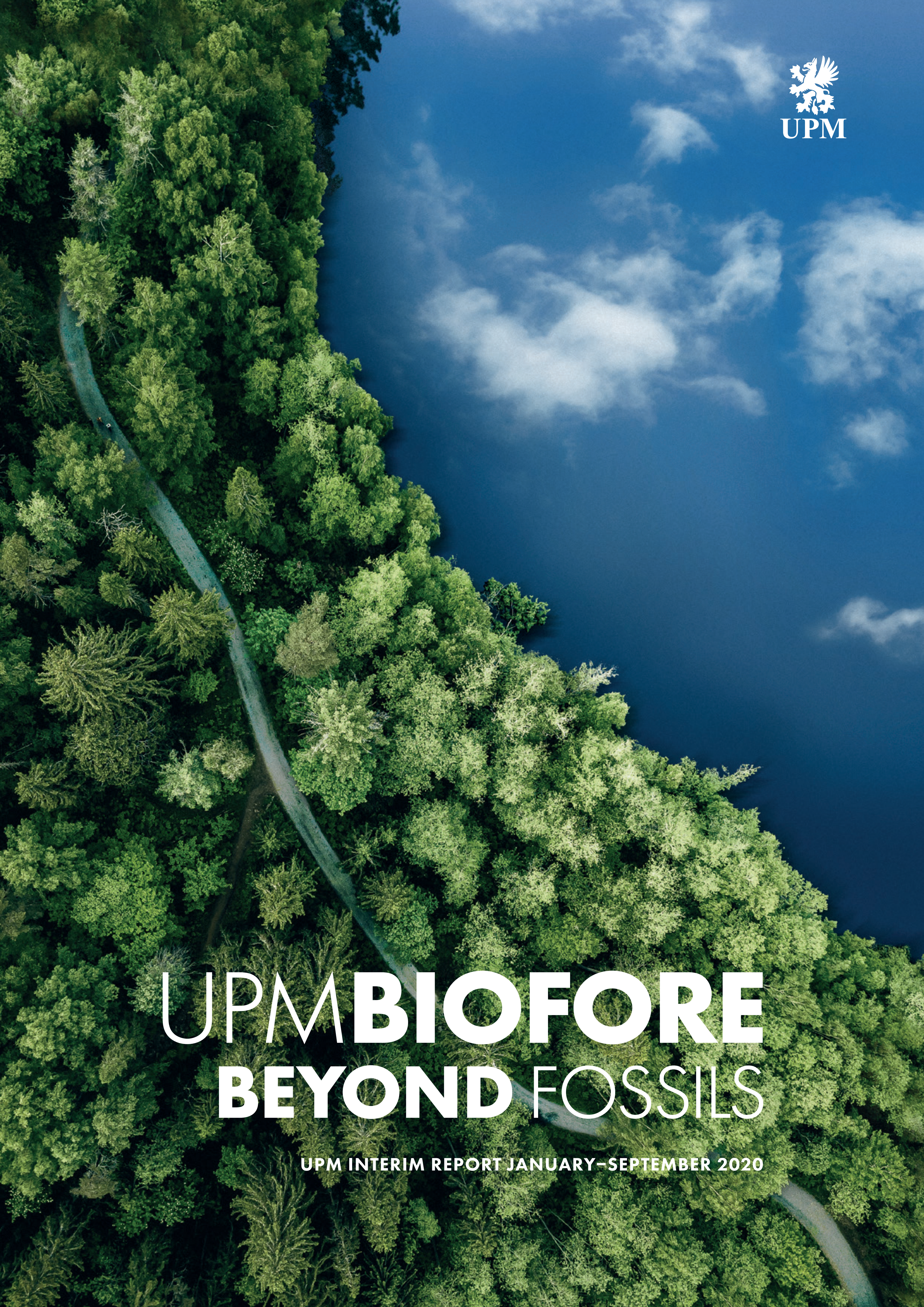


UPM

UPM BIOFORE BEYOND FOSSILS

UPM INTERIM REPORT JANUARY–SEPTEMBER 2020

UPM Interim Report Q3 2020:

Driving performance and transformative projects under highly exceptional circumstances

Q3 2020 highlights

- Sales decreased by 19% to EUR 2,028 million (2,493 million in Q3 2019) due to lower deliveries of graphic papers and lower pulp and paper prices
- Comparable EBIT was EUR 215 million, 10.6% of sales (342 million, 13.7%), down 37% year-over-year
- Operating cash flow was EUR 365 million (500 million)
- Successful health and safety measures enabled uninterrupted business operations and progress in transformative growth projects
- Some normalization of the COVID-19-related demand impacts, both positive and negative, in graphic papers and in labelling materials and specialty papers
- Closures of UPM Chapelle paper mill and UPM Jyväskylä plywood mill
- Announced the closure of UPM Kaipola paper mill, plans for selling UPM Shotton paper mill and streamlining in several businesses and functions

Q1–Q3 2020 highlights

- Sales decreased by 18% to EUR 6,392 million (7,791 million in Q1–Q3 2019) due to lower deliveries of graphic papers and lower pulp and paper prices
- Comparable EBIT was EUR 697 million, 10.9% of sales (1,061 million, 13.6%), down 34% year-over-year
- Operating cash flow was EUR 659 million (1,256 million)
- Net debt was EUR 89 million (-2 million)
- Cash funds and unused committed credit facilities totalled EUR 2.3 billion at the end of September
- The COVID-19 containment measures significantly decreased demand for graphic papers, while demand for labelling materials and specialty papers increased during the lockdowns
- UPM's transformative pulp project in Uruguay and biochemicals project in Germany are well on track with the planned start-up timeline

Key figures

	Q3/2020	Q3/2019	Q2/2020	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Sales, EURm	2,028	2,493	2,077	6,392	7,791	10,238
Comparable EBITDA, EURm	331	455	320	1,050	1,409	1,851
% of sales	16.3	18.2	15.4	16.4	18.1	18.1
Operating profit, EURm	117	316	148	508	1,009	1,344
Comparable EBIT, EURm	215	342	203	697	1,061	1,404
% of sales	10.6	13.7	9.8	10.9	13.6	13.7
Profit before tax, EURm	109	319	138	487	983	1,307
Comparable profit before tax, EURm	207	345	193	676	1,036	1,367
Profit for the period, EURm	83	260	103	378	810	1,073
Comparable profit for the period, EURm	158	281	157	546	857	1,119
Earnings per share (EPS), EUR	0.15	0.46	0.19	0.70	1.49	1.99
Comparable EPS, EUR	0.29	0.50	0.29	1.01	1.58	2.07
Return on equity (ROE), %	3.5	10.7	4.3	5.1	11.0	10.7
Comparable ROE, %	6.7	11.6	6.6	7.4	11.6	11.2
Return on capital employed (ROCE), %	4.3	12.0	5.4	6.2	12.4	12.3
Comparable ROCE, %	7.9	12.9	7.5	8.5	13.1	12.8
Operating cash flow, EURm	365	500	156	659	1,256	1,847
Operating cash flow per share, EUR	0.69	0.94	0.29	1.23	2.35	3.46
Equity per share at the end of period, EUR	17.54	18.28	17.50	17.54	18.28	18.87
Capital employed at the end of period, EURm	10,721	11,172	10,767	10,721	11,172	11,474
Net debt at the end of period, EURm	89	-2	301	89	-2	-453
Net debt to EBITDA (last 12 months)	0.06	0.00	0.19	0.06	0.00	-0.24
Personnel at the end of period	18,349	19,020	19,029	18,349	19,020	18,742

UPM presents certain measures of performance, financial position and cash flows, which are alternative performance measures in accordance with the guidance issued by the European Securities and Markets Authority (ESMA). The definitions of alternative performance measures are presented in *» UPM Annual Report 2019*

Jussi Pesonen, President and CEO, comments on the Q3 2020 results:

"During Q3 we delivered on many fronts: performance, cost reduction actions, transformative projects as well as safety and health of our personnel. We are taking action to ensure competitiveness, and our businesses delivered satisfactory performance under the highly exceptional circumstances resulting from the COVID-19 pandemic. Despite weak paper markets and low pulp prices, our profitability improved slightly compared to the previous quarter, our cash flow recovered, and our EBIT margin remained above 10%. UPM Raflatac, UPM Specialty Papers and UPM Energy continued to perform well. Our financial standing is strong and puts us in a unique position to proceed with our transformative projects with determination.

Compared to Q3 of last year, sales prices were lower across all of our business areas, and graphic paper deliveries were down by 21%, resulting in sales of EUR 2,028 million, a decrease of EUR 464 million in a single quarter. Comparable EBIT decreased by 37% to EUR 215 million. Operating cash flow totalled EUR 365 million. At the end of Q3, our net debt was very low at EUR 89 million, and cash funds and unused credit facilities totalled EUR 2.3 billion.

During Q3, UPM took forward plans for decisive restructuring and efficiency improvement. Closing of the UPM Jyväskylä plywood mill in Finland and the UPM Chapelle paper mill in France were finalised. Decision on closing the UPM Kaipola paper mill in Finland was taken in October and the plan to sell the UPM Shotton paper mill in Wales was announced. Streamlining began in the business functions of UPM Communication Papers, in Finnish pulp mills, at the UPM Tervasaari mill and at UPM Forest. In addition, UPM Raflatac and UPM's global functions announced efficiency improvement plans in October. All of these measures combined are expected to result in annual cost savings of approximately EUR 130 million.

The implemented and announced measures are unfortunate to many UPMers, but they are nevertheless necessary to ensure performance in the short term and competitiveness in the long term. UPM is also taking measures to support transitions from job-to-job.

Demand for UPM Communications Papers has been most severely affected by COVID-19-related measures. As expected, demand in Q3 partly recovered compared to the lockdown part of Q2, but still remained low. Market prices decreased by 5%. However, thanks to the ongoing cost reduction measures and improved efficiency, the business was able to turn back to positive EBIT in Q3.

During the spring, UPM Raflatac and UPM Specialty Papers benefited from exceptionally good demand in many end-use areas, especially those related to daily consumer goods and e-commerce. During Q3, the markets somewhat normalised, but the businesses continued to perform well.

UPM Biorefining had a strong quarter in terms of pulp production and deliveries. UPM Biofuels achieved a new production record. However, pulp prices remain at very low levels, which are affecting the profitability of the business area.

For UPM Plywood, the market for spruce plywood was good, both in terms of demand and price. The market for birch plywood, on the other hand, remained highly competitive in some high-end products.

UPM Energy continued to deliver good results. As the hydrological situation normalised and market prices improved, UPM Energy successfully optimised production in the volatile market.

We are on track to deliver long-term earnings growth and sustainability-driven new business. Our transformative projects in Uruguay and Germany proceed on schedule. Construction in the Paso del los Toros pulp mill site is making good progress, and a long-term service agreement on rail cargo operations was signed. The construction of the biochemicals refinery began in Leuna, and infrastructure leases were signed with the chemical park operator InfraLeuna.

The work on these construction sites, as well as production at all existing UPM facilities, has continued uninterrupted throughout the COVID-19 pandemic thanks to high health and safety standards. As part of the UPM Biofore Share and Care programme, we helped Finnish officials in procuring 30 million protective face masks. In addition, we donated 500,000 masks to health care and educational facilities and nursing homes in UPM's operating countries.

As one of the 41 companies world-wide, UPM was once again recognised as a UN Global Compact LEAD Participant for our strong commitment to responsible business. We greatly value this recognition, as responsibility is at the core of our Biofore strategy. We have signed the UN's 1.5°C climate target, committing ourselves to reducing emissions, practising climate-positive forestry and innovating products that replace fossil materials and contribute to climate change mitigation.

UPM's value creation is based on offering sustainable products and solutions to consumers and businesses and strong focus on performance. Our Biofore strategy has delivered results in all circumstances and enables growth of sustainable businesses for a future beyond fossils."

Outlook for 2020

The COVID-19 pandemic, the related containment measures and the economic downturn continue to cause high uncertainty for H2 2020.

The COVID-19-lockdowns had a significant negative impact on graphic paper demand. The lockdowns also supported the strong demand for self-adhesive labelling materials and specialty papers in H1 2020. In Q3 2020 there was some normalization of these demand impacts, both positive and negative. However, the development going forward remains uncertain and is likely to be gradual, depending on the pandemic, the related lockdowns and changes in consumer reactions.

Demand for most UPM products is influenced by overall economic activity and hence, also depends on the shape and rate of the economic recovery.

In Q4 there will be significantly more maintenance activity than in the earlier quarters of 2020, as two pulp mill maintenance shutdowns were rescheduled from Q2 2020 to Q4 2020.

UPM will continue to implement measures to decrease fixed and variable costs.

UPM's comparable EBIT is expected to be significantly lower in 2020 than in 2019.

Impact of COVID-19 pandemic

The COVID-19 pandemic and the related containment measures around the world continue to represent significant uncertainty for the rest of the year 2020 and into 2021.

Global economy
Economists expect a severe global recession in 2020. In the first phase of the recession, the pandemic containment measures and lockdowns around the world severely limit or temporarily stop significant parts of the economy. Once the lockdowns can be eased, it is uncertain how potent the following recovery will be and how long it will take for the world economy to reach the pre-pandemic level of activity. Additional waves of the epidemic in different parts of the world are possible and represent further uncertainty.

Safety and business continuity
UPM has implemented extensive precautions to protect the health and safety of its employees and to ensure business continuity and progress of its strategic projects during the pandemic. Despite these efforts, the operation of one or more units or the supply chain and logistics could be temporarily disrupted during the pandemic and the related lockdown measures. In these circumstances some units would need to limit operations or be temporarily shut down.

So far UPM has been able to protect its employees and business continuity well.

Demand for UPM products
Many of UPM products serve essential everyday needs and may therefore see relatively resilient demand during the crisis. These products include pulp, specialty papers and self-adhesive label materials. Even in these businesses, demand is influenced by general economic activity, however.

Demand for graphic papers, plywood and timber is more prone to be impacted by the lockdowns and the recession. The lockdowns during the first phase of the crisis limit a wide range of consumer-driven services and retail, as well as work at the office. This has had a negative impact on printed advertising and graphic paper demand during the pandemic.

The lockdowns and the level of economic activity may also affect demand for electricity.

In Q2 2020, graphic paper demand in Europe decreased by 32% from last year, as particularly advertising-driven paper consumption and office paper demand were impacted by the lockdowns across Europe. In Q3 2020, there was some recovery in demand, but graphic paper demand remained 18% lower than last year.

Pulp demand held up relatively well, supported by good demand for tissue and hygiene products as well as for some packaging and specialty paper products. Pulp consumption in graphic paper production decreased.

Demand grew for self-adhesive label materials and specialty papers during the lockdowns, as consumers shifted some of their spending from away-from-home categories to packaged daily consumer goods. E-commerce continued to grow, supporting some labelling and specialty paper applications. In Q2, demand for self-adhesive labels in Europe grew by 10% from last year. In Q3 2020, demand for self-adhesive labels in Europe was 3% lower than last year, driven by destocking in the customer value chain.

Adjusting to different scenarios
The potential impacts to UPM are likely to differ by business and by the phase of the pandemic, lockdown measures, changes in consumer behaviour, the recession and recovery. UPM is using shift arrangements, temporary layoffs, or reduced working hours as required to adjust its operations in different scenarios. During Q3 2020, the company also announced plans to permanently reduce graphic paper production capacity and other plans to improve cost efficiency in different businesses and functions.

Projects and maintenance shutdowns
The pandemic and the required health and safety measures add challenge to large investment projects and maintenance shutdowns. UPM's transformative pulp project in Uruguay and biochemicals project in Germany are proceeding with strict health and safety controls. Despite these efforts, some changes to the detailed timeline of the projects are possible during the pandemic and the related containment measures. Currently the projects proceed in line with the planned start-up timeline.

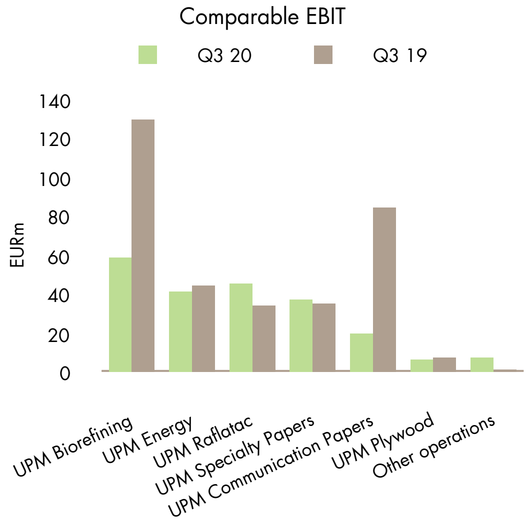
In April TVO announced that fuel loading into the OL3 reactor would not happen as planned in June 2020, TVO announced an updated schedule in August 2020.

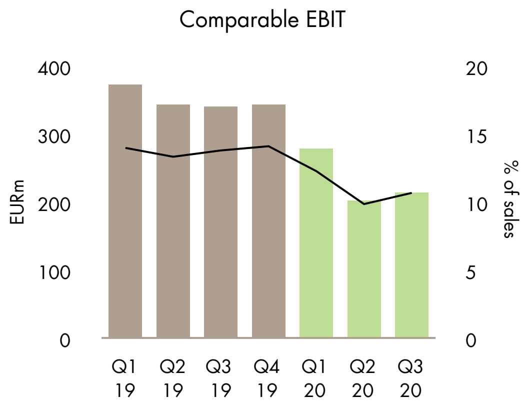
UPM has rescheduled two pulp mill maintenance shutdowns from Q2 2020 to Q4 2020.

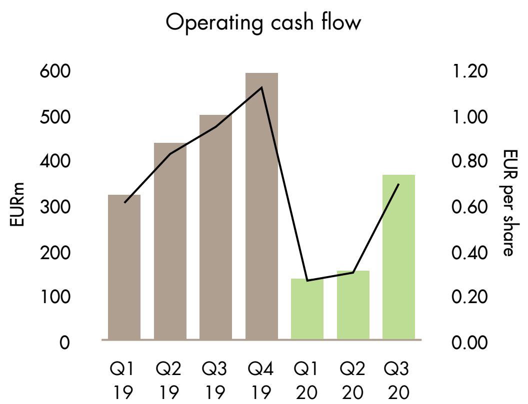
Timing of significant maintenance shutdowns in 2020

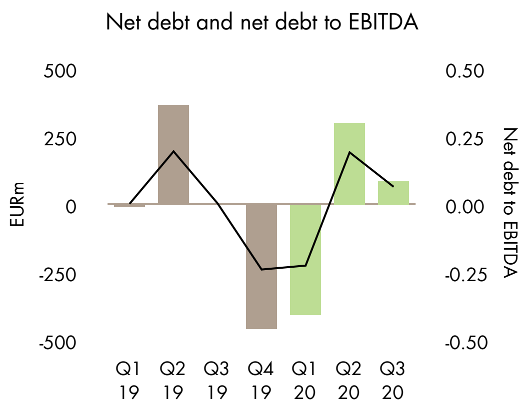
TIMING	UNIT
Q2/2019	Kymi pulp mill
	Olkiluoto nuclear power plant
Q4/2019	Fray Bentos pulp mill
Q2/2020	Olkiluoto nuclear power plant
Q4/2020	Kaukas pulp mill
	Pietarsaari pulp mill

Financing
UPM’s financial position is strong. UPM's net debt was EUR 89 million at the end of Q3 2020. Cash funds and unused committed credit facilities totalled EUR 2.3 billion at the end of Q3 2020. This includes the sustainability-linked five-year EUR 750 million revolving credit facility signed during Q1 2020, and the EUR 550 million of bilateral committed credit facilities signed during Q2 2020. The facilities and UPM's outstanding debt have no financial covenants.









Results

Q3 2020 compared with Q3 2019

Q3 2020 sales were EUR 2,028 million, 19% lower than the EUR 2,493 million for Q3 2019. The decrease in sales was mainly due to lower deliveries of graphic papers and lower paper and pulp sales prices. Sales decreased in all business areas.

Comparable EBIT decreased by 37% to EUR 215 million, which was 10.6% of sales (342 million, 13.7%).

Sales prices decreased mostly for UPM Communication Papers, UPM Biorefining, UPM Specialty Papers and UPM Energy. At the group level, the negative impact of lower sales prices was clearly larger than the positive impact of decreased variable costs.

Fixed costs decreased by EUR 40 million. Delivery and production volumes were lower and more than offset the positive impact of lower fixed costs. Delivery and production volumes decreased especially for UPM Communication Papers.

Depreciation, excluding items affecting comparability, totalled EUR 117 million (119 million), including depreciation of leased assets totaling EUR 18 million (18 million). The change in the fair value of forest assets net of wood harvested was EUR -1 million (5 million).

Operating profit was EUR 117 million (316 million). Items affecting comparability in operating profit totalled EUR -98 million in the period (-26 million) including EUR 99 million charges related to the closure of the UPM Kaipola paper mill, EUR 15 million charges related to restructuring of functions at UPM Communication Papers and earnings of EUR 12 million on the sale of the group's share in Kainuun Voima Oy.

Net interest and other finance income and costs were EUR -6 million (3 million). Exchange rate and fair value gains and losses were EUR -2 million (0 million). Income taxes were EUR 26 million (59 million). Items affecting comparability in taxes totalled EUR 22 million (5 million).

Profit for Q3 2020 was EUR 83 million (260 million), and comparable profit was EUR 158 million (281 million).

Q3 2020 compared with Q2 2020

Comparable EBIT increased by 6% to EUR 215 million, which was 10.6% of sales (203 million, 9.8%). Production and delivery volumes were higher in UPM Communication Papers. Fixed costs decreased by EUR 25 million, mainly due to seasonal factors and restructuring measures.

Sales prices were lower, which more than offset the positive impact of lower variable costs. Sales prices decreased mostly for UPM Communication Papers, UPM Specialty Papers and UPM Biorefining.

Depreciation, excluding items affecting comparability, totalled EUR 117 million (119 million). The change in the fair value of forest assets net of wood harvested was EUR -1 million (1 million).

Operating profit was EUR 117 million (148 million).

January–September 2020 compared with January–September 2019

Q1–Q3 2020 sales were EUR 6,392 million, 18% lower than the EUR 7,791 million for Q1–Q3 2019. Sales decreased for UPM Communication Papers, UPM Biorefining, UPM Specialty Papers, UPM Plywood and UPM Energy, and increased for UPM Raflatac.

Comparable EBIT decreased by 34% to EUR 697 million, which was 10.9% of sales (1,061 million, 13.6%).

Sales prices decreased for all UPM's business areas, mostly in UPM Biorefining and UPM Communication Papers. At the group level, the negative impact of lower sales prices was clearly larger than the positive impact of decreased variable costs.

Fixed costs decreased by EUR 134 million, partly due to temporary measures to adjust to the COVID-19 pandemic. Production and delivery volumes were lower, especially for UPM Communication Papers, as the COVID-19 pandemic and the related containment measures reduced demand for graphic papers. The industry-wide strike in Finland impacted both delivery volumes and fixed costs in the first quarter of 2020.

Depreciation, excluding items affecting comparability, totalled EUR 355 million (357 million) including depreciation of leased assets totalling EUR 56 million (53 million). The change in the fair value of forest assets net of wood harvested was EUR -1 million (7 million).

Operating profit totalled EUR 508 million (1,009 million). Items affecting comparability in operating profit totalled EUR -189 million in the period (-53 million) including EUR 99 million restructuring charges related to the planned closure of the UPM Kaipola paper mill, EUR 79 million restructuring charges related to closure of UPM Chapelle paper mill, EUR 22 million restructuring charges related to the closure of Jyväskylä plywood mill, EUR 15 million charges related to the restructuring of the functions of UPM Communication Papers and earnings of EUR 12 million on the sale of group's share in Kainuun Voima Oy.

Net interest and other finance costs were EUR 19 million (25 million). Exchange rate and fair value gains and losses were EUR -2 million (-1 million). Income taxes totalled EUR -109 million (-174 million).

Profit for Q1–Q3 2020 was EUR 378 million (810 million), and comparable profit was EUR 546 million (857 million).

Financing and cash flow

In Q1–Q3 2020 cash flow from operating activities before capital expenditure and financing totalled EUR 659 million (1,256 million). Working capital increased by EUR 165 million during the period (decreased by 49 million).

Net debt increased to EUR 89 million at the end of Q3 2020 (-2 million). The gearing ratio as of 30 September 2020 was 1% (0%). The net debt to EBITDA ratio, based on the latest 12 month's EBITDA, was 0.06 at the end of the period (0.00).

On 30 September 2020 UPM's cash funds and unused committed credit facilities totalled EUR 2.3 billion. This includes the sustainability-linked five-year EUR 750 million revolving credit facility signed during Q1 2020, and the EUR 550 million of bilateral committed credit facilities signed during Q2 2020.

A dividend of EUR 1,30 per share (totalling EUR 693 million) was paid on 16 April 2020 for the 2019 financial year.

Capital expenditure

In Q1–Q3 2020, capital expenditure totalled EUR 538 million, which was 8.4% of sales (212 million, 2.7% of sales). Capital expenditure does not include additions to leased assets.

In 2020, UPM's total capital expenditure, excluding investments in shares, is expected to be about EUR 950 million, which includes estimated capital expenditure of approximately EUR 650 million in transformative projects. Transformative projects consist of the new pulp mill, port operations and local investments outside the mill fence in Uruguay and the biochemicals biorefinery in Germany.

In April 2018, UPM announced that it would rebuild paper machine 2 at its Nordland mill in Dörpen, Germany, and convert it from fine paper to glassine paper production. The machine was equipped with new finishing equipment and started producing glassine paper in Q1 2020. The capacity after the rebuild is 110,000 tonnes per year. The total investment in Nordland was EUR 124 million.

In January 2019, UPM announced that it would invest in the refurbishment of the Kuusankoski hydropower plant in Finland. The average annual production of the Kuusankoski plant is expected to increase from the current 180 GWh to 195 GWh. The investment will be completed by the end of 2022.

In July 2019, UPM announced that it would invest USD 2.7 billion in a 2.1 million tonne greenfield eucalyptus pulp mill near Paso de los Toros in central Uruguay. Additionally, UPM will invest approximately USD 280 million in port operations in Montevideo and USD 70 million in local investments outside the mill fence, including a new residential area in Paso de los Toros. The mill is scheduled to start up in the second half of 2022.

In October 2019, UPM announced that it would invest EUR 95 million in a Combined Heat and Power (CHP) plant at the UPM Nordland paper mill in Germany. The plant is planned to go on grid in Q3 2022. The annual cost savings of more than EUR 10 million will begin from 2023. The investment is estimated to decrease UPM's CO_2-footprint by 300,000 tonnes.

In January 2020, UPM announced that it would invest EUR 550 million in a 220,000 tonnes next-generation biochemicals biorefinery at Leuna, Germany. The facility is scheduled to start up by the end of 2022.

Personnel

In Q1–Q3 2020, UPM had an average of 18,705 employees (19,306). At the beginning of the year, the number of employees was 18,742 and at the end of Q3 2020 it was 18,349.

Uruguay pulp mill investment

On 23 July 2019, UPM announced that it would invest USD 2.7 billion in a 2.1 million tonne greenfield eucalyptus pulp mill near Paso de los Toros in central Uruguay. Additionally, UPM will invest approximately USD 280 million in port operations in Montevideo and USD 70 million in local investments outside the mill fence, including a new residential area in Paso de los Toros. The mill is scheduled to start up in the second half of 2022.

The investment will grow UPM's current pulp capacity by more than 50%, resulting in a step change in the scale of UPM's pulp business as well as in UPM's future earnings.

With a combination of competitive wood supply, scale, best available techniques and efficient logistics, the mill is expected to reach a highly competitive cash cost level of approximately USD 280 per delivered tonne of pulp. This figure includes the variable and fixed costs of plantation operations, wood sourcing, mill operations and logistics delivered to the main markets. Furthermore, the safety and sustainability performance of the value chain from plantations to customer delivery is expected to be on an industry-leading level.

Competitive wood supply

Eucalyptus availability for the mill is secured through UPM’s own and leased plantations, as well as through wood sourcing agreements with private partners. The plantations that UPM owns and leases in Uruguay cover 424,000 hectares. They will supply the current UPM Fray Bentos mill and the new mill near Paso de los Toros.

State of the art mill design

The pulp mill has been designed as an efficient single-line operation. The machines, materials, level of automation and standards enable a high operating rate and maintainability, as well as high energy output. This ensures excellent safety, high environmental performance and low operating costs during the long lifecycle of the mill.

The mill is designed to fully meet the strict Uruguayan environmental regulations, as well as international standards and recommendations for modern mills, including the use of latest and best available technology (BAT). The mill's environmental performance will be verified through comprehensive and transparent monitoring.

The mill's initial annual production capacity is 2.1 million tonnes, and the environmental permits enable further capacity potential. When in operation, the mill generates more than 110 MW surplus of renewable electricity.

Efficient logistics set-up

An efficient logistics chain will be secured by the agreed road improvements, extensive railway modernization and port terminal construction.

The Public-Private-Partnership agreement between the government and the construction company for the construction of the central railway was signed in May 2019. Works on the central railway are proceeding with earth moving and levelling, but the overall rail project is currently behind the original time schedule by several months. UPM has a contingency plan in place to ensure logistics with truck transportation in case of a delay.

UPM is proceeding with the construction of a deep-sea pulp terminal in Montevideo port with an investment of approximately USD 280 million. Direct rail access from the mill to a modern deep-sea port terminal creates an efficient supply chain to world markets. The Montevideo deep-sea port also enables synergies in ocean logistics with UPM's existing Uruguay operations.

UPM has entered into a port terminal concession agreement in 2019 and in October 2020 signed an agreement on the rail logistic services. Both agreements are considered in accordance with IFRS 16 Leases. The total amount of such lease payments is expected to be USD 200 million.

Significant impact on the Uruguayan economy

Based on independent socioeconomic impact studies, the mill is estimated to increase Uruguay's gross national product by about 2% and the annual value of Uruguay's exports by approximately 12% after completion.

In the most intensive construction phase, more than 6,000 people will be working on the site. When completed, approximately 10,000 permanent jobs are estimated to be created in the Uruguayan economy of which approximately 4,000 would involve direct employment by UPM and its subcontractors. About 600 companies are estimated to be working in the value chain.

The mill will be located in one of Uruguay's many free trade zones and will pay a fixed annual tax of USD 7 million. The mill's value chain is expected to contribute USD 170 million in annual taxes and social security payments and to contribute USD 200 million annually in wages and salaries.

Project schedule and capital outflow

The mill is expected to start up in the second half of 2022. The project is proceeding according to the planned schedule. Approximately 2,500 people are currently working on the project at the different construction sites.

At the pulp mill site in Paso de los Toros, earth and road works are continuing. Civil construction works are proceeding according to plans. Construction of the chimney is in its final phase and the foundations for the other process buildings are progressing. The project offices and canteen have been finalized.

At the pulp terminal in Montevideo, pier and tank area construction are proceeding and the pulp warehouse and unloading area steel framing is ongoing.

The temporary and permanent housing construction are also proceeding as planned, and the first housing areas are already in use by the construction workers.

The main part of the total capital expenditure of USD 3 billion will take place in 2020-2022. UPM will hold 91% ownership of the project and a local long-term partner which has also been involved in UPM Fray Bentos, owns 9%. UPM's investment will mainly be financed from operating cash flow complemented by regular group financing activities.

Biochemicals refinery investment

On 30 January UPM announced that it would invest EUR 550 million in a 220,000 tonnes next-generation biochemicals refinery in Leuna, Germany. The biorefinery is scheduled to start up by the end of 2022.

The biorefinery will produce a range of 100% wood-based biochemicals, which will enable a switch from fossil raw materials to sustainable alternatives in various consumer-driven end-uses. The investment opens totally new markets for UPM, with large growth potential for the future.

An industrial scale biorefinery will convert solid wood into next generation biochemicals: bio-monoethylene glycol (BioMEG) and lignin-based renewable functional fillers. In addition, the biorefinery will produce bio-monopropylene glycol (BioMPG) and industrial sugars. Once the facility is fully ramped up and optimized, it is expected to achieve the ROCE target of 14%.

A combination of sustainable wood supply, a unique technology concept, integration into existing infrastructure at Leuna as well as the proximity to customers will ensure the competitiveness of operations. The safety and sustainability of the value chain will be based on UPM's high standards.

InfraLeuna GmbH, in the state of Saxony-Anhalt, offers very competitive conditions for constructing a biorefinery with its existing permitting processes, logistics arrangements and infrastructure for various services and utilities. In October 2020, UPM has entered into service agreements with InfraLeuna GmbH related to wood handling, wastewater treatment and other utilities, which will be recognized as lease assets and liabilities under IFRS 16 Leases upon commencement date. The total amount of such lease assets and liabilities is estimated to be EUR 100 million.

Construction of the biorefinery at Leuna has commenced. Permitting has proceeded in accordance with German legislation and the first permits have been received as planned. Detailed engineering and procurement activities are proceeding at full speed.

OL3 power plant project

Teollisuuden Voima Oyj (TVO) is in the process of constructing a third nuclear power plant unit, OL3 EPR, at the Olkiluoto site (OL3). UPM participates in OL3 through its shareholding in Pohjolan Voima Oyj (PVO), which is the majority shareholder in TVO. UPM's indirect share of OL3 is approximately 31%. The OL3 plant supplier, a consortium consisting of AREVA GmbH, AREVA NP SAS and Siemens AG (Supplier), is constructing OL3 as a turnkey project.

The start of regular electricity production, originally scheduled for April 2009, has been revised several times by the Supplier. TVO announced in August 2020 having received an updated re-baseline schedule on the commissioning of OL3 from Supplier. According to the schedule fuel will be loaded into the reactor in March 2021, OL3 will be connected to the grid in October 2021, and regular electricity production will start in February 2022.

The new management of Areva, the supplier party, is preparing a financial solution to complete OL3 project until the end of the guarantee period. TVO is also negotiating with the supplier on the terms of completing OL3 project.

When completed, OL3 will supply electricity to its shareholders on a cost-price principle (Mankala-principle) which is widely applied in the Finnish energy industry. Under the Mankala-principle electricity and/or heat is supplied to the shareholders in proportion to their ownership and each shareholder is, pursuant to the specific stipulations of the respective articles of association, severally responsible for its respective share of the production costs of the energy company concerned. OL3 will increase UPM Energy's electricity generation capacity significantly. The new power plant unit is expected to be highly efficient and meet the highest safety standards. Its power generation will be CO_2 -free and Olkiluoto will have a secure solution for the final disposal of used fuel.

Events during Q1–Q3 2020

On 27 January, several Finnish labour unions began extensive labour actions in the Finnish forestry industry.

On 27 January, UPM announced its commitment to the United Nations Global Compact's Business Ambition for 1.5°C, joining leading companies in a promise to pursue science-based measures to limit the global temperature rise to 1.5°C. UPM will strive to mitigate climate change and drive value creation by innovating novel products, committing to a 65% CO_2 emission reduction from 2015 levels by 2030 and by practicing sustainable forestry.

On 28 January, UPM announced that it has started the employee consultation processes for the potential closure of the UPM Chapelle newsprint mill in Grand-Couronne, France.

On 30 January, UPM announced that it would invest EUR 550 million in a 220,000 tonnes next generation biochemicals refinery at Leuna, Germany. The facility is scheduled to start up by the end of 2022.

On 30 March, UPM withdrew its outlook for 2020, due to the uncertainty caused by the COVID-19 pandemic for the rest of the year.

On 8 April, an Olkiluoto 3 ERP unit nuclear fuel loading permission application was submitted. TVO also announced, that due to the COVID-19 pandemic, fuel loading into the reactor will not happen as planned in June 2020, and it is possible that the regular electricity production will be delayed respectively.

On 15 May, UPM announced that UPM and the new Government of Uruguay had signed a memorandum of understanding on pending items related to UPM's growth project in Uruguay. UPM will accelerate the earlier planned USD 60 million financing of the road infrastructure development and invest USD 68 million in electrical grid reinforcement.

On 18 May, UPM announced that it would sell its 50% share in Kainuun Voima Oy to Kajaanin Energiatuotanto Oy, owned by the city of Kajaani. In addition, the city of Kajaani will acquire five properties owned by UPM. The total amount of share and real estate transactions was EUR 19 million. The transaction was completed on 1 July.

On 2 June, UPM announced the plan that it has started a consultation process of potential closure of the UPM Jyväskylä plywood mill in Finland. The plywood mill is producing spruce and birch plywood and it employs 167 people. UPM has recognized restructuring charges of EUR 22 million as items affecting comparability in its Q2 2020 results. The planned actions would result in annual savings of approximately EUR 11 million.

On 16 July, UPM announced the decision to permanently close the UPM Chapelle newsprint mill in France, reducing annual capacity of newsprint by 240,000 tonnes. The number of persons affected was 228. UPM recognizes restructuring charges in total of EUR 78 million, whereof EUR 61 million as cash costs. EUR 45 million was booked as items affecting comparability in Q1 2020 and EUR 33 million in Q2 2020. The action will result in annual savings of approximately EUR 30 million.

On 21 July, UPM announced the decision to permanently close the UPM Jyväskylä plywood mill. The reduction of personnel is 147 people.

On 26 August, UPM announced the plans for the permanent closure of UPM Kaipola paper mill in Finland, the sale of UPM Shotton paper mill in Wales and the streamlining of UPM Communication Papers business function teams.

The planned closure of the three paper machines at UPM Kaipola would impact approximately 450 positions and lead to a permanent reduction of 720,000 tonnes of graphic paper capacity, thereof 450,000 tonnes of newsprint and 270,000 tonnes of coated mechanical paper. UPM Communication Papers plans to reorganize and streamline its business function teams would affect approximately 170 positions in more than 10 countries. UPM's plan to sell its UPM Shotton paper mill for conversion purposes would impact production capacity of 250,000 tonnes of newsprint.

In addition, UPM announced UPM Biorefining and UPM Specialty Papers plans to reorganize and streamline activities in Finnish pulp mills, UPM Forest and UPM Tervasaari mill in Finland. UPM will begin the employee consultation process at its Kymi, Kaukas and Pietarsaari pulp mills. These plans would lead to a reduction of 110 positions. In the Finnish forest organization, the planned measures would affect maximum 60 positions. At UPM Specialty Papers, the planned measures would impact approximately 50 positions at the UPM Tervasaari mill.

UPM will recognize restructuring charges of approximately EUR 115 million (EUR 55 million cash impact and EUR 60 million as write-offs) as items affecting comparability in its Q3 2020 results, mainly related to the planned actions at UPM Communication Papers. The planned actions would result in total annual cost savings of approximately EUR 75 million.

On 28 August, TVO announced that it had received an updated schedule from the plant supplier Areva-Siemens consortium for the commissioning of the OL3 EPR plant unit. According to the schedule, the fuel will be loaded into the reactor in March 2021, the plant unit will be connected to the national electricity grid in October of the same year and regular electricity generation will start in February 2022.

On 21 September UPM announced that it has been recognized as a UN Global Compact LEAD participant for its strong commitment to responsible business. UPM has held LEAD participant status since 2016.

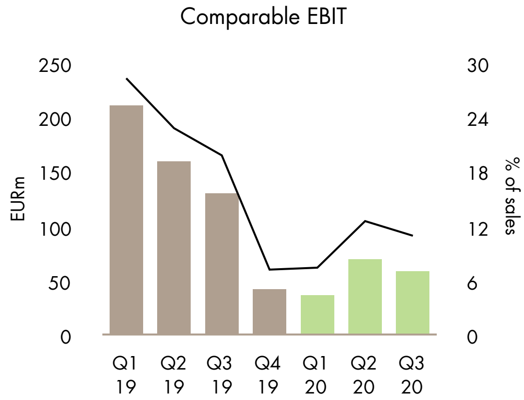
Events after the balance sheet date

On 6 October, UPM announced plans to simplify organization and increase efficiency at UPM Raflatac and in global functions. The plans would reduce approximately 100 positions at UPM Raflatac and 70 positions from global functions. The plans would result in annual savings of approximately EUR 12 million.

On 15 October, UPM announced that employee consultations were concluded and the UPM Kaipola mill in Finland will be closed permanently by mid-December. The number of persons affected will be 448.

UPM Biorefining

UPM Biorefining consists of pulp, timber and biofuels businesses. UPM Pulp offers a versatile range of responsibly-produced pulp grades suitable for a wide range of end-uses such as tissue, specialty paper, graphic papers and board. UPM Timber offers certified sawn timber for construction, joinery and furniture. UPM Biofuels produces wood-based renewable diesel for all diesel engines and renewable naphtha that can be used as a biocomponent for gasoline or for replacing fossil raw materials in petrochemical industry, for example. UPM has three pulp mills in Finland and one mill and plantation operations in Uruguay. UPM operates four sawmills and one biorefinery in Finland.



	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	541	563	509	592	660	708	753	1,613	2,121	2,712
Comparable EBITDA, EURm	104	113	81	96	171	203	254	298	628	724
% of sales	19.2	20.1	15.9	16.3	25.9	28.6	33.8	18.5	29.6	26.7
Change in fair value of forest assets and wood harvested, EURm	-2	0	-1	-11	1	-1	-1	-2	0	-11
Share of results of associated companies and joint ventures, EURm	0	1	1	1	1	1	1	2	2	2
Depreciation, amortisation and impairment charges, EURm	-44	-44	-44	-44	-43	-42	-42	-132	-127	-171
Operating profit, EURm	58	70	37	42	130	161	212	165	502	544
% of sales	10.8	12.4	7.3	7.1	19.7	22.7	28.2	10.2	23.7	20.1
Items affecting comparability in operating profit, EURm	—	—	—	—	—	—	—	—	—	—
Comparable EBIT, EURm	58	70	37	42	130	161	212	165	502	544
% of sales	10.8	12.4	7.3	7.1	19.7	22.7	28.2	10.2	23.7	20.1
Capital employed (average), EURm	3,592	3,664	3,561	3,436	3,468	3,491	3,481	3,605	3,480	3,469
Comparable ROCE, %	6.5	7.6	4.2	4.9	15.0	18.4	24.4	6.1	19.3	15.7
Pulp deliveries, 1000 t	932	943	864	943	979	877	915	2,738	2,772	3,715

Pulp mill maintenance shutdowns: Q4 2019 UPM Fray Bentos, Q2 2019 Kymi.

- The plans for reorganizing and streamlining activities in Finnish pulp mills
- Good production in pulp and all-time record production in biofuels

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for UPM Biorefining decreased due to lower pulp sales prices and unfavourable changes in currencies. Delivery volumes were lower. Wood costs were lower.

The average price in euro for UPM's pulp deliveries decreased by 19%.

Q3 2020 compared with Q2 2020

Comparable EBIT decreased mainly due to unfavourable changes in currencies and slightly lower pulp sales prices.

The average price in euro for UPM's pulp deliveries decreased by 9%.

January–September 2020 compared with January–September 2019

Comparable EBIT for UPM Biorefining decreased due to lower pulp sales prices. Wood and other variable costs were lower. Fixed costs were lower mainly due to the scheduled maintenance shutdown at the UPM Kymi pulp mill in the second quarter of 2019. Delivery volumes were impacted by the strike in Finland in the first quarter of 2020.

The average price in euro for UPM's pulp deliveries decreased by 26%.

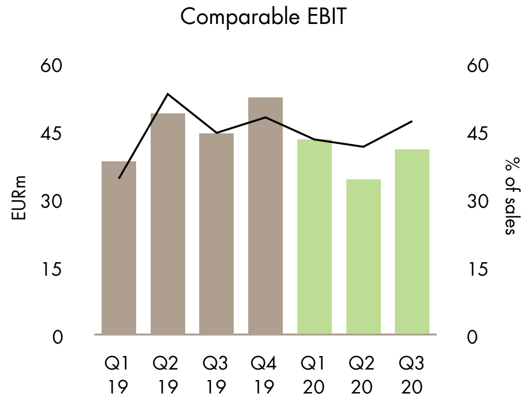
Market environment

- Global chemical pulp demand was good in the first nine months of 2020. Global shipments of market pulp improved from the weak comparison period in 2019.
- In Europe and China, the market price for northern bleached softwood kraft (NBSK) pulp decreased in the third quarter of 2020 compared to Q2 2020. The market price for bleached hardwood kraft pulp (BHKP) decreased in Europe and in China compared to the previous quarter.
- In the first nine months of 2020, the average European market price in euro was 19% lower for NBSK and 26% lower for BHKP, compared to the first nine months of 2019. In China the average market price in US dollars was 12% lower for NBSK and 24% lower for BHKP, compared to last year.
- Demand for advanced renewable diesel and naphtha remained good.
- Demand for sawn timber was at a good level. Market prices increased during Q3 2020.

Sources: FOEX, UPM

UPM Energy

UPM Energy creates value through cost competitive, low-emission electricity generation and through physical and financial electricity trading as well as energy optimisation services for industrial consumers. UPM Energy is the second largest electricity producer in Finland. UPM's power generation capacity consists of hydropower, nuclear power and thermal power.



	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	88	83	101	110	101	93	113	272	306	417
Comparable EBITDA, EURm	43	36	45	55	48	51	41	124	140	195
% of sales	48.8	43.6	44.8	49.7	47.5	55.1	36.0	45.7	45.6	46.7
Depreciation, amortisation and impairment charges, EURm	-2	-2	-2	-2	-3	-2	-2	-6	-7	-9
Operating profit, EURm	58	34	43	53	45	49	39	136	132	184
% of sales	66.1	41.2	42.9	47.7	44.3	52.2	34.2	49.9	43.0	44.2
Items affecting comparability in operating profit, EURm [1)]	17	—	—	—	—	-1	—	17	-1	-1
Comparable EBIT, EURm	41	34	43	53	45	49	39	119	132	185
% of sales	46.9	41.2	42.9	47.7	44.3	52.9	34.2	43.7	43.2	44.4
Capital employed (average), EURm	2,229	2,336	2,434	2,441	2,452	2,460	2,463	2,333	2,458	2,454
Comparable ROCE, %	7.4	5.9	7.1	8.6	7.3	8.0	6.3	6.8	7.2	7.5
Electricity deliveries, GWh	2,082	2,162	2,487	2,285	2,040	2,121	2,173	6,731	6,334	8,619

[1)] In Q3 2020, items affecting comparability include EUR 12 million gain on sale of group's share in Kainuun Voima Oy and EUR 5 million income relating to reversal of unused restructuring provisions. In Q2 2019, items affecting comparability relate to restructuring of ownership in Meri-Pori power plant

- TVO announced an updated schedule for the commissioning of the OL3 EPR plant unit. According to the schedule, the fuel will be loaded into the reactor in March 2021, the plant unit will be connected to the national electricity grid in October of the same year and regular electricity generation will start in February 2022.

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for UPM Energy decreased due to lower electricity sales prices. Hydropower generation was higher.

UPM's average electricity sales price decreased by 11% to EUR 38.5/MWh (43.3/MWh).

Q3 2020 compared with Q2 2020

Comparable EBIT increased due to higher electricity sales prices and higher nuclear generation, which was impacted by the maintenance shutdown at the Olkiluoto nuclear power plant in the comparison period. Hydropower generation was lower due to flooding season in the comparison period.

UPM's average electricity sales price increased by 12% to EUR 38.5/MWh (34.3/MWh).

January–September 2020 compared with January–September 2019

Comparable EBIT for UPM Energy decreased due to lower electricity sales prices. Hydropower generation was higher. Fixed costs for nuclear were higher due to the low comparison period.

UPM's average electricity sales price decreased by 15% to EUR 35.8/MWh (41.9/MWh).

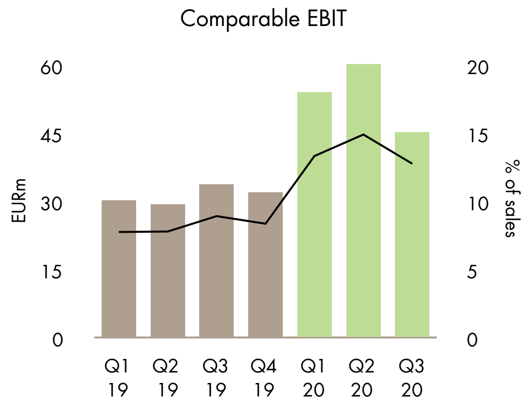
Market environment

- The Nordic hydrological balance was above normal at the end of September. In Finland, the hydrological situation was close to normal.
- The CO_2 emission allowance price of EUR 26.9/tonne at the end of Q3 2020 was higher than in Q3 2019 (EUR 24.7/tonne).
- The average Finnish area spot price on the Nordic electricity exchange in the nine months of 2020 was EUR 26.4/MWh, 40% lower than in the same period last year (44.2/MWh).
- The front-year forward electricity price for the Finnish area closed at EUR 40.5/MWh in September, 20% higher than at the end of Q2 2020 (33.7/MWh).

Sources: The Norwegian Water Resources and Energy Directorate, Svensk Energi, Finnish Environment Institute, Nord Pool, NASDAQ OMX, Bloomberg, UPM

UPM Raflatac

UPM Raflatac manufactures self-adhesive label materials for product and information labelling in the food, beverage, personal care, pharmaceutical and retail segments, for example. UPM Raflatac is the second-largest producer of self-adhesive label materials worldwide.



	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	358	403	408	389	382	385	398	1,170	1,165	1,555
Comparable EBITDA, EURm	55	70	64	43	44	40	40	188	124	166
% of sales	15.3	17.2	15.6	10.9	11.4	10.3	10.1	16.1	10.6	10.7
Depreciation, amortisation and impairment charges, EURm	-9	-10	-10	-10	-10	-10	-10	-29	-30	-40
Operating profit, EURm	45	60	51	33	36	30	26	157	91	124
% of sales	12.7	14.9	12.5	8.4	9.3	7.8	6.5	13.4	7.8	8.0
Items affecting comparability in operating profit, EURm [1)]	—	—	-3	1	2	—	-5	-3	-3	-2
Comparable EBIT, EURm	45	60	54	32	34	30	31	159	94	126
% of sales	12.7	14.8	13.3	8.3	8.8	7.7	7.7	13.6	8.1	8.1
Capital employed (average), EURm	532	560	549	563	578	590	586	547	585	579
Comparable ROCE, %	34.1	42.8	39.5	22.9	23.4	20.1	20.9	38.9	21.4	21.8

[1)] In Q1 2020 and Q4 2019, items affecting comparability relate to restructuring charges. In Q3 2019, items affecting comparability include gains on sale of non-current assets. In Q1 2019, items affecting comparability relate to restructuring charges.

- Mix and cost management actions continued
- Commitment to the U.S. Plastic Pact to meet circular economy goals by 2025
- Focus on working capital management during the inventory cycle change

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for UPM Raflatac increased, mainly due to improved mix and margin management. Fixed costs were lower. Delivery volumes decreased.

Q3 2020 compared with Q2 2020

Comparable EBIT decreased due to lower delivery volumes. Fixed costs were lower.

January–September 2020 compared with January–September 2019

Comparable EBIT for UPM Raflatac increased, mainly due to improved mix and margin management. Delivery volumes were higher.

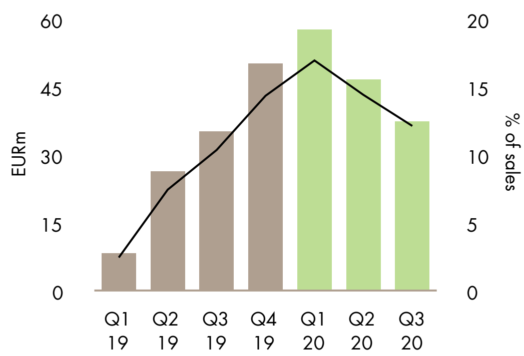
Market environment

- In Q3 2020, demand declined in Europe compared to the previous quarter due to destocking in the customer value chain. In H1 2020, demand was particularly strong in the daily consumer goods and e-commerce-driven labelling due to the COVID-19-related lockdowns and changes in consumer behaviour. Demand was stable in the Americas and recovering in Asia.

Sources: UPM, FINAT, TLMI

UPM Specialty Papers

UPM Specialty Papers offers labelling materials and release liner base papers, flexible packaging papers as well as office and graphic papers for labelling, commercial siliconising, packaging, office use and printing. The production plants are located in China, Finland and Germany.



	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	311	325	342	353	344	359	357	979	1,059	1,412
Comparable EBITDA, EURm	56	66	75	67	53	45	29	197	127	194
% of sales	18.0	20.3	21.8	18.9	15.4	12.5	8.2	20.1	12.0	13.7
Depreciation, amortisation and impairment charges, EURm	-18	-19	-17	-16	-18	-19	-21	-55	-57	-74
Operating profit, EURm	40	50	58	50	35	26	8	148	70	120
% of sales	12.9	15.5	16.9	14.3	10.3	7.4	2.4	15.1	6.6	8.5
Items affecting comparability in operating profit, EURm [1]	3	4	—	—	—	—	—	6	—	—
Comparable EBIT, EURm	37	47	58	50	35	26	8	142	70	120
% of sales	12.0	14.3	16.9	14.3	10.3	7.4	2.4	14.5	6.6	8.5
Capital employed (average), EURm	871	900	937	920	895	892	908	903	898	904
Comparable ROCE, %	17.2	20.7	24.7	21.9	15.8	11.8	3.7	21.0	10.4	13.3
Paper deliveries, 1000 t	397	382	387	394	383	390	386	1,166	1,159	1,552

[1] In Q3 and Q2 2020, items affecting comparability include gains on sale of non-current assets.

- High overall efficiency in fine papers, focus on defending prices continued
- Specialty grades benefit from flexible production platform
- Several product development initiatives in new specialty grades
- Strict control of fixed costs continued, plans to streamline activities at the UPM Tervasaari mill in Finland

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for UPM Specialty Papers increased, mainly due to significantly lower input costs. Delivery volumes increased. Sales prices were lower.

Q3 2020 compared with Q2 2020

Comparable EBIT decreased mainly due to lower fine paper sales prices in Asia. Delivery volumes increased.

January–September 2020 compared with January–September 2019

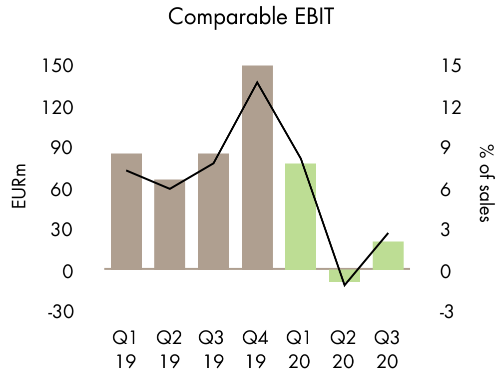
Comparable EBIT for UPM Specialty Papers increased mainly due to lower input costs. Delivery volumes increased. Sales prices were lower.

Market environment

- In the Asia-Pacific region, fine paper demand improved in the third quarter of 2020.
- China fine paper market prices remained low in the third quarter of 2020.
- Demand growth for label, release and packaging paper was strong in the first nine months of 2020. Demand was driven by consumable goods and e-commerce as demand for durable goods was negatively impacted by COVID-19 and uncertainties in economy. Sales prices remained stable in the third quarter of 2020.

Sources: UPM, RISI, Pöyry, AWA

UPM Communication Papers



UPM Communication Papers offers an extensive product range of graphic papers for advertising and publishing as well as home and office uses. The business has extensive low-cost operations consisting of 14 efficient paper mills in Europe and the United States, a global sales network and an efficient logistic system. The main customers are publishers, cataloguers, retailers, printers and merchants.

	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	784	741	966	1,098	1,116	1,138	1,200	2,491	3,454	4,552
Comparable EBITDA, EURm	48	21	110	181	117	98	118	179	333	513
% of sales	6.1	2.9	11.4	16.4	10.5	8.6	9.8	7.2	9.6	11.3
Share of results of associated companies and joint ventures, EURm	1	-1	0	1	0	0	0	0	0	1
Depreciation, amortisation and impairment charges, EURm	-82	-42	-34	-34	-43	-34	-33	-157	-111	-145
Operating profit, EURm	-95	-37	31	147	57	36	85	-101	178	324
% of sales	-12.1	-5.0	3.2	13.3	5.1	3.2	7.1	-4.0	5.1	7.1
Items affecting comparability in operating profit, EURm [1)]	-114	-27	-45	-2	-28	-29	—	-187	-57	-58
Comparable EBIT, EURm	19	-10	76	148	85	65	85	86	234	383
% of sales	2.5	-1.3	7.9	13.5	7.6	5.7	7.1	3.5	6.8	8.4
Capital employed (average), EURm	1,413	1,473	1,529	1,541	1,627	1,663	1,759	1,472	1,683	1,647
Comparable ROCE, %	5.5	-2.7	20.0	38.5	20.8	15.6	19.3	7.8	18.6	23.2
Paper deliveries, 1000 t	1,320	1,188	1,515	1,681	1,681	1,666	1,746	4,023	5,093	6,774

1) In Q3 2020, items affecting comparability include EUR 46 million restructuring charges and EUR 53 million impairment charges related to planned closure of UPM Kaipola mill and EUR 15 million charges related to functions' restructuring. In Q2 2020, items affecting comparability include EUR 33 million charges related to closure of UPM Chapelle newsprint mill in France, EUR 5 million gains on sale of non-current assets and EUR 1 million income relating to prior capacity closures. Q1 2020 items affecting comparability relate to closure of UPM Chapelle. Q4 2019 items relate to prior capacity closures. Q3 2019 items include EUR 17 million restructuring charges and EUR 11 million impairment charges related to closure of paper machine 2 at UPM Rauma mill, Finland. Q2 2019 items include EUR 28 million restructuring charges and EUR 1 million impairment charges related to closure of paper machine 10 at UPM Plattling mill, Germany.

- Decision on the permanent closure of the UPM Kaipola paper mill in Finland and plans for the sale of the UPM Shotton paper mill in Wales and streamlining of UPM Communication Papers business function teams

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for UPM Communication Papers decreased due to 21% lower delivery volumes, as graphic papers demand was impacted by the COVID-19 pandemic. Sales prices were lower, which was partly offset by the positive impact of lower fibre costs. Fixed costs decreased.

The average price in euro for UPM's paper deliveries decreased by 11%.

Q3 2020 compared with Q2 2020

Comparable EBIT increased due to higher production and delivery volumes. Fixed costs decreased. Sales prices were lower and more than offset the positive impact of lower variable costs.

The average price in euro for UPM's paper deliveries decreased by 5%.

January–September 2020 compared with January–September 2019

Comparable EBIT for UPM Communication Papers decreased due to lower delivery volumes. The COVID-19 pandemic and the related lockdown measures impacted graphic papers demand. The strike in Finland impacted production in the first quarter of 2020. Sales prices were lower and more than offset the positive impact of lower fibre costs. Fixed costs decreased significantly.

The average price in euro for UPM's paper deliveries decreased by 9%.

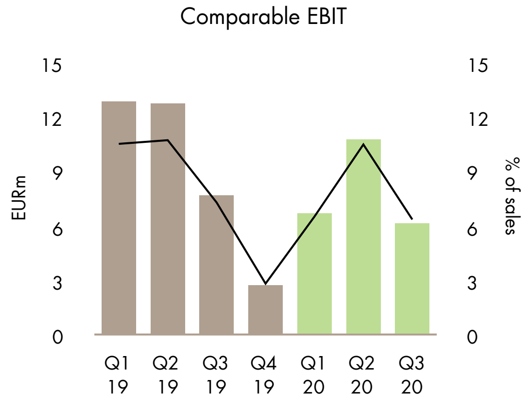
Market environment

- In the first nine months of 2020, demand for graphic papers in Europe was 20% lower than in the first nine months of 2019. Newsprint demand decreased by 20%, magazine papers by 19% and fine papers by 20% compared to the first nine months of 2019.
- In Q3 2020, demand for graphic papers in Europe was 18% lower than in the third quarter 2019. Demand for newsprint decreased by 20%, magazine papers by 19% and for fine papers by 17% compared to the third quarter of 2019.
- In Q3 2020 publication paper prices in Europe were 5% lower than in the second quarter of 2020. Compared to Q3 2019 publication paper prices were 11% lower. In Q3 2020, fine paper prices in Europe were 3% lower than in the previous quarter. Compared to Q3 2019, fine paper prices were 5% lower on average.
- In the first nine months of 2020, demand for magazine papers in North America decreased by 25%, compared to the same period last year. The average price in US dollars for magazine papers in Q3 2020 decreased by 1% compared to Q2 2020 and by 7% compared to Q3 2019.

Sources: PPI/RISI, Euro-Graph, PPPC

UPM Plywood

UPM Plywood offers plywood and veneer products, mainly for construction, vehicle flooring and LNG shipbuilding, as well as other industrial applications. Production facilities are located in Finland, Estonia and Russia.



	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	98	104	105	101	106	120	123	306	349	450
Comparable EBITDA, EURm	13	18	14	9	14	19	19	44	51	61
% of sales	12.9	17.1	13.0	9.4	13.0	15.6	15.3	14.3	14.7	13.5
Depreciation, amortisation and impairment charges, EURm	-6	-14	-7	-7	-6	-6	-6	-28	-18	-25
Operating profit, EURm	6	-12	7	3	8	13	13	1	33	36
% of sales	6.3	-11.1	6.5	2.8	7.2	10.7	10.5	0.5	9.6	8.0
Items affecting comparability in operating profit, EURm [1)]	—	-22	—	—	—	—	—	-22	—	—
Comparable EBIT, EURm	6	11	7	3	8	13	13	24	33	36
% of sales	6.3	10.4	6.5	2.8	7.2	10.7	10.5	7.8	9.6	8.0
Capital employed (average), EURm	284	298	307	328	332	336	321	297	330	329
Comparable ROCE, %	8.7	14.5	8.8	3.4	9.3	15.2	16.1	10.7	13.5	11.0
Plywood deliveries, 1000 m^3	168	173	173	169	181	193	196	515	569	739

[1)] In Q2 2020, items affecting comparability include EUR 15 million restructuring charges and EUR 8 million impairment charges related to closure of Jyväskylä plywood mill in Finland.

- Permanent closure of the UPM Jyväskylä plywood mill in Finland
- COVID-19 had no impact on business continuity
- Challenging market environment continued

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for UPM Plywood decreased due to lower delivery volumes. Wood costs and fixed costs were lower.

Q3 2020 compared with Q2 2020

Comparable EBIT decreased, mainly due to lower production and delivery volumes. Wood costs were lower.

January–September 2020 compared with January–September 2019

Comparable EBIT for UPM Plywood decreased due to lower delivery volumes and sales prices. Delivery volumes were impacted by the strike in Finland in the first quarter of 2020. Fixed costs were significantly lower.

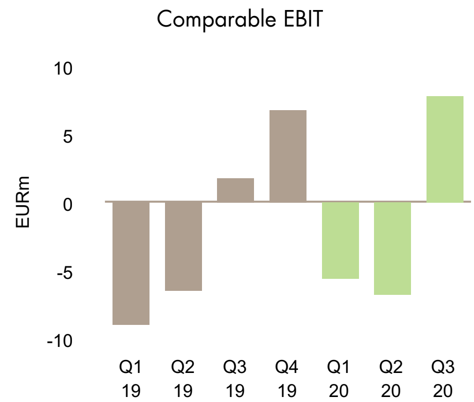
Market environment

- In Q3 2020, demand for spruce plywood was strong. Demand for birch plywood-related industrial applications remained modest, but with some signs of recovery.

Source: UPM

Other operations

UPM Forest secures competitive wood and biomass for UPM businesses and manages UPM-owned and privately-owned forests in North Europe. In addition, UPM offers forestry services to forest owners and forest investors. UPM Biochemicals, UPM Biocomposites and UPM Biomedicals business units as well as group services are also included in Other operations.



	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	57	60	50	62	63	72	68	167	202	264
Comparable EBITDA, EURm	15	-1	1	-17	4	3	-8	14	-1	-18
Change in fair value of forest assets and wood harvested, EURm	1	0	0	31	4	-3	6	1	7	38
Share of results of associated companies and joint ventures, EURm	0	1	0	0	0	0	0	1	0	0
Depreciation, amortisation and impairment charges, EURm	-8	-7	-6	-7	-6	-7	-6	-21	-20	-27
Operating profit, EURm	7	-7	-6	7	1	-9	-9	-5	-17	-10
Items affecting comparability in operating profit, EURm [1)]	-1	—	—	—	-1	-2	—	-1	-3	-4
Comparable EBIT, EURm	8	-7	-6	7	2	-6	-9	-4	-14	-7
Capital employed (average), EURm	1,908	1,916	1,879	1,864	1,823	1,807	1,801	1,901	1,810	1,824
Comparable ROCE, %	1.6	-1.4	-1.2	1.4	0.4	-1.4	-2.0	-0.3	-1.0	-0.4

1) In Q3 2020 and Q3 2019, items affecting comparability relate to restructuring charges and in Q2 2019 to capital loss on sale of Voikkaa mill site in Finland.

- The plans for reorganizing and streamlining activities in UPM Forest
- UPM launched its first clinical product to market – FibDex® wound dressing made from nanofibrillar cellulose by UPM Biomedicals.

Results

Q3 2020 compared with Q3 2019

Comparable EBIT for other operations increased. The change in the fair value of forest assets net of wood harvested was EUR 1 million (4 million). The increase in the fair value of forest assets was EUR 16 million (15 million). The cost of wood harvested from UPM forests was EUR 15 million (12 million).

Q3 2020 compared with Q2 2020

Comparable EBIT increased. The change in the fair value of forest assets net of wood harvested was EUR 1 million (0 million). The increase in the fair value of forest assets was EUR 16 million (14 million). The cost of wood harvested from UPM forests was EUR 15 million (14 million).

January–September 2020 compared with January–September 2019

Comparable EBIT for other operations increased. The change in the fair value of forest assets net of wood harvested was EUR 1 million (7 million). The increase in the fair value of forest assets was EUR 46 million (43 million). The cost of wood harvested from UPM forests was EUR 45 million (37 million).

Risks and near-term uncertainties

The main uncertainties in UPM's earnings relate to the sales prices and delivery volumes of the group's products, as well as to changes to the main input cost items and currency exchange rates. Most of these items depend on general economic developments.

Currently, the COVID-19 pandemic is causing significant uncertainty. Economists expect a global recession, which may be more severe than the global financial crisis, and which is impacting practically all parts of the world. The duration of the pandemic and duration and shape of the recession are uncertain. The pandemic itself, the lockdowns and containment measures, and the resulting global recession may all impact UPM's operations and supply chain, or the demand, supply and pricing of UPM's products and inputs. The COVID-19 pandemic and related issues are discussed earlier in this report.

Once the recovery from the current crisis starts, global trade tensions between major economic regions, e.g. the US and China, as well as political uncertainties in several countries will remain. The nature of the relationship between the EU and the UK after Brexit also remains undefined.

Changes to the monetary policies of major central banks may significantly impact various currencies that directly or indirectly affect UPM.

In Finland, UPM is participating in a project to construct a new nuclear power plant unit, Olkiluoto 3 EPR (OL3), through its shareholdings in Pohjolan Voima Oyj. Pohjolan Voima Oyj is a majority shareholder of Teollisuuden Voima Oyj (TVO), holding 58.5% of its shares. UPM's indirect share of OL3 is approximately 31%.

According to TVO OL3 was procured as a fixed price turnkey project from a consortium formed by Areva GmbH, Areva NP SAS and Siemens AG (Supplier). Under the plant contract, the consortium companies have joint and several liability for the contractual obligations.

Originally commercial electricity production at OL3 was scheduled to start in April 2009. However, completion of the project has been delayed. Supplier has updated the schedule for the commissioning of OL3 several times.

In March 2018 TVO announced that it had signed a comprehensive settlement agreement with Supplier and the Areva Group parent company, Areva SA, a company wholly owned by the French state. The settlement agreement concerns the completion of the OL3 project and related disputes and entered into force in late March 2018. According to TVO, pursuant to the settlement agreement, TVO and Supplier jointly withdrew the pending arbitration proceedings under the International Chamber of Commerce (ICC) rules with respect to costs and losses incurred in relation to delays in the construction of the OL3 project.

In July 2018, TVO announced that in June 2018 the ICC tribunal had confirmed the arbitration settlement by a consent award, and the arbitration proceedings had been terminated. The parties also withdrew the pending appeals in the General Court of the European Union.

According to TVO, the settlement agreement stipulates as follows:

- To provide and maintain adequate and competent technical and human resources for the completion of the OL3 project, Areva will source the necessary additional resources from Framatome S.A.S., whose majority owner is EDF.
- The supplier consortium companies undertake that the funds dedicated to the completion of the OL3 project will be adequate and will cover all applicable guarantee periods, including setting up a trust mechanism funded by Areva companies to secure the financing of the costs of completion of the OL3 project.
- The turnkey principle of the OL3 plant contract and the joint and several liability of the supplier consortium companies remain in full force.
- The agreement also noted Supplier's schedule at the time the agreement was signed, according to which regular electricity production in the unit would have commenced in May 2019.
- The ICC arbitration concerning the costs and losses caused by the delay of the OL3 project is settled by financial compensation of EUR 450 million to be paid to TVO in two instalments by Supplier.
- The parties withdraw all on-going legal actions related to OL3, including the ICC Arbitration and appeals in the General Court of the European Union.
- In the event that the Supplier consortium companies fail to complete the OL3 project by the end of 2019, the Supplier consortium companies will pay a penalty to TVO for such delay, the amount of which will depend on the actual time of completion of the OL3 project and may not exceed EUR 400 million.

In April 2020, TVO announced that it had submitted a permission application to the Finnish Radiation and Nuclear Safety Authority (STUK) for nuclear fuel loading of the Olkiluoto 3 nuclear power plant unit.

In August 2020, TVO announced having received an updated re-baseline schedule on the commissioning of OL3 from Supplier. According to the schedule fuel will be loaded into the reactor in March 2021, OL3 will be connected to the grid in October 2021, and regular electricity production will start in February 2022. According to TVO issues that have caused delays in the project schedule are slowly progressing system testing, technical problems that have been identified in tests, and the increase in the amount of maintenance work caused by project delay. Also, the lack of necessary spare parts has taken time. Technical problems that have emerged on the plant unit have now been solved, and the repair works are currently ongoing.

The coronavirus pandemic may have significantly added uncertainty to the progress of the project. According to TVO significant arrangements have been made at the OL3 site preventing the coronavirus infections. Despite of coronavirus restrictions, work has been able to continue under special arrangements.

As announced by TVO, the new management of Areva, the supplier party, is preparing a financial solution to complete the OL3 project until the end of the guarantee period. TVO is also negotiating with Supplier on the terms of completing the OL3 project.

Further, as announced by TVO, TVO has recognized receivables amounted to the accumulated compensation by the end of Q3 2020 agreed in the comprehensive settlement agreement from supplier. The compensation decreases the historical costs of property, plant and equipment in TVO's balance sheet.

In September, 2020 TVO announced that Standard & Poor's (S&P) has placed TVO's long term credit rating BB on CreditWatch with negative implications. S&P sees a risk that TVO might not be sufficiently and timely compensated for the over-run costs by the time OL3 is completed leading to a higher indebtedness of TVO, and Areva's ability to honor the upcoming costs and contractual obligations of the trust mechanism until the end of the guarantee period.

Further delays to the OL3 project could have an adverse impact on PVO's business and financial position, the fair value of UPM's energy shareholdings in PVO and/or the cost of energy sourced from OL3 when completed. It is possible that the cost of energy sourced from OL3 at the time when it starts regular electricity production may be higher than the market price of electricity at that time.

The main earnings sensitivities and the group's cost structure are presented on pages 160–161 of the Annual Report

2019. Risks and opportunities are discussed on pages 28–29, and risks and risk management are presented on pages 129–131.

Shares

In Q1–Q3 2020 UPM shares worth a total of EUR 7,521 million (7,491 million) were traded on the NASDAQ Helsinki stock exchange. This is estimated to represent more than 70% of the total trading volume in UPM shares. The highest listing was EUR 31.50 in January and the lowest was EUR 20.31 in March.

The Annual General Meeting held on 31 March 2020 authorized the Board of Directors to decide on the repurchase of a maximum of 50,000,000 of the Company's own shares. The authorization will be valid for 18 months from the date of the AGM resolution.

The Annual General Meeting held on 31 March 2020 authorized the Board of Directors to decide on the issuance of new shares, the transfer of treasury shares and the issuance of special rights entitling to shares in proportion to the shareholders' existing holdings in the Company, or in a directed share issue, deviating from the shareholder's preemptive subscription right. The Board of Directors may also decide on a share issue without payment to the Company itself. The aggregate maximum number of new shares that may be issued and treasury shares that may be transferred is 25,000,000, including the number of shares that can be received on the basis of special rights. The authorization will be valid for 18 months from the date of the AGM resolution.

Aside from the above, the Board of Directors has no current authorization to issue shares, convertible bonds or share options.

The number of shares entered in the Trade Register on 30 September 2020 was 533,735,699. Through the issuance authorization, the number of shares may increase to a maximum of 558,735,699.

On 30 September 2020, the company held 411,653 of its own shares, representing approximately 0.08% of the total number of company shares and voting rights. The Board of Directors may decide to retain, transfer or cancel the treasury shares.

Litigation

The group's management is not aware of any significant litigation in Q1–Q3 2020.

Helsinki, 27 October 2020

UPM-Kymmene Corporation
Board of Directors

Financial statement information

Consolidated income statement

EURm	Q3/2020	Q3/2019	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Sales (Note 3)	2,028	2,493	6,392	7,791	10,238
Other operating income	36	28	102	80	97
Costs and expenses	-1,778	-2,081	-5,561	-6,502	-8,531
Change in fair value of forest assets and wood harvested	-1	5	-1	7	26
Share of results of associated companies and joint ventures	1	1	3	2	3
Depreciation, amortisation and impairment charges	-169	-130	-427	-369	-490
Operating profit	117	316	508	1,009	1,344
Exchange rate and fair value gains and losses	-2	0	-2	-1	0
Interest and other finance costs, net	-6	3	-19	-25	-38
Profit before tax	109	319	487	983	1,307
Income taxes	-26	-59	-109	-174	-234
Profit for the period	83	260	378	810	1,073
Attributable to:					
Owners of the parent company	82	247	373	796	1,061
Non-controlling interests	1	14	5	14	12
	83	260	378	810	1,073
Earnings per share for profit attributable to owners of the parent company					
Basic earnings per share, EUR	0.15	0.46	0.70	1.49	1.99
Diluted earnings per share, EUR	0.15	0.46	0.70	1.49	1.99

Consolidated statement of comprehensive income

EURm	Q3/2020	Q3/2019	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Profit for the period	83	260	378	810	1,073
Other comprehensive income for the period, net of tax					
Items that will not be reclassified to income statement:					
Actuarial gains and losses on defined benefit obligations	0	-59	-15	-130	-58
Changes in fair value of energy shareholdings	26	-1	-186	-18	-13
Items that may be reclassified subsequently to income statement:					
Translation differences	-109	76	-152	112	67
Net investment hedge	4	-9	1	-13	-6
Cash flow hedges	15	-36	-24	-53	-50
Other comprehensive income for the period, net of tax	-65	-29	-377	-101	-58
Total comprehensive income for the period	18	232	1	708	1,014
Total comprehensive income attributable to:					
Owners of the parent company	18	201	-1	677	987
Non-controlling interests	0	31	2	31	27
	18	232	1	708	1,014

Consolidated balance sheet

EURm	30 SEP 2020	30 SEP 2019	31 DEC 2019
ASSETS			
Goodwill	234	241	238
Other intangible assets	367	332	326
Property, plant and equipment (Note 4)	4,127	4,036	4,083
Leased assets	560	600	590
Forest assets	2,115	2,073	2,097
Energy shareholdings (Note 5)	1,953	2,138	2,145
Other non-current financial assets	186	196	170
Deferred tax assets	442	403	395
Net retirement benefit assets	33	1	38
Investments in associates and joint ventures	33	34	33
Other non-current assets	22	24	23
Non-current assets	10,072	10,078	10,140
Inventories	1,307	1,500	1,367
Trade and other receivables	1,497	1,636	1,576
Other current financial assets	102	97	59
Income tax receivables	31	33	26
Cash and cash equivalents	886	1,080	1,536
Current assets	3,823	4,345	4,565
Assets classified as held for sale (Note 9)	—	19	18
Assets	13,895	14,442	14,722
EQUITY AND LIABILITIES			
Share capital	890	890	890
Treasury shares	-2	-2	-2
Translation reserve	131	314	278
Other reserves	1,493	1,700	1,711
Reserve for invested non-restricted equity	1,273	1,273	1,273
Retained earnings	5,570	5,575	5,912
Equity attributable to owners of the parent company	9,353	9,749	10,062
Non-controlling interests	126	106	113
Equity	9,479	9,855	10,175
Deferred tax liabilities	564	525	549
Net retirement benefit liabilities	758	814	759
Provisions (Note 8)	239	155	144
Non-current debt	1,154	1,179	1,195
Other non-current financial liabilities	96	74	83
Non-current liabilities	2,810	2,748	2,730
Current debt	88	137	104
Trade and other payables	1,432	1,602	1,654
Other current financial liabilities	37	69	33
Income tax payables	48	31	27
Current liabilities	1,605	1,839	1,818
Liabilities	4,416	4,587	4,548
Equity and liabilities	13,895	14,442	14,722

Consolidated statement of changes in equity

EURm	SHARE CAPITAL	TREASURY SHARES	TRANSLATION RESERVE	OTHER RESERVES	RESERVE FOR INVESTED NON-RESTRICTED EQUITY	RETAINED EARNINGS	EQUITY ATTRIBUTABLE TO OWNERS OF THE PARENT COMPANY	NON-CONTROLLING INTERESTS	TOTAL EQUITY
Value at 1 January 2020	890	-2	278	1,711	1,273	5,912	10,062	113	10,175
Profit for the period	—	—	—	—	—	373	373	5	378
Translation differences	—	—	-148	—	—	—	-148	-4	-152
Cash flow hedges - reclassified to income statement, net of tax	—	—	—	-16	—	—	-16	—	-16
Cash flow hedges - reclassified to PPE	—	—	—	-1	—	—	-1	—	-1
Cash flow hedges - changes in fair value, net of tax	—	—	—	-8	—	—	-8	2	-7
Net investment hedge, net of tax	—	—	1	—	—	—	1	—	1
Energy shareholdings - changes in fair value, net of tax	—	—	—	-188	—	1	-186	—	-186
Actuarial gains and losses on defined benefit plans, net of tax	—	—	—	—	—	-15	-15	—	-15
Total comprehensive income for the period	—	—	-147	-213	—	360	-1	2	1
Share-based payments, net of tax	—	—	—	-5	—	-9	-14	—	-14
Dividend distribution	—	—	—	—	—	-693	-693	-22	-715
Contributions by non-controlling interests	—	—	—	—	—	—	—	32	32
Total transactions with owners for the period	—	—	—	-5	—	-702	-707	10	-697
Value at 30 September 2020	890	-2	131	1,493	1,273	5,570	9,353	126	9,479
Value at 1 January 2019	890	-2	232	1,778	1,273	5,617	9,786	5	9,791
Profit for the period	—	—	—	—	—	796	796	14	810
Translation differences	—	—	91	—	—	—	91	21	112
Cash flow hedges - reclassified to income statement, net of tax	—	—	—	6	—	—	6	—	6
Cash flow hedges - changes in fair value, net of tax	—	—	—	-58	—	—	-58	—	-58
Net investment hedge, net of tax	—	—	-9	—	—	—	-9	-4	-13
Energy shareholdings - changes in fair value, net of tax	—	—	—	-19	—	1	-18	—	-18
Actuarial gains and losses on defined benefit plans, net of tax	—	—	—	—	—	-130	-130	—	-130
Total comprehensive income for the period	—	—	82	-71	—	667	677	31	708
Share-based payments, net of tax	—	—	—	-6	—	-8	-15	—	-15
Dividend distribution	—	—	—	—	—	-693	-693	—	-693
Changes in non-controlling interests	—	—	—	—	—	-6	-6	71	64
Total transactions with owners for the period	—	—	—	-6	—	-708	-715	71	-644
Value at 30 September 2019	890	-2	314	1,700	1,273	5,575	9,749	106	9,855

Condensed consolidated cash flow statement

EURm	Q3/2020	Q3/2019	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Cash flows from operating activities					
Profit for the period	83	260	378	810	1,073
Adjustments [1)]	187	168	564	555	719
Change in working capital	122	112	-165	49	276
Finance costs, net	-4	-8	-24	-32	-45
Income taxes paid	-23	-33	-94	-126	-176
Operating cash flow	365	500	659	1,256	1,847
Cash flows from investing activities					
Capital expenditure	-173	-78	-515	-222	-359
Additions to forest assets	-8	-8	-47	-32	-44
Asset sales and other investing cash flow	5	10	41	-16	-12
Investing cash flow	-176	-77	-522	-270	-415
Cash flows from financing activities					
Change in loans and other financial items	-6	-10	-24	-49	-29
Lease repayments	-21	-21	-66	-62	-82
Dividends paid to owners of the parent company	—	—	-693	-693	-693
Dividends paid to non-controlling interests	—	—	-23	—	—
Contributions paid by non-controlling interests	0	9	32	9	21
Financing cash flow	-27	-22	-775	-795	-783
Change in cash and cash equivalents	163	401	-638	191	649
Cash and cash equivalents at beginning of period	729	678	1,536	888	888
Exchange rate effect on cash and cash equivalents	-6	1	-11	1	-1
Change in cash and cash equivalents	163	401	-638	191	649
Cash and cash equivalents at end of period	886	1,080	886	1,080	1,536

[1)] **Adjustments**

EURm	Q3/2020	Q3/2019	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Change in fair value of forest assets and wood harvested	1	-5	1	-7	-26
Share of results of associated companies and joint ventures	-1	-1	-3	-2	-3
Depreciation, amortisation and impairment charges	169	130	427	369	490
Capital gains and losses on sale of non-current assets	-15	-2	-24	-1	-1
Financial income and expenses	8	-3	21	25	37
Income taxes	26	59	109	174	234
Utilised provisions	-11	-5	-31	-16	-29
Non-cash changes in provisions	58	16	128	46	43
Other adjustments	-48	-20	-64	-34	-25
Total	187	168	564	555	719

Notes to the financial statements

1 Basis of preparation and accounting policies

This unaudited interim report has been prepared in accordance with the accounting policies set out in International Accounting Standard 34 on Interim Financial Reporting and group's consolidated statements for 2019.

Alternative performance measures presented in this report should not be considered as a substitute for measures of performance in accordance with the IFRS and may not be comparable to similarly titled amounts used by other companies.

Figures presented in this report have been rounded and therefore the sum of individual figures might deviate from the presented total figure. Key figures have been calculated using exact figures.

Impact of COVID-19 on the financial statements

The impact of COVID-19 on UPM financial statements has so far been relatively limited. The group uses estimates and makes significant judgements when valuating certain assets and liabilities, including energy shareholdings, forest assets, retirement benefit obligations and provisions. The group has assessed the impact of COVID-19 to balance sheet items by considering indicators of impairment of goodwill and other intangible assets, recoverable amount of property, plant and equipment, recoverability of deferred tax assets, valuation of inventories, and collectability of trade receivables. The expectations of future cash flows, discount rates and other significant valuation inputs were revised to reflect changed economic environment. Based on these assessments, no significant adjustments to the carrying amounts of said assets were made due to COVID-19. However, the increased uncertainty in the economic environment can lead to significant adjustments to the carrying amount of assets.

The group expects that it will continue to operate and meet its liabilities as they fall due. UPM has a strong financial position. Net debt in the balance sheet amounted to EUR 89 million on 30 September 2020, after paying the dividend of EUR 693 million in Q2 2020. Cash funds and unused committed credit facilities amounted to EUR 2.3 billion. This includes the sustainability-linked five-year EUR 750 million revolving credit facility signed during Q1 2020 and the EUR 550 million of bilateral committed credit facilities signed during Q2 2020. The facilities and UPM's outstanding debt have no financial covenants.

2 Quarterly information by business area

EURm, OR AS INDICATED	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales										
UPM Biorefining	541	563	509	592	660	708	753	1,613	2,121	2,712
UPM Energy	88	83	101	110	101	93	113	272	306	417
UPM Raflatac	358	403	408	389	382	385	398	1,170	1,165	1,555
UPM Specialty Papers	311	325	342	353	344	359	357	979	1,059	1,412
UPM Communication Papers	784	741	966	1,098	1,116	1,138	1,200	2,491	3,454	4,552
UPM Plywood	98	104	105	101	106	120	123	306	349	450
Other operations	57	60	50	62	63	72	68	167	202	264
Internal sales	-208	-202	-194	-259	-280	-269	-320	-604	-870	-1,129
Eliminations and reconciliation	-1	-1	0	1	1	1	2	-2	3	4
Sales, total	2,028	2,077	2,287	2,447	2,493	2,605	2,693	6,392	7,791	10,238
Comparable EBITDA										
UPM Biorefining	104	113	81	96	171	203	254	298	628	724
UPM Energy	43	36	45	55	48	51	41	124	140	195
UPM Raflatac	55	70	64	43	44	40	40	188	124	166
UPM Specialty Papers	56	66	75	67	53	45	29	197	127	194
UPM Communication Papers	48	21	110	181	117	98	118	179	333	513
UPM Plywood	13	18	14	9	14	19	19	44	51	61
Other operations	15	-1	1	-17	4	3	-8	14	-1	-18
Eliminations and reconciliation	-1	-2	9	8	4	8	-4	6	8	17
Comparable EBITDA, total	331	320	398	442	455	466	488	1,050	1,409	1,851
Operating profit										
UPM Biorefining	58	70	37	42	130	161	212	165	502	544
UPM Energy	58	34	43	53	45	49	39	136	132	184
UPM Raflatac	45	60	51	33	36	30	26	157	91	124
UPM Specialty Papers	40	50	58	50	35	26	8	148	70	120
UPM Communication Papers	-95	-37	31	147	57	36	85	-101	178	324
UPM Plywood	6	-12	7	3	8	13	13	1	33	36
Other operations	7	-7	-6	7	1	-9	-9	-5	-17	-10
Eliminations and reconciliation	-3	-12	21	2	5	14	0	6	19	21
Operating profit, total	117	148	243	336	316	319	373	508	1,009	1,344
% of sales	5.8	7.1	10.6	13.7	12.7	12.3	13.9	7.9	12.9	13.1
Items affecting comparability										
UPM Biorefining	—	—	—	—	—	—	—	—	—	—
UPM Energy	17	—	—	—	—	-1	—	17	-1	-1
UPM Raflatac	—	—	-3	1	2	—	-5	-3	-3	-2
UPM Specialty Papers	3	4	—	—	—	—	—	6	—	—
UPM Communication Papers	-114	-27	-45	-2	-28	-29	—	-187	-57	-58
UPM Plywood	—	-22	—	—	—	—	—	-22	—	—
Other operations	-1	—	—	—	-1	-2	—	-1	-3	-4
Eliminations and reconciliation [1)]	-2	-9	12	-6	1	6	4	1	11	5
Items affecting comparability in operating profit, total	-98	-55	-36	-7	-26	-26	-1	-189	-53	-60
Comparable EBIT										
UPM Biorefining	58	70	37	42	130	161	212	165	502	544
UPM Energy	41	34	43	53	45	49	39	119	132	185
UPM Raflatac	45	60	54	32	34	30	31	159	94	126
UPM Specialty Papers	37	47	58	50	35	26	8	142	70	120
UPM Communication Papers	19	-10	76	148	85	65	85	86	234	383
UPM Plywood	6	11	7	3	8	13	13	24	33	36
Other operations	8	-7	-6	7	2	-6	-9	-4	-14	-7
Eliminations and reconciliation	-1	-2	9	8	4	8	-4	6	8	17
Comparable EBIT, total	215	203	279	343	342	345	374	697	1,061	1,404
% of sales	10.6	9.8	12.2	14.0	13.7	13.2	13.9	10.9	13.6	13.7

1) Eliminations and reconciliations includes changes in fair value of unrealised cash flow and commodity hedges.

Items affecting comparability

Certain non-operational or non-cash valuation transactions with significant income statement impact are considered as items affecting comparability and reported separately to reflect the underlying business performance and to enhance comparability from period to period. In 2020, items affecting comparability in UPM Communication Papers business area mainly relate to restructuring charges and impairment charges due to closure of UPM Chapelle paper mill and planned closure of UPM Kaipola paper mill. In Plywood business area, items affecting comparability relate to restructuring charges from the closure of Jyväskylä plywood mill. In 2019, items affecting comparability in UPM Communication Papers business area mainly relate to restructuring charges and impairment charges due to closure of paper machine 2 at UPM Rauma paper mill and closure of paper machine 10 at UPM Plattling paper mill.

EURm	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Comparable profit for the period	158	157	231	261	281	271	305	546	857	1,119
Items affecting comparability										
Impairment charges	-53	-19	0	-1	-11	-1	0	-72	-12	-13
Restructuring charges	-57	-34	-48	0	-18	-28	-5	-140	-51	-52
Change in fair value of unrealised cash flow and commodity hedges	-2	-9	12	-6	1	6	4	1	11	5
Capital gains and losses on sale of non-current assets	14	8	0	0	2	-2	0	23	0	0
Total items affecting comparability in operating profit	-98	-55	-36	-7	-26	-26	-1	-189	-53	-60
Changes in tax rates	0	-4	0	0	0	0	0	-3	0	0
Taxes relating to items affecting comparability	22	4	-2	10	5	-1	0	24	5	14
Items affecting comparability in taxes	22	1	-2	10	5	-1	0	21	5	14
Items affecting comparability, total	-75	-54	-39	2	-21	-26	-1	-168	-48	-46
Profit for the period	83	103	192	263	260	245	304	378	810	1,073

3 External sales by major products

BUSINESS AREA	BUSINESS	Q3/2020	Q3/2019	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
EURm						
UPM Biorefining	UPM Pulp UPM Biofuels UPM Timber	420	510	1,273	1,645	2,096
UPM Energy	UPM Energy	50	35	182	124	180
UPM Raflatac	UPM Raflatac	358	382	1,170	1,165	1,555
UPM Specialty Papers	UPM Specialty Papers	276	295	850	900	1,203
UPM Communication Papers	UPM Communication Papers	776	1,108	2,465	3,426	4,516
UPM Plywood	UPM Plywood	93	101	291	331	427
Other operations	UPM Forest UPM Biochemicals UPM Biomedicals UPM Biocomposites	56	61	164	197	258
Eliminations and reconciliations		-1	1	-2	3	4
Total		2,028	2,493	6,392	7,791	10,238

BUSINESS	PRODUCT RANGE
UPM Pulp	Softwood, birch and eucalyptus pulp
UPM Biofuels	Wood-based renewable diesel for transport and renewable naphtha for transport and petrochemicals
UPM Timber	Standard and special sawn timber
UPM Energy	Electricity and related services
UPM Raflatac	Self-adhesive paper and film label stock
UPM Specialty Papers	Labelling materials, release base papers, flexible packaging materials, office papers, graphic papers
UPM Communication Papers	Graphic papers for various end uses
UPM Plywood	Plywood and veneer products
UPM Forest	Wood and wood-based biomass (logs, pulpwood, chips, forest residues etc.), full forestry service offering
UPM Biochemicals	Lignin products for industrial use
UPM Biomedicals	Wood-based products for biomedical applications
UPM Biocomposites	UPM ProFi decking products and UPM Formi granules

4 Changes in property, plant and equipment

EURm	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Book value at beginning of period	4,083	4,186	4,186
Reclassification to leased assets (IFRS 16)	—	-91	-71
Reclassification to assets held for sale, net	-2	-11	-11
Capital expenditure	498	194	351
Decreases	-7	-6	-6
Depreciation	-290	-295	-392
Impairment charges	-72	-12	-13
Translation difference and other changes	-84	71	41
Book value at end of period	4,127	4,036	4,083

Capital expenditure in 2020 mainly relate to the construction of new pulp mill in Uruguay. Impairment charges in 2020 mainly relate to closure of UPM Chapelle paper mill in France, planned closure of UPM Kaipola paper mill and closure of Jyväskylä plywood mill.

5 Financial assets and liabilities

Financial assets and liabilities measured at fair value

EURm	30 SEP 2020				30 SEP 2019				31 DEC 2019			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets												
Derivatives non-qualifying hedges	—	29	—	29	—	39	—	39	—	17	—	17
Derivatives under hedge accounting	7	231	—	238	43	186	—	229	23	166	—	189
Energy shareholdings	—	—	1,953	1,953	—	—	2,138	2,138	—	—	2,145	2,145
Total	7	260	1,953	2,220	43	225	2,138	2,406	23	183	2,145	2,351
Financial liabilities												
Derivatives non-qualifying hedges	—	14	—	14	—	9	—	9	—	7	—	7
Derivatives under hedge accounting	9	20	—	28	12	53	—	65	7	22	—	28
Total	9	34	—	43	12	62	—	74	7	29	—	36

There have been no transfers between Levels.

Specific valuation techniques used to value financial instruments at level 2 include the following methods:
Interest forward rate agreements (FRA) are fair valued based on quoted market rates on the balance sheet date. Forward foreign exchange contracts are fair valued based on the contract forward rates at the balance sheet date.

Foreign currency options are fair valued based on quoted market rates and market volatility rates on the balance sheet date by using the Black&Scholes option valuation model. Interest and currency swap instruments are fair valued as present value of the estimated future cash flows based on observable yield curves. Commodity swaps are fair valued based on forward curve quotations received from service providers.

Fair value measurements using significant unobservable inputs, Level 3

	ENERGY SHAREHOLDINGS		
EURm	Q1–Q3/2020	Q1–Q3/2019	Q1–Q4/2019
Book value at beginning of period	2,145	2,159	2,159
Disposals	-2	-1	-1
Fair value changes recognised in other comprehensive income	-190	-19	-13
Book value at end of period	1,953	2,138	2,145

Fair valuation of energy shareholdings in UPM Energy (Pohjolan Voima Oyj's A, B, B2, C, C2, M and V-shares, Kemijoki Oy shares, and Länsi-Suomen Voima Oy shares) is based on discounted cash flows model. The electricity price estimate is based on fundamental simulation of the Finnish area electricity price. A change of 5% in the electricity price used in the model would change the total value of the assets by approximately EUR 350 million.

The discount rate of 5.39% used in the valuation model is determined using the weighted average cost of capital method. A change of 0.5 percentage points in the discount rate would change the total value of the assets by approximately EUR 300 million.

Other uncertainties and risk factors in the value of the assets relate to start-up schedule of the fixed price turn-key Olkiluoto 3 EPR nuclear power plant project. UPM's indirect share of the capacity of Olkiluoto 3 EPR is approximately 31%, through its PVO B2 shares.

During 2020, economic outlook has deteriorated due to COVID-19 pandemic and following containment measures. Possible changes in the outlook might impact power demand expectations and energy commodity prices, and thus could have an impact on the value of energy shares. Changes in regulatory environment or taxation could also have an impact on the value of the energy generating assets.

The decrease in fair value during Q1–Q3 2020 was mainly due to the decrease in electricity forward rates and long-term electricity price estimates, caused by the partly already deteriorated economic outlook.

Fair value of financial assets and liabilities measured at amortised cost

EURm	30 SEP 2020	30 SEP 2020	30 SEP 2019	30 SEP 2019	31 DEC 2019	31 DEC 2019
	Carrying amount	Fair value	Carrying amount	Fair value	Carrying amount	Fair value
Bonds	440	415	455	429	431	417
Other non-current debt excl. derivative financial instruments and lease liabilities	241	253	263	269	260	265
Total	681	668	718	699	691	682

The carrying amounts are not significantly different from fair values due to hedges. The fair values of all other financial assets and liabilities approximate their carrying amount.

6 Commitments and contingencies

EURm	30 SEP 2020	30 SEP 2019	31 DEC 2019
Own commitments			
Mortgages	—	1	1
On behalf of others			
Guarantees	2	2	2
Other own commitments			
Commitments related to off-balance sheet short-term leases	4	6	6
Other commitments	98	105	104
Total	105	114	113

The lease commitments for leases not commenced at the end of reporting period totals approximately EUR 130 million, which are mostly related to long-term charter agreements. Such lease commitments on 30.9.2019 amounted to EUR 0 million and on 31.12.2019 EUR 100 million.

Capital commitments

EURm	COMPLETION	TOTAL COST	BY 31 DEC 2019	Q1–Q3/2020	AFTER 30 SEP 2020
New biorefinery / Germany	Q4 2022	550	—	42	508
CHP power plant / Germany	Q3 2022	95	—	21	74
New pulp mill / Uruguay	Q3 2022	2,730	46	301	2,383
Renovation and modernisation / Kuusankoski hydro power plant	Q4 2022	22	3	2	17

7 Notional amounts of derivative financial instruments

EURm	30 SEP 2020	30 SEP 2019	31 DEC 2019
Interest rate futures	739	1,532	1,729
Interest rate swaps	320	344	334
Forward foreign exchange contracts	3,219	2,572	2,491
Currency options, bought	—	8	14
Currency options, written	—	16	10
Cross currency swaps	170	179	172
Commodity contracts	742	966	913

8 Provisions

EURm	RESTRUCTURING	TERMINATION	ENVIRONMENTAL	EMISSIONS	OTHER	TOTAL
Value at 1 January 2020	30	36	20	18	41	144
Provisions made during the year	43	94	7	18	3	165
Provisions utilised during the year	-5	-21	-1	-18	-4	-49
Unused provisions reversed	-6	-7	0	-1	-7	-21
Translation differences	0	0	0	0	0	0
Value at 30 September 2020	61	102	26	17	33	239

Restructuring and termination provisions made during the year relate to planned closure of UPM Kaipola paper mill, closure of UPM Chapelle paper mill, closure of Jyväskylä plywood mill and restructuring of the functions of UPM Communication Papers.

9 Assets and liabilities classified as held for sale

Assets classified as held for sale at the end of 2019 and on 30.9.2019 relate to UPM Chapelle paper mill assets located in France.

Alternative performance measures

Quarterly key figures

In addition to the conventional financial performance measures established by the IFRS, certain key figures (alternative performance measures) are presented to reflect the underlying business performance and enhance comparability from period to period.

	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Sales EURm	2,028	2,077	2,287	2,447	2,493	2,605	2,693	6,392	7,791	10,238
Comparable EBITDA, EURm	331	320	398	442	455	466	488	1,050	1,409	1,851
% of sales	16.3	15.4	17.4	18.1	18.2	17.9	18.1	16.4	18.1	18.1
Comparable EBIT, EURm	215	203	279	343	342	345	374	697	1,061	1,404
% of sales	10.6	9.8	12.2	14.0	13.7	13.2	13.9	10.9	13.6	13.7
Comparable profit before tax, EURm	207	193	276	331	345	325	366	676	1,036	1,367
Capital employed (average, EURm)	10,744	10,888	11,241	11,323	10,996	11,069	10,946	11,097	10,873	11,024
Comparable ROCE, %	7.9	7.5	10.2	12.2	12.9	12.2	13.7	8.5	13.1	12.8
Comparable profit for the period, EURm	158	157	231	261	281	271	305	546	857	1,119
Total equity, average, EURm	9,468	9,564	9,923	10,015	9,706	9,804	9,924	9,827	9,826	9,986
Comparable ROE, %	6.7	6.6	9.3	10.4	11.6	11.1	12.3	7.4	11.6	11.2
Average number of shares basic (1,000)	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324
Comparable EPS, EUR	0.29	0.29	0.43	0.49	0.50	0.51	0.57	1.01	1.58	2.07
Items affecting comparability in operating profit, EURm	-98	-55	-36	-7	-26	-26	-1	-189	-53	-60
Items affecting comparability in financial items, EURm	0	0	0	0	0	0	0	0	0	0
Items affecting comparability in taxes, EURm	22	1	-2	10	5	-1	0	21	5	14
Operating cash flow, EURm	365	156	137	592	500	436	320	659	1,256	1,847
Operating cash flow per share, EUR	0.69	0.29	0.26	1.11	0.94	0.82	0.60	1.23	2.35	3.46
Net debt at the end of period, EURm	89	301	-405	-453	-2	366	-5	89	-2	-453
Net debt to EBITDA (last 12 m.)	0.06	0.19	-0.23	-0.24	0.00	0.19	0.00	0.06	0.00	-0.24
Gearing ratio, %	1	3	-4	-4	0	4	0	1	0	-4
Equity per share at the end of period, EUR	17.54	17.50	17.90	18.87	18.28	17.91	18.84	17.54	18.28	18.87
Capital expenditure, EURm	201	173	165	166	79	71	62	538	212	378
Capital expenditure excluding acquisitions, EURm	201	173	165	166	79	71	62	538	212	378
Equity to assets ratio, %	68.4	68.3	64.8	69.2	68.3	67.9	68.1	68.4	68.3	69.2
Personnel at the end of period	18,349	19,029	18,573	18,742	19,020	19,760	19,008	18,349	19,020	18,742

The definitions of alternative performance measures are presented in other financial information in ***» UPM Annual Report 2019***

Reconciliation of key figures to IFRS

EURm, OR AS INDICATED	Q3/20	Q2/20	Q1/20	Q4/19	Q3/19	Q2/19	Q1/19	Q1–Q3/20	Q1–Q3/19	Q1–Q4/19
Items affecting comparability										
Impairment charges	-53	-19	0	-1	-11	-1	0	-72	-12	-13
Restructuring charges	-57	-34	-48	0	-18	-28	-5	-140	-51	-52
Change in fair value of unrealised cash flow and commodity hedges	-2	-9	12	-6	1	6	4	1	11	5
Capital gains and losses on sale of non-current assets	14	8	0	0	2	-2	0	23	0	0
Total items affecting comparability in operating profit	-98	-55	-36	-7	-26	-26	-1	-189	-53	-60
Changes in tax rates	0	-4	0	0	0	0	0	-3	0	0
Taxes relating to items affecting comparability	22	4	-2	10	5	-1	0	24	5	14
Items affecting comparability in taxes	22	1	-2	10	5	-1	0	21	5	14
Items affecting comparability, total	-75	-54	-39	2	-21	-26	-1	-168	-48	-46
Comparable EBITDA										
Operating profit	117	148	243	336	316	319	373	508	1,009	1,344
Depreciation, amortisation and impairment charges excluding items affecting comparability	117	119	120	120	119	118	120	355	357	477
Change in fair value of forest assets and wood harvested excluding items affecting comparability	1	-1	1	-19	-5	3	-5	1	-7	-26
Share of result of associates and joint ventures	-1	-1	-1	-1	-1	-1	-1	-3	-2	-3
Items affecting comparability in operating profit	98	55	36	7	26	26	1	189	53	60
Comparable EBITDA	331	320	398	442	455	466	488	1,050	1,409	1,851
% of sales	16.3	15.4	17.4	18.1	18.2	17.9	18.1	16.4	18.1	18.1
Comparable EBIT										
Operating profit	117	148	243	336	316	319	373	508	1,009	1,344
Items affecting comparability in operating profit	98	55	36	7	26	26	1	189	53	60
Comparable EBIT	215	203	279	343	342	345	374	697	1,061	1,404
% of sales	10.6	9.8	12.2	14.0	13.7	13.2	13.9	10.9	13.6	13.7
Comparable profit before tax										
Profit before tax	109	138	240	324	319	300	364	487	983	1,307
Items affecting comparability in operating profit	98	55	36	7	26	26	1	189	53	60
Comparable profit before tax	207	193	276	331	345	325	366	676	1,036	1,367
Comparable ROCE, %										
Comparable profit before tax	207	193	276	331	345	325	366	676	1,036	1,367
Interest expenses and other financial expenses	7	10	11	14	10	11	8	28	30	44
	213	203	288	346	355	337	374	704	1,066	1,411
Capital employed, average	10,744	10,888	11,241	11,323	10,996	11,069	10,946	11,097	10,873	11,024
Comparable ROCE, %	7.9	7.5	10.2	12.2	12.9	12.2	13.7	8.5	13.1	12.8
Comparable profit for the period										
Profit for the period	83	103	192	263	260	245	304	378	810	1,073
Items affecting comparability, total	75	54	39	-2	21	26	1	168	48	46
Comparable profit for the period	158	157	231	261	281	271	305	546	857	1,119
Comparable EPS, EUR										
Comparable profit for the period	158	157	231	261	281	271	305	546	857	1,119
Profit attributable to non-controlling interest	-1	-2	-2	2	-14	0	0	-5	-14	-12
	157	155	229	263	267	271	305	541	844	1,106
Average number of shares basic (1,000)	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324
Comparable EPS, EUR	0.29	0.29	0.43	0.49	0.50	0.51	0.57	1.01	1.58	2.07
Comparable ROE, %										
Comparable profit for the period	158	157	231	261	281	271	305	546	857	1,119
Total equity, average	9,468	9,564	9,923	10,015	9,706	9,804	9,924	9,827	9,826	9,986
Comparable ROE, %	6.7	6.6	9.3	10.4	11.6	11.1	12.3	7.4	11.6	11.2
Net debt										
Non-current debt	1,154	1,205	1,234	1,195	1,179	1,126	1,139	1,154	1,179	1,195
Current debt	88	104	105	104	137	138	127	88	137	104
Total debt	1,242	1,309	1,338	1,299	1,316	1,264	1,267	1,242	1,316	1,299
Non-current interest-bearing assets	198	213	219	180	201	184	177	198	201	180
Cash and cash equivalents	886	729	1,460	1,536	1,080	678	1,064	886	1,080	1,536
Other current interest-bearing assets	68	66	65	35	38	36	31	68	38	35
Total interest-bearing assets	1,152	1,008	1,744	1,752	1,318	898	1,272	1,152	1,318	1,752
Net debt	89	301	-405	-453	-2	366	-5	89	-2	-453

It should be noted that certain statements herein, which are not historical facts, including, without limitation, those regarding expectations for market growth and developments; expectations for growth and profitability; and statements preceded by "believes", "expects", "anticipates", "foresees", or similar expressions, are forward-looking statements. Since these statements are based on current plans, estimates and projections, they involve risks and uncertainties which may cause actual results to materially differ from those expressed in such forward-looking statements. Such factors include, but are not limited to: (1) **operating factors** such as continued success of manufacturing activities and the achievement of efficiencies therein including the availability and cost of production inputs, continued success of product development, acceptance of new products or services by the Group's targeted customers, success of the existing and future collaboration arrangements, changes in business strategy or development plans or targets, changes in the degree of protection created by the Group's patents and other intellectual property rights, the availability of capital on acceptable terms; (2) **industry conditions**, such as strength of product demand, intensity of competition, prevailing and future global market prices for the Group's products and the pricing pressures thereto, financial condition of the customers and the competitors of the Group, the potential introduction of competing products and technologies by competitors; and (3) **general economic conditions,** such as rates of economic growth in the Group's principal geographic markets or fluctuations in exchange and interest rates. The main earnings sensitivities and the group's cost structure are presented on pages 160–161 of the 2019 Annual Report. Risks and opportunities are discussed on pages 28–29 and risks and risk management are presented on pages 129–131 of the report.

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