

CREDIT OPINION

24 January 2023

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 following disposal of Landsnet

Summary

Landsvirkjun's 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. Landsvirkjun's ratio of funds from operations (FFO) to net debt, around 34% in the twelve months to September 2022, is very strongly positioned for the current rating, although we expect this to stabilise at a lower level as a result of dividend distributions, moderation in achieved power prices and rising capital expenditure.

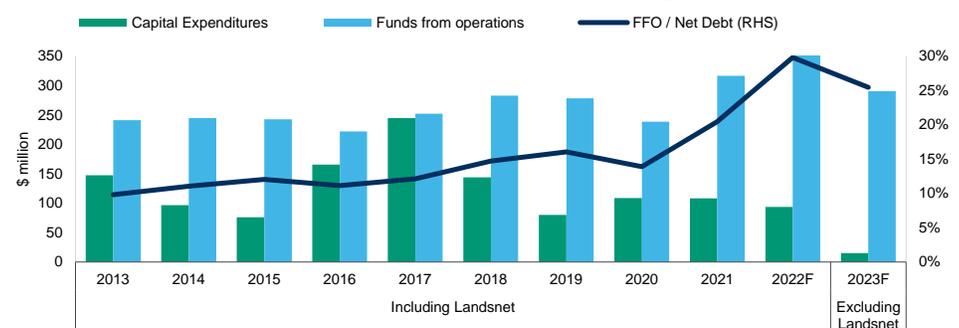
Landsvirkjun's credit profile is constrained by (1) its large and concentrated exposure to a small number of counterparties, mainly in the aluminium industry, and to volatile aluminium prices; (2) the likelihood of significantly higher capital spending over the next few years; and (3) a dividend policy that allows large distributions when FFO/net debt exceeds 20%.

Given Landsvirkjun's 100% ownership by the [Government of Iceland](#) (A2 stable), 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.

On 30 December 2022, Landsvirkjun completed the sale of its 64.7% interest in Landsnet hf., Iceland's electricity transmission system owner, to the Government of Iceland for \$305 million. [We subsequently affirmed Landsvirkjun's ratings](#) on 10 January 2023.

Exhibit 1

Landsvirkjun's low capital investments will support free cash flow generation in 2023



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, although this will be reviewed in 2023

## Rating outlook

Although Landsvirkjun's ratio of funds from operations (FFO) to net debt, around 34% in the twelve months to September 2022, is very strongly positioned for the current rating, the stable outlook reflects our expectation that this will stabilise at a lower level as a result of higher dividend distributions, moderation in achieved power prices and rising capital expenditure.

The stable outlook also 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
  - 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 to the BCA would also take into account the scale and complexity of the company's capital expenditure programme
- » Any 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 is likely to fall persistently 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

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.

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

## Key indicators

Exhibit 2

### Landsvirkjun

	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	2022 (E)	2023 (E)
(CFO Pre-W/C + Interest) / Interest Expense	4.2x	4.1x	4.8x	4.8x	5.9x	9x-10x	9x-10x
(CFO Pre-W/C) / Net Debt	12.1%	14.7%	16.1%	13.9%	20.5%	34%-35%	30%-31%
(CFO Pre-W/C) / Debt	11.4%	13.9%	15.1%	13.2%	19.2%	29%-30%	27%-28%
RCF / Debt	10.8%	13.2%	13.7%	9.0%	15.9%	18%-19%	0-15%

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 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™

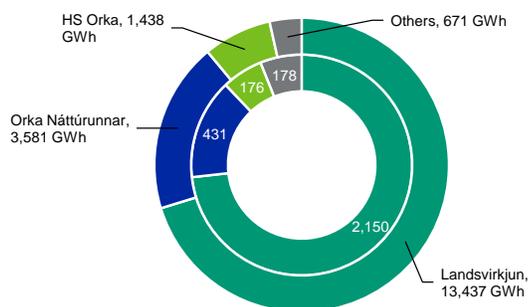
## Profile

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.

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 owned by Eignarhlutir hf., a special-purpose vehicle owned by the state.

Exhibit 3

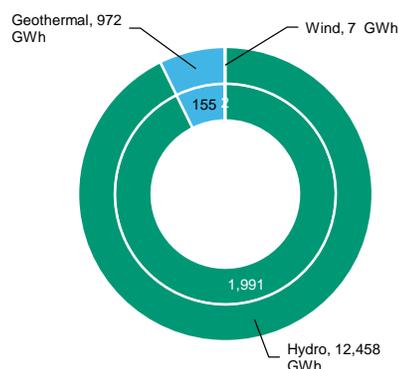
### Market share of production (outer, GWh) and capacity (inner, MW), 2020



Source: National Energy Authority

Exhibit 4

### Landsnet production (outer, GWh) and capacity (inner, MW) by technology, 2020



Source: National Energy Authority

## Detailed credit considerations

### Dominant power generation company in the Icelandic energy market

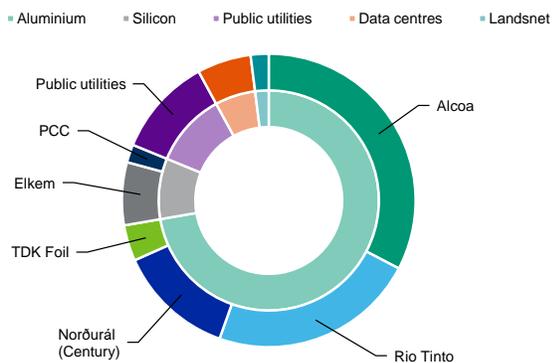
Landsvirkjun is Iceland's largest power producer, with a total installed generation capacity of about 2.1 gigawatts (GW), which represents around 70% of the country's total electricity generation capacity. The company operates 15 hydropower plants, three geothermal plants and two wind turbines.

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 35% of total output in 2021. 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

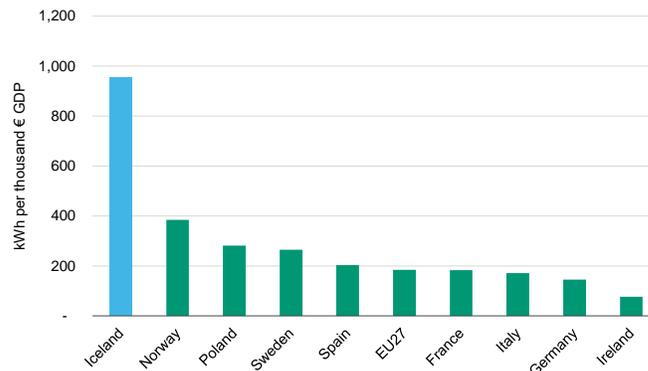
is small and highly dependent on demand from power intensive industries, which use around 80% of all the electricity generated in the country. The aluminium industry, in particular, supports electricity generation that is far higher, relative to GDP, than any other European economy.

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  
kWh per thousand € GDP, 2021



Source: Eurostat, Moody's Investors Service

Iceland's low-cost and reliable electricity supplies are significant competitive advantages. However, 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.<sup>1</sup> In addition, although the energy intensity of aluminium smelters globally has remained relatively flat in the last few years, the IEA expects that the energy intensity of aluminium smelters globally will continue decreasing until 2030 to comply with CO<sub>2</sub> emissions reduction goals, progressively reducing electricity demand from the industry.<sup>2</sup>

### Landsnet disposal strengthens financials and has limited impact on diversification

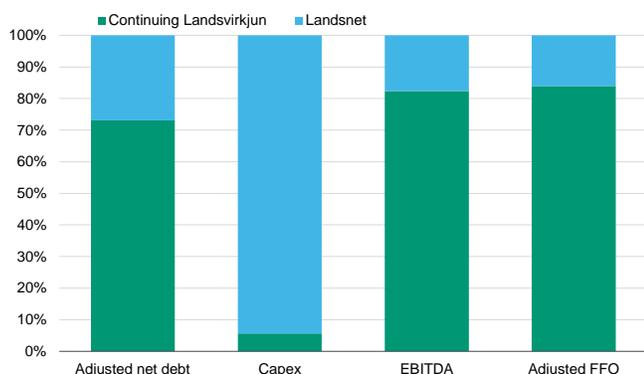
On 30 December 2022, Landsvirkjun announced that it had reached an agreement with Iceland's Ministry of Finance and Economic Affairs to sell its 64.7% interest in Landsnet to the Government of Iceland for \$305 million, approximately book value.<sup>3</sup> Minority shareholders have also agreed to sell their stakes on the same terms, with the exception of [Orkuveita Reykjavíkur](#) (Baa3 stable), which continues to own 6.8% of the company. Landsvirkjun will receive no upfront cash. Instead, the transaction is structured as two interest-bearing loans that will be repaid to Landsvirkjun in instalments between 2023 and 2027.

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 had formerly fully consolidated Landsnet in its accounts. Landsnet contributed around 21% of Landsvirkjun's total EBITDA and 27% of its Moody's-adjusted debt in 2021.

The transaction had been expected for several years, although the timing and purchase price were uncertain. The unbundling, which is intended to align the country with the European Union's principles of separation between generation and transmission, was first announced in December 2018 and a government working group appointed in March 2019. A memorandum of understanding was signed between the government and Landsnet's shareholders in February 2021<sup>4</sup>, and a law stating that the transmission company should be directly owned by either the Icelandic state or municipalities took effect in July 2021.

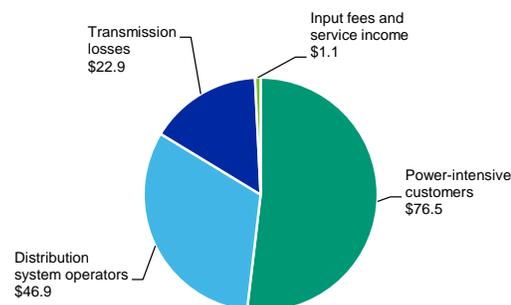
The sale of an integrated utility's regulated transmission business would normally increase business risk. However, 62% of Landsnet's transmission revenue (excluding transmission losses) comes from the same power-intensive customers, principally aluminium smelters, that purchase power from Landsvirkjun. 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 contribution to key financials in 2021**

Source: Landsvirkjun, Landsnet, Moody's Investors Service

Exhibit 8

**Most of Landsnet's revenues were derived from Landsvirkjun's power-intensive customers****Components of Landsnet's revenue, 2021**

Source: Landsnet annual report

**Strong financial performance in 2022**

Landsvirkjun achieved strong results for the first nine months of 2022. Further rises in prices to industrial customers, to \$42.1/MWh, a record high, drove a 38% increase in FFO compared to FY/2021. Net debt fell by \$255 million, and in November 2022 the company used excess cash to repurchase \$50 million of floating rate notes ahead of their 2026 maturity.

Exhibit 9

**Cash flow strengthened and net debt reduced in the first nine months of 2022**

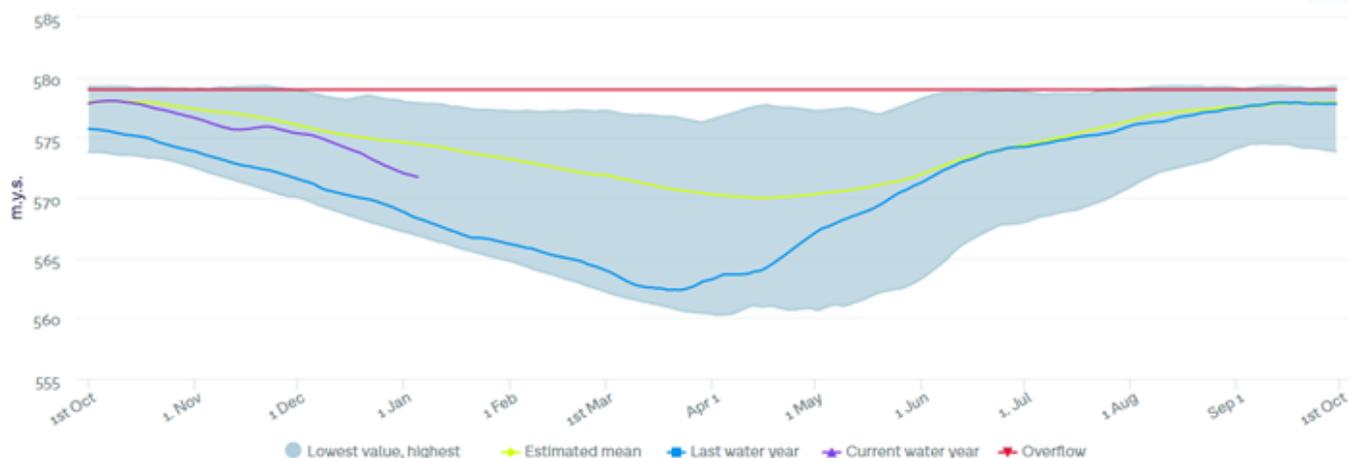
	2020	2021	LTM 9/2022
Funds From Operations	238.5	316.3	437.8
Retained Cash Flow	162.2	261.5	344.3
Free Cash Flow	45.0	154.4	284.1
Gross debt	1,810.5	1,643.8	1,522.3
Cash	92.0	97.6	231.4
Net debt	1,718.5	1,546.3	1,290.9
FFO/net debt	13.9%	20.5%	33.9%
RCF/net debt	9.4%	16.9%	26.7%
	2020	2021	9mo 9/2022
Achieved price (\$/MWh, industrial customers)	21.0	32.7	42.1

Source: Landsvirkjun, Moody's Investors Service

This strong result was 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. As a result, water levels at Landsvirkjun's reservoirs – the most important of which is Þórisvatn – fell to their lowest levels since 2013-14.<sup>5</sup> 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 10

## Levels at Þórsvatn reservoir (meters above sea level)



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.<sup>6</sup> Reservoir levels had recovered by late 2022, although they have recently trended slightly below historical averages.

### Long-term take-or-pay contracts give 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](#) (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.

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. Although prices have subsequently fallen – reflecting concerns of a global economic recession, the impact on aluminum demand from Covid-related lockdowns and restrictions in China, and the restart of a significant aluminum smelter in China whose capacity had been curtailed in 2021 – Moody's expects prices to remain around \$1.20/pound (\$2,600/tonne) over the next twelve months (see our [base metals outlook](#), September 2022). Continued strong prices will be positive for the profitability of aluminium smelters globally, and for the credit quality of Landsvirkjun's counterparties.

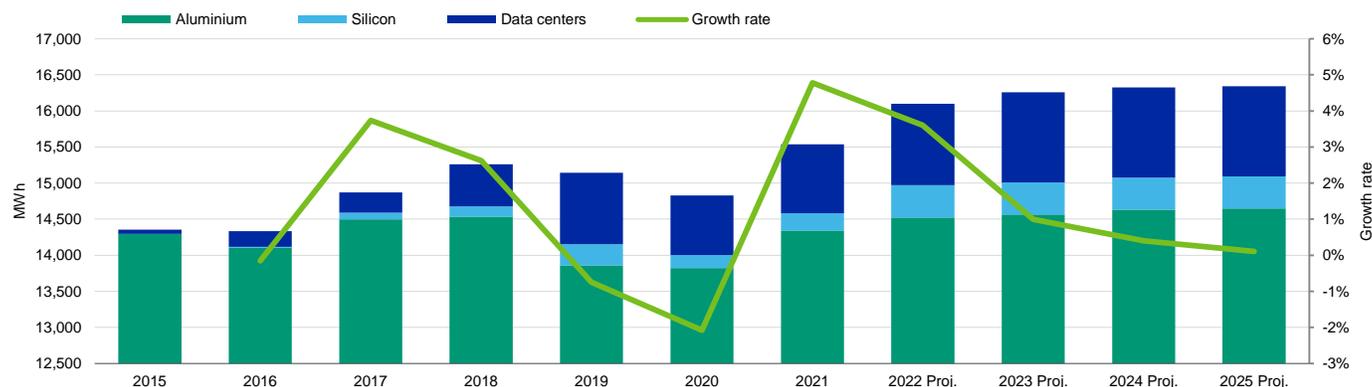
Exhibit 11  
**Aluminium prices have fallen from record highs**  
 LME spot aluminium price



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. Okustofnun, Iceland's National Energy Agency (NEA) expects demand from heavy users, which represented 83% of total electricity consumption in Iceland in 2021, to stabilise at record levels.

Exhibit 12  
**After a rebound in consumption in 2021 and 2022, demand from heavy users is expect to stabilise**



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.<sup>7</sup> We believe hydrogen, which is a key element of the European Union's decarbonisation strategy, could provide a long-term opportunity for Landsvirkjun.

Around 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.

### Significant ramp-up in capex expected

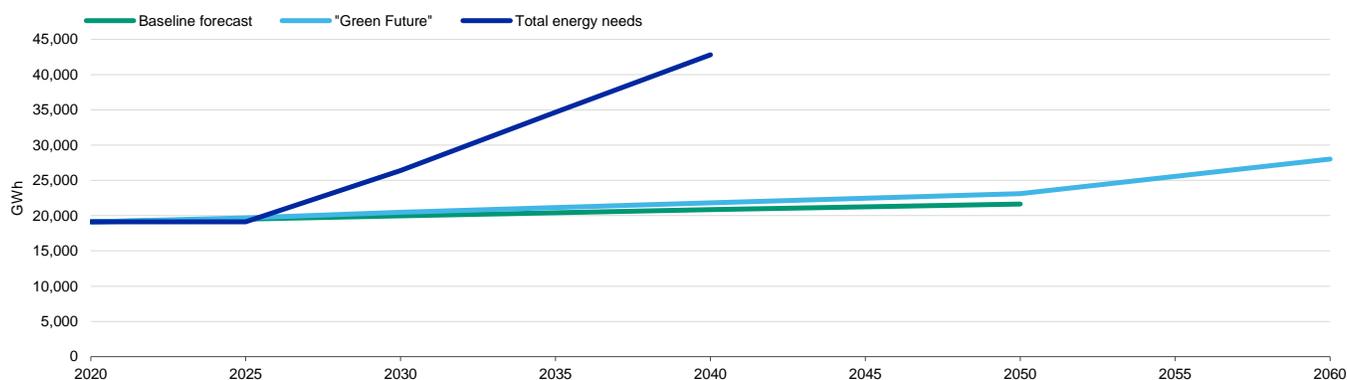
Landsvirkjun operates a modern, well-maintained and developed asset base that does not require significant maintenance investments. Beyond the improvement in the transmission system, which required limited and predictable yearly outflows, capital spending has remained very limited in the past three years.

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. But 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.<sup>8</sup>

The government'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%. 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 13

#### 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 four investment opportunities:

- » 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.
- » Expansion of **Peistareykir Power Station (45 MW geothermal)**, with potential output of 370 GWh/year
- » Construction of **Búrfellslundur Wind Farm (120 MW)**

In November 2022, Landsvirkjun submitted a power station licence 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, when hydro reservoirs are at their lowest, and wind turbines in Iceland have high capacity factors. In December 2022, the company received a permit from the NEA for the Hvammsvirkjun project.

Although cost estimates have not been published for the developments, 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

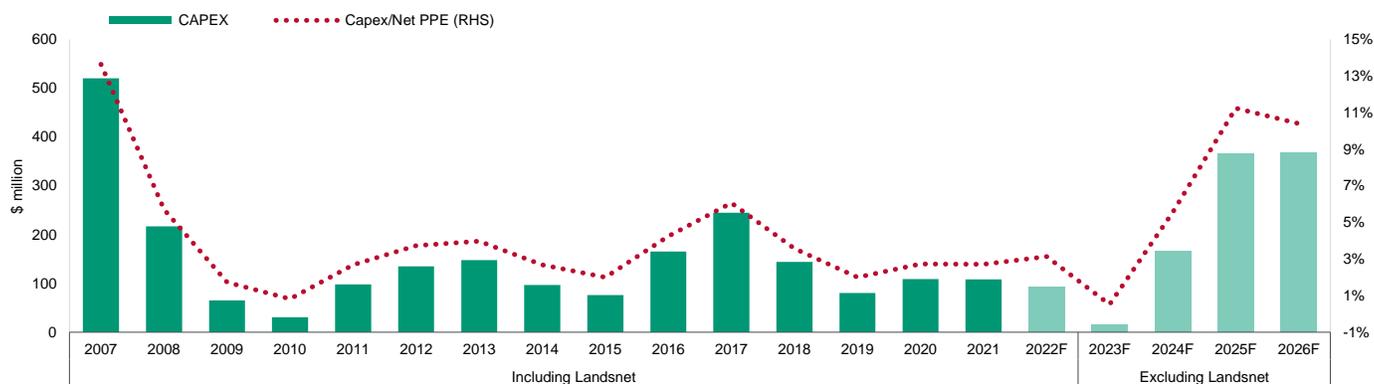
Station, completed in 2007, had a project cost of \$2.0 billion, approximately \$2.9 million/MW (\$4 million/MW in 2022 prices). This cost pressure will be exacerbated if recent increases in energy and materials costs persist.

If several of the proposed investments are undertaken, we expect Landsvirkjun's capital investment to accelerate sharply from 2024, when they enter the development phase.

Exhibit 14

### Landsvirkjun's ratio of capital spending to net PP&E is likely to rise from 2024

#### Capex and fixed assets



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

Such a large capital programme would require some combination of cash retention, by paying dividends below the maximum allowed under Landsvirkjun's dividend policy, and additional borrowing. It would also entail execution risk, although we do not expect this to materially affect the company's credit profile.

### Dividends rose in 2022 and are likely to remain high

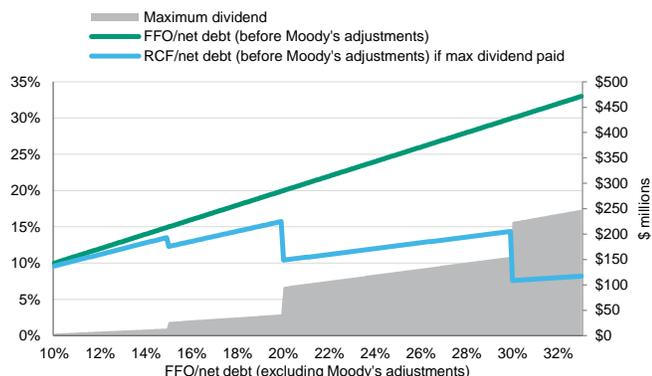
Following several years of low dividends, Landsvirkjun's board agreed a new dividend policy in April 2020.<sup>9</sup> Under this policy, maximum dividends are a function of the previous year's cash flow from operating activities and investments, with the payout ratio increasing in steps as the ratio of Funds From Operations to Net Debt increases. Allowed dividends rise sharply when FFO/net debt rises above 20%, and again when they exceed 30%, as we expect them to have done in 2022.

Dividends since 2020 have been set close to the maximum permitted under the policy, rising to \$120 million in 2022. Based on strong cash generation and lower leverage in 2022, we estimate that the company would be permitted to pay as much as \$350 million in 2023, but we expect the board to declare a significantly lower payout given anticipated increase in capital investments. Absent a change in the dividend policy, they may remain at an elevated level if, as we expect, FFO/net debt remains above 20%.

The board has committed to review its dividend policy at least every three years, with the next review expected in 2023.

Exhibit 15

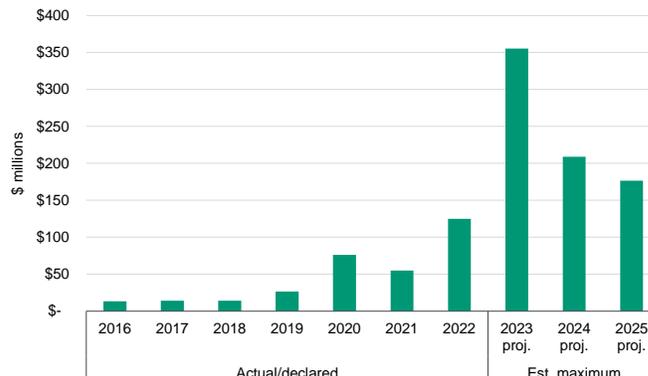
**Large dividends permitted when FFO/net debt exceeds 20%**  
**Maximum dividend at various levels of FFO/net debt under dividend policy**



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

Exhibit 16

**Landsvirkjun's dividends have risen sharply, and could rise further**  
**Annual dividends and Moody's estimate of maximum under policy**



Note: Maximum dividends are calculated based on 2020 dividend policy, and do not reflect the outcome of the policy review expected in 2023.  
 Source: Landsvirkjun policy, 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 debts 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.

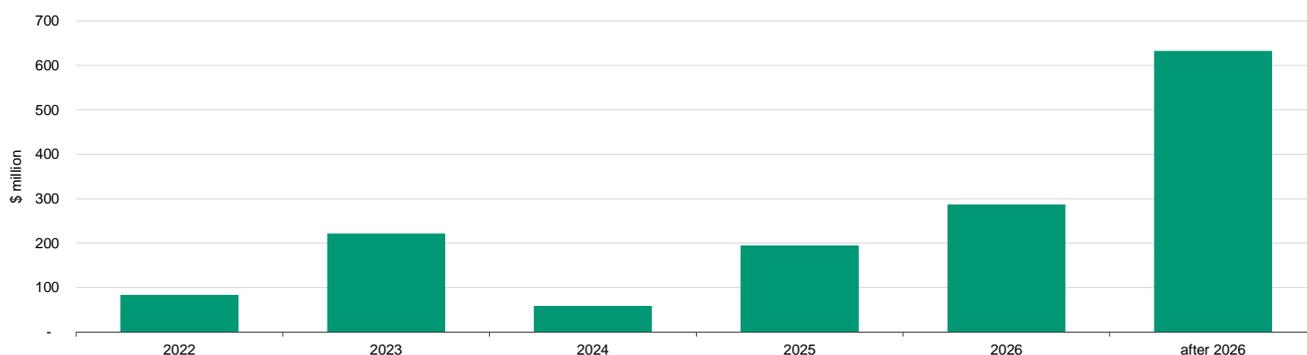
### Liquidity analysis

Landsvirkjun's liquidity is strong. As of September 2022, the company's liquidity was supported by \$231 million of cash and cash equivalents and \$150 million of undrawn credit facilities maturing in December 2024. 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 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 2023, given the available cash and credit lines, and positive free cash flow.

Exhibit 17

#### Landsvirkjun's debt maturity profile as of September 2022



Source: Landsvirkjun financial statements, Moody's Investors Service

### ESG considerations

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

Exhibit 18

#### 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.

NEGATIVE IMPACT : : POSITIVE IMPACT

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 19

## ESG Issuer Profile Scores



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. Although Landsvirkjun's plants are fed by glacial rivers, meaning that climate change is likely to increase rather than disrupt potential output, production has been affected by droughts, most recently leading to curtailment measures from January to March 2022. Public concerns about the natural environment have increased the costs of previous hydro developments.

### 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.moody's.com](http://www.moody's.com) for a copy of these methodologies.

Exhibit 20

### 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 January 2023 [3]	
	Measure	Score	Measure	Score
<b>Factor 1 : Scale (10%)</b>				
a) Scale (USD Billion)	Ba	Ba	Ba	Ba
<b>Factor 2 : Business Profile (35%)</b>				
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	Aaa	Aaa	Baa	Baa
e) Business Mix Impact on Cash Flow Predictability		NA		
<b>Factor 3 : Financial Policy (15%)</b>				
a) Financial Policy	Baa	Baa	Baa	Baa
<b>Factor 4 : Leverage and Coverage (40%)</b>				
a) (CFO Pre-W/C + Interest) / Interest (3 Year Avg)	5.2x	Baa	8.8x	A
b) (CFO Pre-W/C) / Debt (3 Year Avg)	15.7%	Ba	26.8%	Baa
c) RCF / Debt (3 Year Avg)	12.7%	Ba	6.9%	B
<b>Rating:</b>				
a) Scorecard-Indicated Outcome		Baa3		Baa3
b) Actual BCA Assigned				ba1
<b>Government-Related Issuer</b>			<b>Factor</b>	
a) Baseline Credit Assessment				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 21

Category	Moody's Rating
<b>LANDSVIRKJUN</b>	
Outlook	Stable
Issuer Rating	Baa1
Senior Unsecured	Baa1

Source: Moody's Investors Service

## Appendix

Exhibit 22

### 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 Sep-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	10,340	6,098	55,943	132,987	4,941	3,611
EBITDA	380	318	424	1,509	1,847	2,480	1,939	2,936	4,941	2,415	1,074	3,568
Total Assets	4,379	4,344	4,441	14,661	19,454	25,092	27,429	71,983	171,406	20,221	21,157	35,139
Total Debt	1,844	1,810	1,644	1,661	3,893	5,090	8,867	16,719	22,591	3,893	4,751	5,579
Net Debt	1,734	1,718	1,546	1,601	3,531	4,564	7,258	13,895	13,958	2,000	3,451	1,404
FFO / Debt	15.1%	13.2%	19.2%	77.7%	37.6%	43.3%	19.5%	19.3%	22.6%	37.6%	25.2%	26.5%
RCF / Debt	13.7%	9.0%	15.9%	56.8%	28.2%	33.4%	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	31.3x	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%	45.2%	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 23

### Debt adjustment breakdown Landsvirkjun

(in USD million)	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	FYE Dec-21
<b>As Reported Total Debt</b>	2,169	2,001	1,808	1,774	1,604
Pensions	41	38	37	37	40
<b>Moody's Adjusted Total Debt</b>	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 24

### EBITDA adjustment breakdown Landsvirkjun

(in USD million)	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	FYE Dec-21
<b>As Reported EBITDA</b>	356	391	381	307	424
Unusual Items - Income Statement	(8)	2	1	13	1
Non-Standard Adjustments	(2)	(1)	(1)	(1)	(2)
<b>Moody's Adjusted EBITDA</b>	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 25

## 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
<b>INCOME STATEMENT</b>					
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
<b>BALANCE SHEET</b>					
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
<b>CASH FLOW</b>					
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
<b>INTEREST COVERAGE</b>					
(FFO + Interest Expense) / Interest Expense	4.2x	4.1x	4.8x	4.8x	5.9x
<b>LEVERAGE</b>					
FFO / Net Debt	11.4%	13.9%	15.1%	13.2%	19.2%
RCF / Net 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
- 2 IEA, [Aluminium: Tracking report](#), November 2021
- 3 Landsvirkjun, [Icelandic State acquires Landsvirkjun's share in Landsnet](#), 30 December 2022
- 4 Landsvirkjun, [Sales negotiations for Landsnet](#), 24 February 2021
- 5 Landsvirkjun, [One of the hardest water years](#), 11 March 2022
- 6 Landsvirkjun, [Ending curtailments for power intensive users and district-heating plants](#), 4 April 2022
- 7 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
- 8 Ministry of the Environment, Energy and Climate, [Report on the state of affairs and challenges in energy matters](#), March 2022
- 9 Landsvirkjun, [Landsvirkjun's Dividend Policy](#), 7 May 2020

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