Pannonia Bio Zrt.
Hungary, Chemicals

SCOPE BB+ STABLE

Key metrics

			Scope estimates	
Scope credit ratios	**2020**	**2021**	**2022E**	**2023E**
Scope-adjusted EBITDA/interest cover	37x	40x	24x	16x
Scope-adjusted debt (SaD)/Scope-adjusted EBITDA	1.8x	1.3x	2.1x	2.4x
Funds from operations/SaD	53%	73%	45%	39%
Free operating cash flow/SaD	19%	29%	-9%	6%

Rating rationale

The rating affirmation reflects our view of Pannonia Bio's resilient operating performance and only moderate increase in leverage amid a large investment programme of around EUR 100m per year. The investments will be mainly funded from available cash, solid operating cash flow as well as prospective senior secured term loans with existing bank lenders and the European Investment Bank totalling up to EUR 150m, to be drawn in 2022-23.

Outlook and rating-change drivers

The Stable Outlook reflects our expectation of resilient operating performance and an increase in leverage due to heavy investment spending, with Scope-adjusted debt (SaD)/EBITDA at around 2.0x-2.5x. The Outlook also anticipates that Pannonia Bio will ensure that leverage is kept under control and funding remains flexible. Our rating case does not assume any prolonged interruptions of gas supplies.

A negative rating action could be triggered by a deterioration in credit metrics, e.g. if SaD/EBITDA increased above 2.5x for a prolonged period.

A positive rating action is unlikely under the current business setup but could be triggered by significant improvements in diversification and outreach.

Rating history

Date	Rating action/monitoring review	Issuer rating & Outlook
02 Jul 2021	Affirmation	BB+/Stable
09 Jul 2020	Affirmation	BB+/Stable

Ratings & Outlook

Issuer	BB+/Stable
Senior secured debt	BBB
Senior unsecured debt	BB+

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Related Methodologies

Corporate Rating Methodology; July 2021

Rating Methodology: Chemical Corporates; April 2022

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Positive rating drivers	Negative rating drivers
• Ethanol plant among the largest and most efficient in Europe (ESG: credit-positive environmental risk factor) as measured by production capacity and EBITDA margins, respectively • Proximity to low-price corn-producing areas and good logistical infrastructure • Operating costs among the lowest in the industry • Strong financial risk profile relative to business risk profile even after large dividend payments in 2019 and 2020 • Sound liquidity position	• Very high asset concentration, with a single plant as the core asset • Weak product diversification, with commodities as output and ethanol representing four-fifths of revenues • Strong exposure to very volatile commodities (corn and ethanol), though partly offset by correlation in DDGS/corn prices • No exposure to speciality products with low cyclicality, but the company is investing in the development of such products

Positive rating-change drivers	Negative rating-change drivers
• Unlikely under current business setup but could be triggered by significant improvements in diversification and outreach	• SaD/EBITDA of above 2.5x on a sustained basis

Corporate profile

Pannonia Bio Zrt. owns and operates a biorefinery in Dunaföldvár, Hungary, which mainly produces ethanol and animal feed. The plant has the capacity to process over 1.2m tonnes of corn annually, producing over 500m litres of ethanol, which is primarily blended into gasoline. The plant also produces dried distillers grains with solubles (DDGS), corn oil, biogas and organic fertilisers. Pannonia Bio has over 350 employees.

Financial overview

				Scope estimates		
Scope credit ratios	**2019**	**2020**	**2021**	**2022E**	**2023E**	**2024E**
Scope-adjusted EBITDA/interest cover	32x	37x	40x	24x	16x	19x
SaD/Scope-adjusted EBITDA	1.4x	1.8x	1.3x	2.1x	2.4x	2.1x
Funds from operations/SaD	67%	53%	73%	45%	39%	45%
Free operating cash flow/SaD	33%	19%	29%	-9%	6%	7%
Scope-adjusted EBITDA in EUR m						
EBITDA	113.2	117.5	139.2	133.5	112.8	123.8
Other items (mainly unrealised gains/losses and one-off items)	-0.4	0.1	-3.5	-	-	-
Scope-adjusted EBITDA	**112.8**	**117.6**	**135.6**	**133.5**	**112.8**	**123.8**
Funds from operations in EUR m						
Scope-adjusted EBITDA	112.8	117.6	135.6	133.5	112.8	123.8
less: (net) cash interest paid	-3.5	-3.1	-3.4	-5.5	-6.9	-6.4
less: cash tax paid per cash flow statement	-1.7	-0.8	-2.0	-3.0	-2.1	-2.2
Funds from operations	**107.6**	**113.6**	**130.2**	**125.0**	**103.9**	**115.2**
Free operating cash flow in EUR m						
Funds from operations	107.6	113.6	130.2	125.0	103.9	115.2
Change in working capital	-16.7	-4.9	22.1	-44.5	7.0	-2.7
Non-operating cash flow	0.5	-2.7	-4.9	0.0	0.0	0.0
less: capital expenditure (net)	-28.5	-42.9	-86.8	-95.0	-100.0	-100.0
Other items (mainly loans to subsidiaries)	-10.4	-21.4	-9.2	-10.0	6.0	6.0
Free operating cash flow	**52.6**	**41.6**	**51.4**	**-24.5**	**16.9**	**18.5**
Net cash interest paid in EUR m						
Net cash interest per cash flow statement	3.5	3.1	3.4	5.5	6.9	6.4
Net cash interest paid	**3.5**	**3.1**	**3.4**	**5.5**	**6.9**	**6.4**
Scope-adjusted debt in EUR m						
Reported gross financial debt	212.1	260.6	230.2	289.1	303.8	263.5
less: equity credit for subordinated (hybrid) debt	-5.2	-12.8	-	-	-	-
less: available cash and cash equivalents	-45.4	-34.2	-53.0	-13.9	-36.0	-7.6
Scope-adjusted debt	**161.5**	**213.6**	**177.2**	**275.2**	**267.7**	**255.9**

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Environmental, social and governance (ESG) profile[1]

Environment		Social		Governance	
Resource management (e.g. raw materials consumption, carbon emissions, fuel efficiency)		Labour management		Management and supervision (supervisory boards and key person risk)	
Efficiencies (e.g. in production)		Health and safety (e.g. staff and customers)		Clarity and transparency (clarity, quality and timeliness of financial disclosures, ability to communicate)	
Product innovation (e.g. transition costs, substitution of products and services, green buildings, clean technology, renewables)		Clients and supply chain (geographical/product diversification)		Corporate structure (complexity)	
Physical risks (e.g. business/asset vulnerability, diversification)		Regulatory and reputational risks		Stakeholder management (shareholder payouts and respect for creditor interests)	

Legend
Green leaf (ESG factor: credit positive)
Red leaf (ESG factor: credit negative)
Grey leaf (ESG factor: credit neutral)

Plant's high efficiency is credit-positive ESG factor

Pannonia Bio has no dedicated ESG strategy. However, it operates in an industry in which it is mandatory to have sustainability certifications covering grain supply and biofuels, and to perform carbon accounting, among other requirements. We see the plant's high efficiency as a credit-positive environmental risk factor.

[1] These evaluations are not mutually exclusive or exhaustive as ESG factors may overlap and evolve over time. We only consider ESG factors that are credit-relevant, i.e. those that have a discernible, material impact on the rated entity's cash flow and, by extension, its credit quality.

Business risk profile: BB-

The business risk profile reflects our assessment of the industry in which a company operates and its competitive position within that industry.

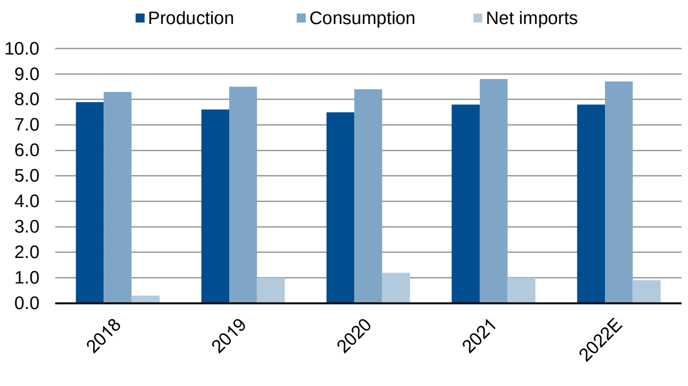
Semi-protected EU market for ethanol

Ethanol is Pannonia Bio's main output product, currently accounting for four-fifths of its revenues. Our analysis focuses on the European rather than the global ethanol market. This is because the EU ethanol market is protected by import tariffs and significant shipping costs, which have served to limit imports to less than 20% of total consumption over the past several years.

No uplift from industry risk profile for integrated chemical companies

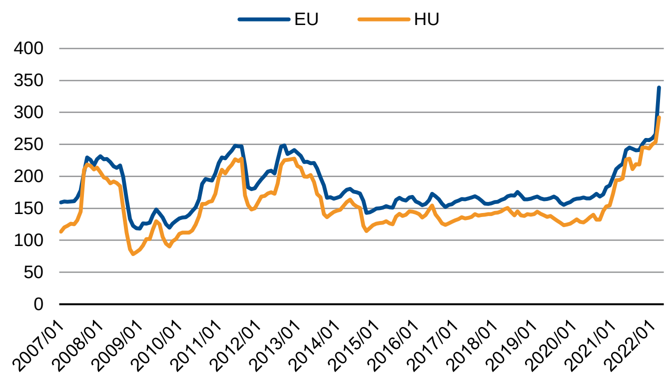
Import tariffs constitute the sole financial incentive for bioethanol producers – which clearly differentiates them from other renewable energy producers such as wind or photovoltaic parks. We have therefore treated Pannonia Bio as a commodity chemicals producer and applied our rating methodology for chemical corporates. We classify the company as an integrated chemical producer based on its plans to expand into speciality products. However, we will not incorporate any uplift to the ratings based on the BBB industry risk assessment for integrated chemical companies until the share of Pannonia Bio's speciality products reaches a critical size.

Figure 1: EU+UK ethanol market (million cbm)



Sources: IHS Markit, Scope

Figure 2: Feed corn price (EUR/t)



Sources: Eurostat, Scope

Large plant size enables significant economies of scale and market relevance

Pannonia Bio's competitive position benefits from its plant's large size, which enables significant economies of scale and market relevance. With a current ethanol production capacity of around 540m litres per year, the plant is one of the largest in the EU and accounts for 6%-7% of the region's production. In addition, the company works with selected industry players to optimise the production and distribution of its products.

Proximity to low-price corn-producing areas and good logistical infrastructure

The plant further benefits from its proximity to low-price corn-producing areas in Hungary, Slovakia, Croatia, Serbia and Romania. It is located on the bank of the Danube River and has a good logistical infrastructure including direct access for trucks, trains and barges.

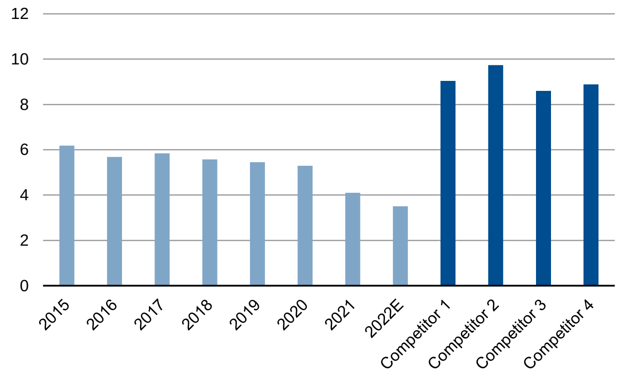
Operating costs among the lowest in the industry

The abovementioned factors together with continuous investment in efficiency initiatives make operating costs for the plant among the lowest in the industry (ESG: credit-positive environmental risk factor). According to management, the plant has always aimed to maximise output since operations started in 2012, even in the challenging price environments of 2014 and 2018 as well as during the Covid-19 lockdowns in 2020, when certain producers had to (temporarily) shut down facilities. In 2020, lower ethanol sales for fuel were offset by sales for the purpose of hand sanitisers and other disinfectants.

Good profitability

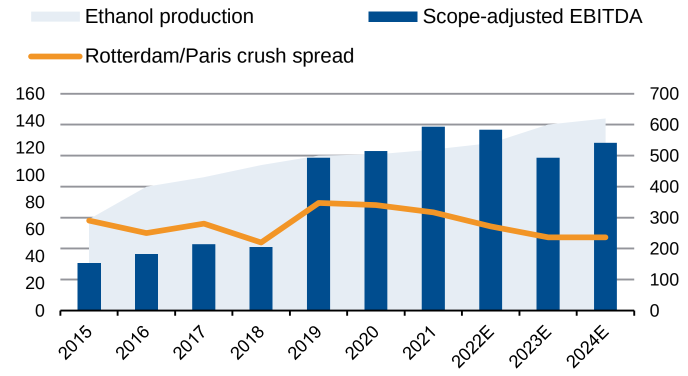
As a result, Pannonia Bio has good profitability with historical and projected EBITDA margins of between 16% and 33%. This is one of the key positive rating drivers.

Figure 3: Gas consumption (MJ/litre)



Source: Pannonia Bio

Figure 4: EBITDA (lhs, EUR m) as a function of market prices (rhs, EUR/t), plant efficiencies and production volumes (rhs, m litres yearly)



Sources: Pannonia Bio, Scope

Very high asset concentration

Pannonia Bio's business risk profile is restricted by very high asset concentration, with a single plant as the core asset. This is still the case despite investments in biogas plants in Slovenia and Serbia due to their relatively small size. The company has mainly addressed this risk through extensive insurance coverage against severe damage, which would allow it to preserve asset values and service at least one year of debt payments.

Industrial accident in October 2020

In October 2020, a human error caused the release of chlorine gas at the plant. 28 people were hospitalised, but they were quickly discharged as their injuries were not serious. The incident had no impact on the nearby residential area or on the environment. Production continued uninterrupted. Six authorities launched investigations, some of which are ongoing. Management states that it has taken measures to improve operational safety following the accident. It has also stated that the overall financial impact is immaterial, and no negative implications are anticipated from the ongoing investigations.

Weak product diversification and high volatility in commodity prices…

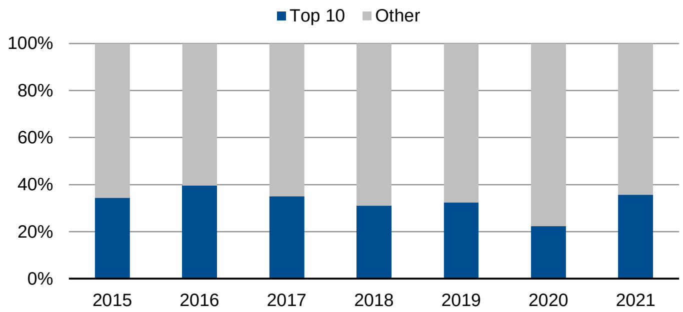
Performance volatility may also arise from weak product diversification. All of Pannonia Bio's main products are commodities, with a dominant share of ethanol. Furthermore, commodity prices, such as for corn or ethanol, are highly volatile. Pannonia Bio is a pure price-taker. In the event of extremely low or negative spreads between input and output prices, also known as a crush spread, the company may have to suspend operations. However, we deem any prolonged production interruption resulting from low crush spreads unlikely, mainly because of the company's low costs. In such a challenging price environment, most market players with less favourable cost structures would cease operations first, thus reducing the overall supply of ethanol, with positive implications for prices. This occurred, for example, in 2018, when two plants halted production in Europe, while Pannonia Bio was still able to generate positive margins.

…are partly offset by correlation between DDGS/corn prices and ongoing investments

The high volatility in commodity prices is partly offset by the strong correlation between DDGS and corn prices ('natural hedge'). The company is also addressing this issue by further optimising production processes and developing higher-value products, which should boost margins while reducing the volatility of overall performance. Pannonia Bio is continuing its large plant investment programme of around EUR 100m per year. These projects include a barley plant (to process barley in addition to corn), a new corn milling system (to increase the fibre extraction rate), the expansion of biomethane and fertiliser production capacity, a plant to produce dietary fibre and another plant to produce alternative proteins. In addition to plant upgrades, the company plans to invest in a number of smaller projects, including the construction of four biogas power plants in Serbia, via its 75% owned subsidiary Pannonia Green d.o.o. and the acquisition of 49%

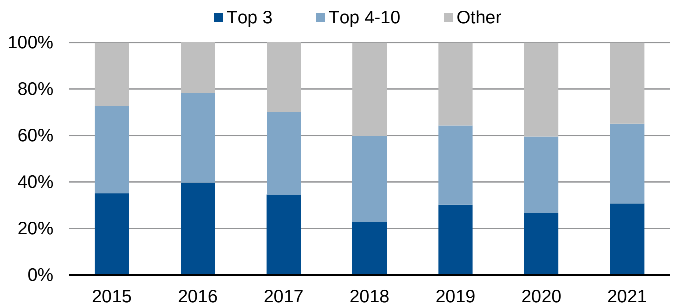
in an operating 24 MW merchant wind farm in Hungary. We note that the ambitious growth plan is accompanied by the risk of delays and cost overruns due mainly to global supply chain issues and general price inflation.

Figure 5: Supplier concentration



Sources: Pannonia Bio, Scope

Figure 6: Customer concentration



Sources: Pannonia Bio, Scope

High customer concentration mainly mitigated by solid credit quality of counterparties

The company has relatively low supplier concentration with the top 10 accounting for 20%-40% of total purchases over the past few years. In contrast, customer concentration is high, with the top 10 representing 60%-80% of total revenues. However, the associated credit risk is mainly mitigated by the solid credit quality of counterparties. Ethanol and animal feed are sold across Europe, mainly to Germany, Italy, Romania, Poland and Hungary.

Impact from the Russia-Ukraine conflict

The commodity price environment remains volatile. The increase in prices for main input and output commodities has been further amplified by the war in Ukraine, while the tight European bioethanol market continues to support crush margins. According to management, the company has faced no material issues due to the conflict in Ukraine yet. However, Hungary sources most of its gas from Russia and the escalation of the conflict in Ukraine has increased the risk of supply disruptions from damage to infrastructure or Russian retaliation to sanctions. We believe Pannonia Bio will be able to manage short-term interruptions of gas flows from Russia. However, the potential implications of prolonged interruptions will likely be material, although they cannot be assessed reliably at present. The company is evaluating a replacement of some burners so that the most critical boilers can run on alternative fuels, e.g. ethanol.

Financial risk profile: BBB

Main assumptions

Our financial projections are mainly based on the following assumptions:

1. Growth in ethanol production from around 520m litres p.a. in 2021 to above 600m litres p.a. in 2024
2. Gradual stabilisation of crush margins below multi-year averages
3. Total investments including maintenance capex of around EUR 100m per year
4. Issuance of senior secured new debt of up to EUR 150m with existing banks and the European Investment Bank in 2022-23
5. Maximisation of dividend payments subject to operating performance, covenants set by the bank loan agreement and approval by bank lenders.

Key adjustments

In line with our conservative approach, our SaD calculation includes restricted cash of EUR 1m.

Strong performance in 2021

Reopening economies and new/higher blending mandates for biofuels led to higher bioethanol demand in Europe in 2021, supporting prices and margins. Crush margins remained above multi-year averages for a third year in a row, despite increased corn and energy prices. In addition, the company benefitted from recent investments in efficiency including reduced gas consumption. As a result, Pannonia Bio generated a record adjusted EBITDA of EUR 136m and leverage as measured by SaD/EBITDA fell to 1.3x.

Weaker credit metrics going forward

We expect an increase in SaD/EBITDA to around 2.0x-2.5x in the next few years. This will be mainly driven by conservative commodity price assumptions, a significant dividend payment in 2022 and the large investment programme. The investments will be mainly funded from available cash, solid operating cash flow as well as prospective senior secured term loans with existing bank lenders and the European Investment Bank totalling up to EUR 150m, to be drawn in 2022-23. In addition, the company has several funding options including a EUR 45m working capital facility.

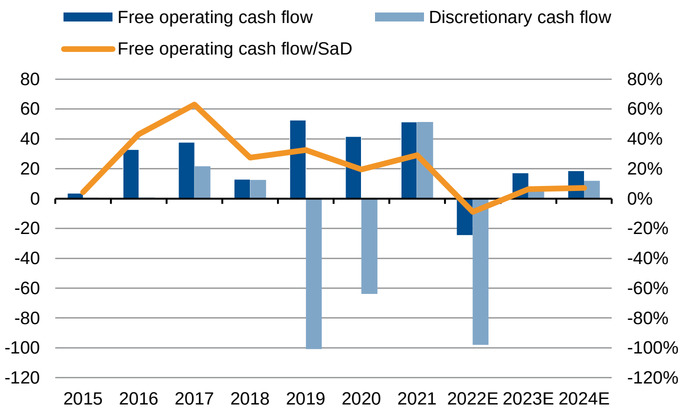
Further increase in leverage limited by covenants and increasing operational efficiency

Supported by strong cash generation in the recent past, the company repaid all of its shareholder loans by the end of March 2022 and plans to distribute a large dividend this year. We understand that the dividends and investments are subject to financial performance and to covenants set by the bank loan agreement. The company must obtain approval from bank lenders to (temporarily) exceed predefined thresholds. Additionally, according to management, all shareholders are ready to fund the business as and when needed. Leverage is further supported by the plant's increasing operational efficiency and scale.

Very strong interest cover

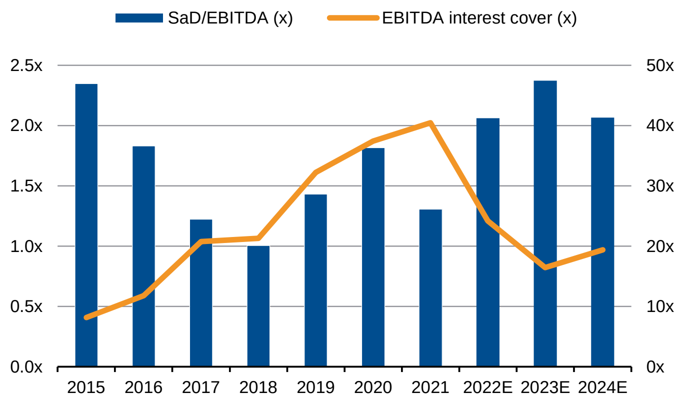
Pannonia Bio's EBITDA/interest cover was comfortably above 10x at YE 2021 and is expected to remain strong over the next couple of years.

Figure 7: Cash flow generation (lhs, EUR m) and free operating cash flow/SaD (rhs)



Sources: Pannonia Bio, Scope estimates

Figure 8: Leverage (lhs) and interest cover (rhs)



Sources: Pannonia Bio, Scope estimates

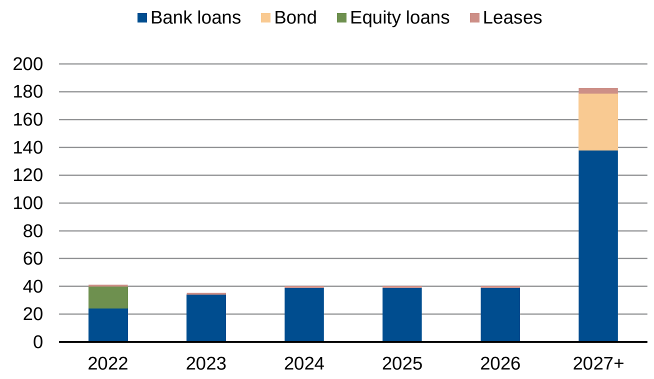
Solid internal financing capacity

The company's operating cash flow is sufficient to cover maintenance and large parts of development capex at the projected level, indicating a solid internal financing capacity. External financing may, however, be required for substantial development projects.

Back-end-loaded maturity profile

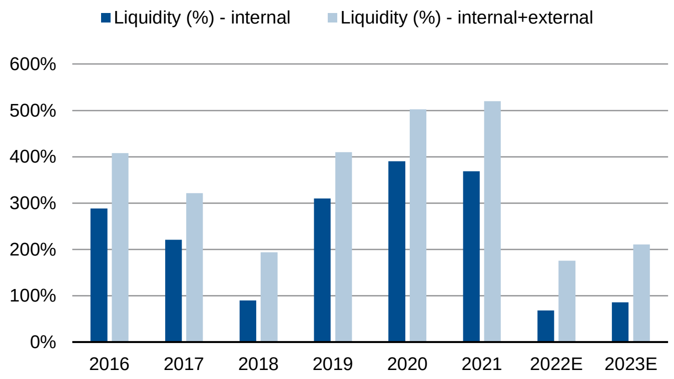
Pannonia Bio's maturity profile is largely balanced. Bank loans are amortised quarterly over 7.5 years. The prospective bank loans are expected to have maturities of 7-10 years. The bond issued under the Hungarian National Bank's Bond Funding for Growth Scheme has a tenor of 10 years. Existing and prospective bank loans are denominated in euros, while the bond is in Hungarian forints.

Figure 9: Expected maturity profile of long-term financial liabilities (EUR m)



Sources: Pannonia Bio, Scope estimates

Figure 10: Liquidity



Sources: Pannonia Bio, Scope estimates

Adequate liquidity

Liquidity remains adequate. For 2022-23, we expect coverage of short-term financial debt at more than 110%, including from an undrawn working capital facility of EUR 45m and available cash and cash equivalents of EUR 53m as of YE 2021.

Balance in EUR m	2021	2022E	2023E
Unrestricted cash (t-1)	34.2	53.0	13.9
Open committed credit lines (t-1)	35.0	45.0	45.0
Free operating cash flow (t)	51.4	-24.5	16.9
Short-term debt (t-1)	23.2	41.8	36.0
Coverage	**520%**	**176%**	**210%**

Supplementary rating drivers: +/- 0 notches

Neutral financial policy

Pannonia Bio's financial policy is neutral for the issuer rating. The return on invested capital through capex and dividend payments is maximised while maintaining the sustainability of the company's business model. Substantial cash outflows are further limited by covenants set by the bank loan agreement.

No impact from shareholder structure

Our assessment of the group structure indicates no impact (either negative or positive) from potential parent support.

Long-term debt ratings

Senior secured debt rating: BBB

Our recovery analysis indicates an 'excellent' recovery for senior secured debt. These expectations translate into a BBB rating for this debt category. The recovery is based on an expected distressed enterprise value as a going concern in a hypothetical default scenario in 2024.

Senior unsecured debt rating: BB+

Our recovery analysis indicates an 'average' recovery for senior unsecured debt, including the HUF 15bn bond (ISIN: HU0000359112) issued under the Hungarian National Bank's Bond Funding for Growth Scheme. The recovery is based on an expected distressed enterprise value as a going concern in a hypothetical default scenario in 2024. These expectations translate into a BB+ rating for this debt category.

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