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CREDIT OPINION
7 December 2021

Update

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RATINGS

UPM-Kymmene

Domicile	Helsinki, Finland
Long Term Rating	Baa1
Type	LT Issuer Rating - Dom 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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UPM-Kymmene

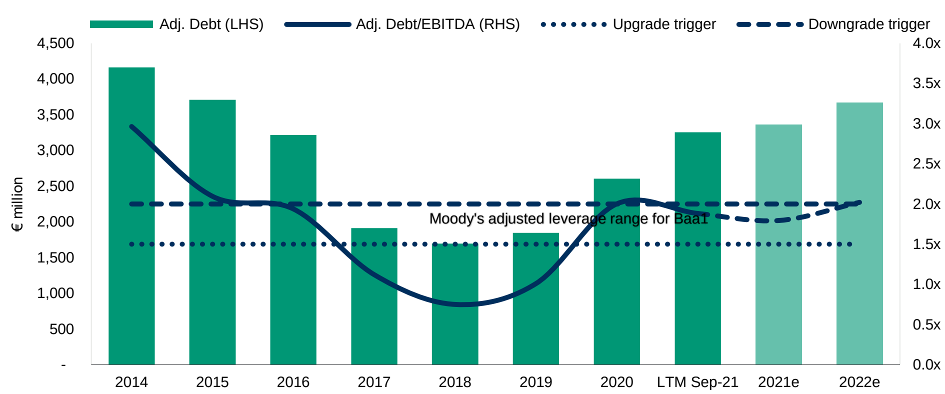
Update to credit analysis

Summary

The Baa1 issuer rating of UPM-Kymmene (UPM) primarily takes into account the company's large scale and global footprint, with market-leading positions across a broad product portfolio; track record of successful diversification beyond graphic-grade paper operations in mature markets, while keeping these operations profitable and cash flow-generative on a sustained basis; good profitability and a track record of significant positive free cash flow (FCF) at the group level, despite the ongoing restructuring needs and sizeable investments in structurally growing business areas; and conservative financial policies, which we expect to protect the group's financial strength during the current period of higher investment spending, with Moody's-adjusted debt/EBITDA likely to not rise significantly above 2.0x for a prolonged period (1.9x for the 12 months that ended 30 September 2021).

The major constraints to UPM's Baa1 rating are the company's still sizeable exposure to the structurally declining graphic paper business in mature markets, which requires UPM to constantly balance capacity, including sizeable and costly mill closures and other restructuring measures; the risk of volatility in its credit metrics because input costs as well as prices for most of its products are volatile, which reflects cyclical demand in some of the end-markets, at times exacerbated by periods of oversupply; and the risk of debt-funded growth within UPM's publicly communicated net leverage ceiling of 2.0x (0.4x for the 12 months that ended 30 September 2021).

Exhibit 1
UPM has limited capacity for further debt-funded growth within its Baa1 rating



Forward view represents Moody's view, not the view of the issuer, and does not incorporate any significant acquisitions, extraordinary shareholder distributions or investment projects (such as the Uruguay mill).
Source: Moody's Financial Metrics™

Credit strengths

» Market-leading positions across a fairly broad product portfolio

» Consistent FCF at the group level (excluding extraordinary capital spending), with contributions from all businesses (including graphic paper)

» Conservative financial policies, which are commensurate with an investment-grade rating

Credit challenges

» Sizeable, although reduced, exposure to the structurally declining graphic paper business in mature markets

» The largely commodity-like nature of some of the company's structurally growing businesses (subject to fairly volatile market prices), which may translate into volatility in credit metrics

» Some risk of further debt-funded growth, which could (at least temporarily) increase the company's leverage

Rating outlook

The stable rating outlook reflects our expectation that UPM will be able to sustain credit metrics that are commensurate with a Baa1 rating for the next 12-18 months, such that its Moody's-adjusted debt/EBITDA does not exceed 2.0x on a sustained basis, amid the execution of biochemicals and pulp investments in a challenging market environment.

Factors that could lead to an upgrade

» Further portfolio diversification

» A sustained improvement in Moody's-adjusted EBITDA margin to above 20% through the cycle

» Financial policies consistent with Moody's-adjusted debt/EBITDA below 1.0x and Moody's-adjusted retained cash flow (RCF)/debt above 40%, both on a sustained basis

» A further reduction in UPM's dependence on the mature European and North American paper markets

» Further strengthening of liquidity

Factors that could lead to a downgrade

» Moody's-adjusted EBITDA margin declining towards 15% on a sustained basis

» Moody's-adjusted debt/EBITDA remaining above 2.0x on a sustained basis

» Moody's-adjusted RCF/debt below 30% for a prolonged period

» Erosion of liquidity as a result of an inability to execute the significant investments in its pulp and biochemicals businesses

Key indicators

Exhibit 2
UPM-Kymenne

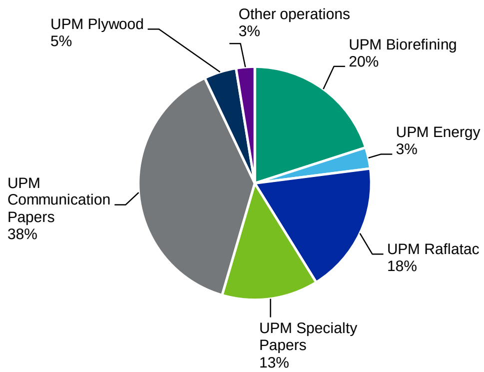
	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	LTM Sep-21	next 12-18 months
Revenue (USD billion)	$10.9	$11.3	$12.4	$11.5	$9.8	$11.2	$11.7-$12
EBITDA Margin %	17.1%	17.1%	21.6%	17.8%	15.2%	18.5%	18.3%-19.6%
RCF / Debt	34.3%	50.8%	56.1%	48.0%	15.9%	20.2%	25%-35%
(RCF - CAPEX) / Debt	22.4%	33.4%	37.0%	24.3%	-18.6%	-22.1%	-10%-0%
Debt / EBITDA	1.9x	1.1x	0.7x	1.0x	2.0x	1.9x	1.7x-2.0x
EBITDA / Interest Expense	16.2x	20.6x	33.0x	33.3x	27.5x	40.9x	30.0x-35.0x

Forward view represents Moody's view, not the view of the issuer, and does not incorporate significant acquisitions, investments or extraordinary shareholder distributions.
All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
Source: Moody's Financial Metrics™

Profile

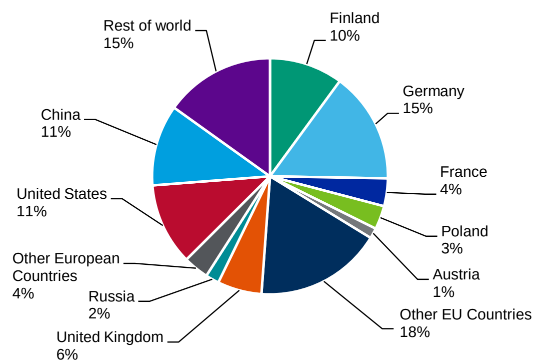
Headquartered in Helsinki, Finland, UPM-Kymmene (UPM) is one of the world's largest forest products companies, with sales of around €9.3 billion for the 12 months that ended 30 September 2021. Apart from having leading positions in major graphic paper grades, such as newsprint, magazine and fine paper, UPM is active in pulp and energy production, specialty paper, label materials and wood products. It also owns sizeable forest holdings in Europe and Latin America. The group had 51 production plants in 12 countries and 17,085 employees as of September 2021. UPM is publicly listed with a wide shareholder base. Its market capitalization was around €17 billion as of 29 November 2021.

Exhibit 3
UPM's revenue by division
2020 sales



Source: UPM's 2020 annual report

Exhibit 4
UPM's revenue by geography
2020 sales



Source: UPM's 2020 annual report

Detailed credit considerations

Wide portfolio with a number of market-leading positions and good vertical integration

With group sales of around €9.3 billion for the 12 months that ended 30 September 2021, UPM is one of the world's largest forest products companies, with a wide product portfolio and a number of leadership positions across its six main business areas:

» **UPM Communication Papers** produces graphic paper for advertising, magazines, newspapers, and home and office across all major grades. With a total annual production capacity of 6.4 million tonnes in 2020, the company is the largest producer of graphic paper in Europe and the leader, or among the leaders, in most of the grades in fairly consolidated markets, competing, for instance, with Sappi Limited (Sappi, Ba2 negative) in most of the grades.

» **UPM Biorefining** is primarily focused on northern softwood, birch and eucalyptus pulp, with increasing offering in biofuels. With total market pulp deliveries of around 3.7 million tonnes for the 12 months that ended 30 September 2021, UPM is still a relatively small company in the global pulp industry, with a global market share in mid-single digits in percentage terms in a relatively fragmented competitive landscape, but is among the key pulp producers in Europe.

» **UPM Energy** is the second-largest electricity producer in Finland through its hydro, nuclear and condensing power assets, with a total installed capacity of close to 1,400 megawatts in 2020.

» **UPM Raflatac** is the world's second-largest producer of self-adhesive label materials after Avery Dennison Corporation (Baa2 stable). It has a global presence and focuses on relatively stable and growing markets such as food, personal care and pharmaceuticals.

» **UPM Specialty Papers** supplies markets with label papers and release liners globally, with a leading position in the office paper market in China, which is still growing structurally.

» **UPM Plywood** offers plywood and veneer products, mainly for construction, vehicle flooring and the fairly profitable liquefied natural gas shipbuilding, where the company has a particularly strong market position benefiting from strong barriers to entry.

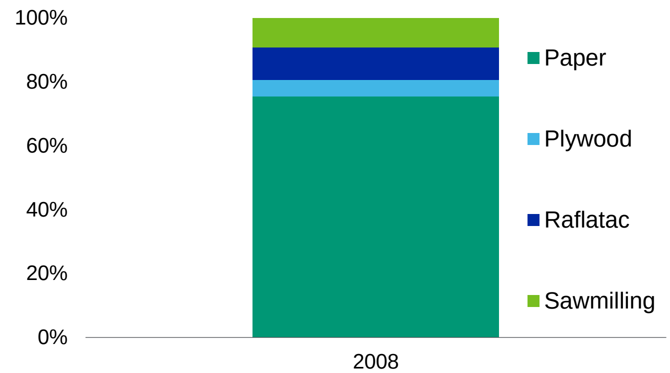
» Other operations include biochemicals, biomedicals and biocomposites applications, areas which do not have a significant impact on UPM's operating performance yet but have strong growth potential.

While traditionally focused on the mature European markets (around two-thirds of group's sales in 2020), UPM has an established presence in North America and has gradually expanded its footprint in the fast-growing Chinese market. UPM's Baa1 rating also reflects the company's good level of backward integration into pulp (the company is long on pulp at group level), energy as well as wood, which helps it mitigate the impact of the inherent volatility in the key input costs on its profitability. The company's mills are generally efficient and well positioned in their respective cost curves.

Strategy to diversify beyond the structurally declining graphic paper business

One of the key factors supporting UPM's Baa1 rating is its successful ongoing diversification beyond graphic paper, the demand for which is subject to a secular decline, driven by digital substitution. Between 2013 and 2020, UPM progressively closed or converted around four million tonnes of graphic paper capacity to reflect the demand trend. The company will also likely further reduce its graphic paper capacity by around 1.4 million tonnes by year-end 2021. At the same time, the company invested a sizeable amount of capital spending in other business areas with positive underlying growth and comparatively higher profitability. As a result, the proportion and importance of the graphic paper business decreased gradually to around 35% of the group's revenue in 2020 (and just around 20% of the group's operating income) from almost 80% in 2008. In addition, during the same period, the group's EBIT, as reported by UPM, almost doubled, while revenue remained broadly flat.

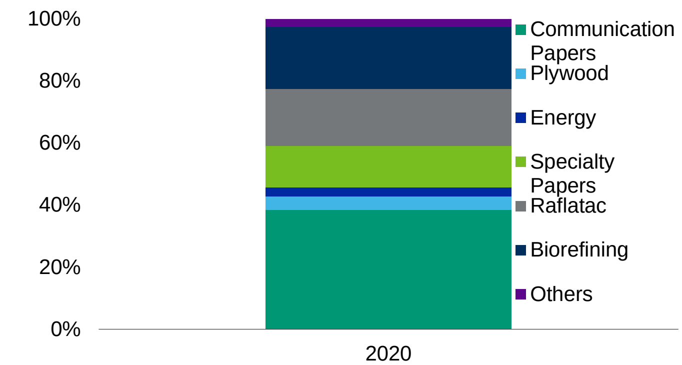
Exhibit 5
UPM's 2008 sales - Vertically integrated paper company



Sales	9.5bn
EBIT	513m
ROE	3.50%

Source: UPM's presentations

Exhibit 6
2020 sales of UPM's six separate businesses



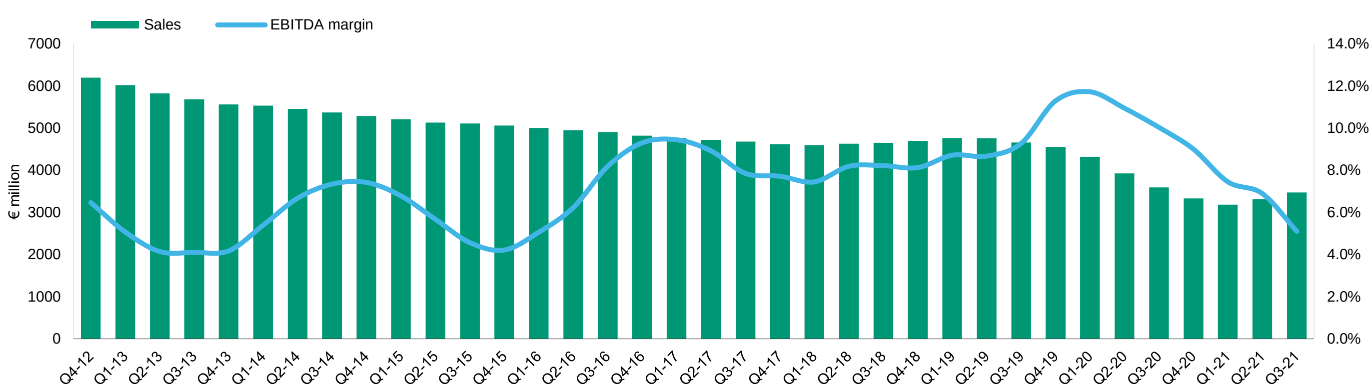
Sales	8.6bn
EBIT	948m
ROE	7.50%

Source: UPM's presentations

A recovery in graphic paper demand, which started in the first nine months of 2021, is likely to accelerate in Q4 2021 and 2022. On the back of consecutive price increases of around 10% in H2 2021 to offset the impact from rising input costs, we expect a moderate recovery in UPM Communication Papers' operating performance over the next 12 months.

Irrespective of that we expect the long-term trend of a structural decline of the market for graphic paper to be sustained. We estimate that the paper business in Europe will continue to decline structurally at around 6% per year on average across all grades, predominantly because of digital substitution, in line with the average for the last decade, although the rate of decline will continue to vary depending on grade and the phases of the general business cycle. Although most of the grades are likely to remain oversupplied in the coming years, because of efficiencies coming from the scale and good quality of assets, as well as the ongoing strict cost management, UPM Communication Papers division, with an EBITDA margin of around 5.1% for the 12 months that ended 30 September 2021 (as reported by UPM), is likely to remain profitable.

Exhibit 7
UPM Communication Papers' profitability materially suffered since Q2 2020 - higher sales prices only partly offset lower sales volume and cost increases



Data as reported by UPM for the 12 months ending each quarter.
Source: UPM's reports

To ensure competitiveness, UPM decided to close two paper machines (Plattling and Rauma), removing 420,000 tonnes of capacity from the market in 2019 and convert the 200,000-tonne paper machine in Nordland at the beginning of 2020. UPM also closed the 240,000-tonne Chapelle newsprint mill in Q3 2020 and the 720,000-tonne Kaipola newsprint mill in Q4 2020, removing around 1.2

million tonnes in total from the graphic paper market only in 2020 followed by the sale of the 260,000-tonne Shotton newsprint mill in Q3 2021. Because of the fairly low maintenance capital spending of around €50 million per year needed for UPM Communication Papers, such profitability levels will still enable UPM to continue to generate significant FCF in the business, which the company will reinvest in growth businesses or use for deleveraging. Over the last five years, UPM has generated (on average) roughly €300 million annually in operating cash flow in this division.

Segments such as labelling, specialty papers, pulp and wood products have positive underlying fundamentals. The underlying demand growth in these segments ranges between 2% and 4% per year, supported by megatrends such as urbanisation and increased consumption in emerging markets, as well as an increasing focus on climate change and sustainability. While we generally view diversification into these segments as credit positive, most of these businesses are sensitive to economic cycles and are subject to volatile pricing. This is particularly true for pulp, where the volatility is driven by periods of oversupply that could happen even in a growing market, because new supply coming onstream is often sizeable. This could lead to volatility in UPM's credit metrics, but the fairly wide portfolio provides some diversification. For instance, high pulp prices hurt the paper operations but are positive for the pulp business.

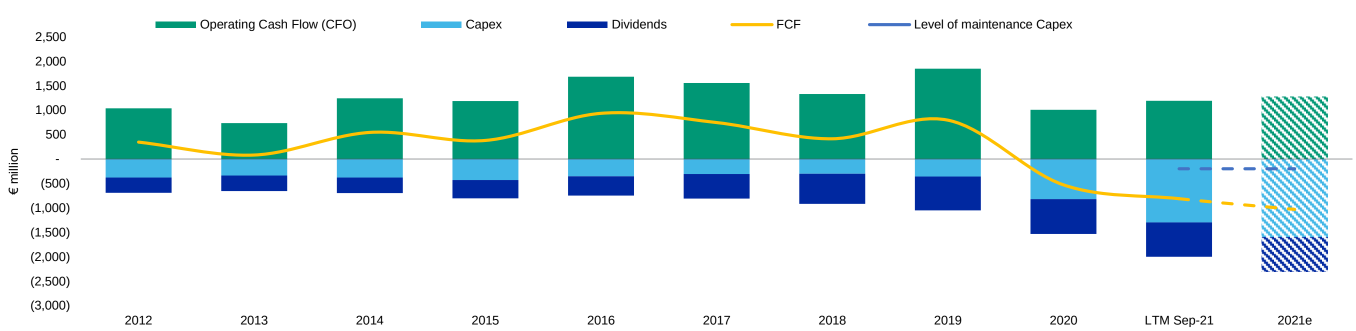
We expect prices for most grades of pulp to decline slightly, by 8%-10%, in 2022 as a result of weaker demand from China, and additional supply entering the market including the MAPA project by Celulosa Arauco y Constitucion S.A. (Baa3 stable) in Chile. This project will add 1.2 million tonnes annually on a net basis, and started in October 2021 along with Royal Golden Eagle's (RGE Pte. Ltd.) 2.8 million-tonne Bleached Eucalyptus Kraft (BEK) and dissolving pulp mill.

UPM executed the transition beyond paper with a track record of positive FCF and a sound investment pipeline

One of the key supporting factors for UPM's Baa1 rating is the fact that the company continued to transition beyond graphic paper with consistently positive FCF. During 2012-19, UPM generated positive FCF of around €570 million per year on average (as defined and adjusted by Moody's), despite the ongoing restructuring in its paper business and sizeable investments in growth businesses — gross capital spending averaged around €360 million per year between 2012 and 2019, which was above the maintenance capital spending needs of roughly €200 million per year. UPM's gross capital spending increased to around €800 million in 2020 and the company guides towards €1.6 billion for 2021, both as a result of sizeable investments in the pulp and biochemicals businesses. We expect capital investments to be similarly intensive in 2022, but at a lower level of around €1.2 billion, which is likely to be covered by the cash buffer and operating cash flow. Annual capital spending related to the transformative growth projects of the pulp mill in Uruguay and the biochemicals business in Germany, will amount to around €1.4 billion in 2021 and will limit the company's Moody's-adjusted FCF, which will likely be negative at around €1.1 billion in 2021 and will remain negative in 2022. The current capital spending plan also includes various smaller debottlenecking initiatives to increase plywood and release liner capacity.

Exhibit 8

Transformative investments turned FCF negative in 2020



Data as reported by UPM, but as defined by Moody's.
Forward view is Moody's view.
Source: Moody's Financial Metrics™

Strategic transformation accelerates with the new pulp mill in Uruguay and entrance into the biochemicals business

UPM has initiated its next capital investment phase as part of its strategic transformation beyond graphic paper. The company is currently in the process of constructing a 2.1-million-tonne greenfield eucalyptus pulp mill, after reaching an agreement with the Government of Uruguay (Baa2 stable), which is scheduled to start operations and proceed with production trials during H2 2022. The investment is likely to amount to around $2.7 billion, further supplemented by $350 million of investments in port operations in Montevideo and local facilities in Paso de los Toros, where the mill will be located. The new highly competitive mill is likely to achieve above-market-average operating profitability and subsequently improve UPM's biorefining business' profitability as a result of its competitive anticipated total cash cost of around $280 per delivered tonne of pulp, which positions the facility in the first quartile of the global hardwood pulp supply curve. However, the construction of the pulp mill and its optimisation entail some execution risk that might temporarily reduce credit metrics during the construction phase.

Another step in achieving transformative growth and profitability is UPM's entrance into the biochemicals business by investing €550 million in a biorefinery facility at Leuna, Germany, with a total capacity of 220,000 tonnes, which is scheduled to start operations by year-end 2022. The business will produce a series of new 100% wood-based biochemical products spanning from bio-monoethylene glycol and lignin-based functional fillers to monopropylene glycol and industrial sugars, aiming to provide an alternative to fossil materials in various consumer-driven end uses. Growth and capitalization of market share in the new business will be supported by the strong underlying demand growth of roughly 4% in the 30 million-tonne global glycols market and around 3% growth in the 15 million-tonne global market of carbon black and silica where customers are becoming increasingly committed to sustainable solutions.

The company has also started the basic engineering phase for a new 500,000-tonne renewable fuels biorefinery, located either in Kotka, Finland or in Rotterdam, the Netherlands, which will be focused on products that significantly reduce carbon footprint in road transport and aviation.

Financial policies commensurate with a solid investment-grade rating, with some re-leveraging in the context of transformative projects

UPM has recently come off a track of significant deleveraging which started in 2014. Its Moody's-adjusted debt significantly decreased to around €1.8 billion (including the IFRS 16 impact) as of the end of December 2019 from around €4.7 billion as of the end of December 2013. The bulk of debt reduction was funded by the group's FCF generation, with minimal contribution from non-core asset sales. In the context of financing its strategic investments in pulp and biochemicals businesses under its green finance framework, UPM issued €750 million of senior unsecured notes in November 2020 and another €500 million in March 2021, which increased its Moody's-adjusted debt to around €3.3 billion as of September 2021, leading to Moody's-adjusted debt/EBITDA of 1.9x for the 12 months that ended 30 September 2021.

We believe that UPM is unlikely to operate with Moody's-adjusted debt/EBITDA of around or somewhat above 2.0x for a prolonged period, which is consistent with a Baa1 rating. UPM has also stated that an investment-grade rating is an important element in its financing strategy. However, because UPM is operating well below its net leverage ceiling of 2.0x (as defined by UPM, compared with 0.4x for the 12 months ended 30 September 2021), we see a temporary re-leveraging risk as illustrated by the issuance of additional debt in the context of its current strategic investments. Nevertheless, under normal circumstances, UPM will aim to operate with capacity under the ceiling; in the case of extraordinary debt-funded growth during the investment phase in pulp and biochemicals businesses, the company will focus on deleveraging to regain the capacity within reasonable time given its strong cash flow generation capabilities and track record of repaying debt from generated cash.

While we also expect UPM to prioritise growth investments to further diversify beyond graphic paper, extraordinary shareholder distributions cannot be entirely excluded if the company does not find a better use of excess cash and continues to operate well below its leverage ceiling for a prolonged period. However, given a robust pipeline of potential projects, some of which are sizeable, such a scenario is currently unlikely. In addition, so far, management's track record with regard to shareholder distributions has been conservative. UPM's ordinary dividend policy is not excessive and is tied to cash flow generation (30%-40% of operating cash flow), and has supported consistent positive FCF through the entire business transition period over the past decade. The company distributed total dividends of €716 million for 2020 (including €23 million dividends paid to non-controlling interests), which translates into 69% of its operating cash flow in 2020 and is well above the stated dividend policy resulting from timing effects due to coronavirus pandemic, which are not expected to affect cash flow generation going forward.

ESG considerations

Environmental considerations

Despite the fact that the paper industry is a fairly large consumer of energy and water in the production processes, with occasional environmental incidents, we score it as "moderate risk" on our environmental risk heat map. This score means that we believe that the industry's exposure to environmental risk is broadly manageable, or it could be material to credit quality in the medium to long term (five or more years).

UPM is one of the front-runners in Europe in its attempts to improve its carbon footprint by reducing the electricity and heat consumption per tonne and carbon dioxide (CO_2) emissions in relation to energy consumption. Under this framework, UPM has pledged to support the United Nations Global Compact's Business Ambition for 1.5°C by committing to a 65% CO_2 emission reduction and climate-positive forestry, and by innovating through new climate-positive products and solutions as illustrated by the new investment in biochemicals. By year-end 2020, UPM achieved a 20% reduction in CO_2 emissions in absolute terms compared with the 2015 levels, a 19% reduction per UPM average product in acidifying flue gases since 2015 and a 72% renewable fuels' share. In the field of water management, UPM achieved a 33% reduction in effluent load per UPM average product and a 10% reduction in wastewater volume since 2008. The company has 100% of owned land covered by forest certification schemes, as certification is an important tool in sustainable forestry. In addition, UPM is committed to climate positive forestry and enhancing biodiversity in its forests. Through its new biochemicals business, the company is also actively looking into alternative uses of lignin, cellulose and hemicellulose for new applications, which could replace fossil-based solutions.

Social considerations

The secular decline in graphic paper consumption weighs on social considerations / Demographic and Societal Trends. While we acknowledge that UPM has a track record of successful diversification beyond graphic-grade paper operations in mature markets, its graphic paper exposure is still high (accounting for around 35% of revenue / 21% of EBITDA in 2020) with direct financial implications including regular and sizeable restructuring/closure costs as well as in regards to its capacity and speed to build out its non-paper businesses.

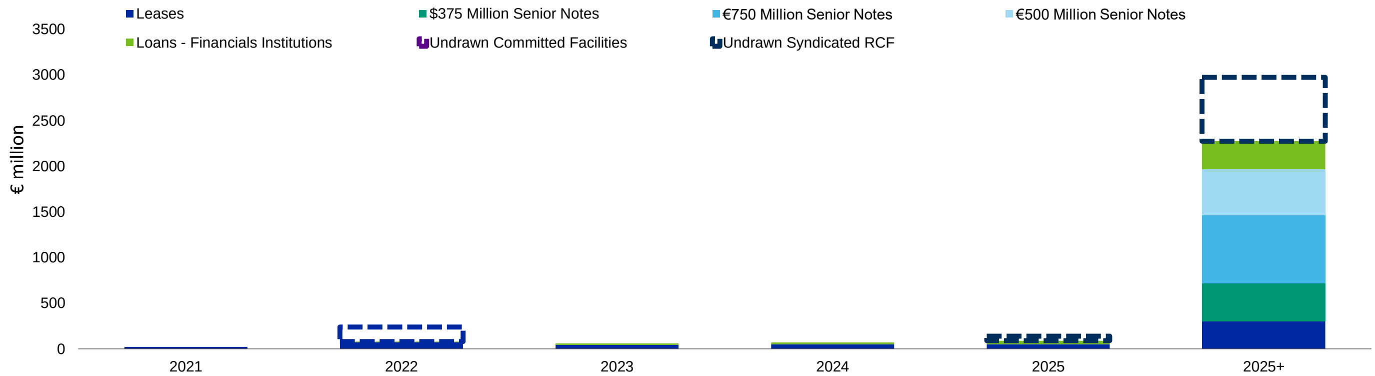
Governance considerations

Corporate governance at UPM is centred around the Finnish Limited Liability Companies Act and other laws and regulations applicable to publicly listed companies in Finland. UPM also complies with all recommendations of the Finnish Corporate Governance Code for listed companies, while it has a well-established governance structure, which is state-of-the-art for a publicly listed company of its size. The company is committed to legal compliance and ethical practices as the main pillars and foundation of its operations.

Liquidity analysis

UPM's liquidity is excellent. As of 30 September 2021, UPM reported about €1.6 billion of cash and cash equivalents on its balance sheet, further underpinned by a fully undrawn €750 million syndicated revolving credit facility linked to biodiversity and climate targets maturing in 2026 and around €160 million of rolling committed overdraft facilities maturing in 2022. As of 30 September 2021, UPM reported only around €80 million of short-term debt maturities and there are no material debt maturities until 2027, when the $375 million bond comes due.

Exhibit 9
Debt maturity profile
As of Q3 2021



Source: UPM's Q3 2021 report

Methodology and scorecard

We use our Paper and Forest Products Industry rating methodology, published in October 2018, as the primary methodology for assessing UPM. The methodology scorecard indicates a Baa2 outcome for our current view and for our 12-18 month forward view, which is one notch below the actual assigned rating of Baa1. The one-notch difference is driven by the fact that the (RCF - capital spending)/debt factor has been weakened by the considerable increase in capital spending for the new strategic investments in the pulp and biochemicals businesses.

Exhibit 10
Rating factors
UPM-Kymmene

Paper and Forest Products Industry Grid [1][2]	Current LTM 9/30/2021		Moody's 12-18 Month Forward View As of 11/26/2021 [3]	
Factor 1 : Scale (10%)	**Measure**	**Score**	**Measure**	**Score**
a) Revenue (USD Billion)	$11.2	Baa	$11.7 - $12	Baa
Factor 2 : Business Profile (30%)				
a) Product Line Diversification	A	A	A	A
b) Geographic and Operational Diversification	Baa	Baa	Baa	Baa
c) Market Position, Cyclicality and Growth Potential	Ba	Ba	Baa	Baa
Factor 3 : Profitability and Efficiency (15%)				
a) EBITDA Margin	18.5%	Ba	18.3% - 19.6%	Ba
b) Fiber and Energy Flexibility and Cost	Baa	Baa	Baa	Baa
Factor 4 : Leverage and Coverage (30%)				
a) RCF / Debt	20.2%	Baa	25% - 35%	Baa
b) (RCF - CAPEX) / Debt	-22.1%	Ca	-10% - 0%	Caa
c) Debt / EBITDA	1.9x	Baa	1.7x - 2x	Baa
d) EBITDA / Interest	40.9x	Aaa	30x - 35x	Aaa
Factor 5 : Financial Policy (15%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Rating:				
Indicated Outcome before Notching Adjustments		Baa3		Baa2
Notching Adjustments		0.5		0.5
a) Scorecard-Indicated Outcome		Baa2		Baa2
b) 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 09/30/2021.
[3] Forward view represents Moody's view, not the view of the issuer, and does not incorporate significant acquisitions, investments or extraordinary shareholder distributions.
Source: Moody's Financial Metrics™

Ratings

Exhibit 11

Category	Moody's Rating
UPM-KYMMENE	
Outlook	Stable
Issuer Rating -Dom Curr	Baa1
Senior Unsecured	Baa1

Source: Moody's Investors Service

Appendix

Exhibit 12
Peer comparison

	UPM-Kymmene Baa1 Stable			Mondi Plc Baa1 Stable			Stora Enso Oyj Baa3 Stable			Domtar Corporation Ba2 Stable			Sappi Limited Ba2 Negative		
(in USD million)	FYE Dec-19	FYE Dec-20	LTM Sep-21	FYE Dec-19	FYE Dec-20	LTM Jun-21	FYE Dec-19	FYE Dec-20	LTM Sep-21	FYE Dec-19	FYE Dec-20	LTM Jun-21	FYE Sep-19	FYE Sep-20	LTM Jun-21
Revenue	$11,462	$9,793	$11,151	$8,137	$7,605	$8,155	$11,257	$9,762	$11,472	$4,369	$3,652	$3,773	$5,746	$4,609	$4,932
Operating Profit	$1,511	$945	$1,532	$1,360	$986	$1,013	$1,471	$1,056	$1,303	$236	$61	$160	$422	$4	$51
EBITDA	$2,038	$1,485	$2,068	$1,840	$1,507	$1,554	$2,081	$1,746	$2,077	$547	$367	$439	$748	$330	$390
Total Debt	$2,072	$3,187	$3,774	$2,658	$2,772	$2,827	$5,398	$6,558	$5,432	$1,111	$1,291	$691	$2,373	$2,582	$2,848
Cash & Cash Equivalents	$1,724	$2,105	$1,869	$83	$467	$342	$983	$2,032	$1,474	$61	$309	$346	$393	$279	$405
EBIT / Interest Expense	24.6x	17.5x	30.3x	11.4x	8.9x	9.6x	7.6x	6.1x	8.1x	3.9x	1.0x	2.4x	3.6x	0.1x	0.5x
Debt / EBITDA	1.0x	2.0x	1.9x	1.4x	1.7x	1.8x	2.6x	3.5x	2.7x	2.0x	3.5x	1.6x	3.2x	7.8x	7.3x
RCF / Net Debt	285.8%	46.9%	40.0%	38.8%	46.5%	32.2%	27.2%	18.1%	24.7%	32.5%	31.2%	109.4%	23.9%	11.5%	13.9%
FCF / Debt	39.5%	-22.9%	-26.9%	2.5%	12.5%	4.0%	12.0%	4.8%	7.3%	6.8%	14.3%	21.7%	-0.9%	-2.3%	4.0%

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

Exhibit 13
Reconciliation of Moody's-adjusted debt

(in EUR million)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	LTM Sep-21
As Reported Total Debt	**2,420**	**1,114**	**777**	**1,300**	**2,042**	**2,693**
Pensions	751	565	613	699	720	720
Leases	360	396	440	0	0	0
Non-Standard Adjustments	(316)	(162)	(134)	(153)	(157)	(157)
Moody's Adjusted Total Debt	**3,215**	**1,913**	**1,696**	**1,846**	**2,605**	**3,256**

Source: Moody's Financial Metrics™

Exhibit 14
Reconciliation of Moody's-adjusted EBITDA

(in EUR million)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	LTM Sep-21
As Reported EBITDA	**1,676**	**1,677**	**2,283**	**1,826**	**1,302**	**1,865**
Pensions	9	44	15	12	(1)	(1)
Leases	48	42	44	0	0	0
Unusual Items	(53)	(49)	(69)	(15)	0	(134)
Non-Standard Adjustments	(5)	(5)	(6)	(3)	0	0
Moody's Adjusted EBITDA	**1,675**	**1,709**	**2,267**	**1,820**	**1,301**	**1,730**

Moody's defines EBITDA as pretax income + interest expense.
Source: Moody's Financial Metrics™

Exhibit 15

Overview of UPM's key metrics

(in EUR million)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19	FYE Dec-20	LTM Sep-21
INCOME STATEMENT						
Revenue	9,812	10,010	10,483	10,238	8,580	9,329
EBITDA	1,675	1,709	2,267	1,820	1,301	1,730
EBIT	1,134	1,234	1,821	1,343	830	1,283
Interest Expense	104	83	69	55	47	42
BALANCE SHEET						
Cash & Cash Equivalents	992	716	888	1,536	1,720	1,613
Total Debt	3,215	1,913	1,696	1,846	2,605	3,256
Net Debt	2,223	1,197	808	310	885	1,643
CASH FLOW						
Funds from Operations (FFO)	1,502	1,479	1,565	1,579	1,131	1,362
Cash Flow From Operations (CFO)	1,737	1,586	1,378	1,860	1,020	1,205
Capital Expenditures	(381)	(333)	(325)	(437)	(900)	(1,377)
Dividends	400	507	613	693	716	705
Retained Cash Flow (RCF)	1,102	972	952	886	415	657
RCF / Debt	34.3%	50.8%	56.1%	48.0%	15.9%	20.2%
(RCF - CAPEX) / Debt	22.4%	33.4%	37.0%	24.3%	-18.6%	-22.1%
Free Cash Flow (FCF)	956	746	440	730	(596)	(877)
FCF / Debt	29.7%	39.0%	25.9%	39.5%	-22.9%	-26.9%
PROFITABILITY						
% Change in Sales (YoY)	-3.2%	2.0%	4.7%	-2.3%	-16.2%	5.5%
EBIT margin %	11.6%	12.3%	17.4%	13.1%	9.7%	13.8%
EBITDA margin %	17.1%	17.1%	21.6%	17.8%	15.2%	18.5%
INTEREST COVERAGE						
EBIT / Interest Expense	11.0x	14.9x	26.5x	24.6x	17.5x	30.3x
EBITDA / Interest Expense	16.2x	20.6x	33.0x	33.3x	27.5x	40.9x
LEVERAGE						
Debt / EBITDA	1.9x	1.1x	0.7x	1.0x	2.0x	1.9x
Net Debt / EBITDA	1.3x	0.7x	0.4x	0.2x	0.7x	0.9x

All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
Source: Moody's Financial Metrics™

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