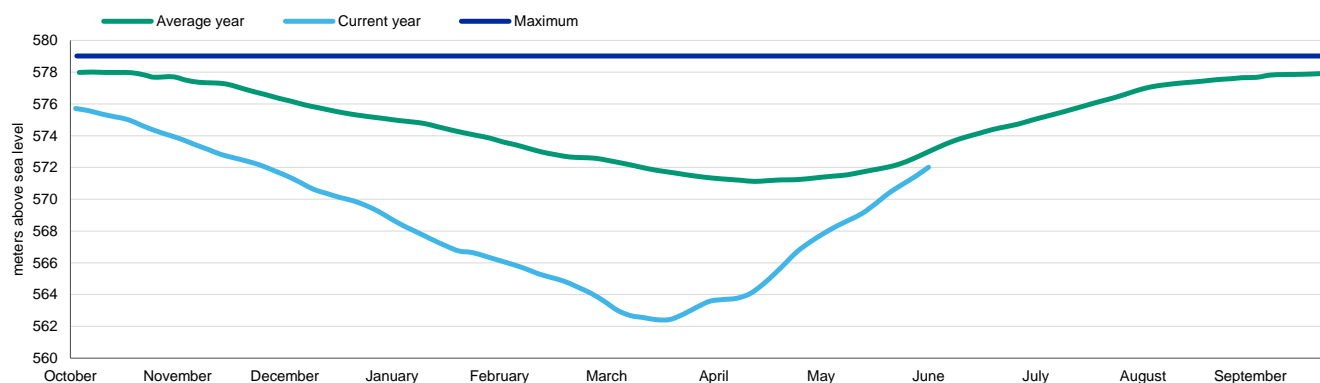
Source: Eurostat, Moody's Investors Service

Although 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" to those of Norway and Quebec, which are also hydro-dominated electricity markets with aluminium smelting industries.¹ In addition, although the energy intensity of aluminium smelters globally has remained relatively flat in the last few years because of China fully exploiting its potential for energy intensity improvements, the IEA expects that, to comply with CO₂ emissions reduction goals, the energy intensity of aluminium smelters globally will continue decreasing until 2030, progressively reducing electricity demand from the industry.²

Drought constrained output in Q1 2022, but flexible contracts limit financial impact

Iceland experienced a drought in the summer and fall 2021, followed by cold weather in early 2022 that meant precipitation fell as snow rather than rain. As a result, water levels at Landsvirkjun's reservoirs – the most important of which is Þórisvatn (see exhibit) – fell to their lowest levels since 2013-14.³ 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.

Exhibit 7

Þórsvatn reservoir has recovered from very low levels

Source: Landsvirkjun

The company estimates that reduced delivery was equivalent to 3% of annual production. However, flexibility options embedded in its contracts with large users allowed Landsvirkjun to reduce supply without any financial penalties. Thanks to a change in weather conditions in March 2022, reservoir levels filled up and curtailment measures were lifted.⁴

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

Landsvirkjun is predominantly a wholesale electricity producer, with about 84% of its revenue coming from power sales in 2021. 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.](#), Ba1 review for upgrade), [Rio Tinto plc](#) (A2 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 36% of its generation output contracts with energy intensive users 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. As of year-end 2021, Landsvirkjun had hedged 74% of its aluminium price risk and 61% of its Nord Pool electricity price risk for 2022.

Aluminium prices declined between 2017 and 2020, adversely affecting the profitability of the smelters and Landsvirkjun's revenues under aluminium-linked contracts. However, prices surged to historically high levels in 2021 and in the first quarter of 2022, reflecting strong global demand as well as risks from supply chain disruptions, high transportation costs and power-related smelter capacity curtailments in Europe and China. In the short term, we expect the aluminium industry to benefit from continuing upward pressures on prices stemming from the reduction in global supply following the Russia-Ukraine military conflict and high energy costs (see our [base metals outlook](#), April 2022). In the medium term, we expect continued recovery in demand from the automotive, aerospace and infrastructure users to support prices, despite capacity growth and easing of supply chain bottlenecks. This will be positive for the profitability of aluminium smelters globally, and for the credit quality of Landsvirkjun's counterparties.

Exhibit 8

After a surge in aluminium prices in 2021, we expect stabilisation at high levels

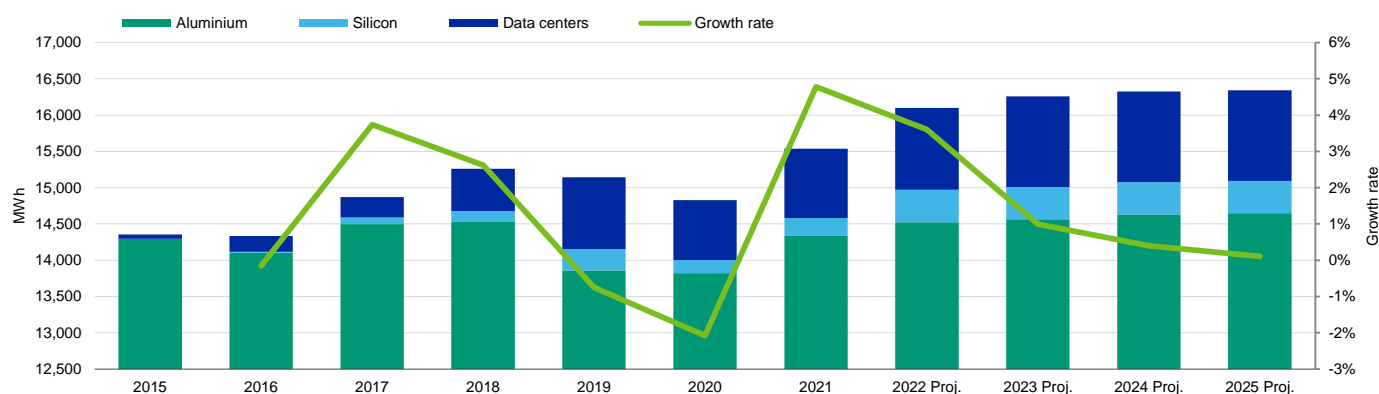
LME spot aluminium price and Moody's projections



Source: FactSet, 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-related disruptions and reduced demand from heavy industry. However, following the agreement with Rio Tinto (see highlight box) and increased output, demand from heavy users increased by 4.9% in 2021. Iceland's National Energy Agency expects demand from heavy users, which represented 83% of total electricity consumption in Iceland in 2021, to be broadly stable from 2023.

Exhibit 9

After a rebound in consumption in 2021 and 2022, we expect stable demand from heavy users

Source: National Energy Authority, Moody's Investors Service

In recent years, Landsvirkjun has entered into long-term power supply contracts with companies in the silicon metal 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.⁵ We believe hydrogen, which is a key element of the European Union's decarbonisation strategy, could provide a long-term opportunity for Landsvirkjun.

42% of Landsvirkjun's contracts with energy intensive users are linked to US CPI, which provides some protection from current high inflation. Sales to small Icelandic energy retailers, which represented 12% of generation output contracts in 2021, are also linked to Icelandic inflation.

Dispute with Rio Tinto has been resolved

In February 2020, Rio Tinto announced a strategic review of its ISAL smelter, Landsvirkjun's second-largest customer, "to determine the operation's ongoing viability and explore options to improve its competitive position" (see [Landsvirkjun: Key customer's strategic review raises risks for Landsvirkjun](#), 14 February 2020). Rio Tinto said that weak aluminium prices at the time meant that it could not operate profitably under its contract with Landsvirkjun, which since 2010 had been indexed to US CPI. Rio Tinto subsequently filed a complaint with the Icelandic Competition Authority in July 2020, alleging that Landsvirkjun had abused its dominant market position.

In February 2021, Rio Tinto and Landsvirkjun reached an agreement to allow the plant "to continue operating with a stronger competitive position."⁶ Volumes under the contract are unchanged (390 MW or 3.4 TWh/year). The base power price was initially reduced by an undisclosed amount, but future changes were linked in part to aluminium prices, which have subsequently increased sharply. Although the terms of the agreement are not public, we regard the resolution of this dispute as credit positive.

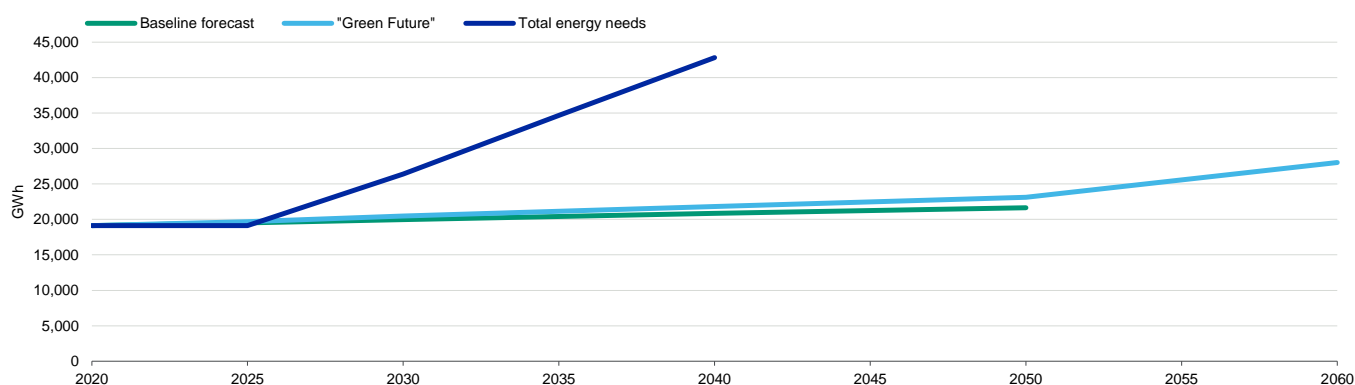
Capital expenditure may increase from low base

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

However, Iceland's Ministry of the Environment, Energy and Climate published a Green Paper in March 2022 that considered a range of future electricity demand scenarios that would require Landsvirkjun and other generators to significantly increase capacity.⁷ The NEA's baseline 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 0.8 TWh of additional generation in 2030, compared to 2020 levels, an increase of 4%. However, a "green future" scenario that achieved Iceland's Paris commitments and other targets would increase demand by 1.4 TWh (7%) by 2030 and 2.7 TWh (9%) by 2040. The Green Paper also considered a scenario in which all road vehicles, domestic flights and Iceland's fishing fleet are electrified, directly or via hydrogen. In this scenario, demand would grow by 24 TWh (124%) by 2040.

Exhibit 10

Iceland's Ministry of Environment, Energy and Climate has published scenarios of significant electricity demand growth



Source: Ministry of the Environment, Energy and Climate; Moody's Investors Service

Reflecting this need for additional supply, Landsvirkjun is considering a number of investment opportunities

- » Upgrade of **Hraunaeyjafoss Power Station upgrade (20 MW hydro)**
- » Expansion of **Sigalda Hydropower Station (50 MW hydro)**

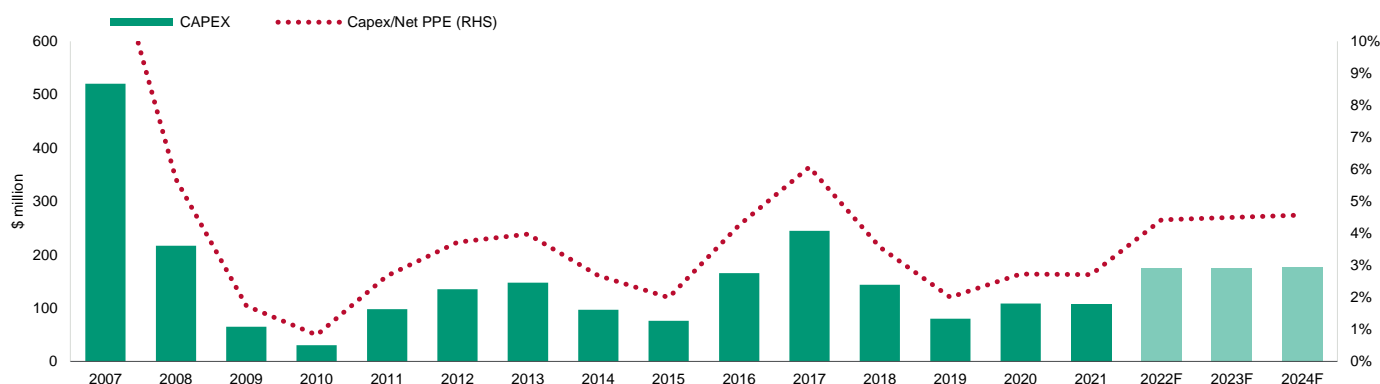
- » Construction of **Hvammsvirkjun Power Station (95 MW hydro)**, with potential output of 720 GWh/year. This could be the first of three new hydropower stations on the Thjorsa river, located 120 kilometers east of Reykjavik. Two further plants, Holta and Urriðafoss, could be developed later downstream of Hvammur.
- » Expansion of **Þeistareykir Power Station (45 MW geothermal)**, with potential output of 370 GWh/year

Landsvirkjun is also considering opportunities in wind power, which the company believes is complementary to hydro because the efficiency of wind turbines is at its peak during the winter, when hydro reservoirs are at their lowest, and wind turbines in Iceland have high capacity factors. Currently, the legal environment for wind power is not in place because of no significant progress on proposals aiming at facilitating the licensing process and renewed discussions on plans regarding the creation of a national park.⁸ However, changes are being considered by parliament that could facilitate wind investment, and Landsvirkjun may consider developing the **Búrfellslundur Wind Farm (120 MW)**.

Although these investments would increase the scale and complexity of Landsvirkjun's capital programme, we expect it to remain relatively small in the context of the company.

Exhibit 11

Landsvirkjun's ratio of capital spending to net PP&E is likely to remain below 5%
Capex and fixed assets including Landsnet



All figures and ratios are based on reported financial data. Moody's Forecasts (F) are Moody's opinion and do not represent the views of the issuer. PP&E stands for property, plant and equipment.

Sources: Landsvirkjun financial statements and Moody's Investors Service

Landsnet disposal creates near-term uncertainty

Landsnet is Iceland's electricity system owner and operator, managing more than 3,200 kilometres of transmission lines and about 75 substations and transformer stations. It had fixed assets of \$963.5 million as of December 2021. Landsvirkjun owns 64.7% of Landsnet and fully consolidates its accounts. Minority shareholders include [Orkuveita Reykjavíkur](#) (Baa3 stable), which owns 6.8% of the company.

Landsnet's shareholders and the Government of Iceland signed a memorandum of understanding on 24 February 2021, opening negotiations to sell the company to the government.⁹ This marks a significant step in the sale process, which began with a government decision in December 2018 and the appointment of a government working group in March 2019. The unbundling is intended to align the country with the European Union's principles of separation between generation and transmission. According to Landsvirkjun, the MOU states that the "parties agree on the importance of securing that the change in ownership will not negatively affect the financial strength of the sellers, the buyer, or the interests of Landsnet." A law stating that the transmission company shall be directly owned by either the Icelandic state or municipalities took effect in July 2021, with the provision to be implemented from July 2022. The sale is expected to complete in 2022.

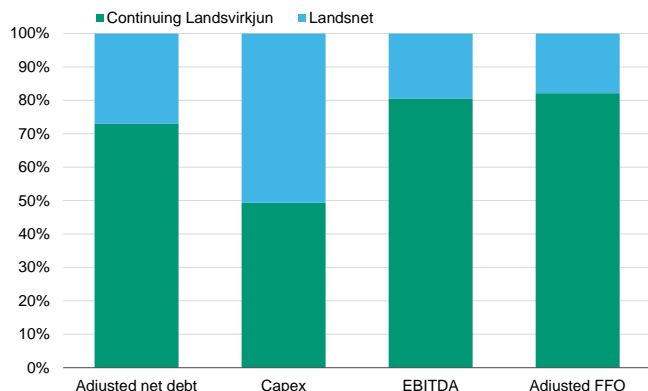
Landsnet contributed around 21% of Landsvirkjun's total EBITDA and 27% of its Moody's-adjusted debt in 2021. Its FFO/net debt was 15.6%, below that of the consolidated group at 20.5%. Landsnet accounted for c. 75% of the group's capital expenditure. The effect of a divestiture on Landsvirkjun's key credit metrics is therefore likely to be positive. If Landsvirkjun retains tax-free cash proceeds

equivalent to its share of Landsnet's shareholder's equity, approximately \$310 million, we estimate that the transaction would improve Landsvirkjun's FFO/net debt by around 14 percentage points in 2023, before progressively normalising because of higher dividend distributions.

However, the impact of improved financial metrics on Landsvirkjun's credit profile would be offset by reduced scale and diversification of the business.

Exhibit 12

Landsnet contribution to key financials in 2021

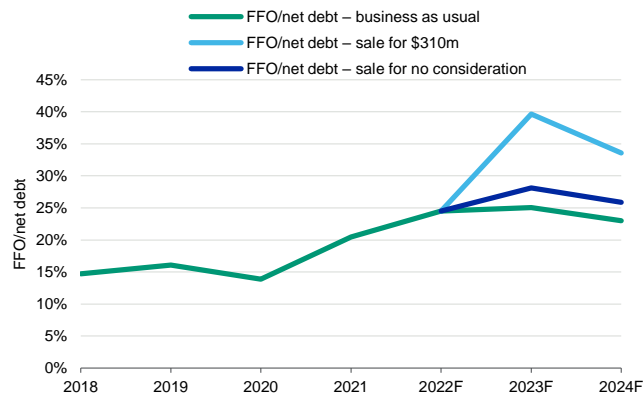


Source: Landsvirkjun, Landsnet, Moody's Investors Service

Exhibit 13

The divestiture will have a modest impact on Landsvirkjun's credit metrics

Pro forma for sale from 1 January 2022



Source: Landsvirkjun, Landsnet, Moody's Investors Service

Landsnet is regulated by Orkustofnun, Iceland's National Energy Authority (NEA), which is a government agency under the Ministry of Industries and Innovation. The current regulatory period runs from January 2021 to December 2025. In the second year of the new period, Landsnet is able to recover a pre-tax real allowed return of 5.15% on the portion of its network serving energy-intensive industries, which account for 75% of its rate base, based on a real equity return of 6.45% and a 2.24% real cost of debt. Landsnet's assets used for distribution to utilities earn a 5.92% pre-tax allowed return and the remainder of assets, which are used for distribution to general users earn 5.96% pre-tax allowed return. These returns are updated annually based on a formula including Icelandic and US government bond yields and credit default swaps. Returns are currently high compared to other European regulated networks, largely because high interest rates from the 2008 financial crisis continue to influence the calculation, but this is expected to decline over time.

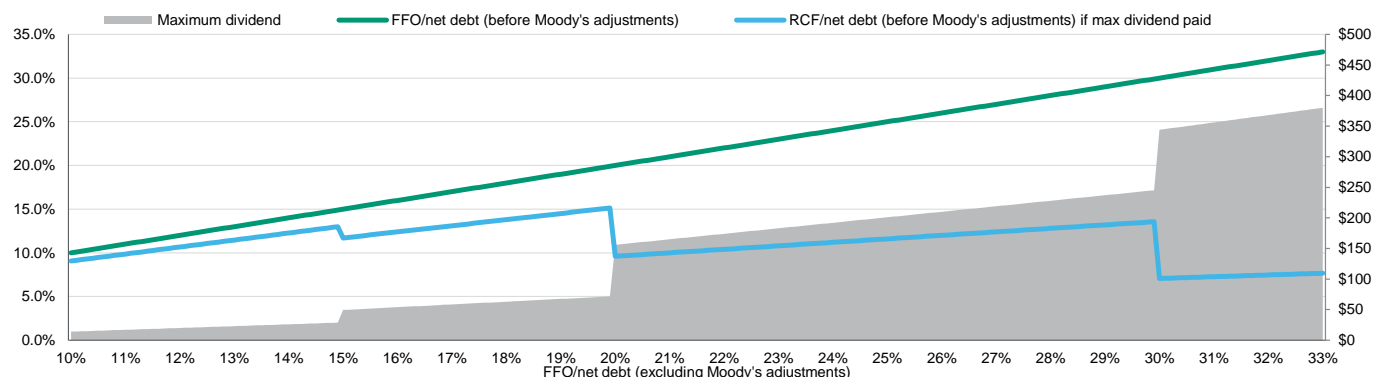
The NEA approved Landsnet's "system plan" for the 2021-29 period in April 2021. The plan sets out Landsnet's major investment projects for the next ten years as well as a three-year action plan for specific investments.¹⁰

High dividends in 2022 will continue if performance remains strong

Following several years of low dividends, Landsvirkjun's board agreed a new dividend policy in April 2020.¹¹ Under this policy, maximum dividends are set as a function of the previous year's cash flow from operating activities and investments, with the payout ratio increasing in steps as the ratio of Funds From Operations to Net Debt increases.

Dividends since 2020 have been set close to the maximum permitted under the policy, sharply in 2022 to \$120 million, from \$74 million in 2020 and £50 million in 2021. We expect dividends to remain at an elevated level, significantly higher compared to the pre-2022 period, given expected FFO/net debt to remain above 20% in the near future. When FFO/net debt exceeds this level, maximum allowed dividends increase sharply (see below Exhibit). The structure of this dividend policy effectively caps RCF/net debt at around 15%, if the maximum dividend is paid.

Exhibit 14

Maximum dividend at various levels of FFO/net debt under new dividend policy (\$ millions)

Note: Calculations assume \$1.5 billion net debt, annual investments of \$100 million and no working capital movements.

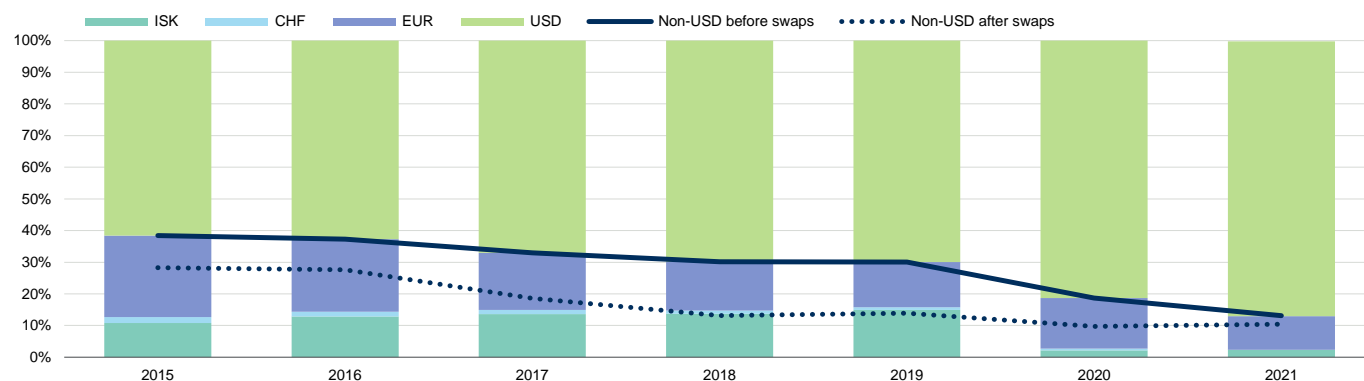
Source: Landsvirkjun policy, Moody's Investors Service calculations

The board has committed to review the policy at least every three years.

Foreign currency risk has significantly reduced

Landsvirkjun income is mainly denominated in US dollars, but it has historically had liabilities denominated in dollars, euros, Icelandic kronor and Swiss francs. Over the last few years, the company entered into a series of cross-currency swap agreements as well as new issuances of debt in US dollars that have reduced its exposure to non-US dollar risk. Following the refinancing of kronor-denominated debt in 2020, Landsvirkjun's exposure to non-US dollars debt significantly reduced and was represented 13% as of year-end 2021 before swaps and 10% after taking swaps into account.

Exhibit 15

Currency mix of outstanding debt, before and after swaps

Source: Landsvirkjun, Moody's Investors Service

In addition, Landsvirkjun has made material progress in reducing its exposure to interest rate volatility. The share of floating-rate debt, taking into account hedging arrangements, represented around 15% of the company's total outstanding debt as of December 2021, down from almost 60% in 2014.

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 guaranteed ratings of Landsvirkjun 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.

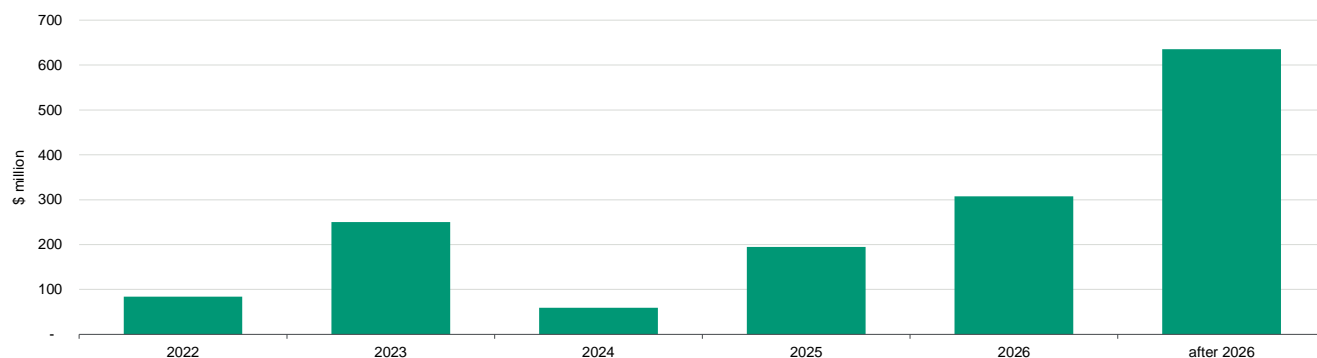
Liquidity analysis

Landsvirkjun's liquidity is strong. As of March 2022, the company's liquidity was supported by \$140 million of cash and cash equivalents and \$150 million of undrawn credit facilities maturing, although these mature in December 2024. The bank facility does not contain financial covenants.

After repaying \$65 million in March 2022, Landsvirkjun's remaining debt maturities over the next two years amount to about \$334 million, which represent around 22% of its total debt. We expect the company to have enough liquidity to carry it through 2022 and 2023, given the available cash and credit lines, coupled with the forecast positive free cash flow generation.

Exhibit 16

Landsvirkjun's debt maturity profile as of March 2022



Source: Landsvirkjun financial statements, Moody's Investors Service

ESG considerations

Landsvirkjun's ESG Credit Impact Score is Neutral-to-Low CIS-2

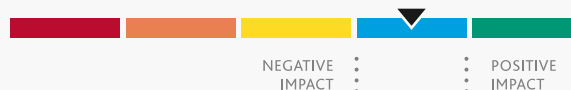
Exhibit 17

ESG Credit Impact Score

CIS-2

Neutral-to-Low

For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.



Source: Moody's Investors Service

Landsvirkjun's ESG Credit Impact Score is neutral/low (**CIS-2**), indicating 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

ENVIRONMENTAL

E-2

Neutral-to-Low



SOCIAL

S-2

Neutral-to-Low



GOVERNANCE

G-2

Neutral-to-Low



Source: Moody's Investors Service

Environmental

Landsvirkjun's neutral/low environmental risk (**E-2** issuer profile 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 that have periodically disrupted the operations of Landsnet. Public concerns about the natural environment have increased the costs of previous hydro developments, but we do not regard this as a significant risk given limited future investment plans.

Social

Landsvirkjun's social risk are neutral/low (**S-2**). While public concern over environmental, social or affordability issues 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

Governance risks are neutral/low (**G-2**). As a government-owned company, we assess that the independence of the company's board is relatively weak, 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 Moodys.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.

Rating methodology and scorecard factors

In our assessment of Landsvirkjun's credit profile, we apply our [Unregulated Utilities and Unregulated Power Companies](#) rating methodology, published in May 2017, 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 19

Rating factors Landsvirkjun

Unregulated Utilities and Unregulated Power Companies Industry [1][2]			Current FY 12/31/2021		Moody's 12-18 Month Forward View As of June 2022 [3]	
Factor 1 : Scale (10%)	Measure	Score	Measure	Score	Measure	Score
a) Scale (USD Billion)	Ba	Ba	Ba	Ba	Ba	Ba
Factor 2 : Business Profile (35%)						
a) Market Diversification	Ba	Ba	Ba	Ba	Ba	Ba
b) Hedging and Integration Impact on Cash Flow Predictability	A	A	A	A	A	A
c) Market Framework & Positioning	Ba	Ba	Ba	Ba	Ba	Ba
d) Capital Requirements and Operational Performance	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa
e) Business Mix Impact on Cash Flow Predictability		NA				
Factor 3 : Financial Policy (15%)						
a) Financial Policy	Baa	Baa	Baa	Baa	Baa	Baa
Factor 4 : Leverage and Coverage (40%)						
a) (CFO Pre-W/C + Interest) / Interest (3 Year Avg)	5.2x	Baa	6.5x - 7.5x	Baa	6.5x - 7.5x	Baa
b) (CFO Pre-W/C) / Debt (3 Year Avg)	15.7%	Ba	22% - 24%	Baa	22% - 24%	Baa
c) RCF / Debt (3 Year Avg)	12.7%	Ba	11% - 13%	Ba	11% - 13%	Ba
Rating:						
a) Scorecard-Indicated Outcome		Baa3				Baa3
b) Actual BCA Assigned						ba1
Government-Related Issuer						
a) Baseline Credit Assessment					Factor	ba1
b) Government Local Currency Rating						A2
c) Default Dependence						Very High
d) Support						High
e) Actual Rating Assigned						Baa1

[1] All ratios are based on 'Adjusted' financial data and incorporate [Moody's Global Standard Adjustments for Non-Financial Corporations](#).

[2] As of 31 December 2021.

[3] This represents Moody's forward view, not the view of the issuer, and unless noted in the text, does not incorporate significant acquisitions and divestitures.

Source: Moody's Financial Metrics™

Ratings

Exhibit 20

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

Source: Moody's Investors Service

Appendix

Exhibit 21

Peer comparison

Landsvirkjun

(in USD million)	Landsvirkjun Baa1 Stable			VERBUND AG A3 Stable			Fortum Oyj Baa2 Negative			Statkraft AS A3 Stable		
	FYE Dec-19	FYE Dec-20	FYE Dec-21	FYE Dec-20	FYE Dec-21	LTM Mar-22	FYE Dec-19	FYE Dec-20	FYE Dec-21	FYE Dec-19	FYE Dec-20	FYE Dec-21
Revenue	490	431	607	3,937	5,652	7,546	6,098	55,943	132,987	4,941	3,611	9,851
EBITDA	380	318	424	1,509	1,847	2,384	1,939	2,936	4,941	2,415	1,074	3,568
Total Assets	4,379	4,344	4,441	14,661	19,454	20,033	27,429	71,983	171,406	20,221	21,157	35,139
Total Debt	1,844	1,810	1,644	1,661	3,893	3,780	8,867	16,719	22,591	3,893	4,751	5,579
Net Debt	1,734	1,718	1,546	1,601	3,531	3,629	7,258	13,895	13,958	2,000	3,451	1,404
FFO / Debt	15.1%	13.2%	19.2%	77.7%	37.6%	52.1%	19.5%	19.3%	22.6%	37.6%	25.2%	26.5%
RCF / Debt	13.7%	9.0%	15.9%	56.8%	28.2%	42.7%	6.8%	10.9%	16.7%	12.5%	8.7%	19.2%
(FFO + Interest Expense) / Interest Expense	4.8x	4.8x	5.9x	22.1x	28.7x	35.4x	9.4x	13.0x	18.2x	15.6x	16.8x	18.7x
Debt / Book Capitalization	43.5%	43.0%	38.9%	14.8%	33.1%	34.7%	35.9%	45.3%	57.8%	23.5%	27.3%	29.0%

All figures and ratios calculated using Moody's estimates and standard adjustments.

Source: Moody's Financial Metrics™

Exhibit 22

Debt adjustment breakdown

Landsvirkjun

(in USD million)	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	FYE Dec-21
As Reported Total Debt	2,169	2,001	1,808	1,774	1,604
Pensions	41	38	37	37	40
Moody's Adjusted Total Debt	2,210	2,039	1,844	1,810	1,644

All figures are calculated using Moody's estimates and standard adjustments.

Source: Moody's Financial Metrics™

Exhibit 23

EBITDA adjustment breakdown

Landsvirkjun

(in USD million)	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	FYE Dec-21
As Reported EBITDA	356	391	381	307	424
Unusual Items - Income Statement	(8)	2	1	13	1
Non-Standard Adjustments	(2)	(1)	(1)	(1)	(2)
Moody's Adjusted EBITDA	346	391	380	318	424

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

All figures are calculated using Moody's estimates and standard adjustments.

For definitions of Moody's EBITDA, please see the [User's Guide](#).

Source: Moody's Financial Metrics™

Exhibit 24

Selected Moody's-adjusted financial data

Landsvirkjun

(in USD million)	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	FYE Dec-21
INCOME STATEMENT					
Revenue	483	531	490	431	607
EBITDA	346	391	380	318	424
EBIT	219	266	245	189	294
Interest Expense	79	92	73	63	64
Net income	83	104	102	74	138
BALANCE SHEET					
Net Property Plant and Equipment	4,029	4,030	3,991	3,973	3,994
Total Assets	4,492	4,445	4,379	4,344	4,441
Total Debt	2,210	2,039	1,844	1,810	1,644
Cash & Cash Equivalents	127	116	110	92	98
Net Debt	2,083	1,923	1,734	1,718	1,546
Total Liabilities	2,557	2,416	2,283	2,254	2,242
CASH FLOW					
Funds from Operations (FFO)	252	283	278	238	316
Cash Flow From Operations (CFO)	264	289	294	230	318
Dividends	14	14	27	76	55
Retained Cash Flow (RCF)	238	269	252	162	261
Capital Expenditures	(245)	(144)	(80)	(109)	(108)
Free Cash Flow (FCF)	5	131	187	45	154
INTEREST COVERAGE					
(FFO + Interest Expense) / Interest Expense	4.2x	4.1x	4.8x	4.8x	5.9x
LEVERAGE					
FFO / Debt	11.4%	13.9%	15.1%	13.2%	19.2%
RCF / Debt	10.8%	13.2%	13.7%	9.0%	15.9%
Debt / EBITDA	6.4x	5.2x	4.9x	5.7x	3.9x
Net Debt / EBITDA	6.0x	4.9x	4.6x	5.4x	3.7x

All figures and ratios are calculated using Moody's estimates and standard adjustments. FYE = Financial year-end; LTM = Last 12 months.

Source: Moody's Financial Metrics™

Endnotes

- 1 Fraunhofer ISI, [Electricity costs of energy intensive industries in Iceland: A comparison with energy intensive industries in selected countries](#), 12 November 2020
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- 4 Landsvirkjun, [Ending curtailments for power intensive users and district-heating plants](#), 4 April 2022
- 5 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
- 6 Landsvirkjun, [Amended agreement delivers stronger competitiveness for Straumsvík smelter](#), 15 February 2021
- 7 Ministry of the Environment, Energy and Climate, [Report on the state of affairs and challenges in energy matters](#), March 2022
- 8 Landsvirkjun, [Regulatory Environment for Wind Power Must Be Simplified](#), 6 October 2021
- 9 Landsvirkjun, [Sales negotiations for Landsnet](#), 24 February 2021
- 10 NEA, [The National Energy Authority's Electricity Regulatory Authority approves Landsnet's system plan 2020-2029](#), 4 April 2021
- 11 Landsvirkjun, [Landsvirkjun's Dividend Policy](#), 7 May 2020

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