MOODY'S INVESTORS SERVICE

CREDIT OPINION
26 February 2020

Update

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**RATINGS**

**UPM-Kymmene**

| | |
|---|---|
| Domicile | 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 following upgrade to Baa1

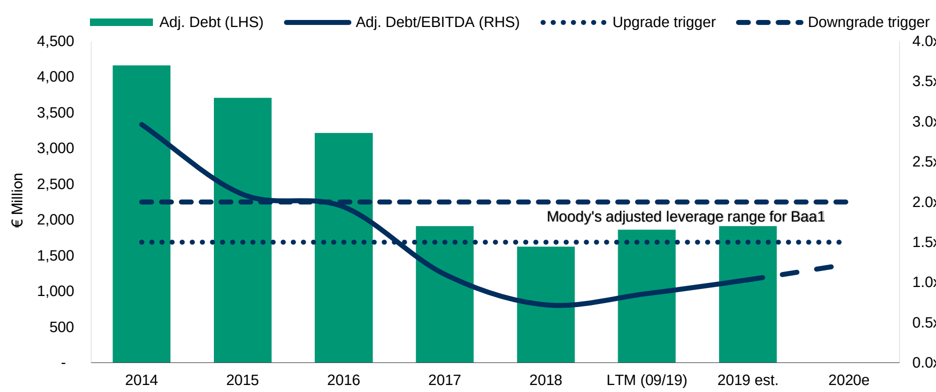
## Summary

The Baa1 issuer rating of UPM-Kymmene (UPM) primarily takes into account the company's (1) large scale and global footprint, with market-leading positions across a broad product portfolio; (2) 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; (3) good profitability and track record of significant positive free cash flow (FCF) generation at the group level on a sustained basis, despite ongoing restructuring needs and sizeable investments in structurally growing business areas; and (4) conservative financial policies that we expect will protect the group's financial strength also the upcoming period of higher investment spending with Moody's adjusted debt/EBITDA expected to not move materially above 2x for a prolonged period (1.0x for 2019).

The major constraints to UPM's Baa1 rating are (1) the company's still sizeable exposure to the structurally declining graphic paper business in mature markets, which are subject to fairly tough pricing environments, and the need for ongoing restructuring and capacity reduction; (2) 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 (3) the risk of debt-funded growth, within UPM's publicly communicated net leverage ceiling of 2.0x (net cash position translated into -0.2x for 2019).

Exhibit 1

**UPM has currently sizeable capacity for 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 Uruguay mill). All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
'2019 est.' refers to 2019 Moody's estimates based on preliminary results, not audited financial statements
*Source: Moody's Financial Metrics™*

## Credit strengths

» Market-leading positions across fairly broad product portfolio

» Consistent FCF generation at the group level, with contributions from all businesses (including graphic paper)

» Conservative financial policies 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 re-leveraging risk, which could (at least temporarily) hurt the company's currently strong leverage

## Rating outlook

The stable 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 as Moody's-adjusted debt/EBITDA below 2.0x on a sustained basis, and also during the execution of biochemicals and pulp investments or a potential more material slowdown in macroeconomic growth.

## Factors that could lead to an upgrade

» Further portfolio diversification

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

» Financial policies consistent with Moody's-adjusted debt/EBITDA below 1.0x and Moody's-adjusted retained cash flow/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 retained cash flow/debt below 30% for a prolonged period

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

## Key indicators

Exhibit 2
**UPM-Kymenne**

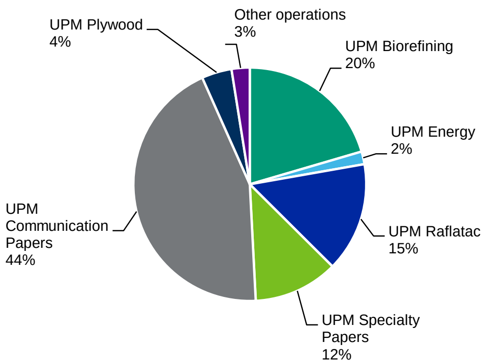
| | 12/31/2015 | 12/31/2016 | 12/31/2017 | 12/31/2018 | 12/31/2019 est. | next 12-18 months |
|---|---|---|---|---|---|---|
| Revenues (USD Billion) | $11.3 | $10.9 | $11.3 | $12.4 | $11.5 | $10.8 - $11.3 |
| EBITDA Margin % | 17.4% | 17.1% | 17.1% | 21.6% | 18.1% | 17% - 19% |
| RCF / Debt | 24.2% | 34.3% | 50.8% | 61.9% | 46.1% | 30% - 50% |
| (RCF - CAPEX) / Debt | 12.0% | 22.4% | 33.4% | 42.2% | 22.9% | -30% - -20% |
| Debt / EBITDA | 2.1x | 1.9x | 1.1x | 0.7x | 1.0x | 1.0x - 1.5x |
| EBITDA / Interest Expense | 8.9x | 16.2x | 20.6x | 34.5x | 31.7x | 20.0x - 30.0x |

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.
'12/31/2019 est.' refers to 2019 Moody's estimates based on preliminary results, not audited financial statements
*Source: Moody's Financial Metrics™*

## Profile

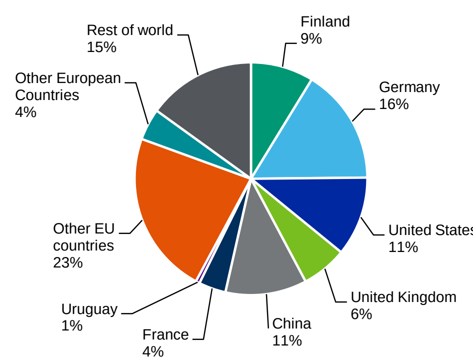
Headquartered in Helsinki, Finland, UPM-Kymmene (UPM) is one of the world's largest forest products companies, with sales of around €10 billion. Apart from having leading positions in major graphic paper grades, such as newsprint, magazine and fine paper, UPM is active in pulp and energy production, specialty paper, label materials and wood products. It also owns sizeable forest holdings in Europe and Latin America. The group has 54 production plants in 12 countries and 18,700 employees. UPM is publicly listed with a wide shareholder base. Its market capitalisation was around €15.6 billion as of 10 February 2020.

Exhibit 3
**UPM's external revenue by division**
**2019 sales**




*Source: UPM's 2019 results*

Exhibit 4
**UPM's revenue by geography**
**2018 sales**




*Source: UPM's 2018 annual report*

## Detailed credit considerations

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

With group sales of around €10 billion, 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 divisions:

» **UPM Communication Papers**, which produces graphic paper for advertising, magazines, newspapers, and home and office across all major grades. With a total annual production capacity of more than 7 million tonnes in 2019, 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 Stora Enso Oyj (Stora Enso, Baa3 stable) in most of the grades.

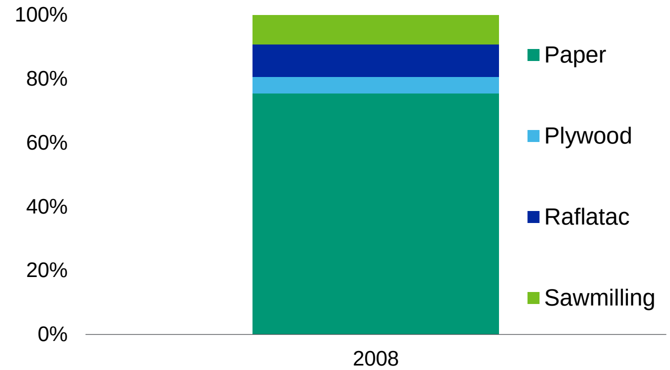
- **UPM Biorefining,** which is primarily focused on northern softwood, birch and eucalyptus pulp, with increasing offering in biofuels. With total market pulp deliveries of around 3.7 million tonnes in 2019, UPM is still a fairly small company in the global pulp industry, with a global market share in mid-single digits in percentage terms in a relatively fragmented competitive landscape, but it is among the key pulp producers in Europe.
- **UPM Energy**, which is the second-largest electricity producer in Finland through its hydro, nuclear and condensing power assets, with a total installed capacity of close to 1,500 megawatts in 2019.
- **UPM Raflatac**, which 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**, which 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**, which 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 benefitting from strong barriers to entry.

While traditionally focused on the mature European markets (around two-thirds of group's sales in 2018), UPM has an established presence in North America and has gradually expanded its footprint in the fast-growing Chinese market, most recently through its paper machine in Changshu. 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 UPM mitigate the impact of the inherent volatility in the key input costs on its profitability. UPM's mills are generally efficient and well positioned on their respective cost curves.

### Strategy to diversify beyond the structurally declining graphic paper business, which remains an important cash flow contributor to the group

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 2019, UPM progressively closed or converted around 3 million tonnes of graphic paper capacity to reflect the demand trend. 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 44% of the group's revenue in 2019 (and just around 25% 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, more than doubled, while revenue remained broadly flat.

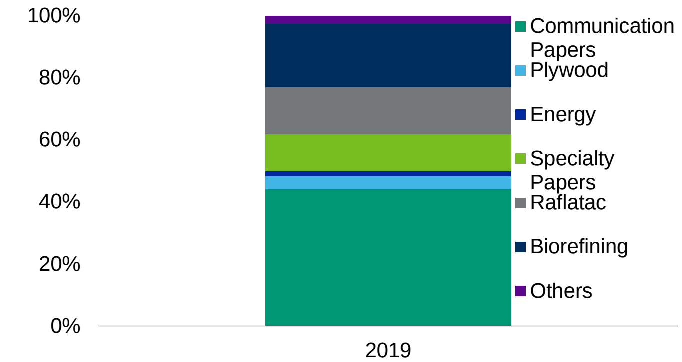
Exhibit 5
**UPM's 2008 sales - Vertically integrated paper company**




| | |
|---|---|
| **Sales** | 9.5bn |
| **EBIT** | 513m |
| **ROE** | 3.50% |

*Source: UPM's presentations*

Exhibit 6
**UPM's six separate businesses - 2019 sales**

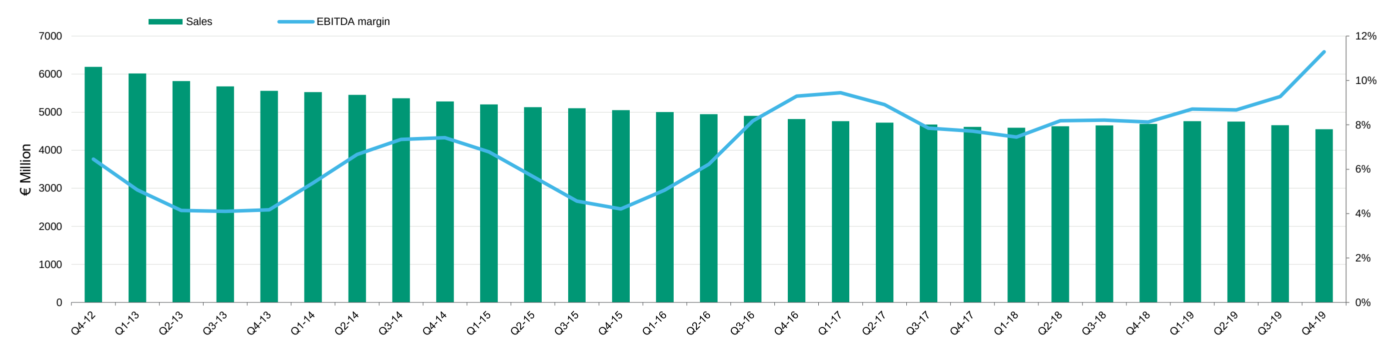



| | |
|---|---|
| **Sales** | 10.2bn |
| **EBIT** | 1,404m |
| **ROE** | 11.20% |

*Source: UPM's presentations*

We estimate that the paper business in Europe will continue to decline structurally at around 5% per annum 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 phase of 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 improved EBITDA margin of around 11% in 2019 (as reported by UPM), is likely to remain profitable.

Exhibit 7
**UPM Communication Papers' profitability has increased as a result of higher sales prices that partly offset lower sales volumes**




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) and convert the paper machine in Nordland in 2019, removing a total capacity of 620,000 tonnes from the market, and has opened consultation process for the potential closure of its 240,000 tonnes Chapelle newsprint mill by the end of the second quarter of 2020 in case no credible sales offers are received. Additionally, the anticipated conversion of Stora Enso's Oulu mill and the reduction of CWF capacity by around 1.1 million tonnes by September 2020 is likely to mitigate the oversupply impact on the graphic paper market. Because of the fairly low maintenance capital spending of around €50 million per annum needed for UPM Communication Papers, such profitability levels will still enable UPM to continue to generate significant FCF in the business in the foreseeable future, which the company will reinvest in growth businesses or use for deleveraging. Over the last five years, UPM managed to generate (on average) roughly €330 million operating cash flow per annum in the division.

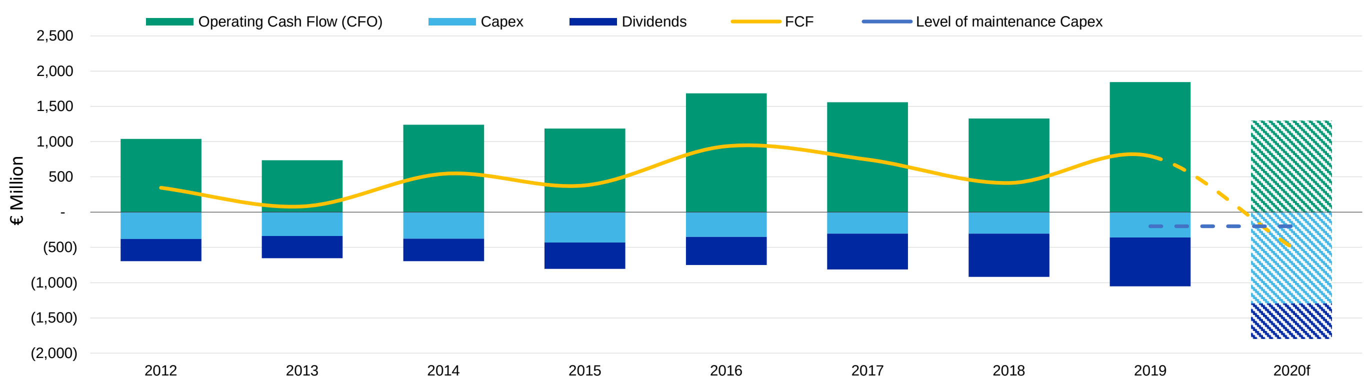
Segments such as labelling, specialty papers, pulp and wood products have positive underlying fundamentals. The underlying demand growth in these segments ranges between 2% and 4% per annum, supported by megatrends such as urbanisation and increased consumption in emerging as well as increasing focus on climate change and sustainability. While we generally view diversification into these segments as credit positive, we caution that 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 on stream 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 pulp prices to rebound from the troughs experienced in 2019. However, average commodity pulp prices for 2020 will be lower than 2019 average prices, driven by muted pulp demand growth and limited new supply, with few pulp expansion projects coming after 2020. This might have an impact on UPM's profitability, depending on the company's ability to maintain current or implement higher selling prices in the divisions where pulp is needed as input, which could potentially offset the effect of lower pulp prices on the biorefining business.

### The transition beyond paper executed with a track record of good positive FCF generation, with a healthy investment pipeline

One of the key supporting factors for UPM's Baa1 rating is the fact that the company managed to undertake the continuing transition beyond graphic paper with consistently positive FCF generation. Over 2012-19, UPM generated positive FCF of around €570 million per annum on average (as defined and adjusted by Moody's), despite ongoing restructuring in the paper business and sizeable investments in growth businesses — gross capital spending averaged around €360 million per annum between 2012 and 2019, which was above the maintenance capital spending needs of roughly €200 million per annum. UPM guides towards €1.3 billion of capital spending for 2020 as a result of sizeable investments in the pulp and biochemicals businesses, which is likely to be covered by a sizeable cash buffer and operating cash flow, while we anticipate capital investments in 2021 to stand at the same level. The current capital spending plan also includes various smaller debottlenecking initiatives to increase plywood and release liner capacity, as well as convert the Nordland PM2 graphic paper capacity into release liner.

Exhibit 8

**UPM has managed the diversification process with a track record of significant positive FCF**




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 pace with 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. In July 2019, the company decided to construct a 2.1 million tonnes greenfield eucalyptus pulp mill after reaching an agreement with the Government of Uruguay (Baa2 stable). The investment is likely to amount to around $2.7 billion, further supplemented by $350 million investments in port operations in Montevideo and local facilities in Paso de los Toros, where the mill will be located. UPM's investment is likely to be financed by the current considerable cash buffer, operating cash flow and group financing, while capital allocation is going to be spread equally through 2020-22. Our base assumption includes roughly €1.2 billion debt funding for the project, which is likely to lead to an increase in leverage to around 1.9x debt/EBITDA by 2022 on a Moody's-adjusted basis. Annual capital spending of roughly €900 million related to the construction of the mill is going to affect Moody's-adjusted FCF, which is likely to be negative at €500 million-€600 million in 2020 and will remain negative in 2021 and 2022.

The new highly competitive mill, scheduled to start up in H2 2022, 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 entails some execution risk that might temporarily affect credit metrics during the construction phase.

Another step of the company in achieving transformative growth and profitability is the entrance into biochemicals business by investing €550 million in a biorefinery facility at Leuna, Germany with a total capacity of 220,000 tonnes that is scheduled to start up in 2022. The business will produce a series of new 100% wood-based biochemical products spanning across 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 capitalisation of market share in the new business is going to be supported by the strong underlying demand growth of roughly 4% in the 30 million tonnes global glycols market and around 3% growth in the 15 million tonnes global market of carbon black and silica where customers are increasingly committed to sustainable solutions. The project is likely to be financed by a combination of operating cash flow and debt funding in combination with the required capital spending for the new pulp mill in Uruguay. In 2020, we expect a respective capital outflow of around €100 million for financing the initial construction process, while the rest €450 million are likely to be cashed out during 2021 and 2022.

### Financial policies commensurate with a solid investment-grade rating, with some re-leveraging expected

Following the largely debt-funded acquisition of Myllykoski in mid-2011 for an enterprise value of around €850 million, UPM focused on deleveraging through EBITDA growth as well as repayment of debt using FCF. Moody's-adjusted debt materially decreased to around €1.9 billion (including IFRS 16 impact) as of the end of December 2019 from around €4.7 billion as of the end of December 2013. As a result, Moody's-adjusted debt/EBITDA improved significantly to a very healthy level of around 1.0x for 2019 from 3.8x in 2013.

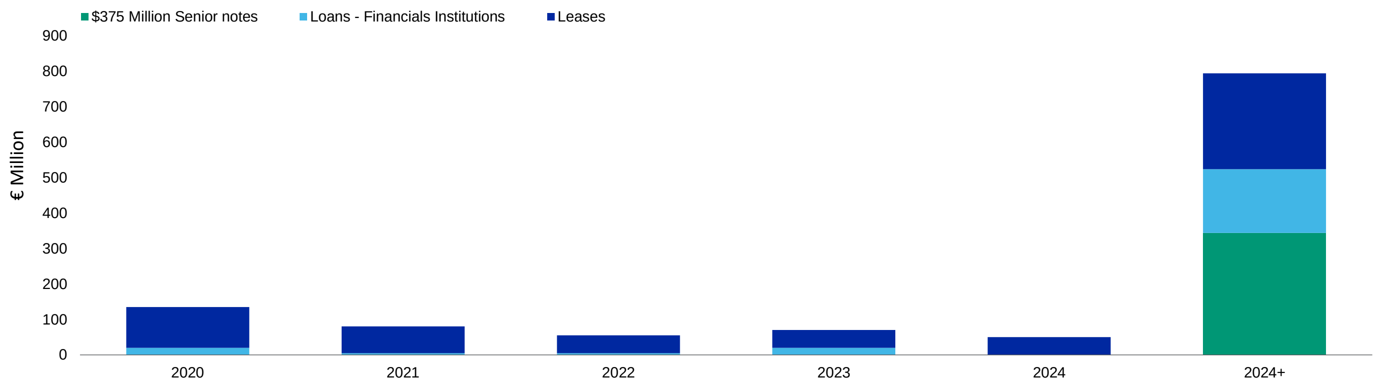
However, given that UPM is operating well below its net leverage ceiling of 2.0x (as defined by UPM, compared with -0.2x for 2019), we see a re-leveraging risk for UPM. Nevertheless, we understand that under normal circumstances, UPM will aim to operate with capacity under the ceiling; if extraordinary debt-funded growth takes place during the investment phase in pulp and biochemicals businesses, the company will focus on deleveraging to regain the capacity within reasonable time. This will be possible because of the company's strong cash flow generation capabilities and its track record of repaying debt from generated cash. Hence, we believe that UPM is unlikely to operate with Moody's-adjusted debt/EBITDA over 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.

While we believe that UPM will 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 healthy pipeline of potential projects, some of which are sizeable, we see that scenario currently as 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 it has supported consistent positive FCF generation through the entire business transition period over the past decade. The company proposed a total dividend of €693 million for 2019, translated into 38% of its operating cash flow in 2019.

## Liquidity analysis

We view UPM's liquidity as excellent. As of the end of December 2019, UPM reported around €1.5 billion of cash and cash equivalents on its balance sheet, further underpinned by a domestic commercial paper programme of €1 billion. As of the end of December 2019, UPM reported only around €104 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 Q4 2019**




*Source: UPM's Q4 2019 report*

## ESG 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" in 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, climate positive forestry and by innovating through new climate positive products and solutions as illustrated by the new investment in biochemicals business. By year-end 2018, UPM achieved a 7% reduction in $CO_2$ emissions per tonne compared to 2017, a 31% reduction in acidifying flue gases since 2008 and a 70% renewable fuels share. In the field of water management, UPM achieved a 29% reduction in effluent load per UPM average product and a 14% reduction in wastewater volume since 2008. The company also has 85% of owned or managed land covered by forest certification schemes, given that sustainably managed forests play an important role in absorbing $CO_2$. The company is also actively looking into alternative use of lignin and hemicellulose for new applications, through its new biochemicals business, that could replace fossil-based solutions.

Social considerations are predominantly related to work conditions and support to employees. UPM has set specific goals under its 2030 Targets framework such as lower than 2% absenteeism rate and less than one lost-time accident frequency. UPM fosters diversity and inclusion, continuous learning development, and safe and healthy working conditions. The group also develops and supports community involvement by promoting programmes that bring added value to local societies.

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 has committed to legal compliance and ethical practices as main pillars and foundation of its operations.

## 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 Baa1 outcome for the current period and a Baa2 outcome for our 12-18 months' view, which is one notch below the actual assigned rating of Baa1. The one-notch difference can be explained by the fact that the (RCF - CAPEX)/Debt factor is likely to be weakened by the anticipated considerable increase in capital spending as a result of the new strategic investments in the pulp and biochemicals businesses.

Exhibit 10

### Rating factors

UPM-Kymenne

| Paper and Forest Products Industry Grid [1][2] | Current FY 12/31/2019 | | Moody's 12-18 Month Forward View As of 2/12/2020 [3] | |
|---|---|---|---|---|
| **Factor 1 : Scale (10%)** | **Measure** | **Score** | **Measure** | **Score** |
| a) Revenue (USD Billion) | $11.5 | Baa | $10.8 - $11.3 | 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 | Ba | Ba |
| **Factor 3 : Profitability and Efficiency (15%)** | | | | |
| a) EBITDA Margin | 18.1% | Ba | 17% - 19% | Ba |
| b) Fiber and Energy Flexibility and Cost | Baa | Baa | Baa | Baa |
| **Factor 4 : Leverage and Coverage (30%)** | | | | |
| a) RCF / Debt | 46.1% | Aa | 30% - 50% | A |
| b) (RCF - CAPEX) / Debt | 22.9% | Baa | -30% - -20% | Ca |
| c) Debt / EBITDA | 1.0x | A | 1x - 1.5x | A |
| d) EBITDA / Interest | 31.7x | Aaa | 20x - 30x | Aa |
| **Factor 5 : Financial Policy (15%)** | | | | |
| a) Financial Policy | Baa | Baa | Baa | Baa |
| **Rating:** | | | | |
| Indicated Outcome before Notching Adjustments | | Baa1 | | Baa2 |
| Notching Adjustments | | 0.5 | 0.5 | 0.5 |
| a) Indicated Outcome from Scorecard | | Baa1 | | 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 12/31/2019.
[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™*

## Appendix

Exhibit 11
### Peer comparison

| (in USD millions) | UPM-Kymmene Baa1 Stable FYE Dec-17 | FYE Dec-18 | LTM Sep-19 | Mondi Plc Baa1 Stable FYE Dec-17 | FYE Dec-18 | LTM Jun-19 | Domtar Corporation Baa3 Stable FYE Dec-17 | FYE Dec-18 | LTM Sep-19 | Stora Enso Oyj Baa3 Stable FYE Dec-17 | FYE Dec-18 | LTM Sep-19 | Sappi Limited Ba1 Stable FYE Sep-18 | FYE Sep-19 | FYE Sep-19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue | $11,310 | $12,379 | $11,870 | $8,018 | $8,834 | $8,586 | $5,148 | $5,455 | $5,366 | $11,350 | $12,383 | $11,622 | $5,806 | $5,746 | $5,746 |
| Operating Profit | $1,426 | $2,188 | $1,963 | $1,132 | $1,503 | $1,546 | $256 | $405 | $413 | $1,040 | $1,500 | $1,138 | $480 | $411 | $411 |
| EBITDA | $1,931 | $2,669 | $2,450 | $1,642 | $2,035 | $2,042 | $600 | $737 | $732 | $1,709 | $2,098 | $1,715 | $810 | $737 | $737 |
| Total Debt | $2,297 | $1,859 | $2,032 | $2,004 | $2,711 | $2,870 | $1,422 | $1,035 | $1,122 | $5,049 | $5,070 | $5,515 | $2,335 | $2,373 | $2,373 |
| Cash & Cash Equiv. | $860 | $1,015 | $1,177 | $46 | $59 | $89 | $139 | $111 | $98 | $729 | $1,292 | $777 | $363 | $393 | $393 |
| EBIT / Int. Exp. | 14.9x | 27.8x | 49.8x | 12.0x | 13.5x | 13.6x | 3.3x | 5.6x | 6.8x | 4.8x | 6.5x | 5.6x | 4.4x | 3.8x | 3.8x |
| Debt / EBITDA | 1.1x | 0.7x | 0.9x | 1.1x | 1.4x | 1.4x | 2.4x | 1.4x | 1.5x | 2.8x | 2.5x | 3.3x | 2.9x | 3.2x | 3.2x |
| RCF / Net Debt | 81.2% | 136.5% | 119.3% | 57.1% | 26.5% | 42.0% | 31.0% | 57.6% | 49.4% | 25.6% | 37.3% | 22.0% | 27.1% | 25.9% | 25.9% |
| FCF / Debt | 39.0% | 29.2% | 33.7% | 7.3% | -11.2% | 5.5% | 12.7% | 26.5% | 13.7% | 6.3% | 8.1% | 8.0% | -4.5% | -0.9% | -0.9% |

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 12
### Reconciliation of Moody's-adjusted debt

| (in EUR Millions) | FYE Dec-14 | FYE Dec-15 | FYE Dec-16 | FYE Dec-17 | FYE Dec-18 | LTM Sep-19 |
|---|---|---|---|---|---|---|
| **As Reported Debt** | **3,464** | **3,066** | **2,420** | **1,114** | **777** | **1,385** |
| Pensions | 794 | 677 | 751 | 565 | 613 | 613 |
| Operating Leases | 303 | 308 | 360 | 396 | 370 | 0 |
| Non-Standard Adjustments | -396 | -344 | -316 | -162 | -134 | -134 |
| **Moody's-Adjusted Debt** | **4,165** | **3,707** | **3,215** | **1,913** | **1,626** | **1,864** |

*Source: Moody's Financial Metrics™*

Exhibit 13
### Reconciliation of Moody's-adjusted EBITDA

| (in EUR Millions) | FYE Dec-14 | FYE Dec-15 | FYE Dec-16 | FYE Dec-17 | FYE Dec-18 | LTM Sep-19 |
|---|---|---|---|---|---|---|
| **As Reported EBITDA** | **1,473** | **1,721** | **1,676** | **1,677** | **2,283** | **2,193** |
| Pensions | 5 | 18 | 9 | 44 | 15 | 15 |
| Operating Leases | 52 | 51 | 48 | 42 | 37 | 9 |
| Unusual | -122 | -18 | -53 | -49 | -69 | -41 |
| Non-Standard Adjustments | -3 | -3 | -5 | -5 | -6 | -4 |
| **Moody's-Adjusted EBITDA** | **1,405** | **1,769** | **1,675** | **1,709** | **2,260** | **2,172** |

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

Exhibit 14

### Overview of UPM's key metrics

| EUR Millions | FYE 2014 | FYE 2015 | FYE 2016 | FYE 2017 | FYE 2018 | LTM Sep-19 |
|---|---|---|---|---|---|---|
| **INCOME STATEMENT** | | | | | | |
| Revenue | 9,868 | 10,138 | 9,812 | 10,010 | 10,483 | 10,523 |
| EBITDA | 1,405 | 1,769 | 1,675 | 1,709 | 2,260 | 2,172 |
| EBIT | 849 | 1,214 | 1,134 | 1,234 | 1,818 | 1,704 |
| Interest Expense | 200 | 198 | 104 | 83 | 65 | 34 |
| **BALANCE SHEET** | | | | | | |
| Cash & Cash Equivalents | 700 | 626 | 992 | 716 | 888 | 1,080 |
| Total Debt | 4,165 | 3,707 | 3,215 | 1,913 | 1,626 | 1,864 |
| **CASH FLOW** | | | | | | |
| Funds from Operations | 1,186 | 1,272 | 1,502 | 1,479 | 1,620 | 1,628 |
| CASH FLOW FROM OPERATIONS | 1,288 | 1,245 | 1,737 | 1,586 | 1,409 | 1,703 |
| Capital Expenditures (Capex) | 413 | 455 | 381 | 333 | 321 | 382 |
| Dividends | 319 | 373 | 400 | 507 | 613 | 693 |
| Retained Cash Flow (RCF) | 867 | 899 | 1,102 | 972 | 1,007 | 935 |
| RCF / Debt | 20.8% | 24.2% | 34.3% | 50.8% | 61.9% | 50.2% |
| Free Cash Flow (FCF) | 556 | 417 | 956 | 746 | 475 | 628 |
| FCF / Debt | 13.3% | 11.2% | 29.7% | 39.0% | 29.2% | 33.7% |
| **PROFITABILITY** | | | | | | |
| % Change in Sales (YoY) | -1.9% | 2.7% | -3.2% | 2.0% | 4.7% | 1.9% |
| EBIT Margin % | 8.6% | 12.0% | 11.6% | 12.3% | 17.3% | 16.2% |
| EBITDA Margin % | 14.2% | 17.4% | 17.1% | 17.1% | 21.6% | 20.6% |
| **INTEREST COVERAGE** | | | | | | |
| EBIT / Interest Expense | 4.2x | 6.1x | 11.0x | 14.9x | 27.8x | 49.8x |
| EBITDA / Interest Expense | 7.0x | 8.9x | 16.2x | 20.6x | 34.5x | 63.5x |
| **LEVERAGE** | | | | | | |
| Debt / EBITDA | 3.0x | 2.1x | 1.9x | 1.1x | 0.7x | 0.9x |
| Net Debt / EBITDA | 2.5x | 1.7x | 1.3x | 0.7x | 0.3x | 0.4x |

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

## Ratings

Exhibit 15

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

*Source: Moody's Investors Service*

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