The Biofore Company UPM

AIMING HIGHER WITH BIOFORE

Annual Report 2017

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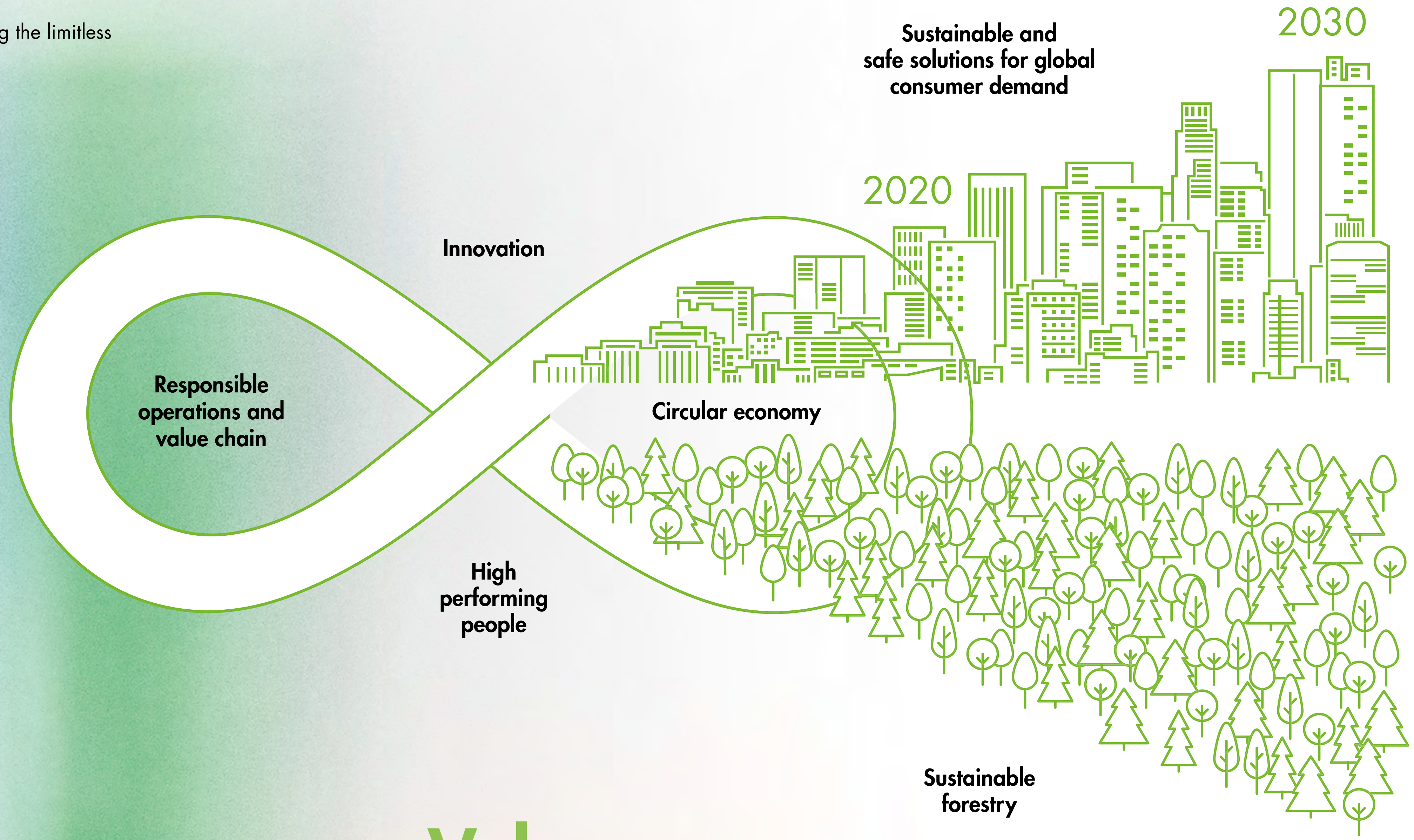
Purpose

We create value by seizing the limitless potential of bioeconomy.

Limitless opportunities of bioeconomy

New middle class consumers in emerging economies and developing consumer behaviour globally will create significant new demand in the coming decades. This will raise the bar for businesses when it comes to responsibility, integrity and use of resources. Answering the consumer demand growth with sustainable and safe solutions provides limitless opportunities for UPM's businesses today and in the future.



Vision

We lead the forest-based bioindustry into a sustainable, innovation-driven, and exciting future.

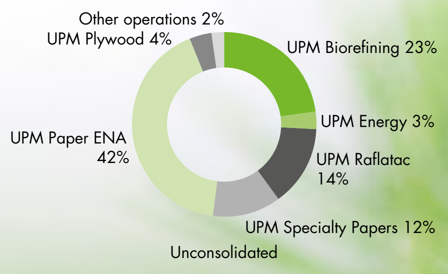
The competence, integrity and drive of our people make us unique.

Values

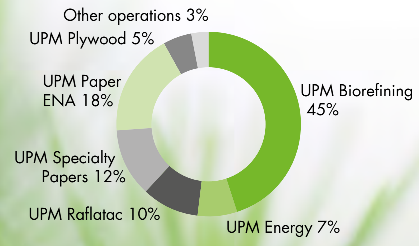
Trust and be trusted
Achieve together
Renew with courage

UPM leads the forest-based bioindustry into a sustainable, innovation-driven, and exciting future across six business areas. We provide sustainable and safe solutions to the growing global consumer demand. Our products are made of renewable and biodegradable raw materials and are recyclable.

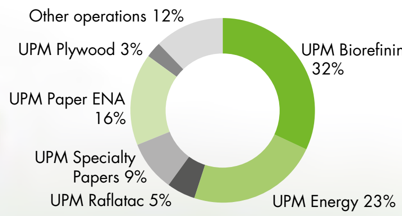
Sales 2017
EUR 10,010 million



Comparable EBIT 2017
EUR 1,292 million



Capital employed 31 Dec 2017
EUR 9,777 million



Biofore Company

UPM BIOREFINING

UPM Biorefining consists of pulp, timber and biofuels businesses. UPM Pulp offers versatile range of sustainably 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, for example. 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 bioplastics.

UPM ENERGY

UPM Energy creates value through cost competitive, low-emission electricity generation and through physical electricity, financial trading and optimisation services for industrial consumers.

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 SPECIALTY PAPERS

UPM Specialty Papers manufactures label papers, release liners, office papers and flexible packaging for labelling, packing, wrapping and printing.

UPM PAPER ENA

UPM Paper ENA offers an extensive product range of graphic papers for advertising and publishing as well as home and office uses.

UPM PLYWOOD

UPM Plywood offers plywood and veneer products, mainly for construction, vehicle flooring and LNG shipbuilding as well as other manufacturing industries.

OTHER OPERATIONS

Wood Sourcing and Forestry 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 and UPM Biocomposites business units are also included in Other operations.

MARKET DEMAND GROWTH, % PA

		Market demand growth, % pa	
UPM Biorefining	Pulp	3%	↗
UPM Biorefining	Timber	2%	↗
UPM Biorefining	Biofuels	Strong growth	↗
UPM Energy	Electricity	1%	↗
UPM Raflatac	Self-adhesive labels	4%	↗
UPM Specialty Papers	Label papers	4%	↗
UPM Specialty Papers	Office papers	4%	↗
UPM Paper ENA	Graphic papers	−4%	↘
UPM Plywood	Plywood, veneer	3%	↗

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Key performance indicators

Top performance

Comparable EBIT
EUR **1,292m**
+13%

Comparable ROE
11.9%
+1.0pp

5/6
business areas achieved their financial targets

Strong cash flow

Operating cash flow
EUR **1,558m**
–8%

Net debt reduction
EUR **957m**
–85%

Attractive dividend

Dividend (proposal)
EUR **613m**
+21%

Industry-leading balance sheet

Net debt/EBITDA
0.11x

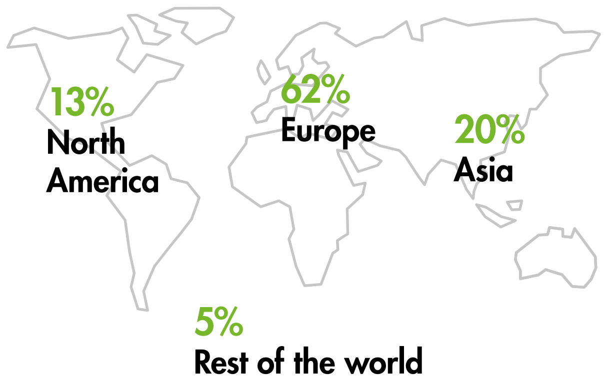
Focused investments

Capital expenditure
EUR **329m**
attractive returns with disciplined and effective investments

Read more:
www.upm.com/investors

Global businesses – local presence

UPM's sales by market 2017
EUR 10,010 million



54 production plants in **12** countries

19,100 employees in **46** countries

12,000 customers in **120** countries

90,000 shareholders in **35** countries

25,000 b-to-b suppliers in **75** countries

% of active employees completed Code of Conduct training 98%	Employee engagement 71%	Total recordable injury frequency 8.2
+1pp	**+2pp**	**–12%**
The UPM Code of Conduct lays the foundation for responsible business operations and continuous improvement.	Engaged, high-performing people implement the Biofore strategy and drive short- and long-term success.	Ensuring a safe working environment and safeguarding for employees and everyone working for UPM.

Share of certified wood 85%	Supplier Code qualified supplier spend 82%	CO_2 emissions related to energy use 6.4 million t
+1pp	**+2pp**	**–6%**
Forest certification is an excellent tool for ensuring sustainable forestry.	Transparent supplier requirements form the basis of responsible sourcing throughout the entire supply chain.	Creating climate solutions and working towards carbon neutrality.

EVENTS IN 2017

01
31 JANUARY UPM renewed its long-term financial targets

03
27 MARCH The paper machine 3 in Steyrermühl was permanently closed in Austria

04
21 APRIL UPM's Zero Solid Waste to Landfill initiative won the Midwest Regional Sustainability Award in the US
26 APRIL UPM Raflatac invests in special label capacity in Finland

05
17 MAY UPM and FSC® signed a global strategic partnership
29 MAY UPM Biofuels gained the world's first RSB certification for wood-based liquid biofuels

06
20 JUNE UPM invests in efficiency and competitiveness of the UPM Kaukas pulp mill
28 JUNE UPM tests Brassica carinata sequential cropping concept as part of Biofuels future development

07
31 JULY Sale of hydropower facilities in Austria and the US

08
7 AUGUST UPM Raflatac acquired the assets of Texas-based Southwest Label Stock distributing company

09
7 SEPTEMBER UPM listed as the industry leader in the global Dow Jones Sustainability Index

10
2 OCTOBER UPM Plywood introduced a new sustainable WISA BioBond gluing technology
24 OCTOBER UPM to expand the UPM Chudovo plywood mill in Russia
24 OCTOBER UPM evaluates the potential of building a biochemicals biorefinery in Germany
24 OCTOBER UPM Paper ENA's plan to reduce graphic paper capacity in the US and optimise operations in Germany
25 OCTOBER UPM received an A score for CDP's Water and Forests Programs

11
NOVEMBER UPM Kymi pulp mill investment completed
7 NOVEMBER UPM and the Government of Uruguay signed an investment agreement to establish an operating platform for a possible new pulp mill in Uruguay

12
DECEMBER UPM Raflatac expansion in Poland was completed
8 DECEMBER UPM Biofuels won the Bioenergy Industry Leadership award
12 DECEMBER Sale of hydropower facilities in Germany
30 DECEMBER The paper machine 5 at UPM Blandin was permanently closed in the US

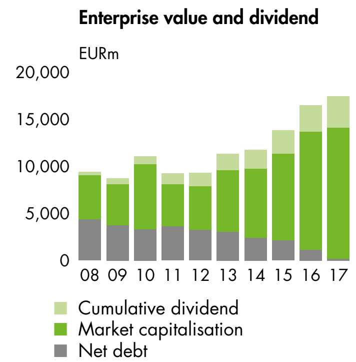
2017 was a record year for UPM

Seizing the limitless potential of bioeconomy

Shareholder value at the core

Aiming higher

Since the introduction of UPM's current business model in 2013, we have achieved a clear improvement in business performance, attractive returns for our growth investments and a truly industry-leading balance sheet. At the same time, we have seen a consistent improvement in employee engagement. Going forward, our businesses provide us with a wealth of future opportunities.



2017 was a great year for UPM. Once again, our business model, performance culture and effectiveness in capital expenditure delivered excellent results. Our comparable EBIT grew by EUR 149 million or 13% in 2017. Our cash flow was consistently strong, and we reduced our net debt by EUR 957 million over the course of the year, ending at a record low of EUR 174 million. We also made good progress in our non-financial performance — for example, our fossil CO_2 emissions decreased by 419,000 tonnes or 6%.

Our strategic guidance remained unchanged: Our portfolio consists of six competitive businesses with strong market positions and high barriers to entry. Performance, growth, innovation and responsibility continue to be the four cornerstones we build on.

With such a strong foundation, we are now aiming higher. In 2017, we revised our purpose and vision statements. These statements crystallise the why and what of our company direction. **Our purpose is to create value by seizing the limitless potential of bioeconomy.** It means numerous profitable business opportunities, be it products or services, which are providing safe and sustainable solutions for growing global consumer demand.

We are building a more sustainable future by replacing oil-based and other non-renewable materials with renewable ones, by using them efficiently and creating entirely new kinds of products and services. Through innovation, we have the possibility to expand into completely new business areas.

Our people are what set UPM apart and enable our success. UPMers are accountable and performance oriented. I have every reason to be proud of our employees. To reach the next level, we seek to be more outward looking and experimental in everyday matters, agile in our implementation and build on people's diversity.

Foundation for the future growth

Going forward, we will maintain our focus on performance supported by our culture of continuous improvement and innovation. We will also continue to grow our businesses with attractive focused growth investments.

Furthermore, we are now well-positioned for new transformative projects. I am pleased that we have reached a cornerstone agreement with the Government of Uruguay, outlining the local prerequisites for a potential pulp mill investment. The infrastructure projects and the pre-engineering of the mill are in progress. For UPM's pulp business, the potential mill would imply a change in business size and earnings.

Another opportunity for transformation comes with the emerging biomolecules businesses, biofuels and biochemicals. During the fourth quarter, we started a basic engineering study regarding a potential industrial-scale biochemical refinery in Germany. Biochemicals business could provide UPM with significant growth platform for decades to come.

Our objective is earnings growth, and we will therefore maintain our high standards when it comes to return requirements for growth investments.

Responsibility is good business

In the coming decades, changing consumer requirements and new consumers in Asian emerging economies will mean both significant new demand but also raised bar for businesses, when it comes to responsibility and integrity.

We believe that customers, investors, and other stakeholders value responsible operations that keep risks under control and add to our business opportunities, increasing the company value.

For the first time, the Report of UPM's Board of Directors includes comprehensive non-financial report indicating our progress in the most material responsibility targets.

Over the course of the year, UPM received recognitions from several third parties. UPM was listed in the global Dow Jones Sustainability Index as an industry leader and was invited to the United Nations Global Compact LEAD forum as the only representative of forest industry, and the only Finnish participant.

Shareholder value at the core

Creating shareholder value is at the core of our strategy, and we believe this also benefits other stakeholders and society on the long term. Our transformation continued and the progress in financial and responsibility performance was reflected by a positive share price performance. Our share price increased by 11% during the year.

UPM's Board of Directors has proposed a dividend of EUR 1.15 (0.95) per share for 2017, up 21% from last year.

Looking forward

UPM is in better standing than ever. Our renewed vision and purpose guide our ambition and what kind of a company we are aiming to be.

Over the next few years, we can allocate more capital to growing and transforming the company while simultaneously increasing the distribution to our shareholders and maintaining headroom in our strong balance sheet. We will also ensure that our employees have the competence, integrity and drive to make our strategy come true.

All in all, UPM is well-positioned for 2018 and beyond. UPM businesses provide sustainable and safe solutions for the growing global consumer demand, both today and in the future. Bioeconomy offers us limitless opportunities for value creation and growth.

Jussi Pesonen
President and CEO

UPM Strategy – Aiming higher

We create value by seizing ... ... the limitless potential of bioeconomy

1 Performance

> Continuous improvement

- Commercial excellence
- Cost efficiency
- High-performing people
- Efficient use of assets and capital

2 Growth

> Earnings growth

- Sustainable and safe solutions for growing global consumer demand
- Growth projects with attractive and sustainable returns
- Talent attraction

3 Innovation

> Growth and competitiveness

- New businesses, products and technologies
- Product, service and process development
- Development of capabilities

4 Responsibility

> Continuous improvement

- Renewable, recyclable and safe products
- Responsible operations and value chain
- Value-based leadership
- Compliance

5 Portfolio

> Develop businesses with strong long-term fundamentals and sustainable competitive advantage

- Transformative projects, synergistic M&A if opportunity and timing are right
- Capitalise on corporate benefits and synergies
- Disciplined and effective capital allocation and strong balance sheet

Moving forward

UPM aims higher with continued transformation and earnings growth.

Six strong business areas

UPM consists of six separate business areas. The business areas are competitive, with strong market positions and a leading financial and sustainability performance. Five of these business areas operate in healthily growing markets.

UPM corporate benefits

The UPM group creates value for its businesses and stakeholders with:

- Competitive and sustainable wood sourcing, forestry and plantation operations
- Value adding, efficient and responsible global functions
- Continuous improvement (Smart) programmes
- Technology and intellectual property rights
- A global platform to build on
- Disciplined and effective capital allocation
- Compliance with applicable laws and regulations and corporate policies

Decision-making at the right level

Each business area is responsible for executing its own strategy and achieving its own targets.

Group direction and support from global functions enable the businesses to reap the benefits from UPM's brand, scale and integration while navigating a complex operating environment.

Capital allocation decisions are made at group level.

Transformation continues

UPM businesses provide sustainable and safe solutions for the growing global consumer demand, both now and in the future. This provides the company with a wealth of future opportunities to grow and create innovative new products, businesses and solutions.

The focus on performance continues, supported by a culture of continuous improvement and innovation.

UPM uses focused investments to grow its businesses. These are typically small to medium-sized projects with attractive returns.

UPM is well positioned for transformative projects. The current investment portfolio for earnings growth is shown on the right.

The share of businesses with strong long-term fundamentals for profitability and growth continues to increase, while strong cash flow is maintained in the competitive graphic paper business. In 2017, 58% of UPM's revenues and 82% of UPM's comparable EBIT originated from growing businesses.

Disciplined and effective capital allocation

Over the past five years (2013-2017), UPM generated cumulatively EUR 6.4 billion of operating cash flow. 30% of this was allocated to dividends, 30% to investments and 40% to debt reduction. The focused growth projects proved a great success, with returns exceeding the target returns. At the end of 2017, UPM had achieved a truly industry-leading balance sheet, with net debt / EBITDA ratio of 0.11. See page 14 for our return targets and leverage policy.

In the coming years, UPM can allocate more capital to growing and transforming the company while simultaneously increasing distribution to shareholders and maintaining headroom in the strong balance sheet. UPM invests in projects with attractive and sustainable returns, supported by a clear competitive advantage.

UPM's current investment portfolio for earnings growth

Focused growth projects

Completed by the end of 2017
- Kymi pulp mill expansion, Finland
- Raflatac expansion, Poland

Construction stage
- Kaukas pulp mill expansion, Finland
- Raflatac expansion, Finland
- Jämsänkoski label papers expansion, Finland
- Chudovo plywood mill expansion, Russia

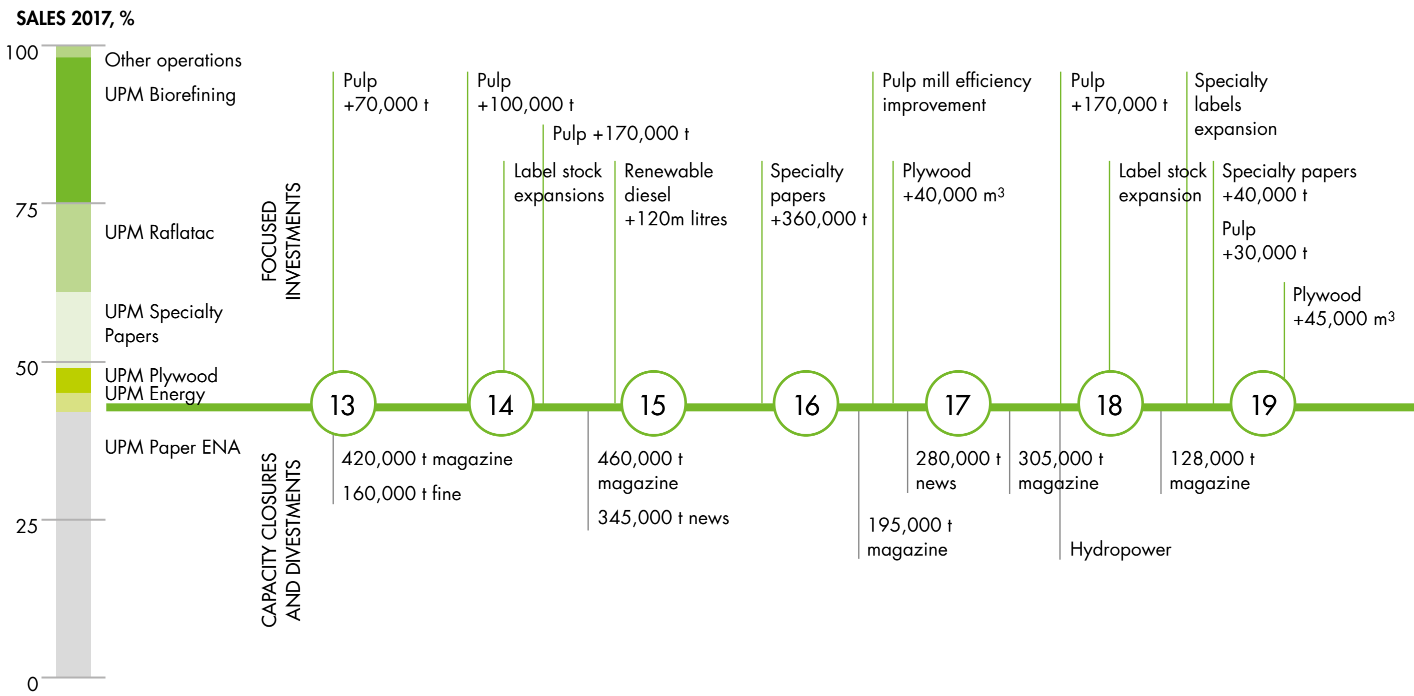
Feasibility study
- Nordland PM2 conversion from fine papers to label papers, Germany

Transformative prospects

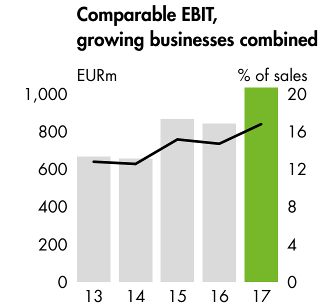
Possible new pulp mill, Uruguay
- UPM and the Government of Uruguay signed an agreement on local prerequisites for a possible new pulp mill. Infrastructure projects and the pre-engineering of the mill in progress.

Biomolecules businesses
- Basic engineering study started regarding a potential industrial-scale biochemicals refinery, Germany
- Exploring next steps in biofuels

INCREASING SHARE OF BUSINESSES WITH STRONG LONG-TERM FUNDAMENTALS FOR PROFITABILITY AND GROWTH



SUSTAINABLE GROWTH
- UPM Biorefining
- UPM Raflatac
- UPM Specialty Papers
- UPM Plywood
- UPM Energy



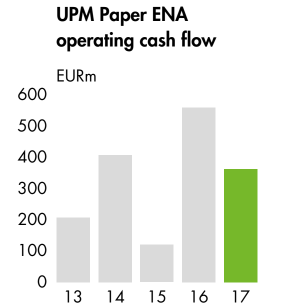
5-year average delivery growth (CAGR)

2–6%

excluding UPM Energy

New business:
Biofuels

STRONG CASH FLOW
- UPM Paper ENA



5-year average annual operating cash flow

EUR 328m

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UPM aims higher with renewed long-term financial targets

UPM has consistently improved its financial performance since adopting the current business model of six separate businesses in 2013. With renewed long-term financial targets, UPM aims higher.

IN THE NEW TARGETS:

- the business area return targets and the comparable ROE target have been increased
- comparable EBIT growth has been introduced as a new group-level target
- a new financial policy on leverage based on net debt/EBITDA has been introduced
- the cash flow-based dividend policy remains unchanged

Business area long-term return targets increased

At the business area level, UPM targets top relative performance in their respective markets compared with key peers. UPM has increased the long-term return targets (below) for five of the six business areas. The new return targets reflect UPM's increased ambition for business performance over both business and investment cycles.

Group earnings growth

On the group level, UPM introduced a new target. UPM aims to grow its comparable EBIT over the long term. In 2017, comparable EBIT increased by 13% to EUR 1,292 million (1,143 million).

UPM aims to grow its businesses with strong long-term fundamentals. Earnings growth is prioritised over top-line growth. UPM will invest in projects with attractive and sustainable returns, supported by a clear competitive advantage. The company also aims to capture opportunities to develop its business and product mix and further improve its cost competitiveness.

Strong balance sheet and attractive return on equity

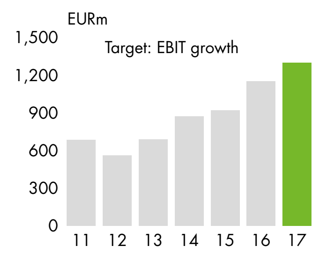
UPM aims to maintain a strong balance sheet. Investment grade rating is an important element in UPM's financing strategy. UPM's new financial policy on leverage is based on net debt/EBITDA ratio of approximately 2 times or less. At the end of 2017, net debt/EBITDA was 0.11 times.

The previous maximum gearing limit of 90% has been discontinued as redundant. At the end of 2017, gearing ratio was 2%.

UPM has increased its ROE target, now aiming for a 10% return on equity. ROE also takes into account the financing, taxation and capital structure of the group. In 2017, comparable ROE was 11.9%.

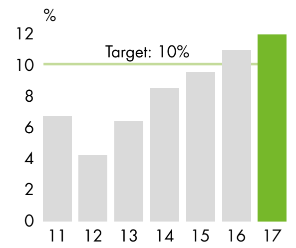
The previous target was variable: 5 percentage points over a ten-year risk-free investment such as the Finnish government's euro-denominated bonds.

Comparable EBIT

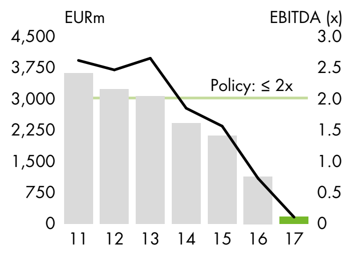


Comparable figures for 2014–2017, excluding special items for earlier years

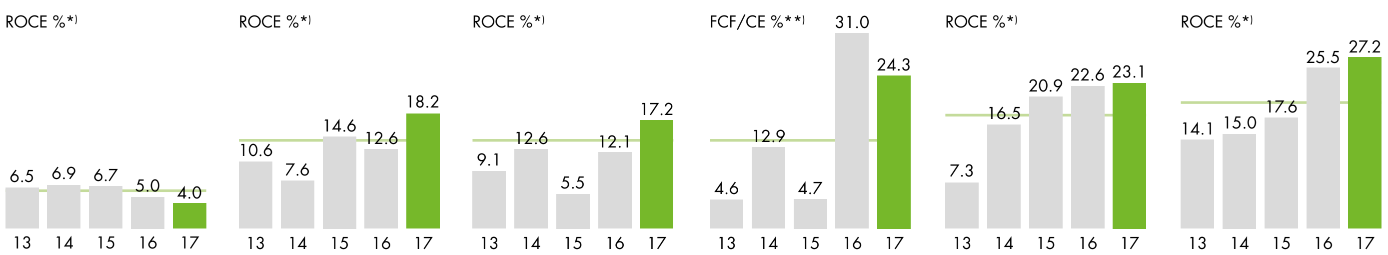
Comparable ROE



Net debt and leverage



Business area returns and long-term targets



*) ROCE % = Return of capital employed excluding items affecting comparability.
**) Free cash flow after investing activities (investments and/or divestments) and restructuring costs.
***) Shareholdings in UPM Energy valued at fair value.

Comparable return on equity

11.9%

Dividend proposal **+21%**

Share price 2017 **+11%**

UPM AIMS TO INCREASE LONG-TERM SHAREHOLDER VALUE

1 PERFORMANCE
UPM is committed to continuous improvement in its financial, social and environmental performance. At the business area level, UPM aims for top performance in its respective markets compared with peers.

2 GROWTH
UPM invests to grow businesses with strong long-term fundamentals and sustainable competitive advantage. The company has clear long-term return targets for its businesses. Earnings growth is prioritised over top-line growth.

3 INNOVATION
UPM's expertise in renewable and recyclable materials, low-emission energy and resource efficiency is the key to developing new, sustainable businesses with high added value and unique competitive advantage.

4 RESPONSIBILITY
UPM's responsible operations and value chain, and drive in finding new sustainable solutions mitigate risks, create competitive advantages, open new growth opportunities and help in answering some of the global challenges.

5 PORTFOLIO
Increasing the share of sustainable growth businesses improves the company's long-term profitability and boosts the value of the shares.

Strong cash flow
enables focused growth investments, focused M&A, new business development as well as attractive dividends to UPM shareholders.

An industry-leading balance sheet
mitigates risks and enables UPM to accelerate its business portfolio transformation, if the opportunity and timing are right.

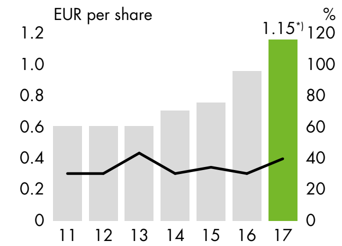
Attractive dividend
UPM aims to pay an attractive dividend, 30-40% of the company's annual operating cash flow per share.

5-YEAR SHARE PERFORMANCE AND VALUATION MULTIPLES

	2017	2016	2015	2014	2013
Share price at 31 Dec, EUR	**25.91**	23.34	17.23	13.62	12.28
Comparable EPS, EUR 1)	**1.88**	1.65	1.38	1.20	0.91
Dividend per share, EUR	**1.15*)**	0.95	0.75	0.70	0.60
Operating cash flow per share, EUR	**2.92**	3.16	2.22	2.33	1.39
Effective dividend yield, %	**4.4**	4.1	4.4	5.1	4.9
P/E ratio	**14.2**	14.1	10.0	14.2	19.5
P/BV ratio 2)	**1.60**	1.51	1.16	0.97	0.87
EV/EBITDA ratio 3)	**8.6**	8.7	8.4	7.5	8.3
Market capitalisation, EUR million	**13,818**	12,452	9,192	7,266	6,497

*) 2017: Board's proposal
1) Comparable EPS for 2014–2017; EPS, excl. special items for 2013
2) P/BV ratio = Share price at 31.12./Equity per share
3) EV/EBITDA ratio = (Market capitalisation + Net debt)/EBITDA

Cash flow-based dividend



*) 2017: Board's proposal

Guided by the Biofore strategy

UPM's Biofore strategy guides the company in achieving its responsibility targets for 2030 and in contributing to UN Sustainability Development Goals (SDG).

In order to guide its responsibility activities, UPM has established a set of responsibility focus areas with targets and key performance indicators which are reviewed every year based on a materiality analysis (page 53). The focus areas cover economic, social and environmental responsibility.

Having successfully transformed its business model and improved its business performance, UPM renewed its long-term financial targets in January 2017. Targets for diversity and inclusion, continuous learning and development and responsible leadership were also revised. New formulations reflect UPM's ability to get more insight from the renewed Employee Engagement Survey and the development of UPM's people processes. The target related to ecolabelled products was also revised. The new target is to manufacture all products in a way that they will be eligible for ecolabelling.

In the area of economic responsibility, UPM's focus areas are economic performance, good governance and responsible sourcing. Good governance helps UPM to avoid risks, enables growth and opens new business opportunities. Responsible sourcing not only minimises risks, but also creates extensive direct and indirect added value.

In the area of social responsibility, the focus is on the fulfilment of human rights, occupational health and safety, local stakeholder engagement and UPM's role as a responsible employer. UPM is committed to respecting human rights. Being a responsible employer improves employee performance, engages people and creates a safe working environment.

As a result of its significant local presence, UPM creates financial and societal value to surrounding communities. The company also strives to increase this value through stakeholder engagement.

Environmental responsibility covers sustainable products, the climate, the use of forests and water and waste reduction. Some of the targets are continuous and some have been extended to 2030. Targets are monitored annually.

United Nations Sustainable Development Goals guiding UPM Targets

UPM RESPONSIBILITY FOCUS AREA	2030 TARGET	2030 FOLLOW-UP / 2017 RESULTS
ECONOMIC		
Profit Creating value to shareholders	• Comparable EBIT growth through focused top-line growth and margin expansion • Comparable ROE: 10% • Net debt/EBITDA: around 2 times or less	• Comparable EBIT increased by 13% to EUR 1,292 million (1,143 million) • Comparable ROE was 11.9% • Net debt/EBITDA was 0.11 times
Governance Ensuring accountability and compliance	• 100% coverage of participation to UPM Code of Conduct training (continuous)	• 98% (97%) of active employees completed the Code of Conduct training
Responsible sourcing Adding value through responsible business practices	• 80% of UPM spend qualified against UPM Supplier and Third Party Code (continuous) • 100% of UPM raw material spend qualified against UPM Supplier and Third Party Code by 2030 [1] • Continuous supplier auditing based on systematic risk assessment practices	• 82% (80%) of supplier spend qualified against UPM Supplier and Third Party Code • 96% (94%) of raw material spend qualified against UPM Supplier and Third Party Code • Approx. 130 supplier audits were conducted based on identified risks and incl. human rights topics. A human rights due diligence completed at all UPM sites
SOCIAL		
Diversity and inclusion Developing organisational culture and local conditions to ensure diverse and inclusive working environment for business success	• People feel that UPM values and promotes diversity, people are treated fairly in their work environment and can advance regardless of personal background or characteristics. 95% favourable in Employee Engagement Survey Diversity and Inclusion index by 2030 • Diversity and inclusion initiative (continuous)	• Responses to Employee Engagement Survey's Diversity and Inclusion index 67% favourable • All UPM businesses and functions reviewed their diversity status and defined their intent. Inclusive behaviour was integrated into leadership development
Continuous learning and development Ensuring high performance for business success and continuous professional development for future employability	• Goal setting discussions are held and development plans are created for all employees, completion rate 100% by 2030 • Employees perceive good opportunities for learning and development at UPM, 80% favourable in Employee Engagement Survey by 2030	• 89% of employees had individual goal setting or annual discussion completed • 62% of employees had a development plan documented • Responses to Employee Engagement Survey's question regarding learning and development were 65% favourable (+1 percentage point)
Responsible leadership Emphasising value-based and inspiring leadership and integrity Continuous development of working environment	• Employee engagement and enablement indices with favourable score clearly above external high performance norm by 2030	• Employee engagement index 71% favourable. This is 2 percentage points below the external high performing norm • Employee enablement index 73% favourable. This is 1 percentage point above external high performing norm
Working conditions Ensuring safe and healthy working environment and wellbeing of employees	• No fatalities or serious accidents in UPM operations • Continuous improvement in safety: Lost time accident frequency (LTAF) <1 and Total recordable injury frequency (TRIF) <2 levels permanently reached including contractors • All operations have certified OHS system by 2030 • Health Promotion Programme is in use at all UPM sites and businesses by 2030 • Absenteeism rate <2% in all organisations by 2030	• Three fatal contractor accidents in 2017 (two fatal accidents) • LTAF was 3.3 for UPM workforces and 4.3 including contractors. TRIF was 8.2 for UPM workforce and 8.5 including contractors • All production sites have an OHS management system in place. 44% of the sites got external certification of their OHS system • A majority of the sites with Health Promotion initiatives. Getting ready for the launch of global UPM Health Concept • The absenteeism rate was 3.8% (3.4%)
Community involvement Ensuring local commitment	• Continuous development of strategic sustainability initiatives with leading NGOs • Continuous sharing of best practices of stakeholder initiatives • UPM's Biofore Share and Care programme brings significant added value	• UPM and FSC® entered into a global strategic partnership, co-operation with BirdLife and Vida Silvestre continued • Sharing of best practices ensured through well-established operational stakeholder forums, for example • Programme continued with focus on employee volunteering in 2018
ENVIRONMENTAL [2]		
Product stewardship Taking care of the entire lifecycle	• Environmental Management Systems in 100% use (continuous) • Environmental Product Declarations for all products (continuous) [3] • All applicable products eligible for ecolabelling by 2030	• 96% of production sites have a certified environmental management system in place, and implementation is underway at the rest • Environmental declarations are available for all relevant UPM products • 85% (86%) of UPM sales was eligible for ecolabelling
Waste Promoting material efficiency and circular economy – reduce, reuse and recycle	• No process waste to landfills or to incineration without energy recovery by 2030	• 89% (89%) of UPM's total process waste was recovered or recycled. The total amount of waste to landfills decreased by 13% compared to 2016.
Climate Creating climate solutions and working towards carbon neutrality	• Fossil CO_2 emissions from own combustion and purchased electricity (Scope 1 and 2) reduced 30% by 2030 • Maximise the business benefits of greenhouse gas claims (continuous) • Improve energy efficiency annually by 1% (continuous) • 70% share of renewable fuels (continuous) • Acidifying flue gases (NOx/SO_2) reduced 20% by 2030 [4]	• Fossil CO_2 emissions reduced by 6% compared to 2016. However, the increase in 2011 due to Myllykoski acquisition has not been compensated yet. • UPM sold greenhouse gas claims worth of 520,000 CO_2 tonnes. Without sales, UPM's reported emissions (Scope 1 and 2) would have been over 8% lower • Energy efficiency target was achieved • Level of 69% (69%) reached in the use of renewable fuels • 31% reduction achieved since 2008 for the UPM average product
Water Using water responsibly	• Effluent load (COD) reduced 40% by 2030 [4] • Wastewater volume reduced 30% by 2030 [4] • 100% of nutrients used at effluent treatment from recycled sources by 2030 [4]	• 32% reduction in effluent load achieved since 2008 for the UPM average product • 13% reduction in wastewater volume achieved since 2008 for the UPM average product • Project started in 2016. Already 17% of nutrients from recycled resources
Forests and biodiversity Ensuring sustainable land use and keeping forests full of life	• 100% coverage of chains of custody (continuous) • All fibre certified by 2030	• Coverage is 100% • The share of certified fibre increased to 85% (84%)

1) Covers all UPM raw material spend including wood and wood-based biomass sourcing and excluding energy
2) Environmental targets: from 2008 levels
3) Includes paper, timber, plywood, pulp and label
4) Numerical targets relevant for pulp and paper production

Responsibility is good business

UPM promotes responsible practices throughout the value chain and actively seeks sustainable solutions in co-operation with its customers, suppliers and partners. Creating value for society both as a company and through our products is an essential part of the Biofore strategy.

SIGNIFICANCE

- UPM builds a sustainable future by replacing non-renewable materials with renewable ones, by using them more efficiently and by creating completely new kinds of solutions
- Responsibility is an integral part of UPM's Biofore strategy and our operations, and seen as a source of competitive advantage

TARGET

- UPM leads the forest-based bioindustry into a sustainable, innovation-driven and exciting future

OUR WAY

- UPM respects international agreements, such as the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work and the OECD Guidelines for Multinational Enterprises
- UPM's purpose and vision incorporate responsibility and the creation of value in society
- UPM's Biofore strategy guides the company in achieving its responsibility targets for 2030 and in contributing to the UN Sustainable Development Goals
- Our Code of Conduct provides a foundation for responsible business conduct and continuous improvement
- The Board of Directors, Group Executive Team, and businesses and functions manage corporate responsibility

FOCUS ON HUMAN RIGHTS

UPM conducted a human rights due diligence of all UPM operational sites during 2017 as defined in the UN Guiding Principles on Business and Human Rights. The focus on UPM sites forms part of an ongoing process which also covers supply chains, through which UPM assesses risks to human rights and integrates findings into decision making and actions in order to mitigate any risks.

As part of UPM's human rights diligence process, self-assessment exercises were carried out at all 75 UPM operational sites globally with the guidance and assistance of Shift, the leading centre of expertise on the UN Guiding Principles. Shift provided input to the scope and coverage of the exercise, and interpretation of the results.

The target of the process was to raise internal awareness of UPM's responsibility to respect human rights and embed this as part of everyday operations. Orientation and awareness sessions were held for all Human Resources personnel and site managers prior to assessments at the sites, building capacity and understanding of the issues involved.

The due diligence assessment revealed no major issues at UPM sites but identified areas common across a number of sites where practices should be strengthened. In particular, the management of contractors, local sourcing and community engagement would benefit from a clarified andmore consistent approach.

The findings of the due diligence assessment will form a programme of ongoing activity during 2018 and have been used as input into a continuous review of our most salient human rights issues.

Commitment to the UN Sustainable Development Goals

UPM participates in the UN Global Compact initiative whose ten universal principles are derived from international agreements in the areas of human rights, labour standards, the environment and anti-corruption.

In 2017, UPM continued to work as a member of the UN Global Compact LEAD forum as the only representative of the forest industry and the only Finnish participant. UPM promotes the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development published by the UN. In addition to participating in global projects, UPM also works with several local expert organisations to promote and achieve the SDGs .

UPM has identified the goals where the company's negative impact is largest or those where UPM can contribute most positively (other SDGs are also relevant to us, but to a lesser extent or only indirectly):

- Goal 3: Good Health and Wellbeing
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 15: Life on Land

Continued focus on value creation and impact valuation

The illustration presented on pages 74–75 includes examples of UPM's direct and indirect value creation. In 2017, UPM assessed in greater detail the monetary value of the key environmental and social impacts in selected areas. Impacts were calculated when possible and relevant, showing qualitative and quantitative indicators.

In 2017, four UPM mills completed their environmental performance reports, providing locally relevant information on societal aspects and impacts, under the EU's EMAS (Eco-Management and Audit Scheme). In 2018, UPM will broaden the scope to other pulp and paper mills to increase local transparency.

A more detailed description of UPM's commitments, impacts and how corporate responsibility is managed can be read from the Report of the Board of Directors (pages 94–110).

Other responsibility focus areas in 2017

Another main theme was strengthening management of compliance-related issues at UPM. UPM launched an initiative to further ensure adherence to the Code of Conduct and implemented a corresponding policy management framework. Following the revision of the UPM Supplier and Third Party Code in late 2016, UPM carried out internal training and implemented the Code with suppliers in 2017. The process will continue in 2018.

Several targets related to social responsibility focus areas were revised in 2017. UPM continued human rights due diligence with a site-level human rights assessment focusing on working conditions at UPM sites, community relations and local sourcing (read more above). UPM considers the salient human rights issues within the company's sphere of influence to be environmental pollution, occupational health and safety (OHS), working conditions, protection of children, and forced labour. In assessing human rights, the rights of the following vulnerable groups are especially taken into account: children, minorities, migrant workers and indigenous people.

The safety of employees and contractors remains an important focus area. One Safety, the global reporting tool, launched in 2016, was trained and implemented during 2017. The coverage of the tool has expanded to all UPM sites from the beginning of 2018. One Safety provides a standardised way of managing safety and environment-related operations within UPM.

To further enhance product stewardship, UPM's businesses launched several new sustainable and safe solutions such as Wisa BioBond plywood gluing technology and RafNXT+ labels. UPM also contributed to the revision of the EU Ecolabel for paper products.

UPM signed a global partnership with FSC International to promote and widen the FSC certification, especially among private forest owners in Finland. At the same time, UPM's operations at various logging sites in Finland caused concerns (page 63).

Work continued towards environmental 2030 targets. The Zero Solid Waste to Landfill project was successful and UPM Plywood and UPM Timber businesses and UPM Jämsä River and UPM Rauma paper mills in Finland have already reached zero waste level. The China More with Biofore research programme on environmental performance continued at the UPM Changshu paper mill. Tangible results are expected to be achieved in 2018. Emphasis is now being put on reducing UPM's fossil CO_2 emissions with the long-term aim of achieving carbon neutrality.

Read more:
www.upm.com/responsibility

Megatrends drive demand for sustainable and safe solutions

The global megatrends represent many long-term opportunities and challenges for UPM towards 2030 and beyond. They are also driving demand for sustainable and safe solutions, new technologies and responsible business practices.

MEGATRENDS	EXPRESSIONS	OPPORTUNITIES FOR UPM	CHALLENGES FOR UPM
POPULATION GROWTH, URBANISATION AND DEMOGRAPHIC CHANGE	Global consumption growth Growing middle class in China and the emerging markets Higher living standards Changing consumer behaviours and preferences Impact on the environment, societies and human rights	**UPM Pulp | UPM Biofuels | UPM Raflatac | UPM Specialty Papers | UPM Paper ENA | UPM Plywood | UPM Timber | UPM Biochemicals | UPM Biocomposites** Significant growth in global consumer demand Growing consumer demand for sustainable and safe products New business opportunities with ecodesign Opportunities relating to bioeconomy Cost-efficient and responsible supply chains	Fit of UPM's product mix and geographical presence to the future growth outlook Unpredictable regulation and subsidies may distort markets
RESOURCE SCARCITY AND ROLE OF RENEWABLES	Competition for natural and fossil resources Biodegradability Land-use change Threat of deforestation Threat of biodiversity loss Human rights	**UPM Pulp | UPM Biofuels | UPM Energy | UPM Raflatac | UPM Specialty Papers | UPM Paper ENA | UPM Plywood | UPM Timber | UPM Biochemicals UPM Biocomposites | Wood Sourcing and Forestry** Growing demand for renewable and biodegradable materials and renewable energy New business opportunities replacing non-renewable materials New technologies to improve resource efficiency and replace non-renewable materials Resource efficiency and circular economy offer a competitive advantage Healthy forests and safeguarded wood availability Sustainable land use and ecosystem services Responsible water use and safeguard the natural water cycle in forests Increased forest growth in Northern Europe, sustainable plantations	Unpredictable raw material costs and availability Competition for renewable raw materials Unpredictable regulation and subsidies may distort markets Competition for land use
DIGITALISATION	Changing consumer behaviours and preferences Growing e-commerce Changing work Disruptive business models and technologies	**UPM Pulp | UPM Raflatac | UPM Specialty Papers | UPM Plywood** Online shopping drives growth in demand for labelling, packaging, pulp and transport Increasing efficiency, productivity and change agility Industrial Internet, big data, robotics and automation Different demand trends for different paper end uses and geographical areas UPM's paper production platform provides continuous optimisation opportunities	**UPM Paper ENA** Declining graphic paper consumption Fit of UPM's product mix and geographical presence to future growth outlook New forms of competition Changing needs for skills and competencies Cyber security
CLIMATE CHANGE	Policies to mitigate climate change Direct and indirect impact of climate change	**UPM Biofuels | UPM Energy | UPM Biochemicals | UPM Biocomposites | UPM Pulp | UPM Plywood | UPM Timber** Sustainability offers competitive advantages and growth opportunities Prioritising use of low-emission and renewable energy Growing consumer demand for sustainable and safe products New technologies and business opportunities replacing fossil energy and oil-based materials Circular economy Forests as carbon sinks Increased forest growth in Northern Europe	Unpredictable regulation and subsidies may distort markets Cost of greenhouse gas emissions Political instability Increasingly common and more severe storms, floods and droughts Unpredictable wood-harvesting conditions
RESPONSIBILITY AND COMPLIANCE	Increasing regulation, subsidies Requirements for transparency Global trade and businesses – local impact Focus on human rights, environment and biodiversity	Responsibility offer competitive advantage and growth opportunities Regulation may drive markets for sustainable products Product stewardship Transparency as competitive advantage Cost-efficient and responsible value chains Engaged and diverse workforce, talent attraction Sustainable returns and risk mitigation	Reputation and financial risks in the event of non-compliance Unpredictable regulation and subsidies may distort markets Trade barriers, protectionism and sanctions

Risks and opportunities

The operating environment exposes UPM to a number of risks and opportunities. Many of them arise from general economic activity and global megatrends (see previous page). Execution of strategies exposes UPM and its business areas, functions and production plants to a number of risks and opportunities.

1 PERFORMANCE **2** GROWTH **3** INNOVATION **4** RESPONSIBILITY **5** PORTFOLIO

	RISK DESCRIPTION	IMPACT	MANAGEMENT	OPPORTUNITY	STRATEGIC FOCUS AREAS INVOLVED
OPERATING ENVIRONMENT	Global economic cycles	Impacts the demand and sales prices of various UPM products and main input costs items, as well as currency exchange rates. UPM's main earnings sensitivities are presented on page 122.	Industry-leading balance sheet. Continuous improvement in competitiveness, resource efficiency and customer offering. Business portfolio development.	UPM's strong balance sheet, focus on competitiveness and responsible operations mitigate risks and may present strategic opportunities (incl. M&A) in an economic downturn.	1 2 4 5
	Faster than expected decline in demand for graphic paper	Increased pressure on UPM's graphic paper deliveries and sales prices, scarcity of recycled fibre	Continuous improvement in competitiveness. Focus on more attractive paper end-use segments. Adjust paper production capacity to profitable customer demand. Business portfolio development.	UPM's large paper production platform provides continuous optimisation opportunities. Reliable supplier of high quality products and customer service merits customer loyalty.	1 5
	Overcapacity in some of UPM's products due to changes in demand or supply	Temporarily impacts sales prices and deliveries of the product in question	Continuous improvement in competitiveness. Disciplined planning and selection of investments. Business portfolio development.	UPM's diverse business portfolio, focus on competitiveness and strong balance sheet mitigate risks and may present strategic opportunities (incl. M&A) in a cyclical downturn of a business.	1 2 5
	Significant moves in currency exchange rates relevant for UPM	Impacts UPM's earnings and cash flow directly and competitiveness indirectly. UPM's main currency exposures are presented on page 148.	Continuous hedging of net currency exposure. Hedging the balance sheet. Continuous improvement in competitiveness. Disciplined planning and selection of investments. Business portfolio development.	UPM's diverse business portfolio and geographical presence, focus on competitiveness and strong balance sheet mitigate risks and may present strategic opportunities in changing currency environment.	1 2 5
	Availability and price of major production inputs like wood, fibre, chemicals and water	Increased cost of raw materials and potential production interruptions. UPM's cost structure is presented on page 123 and sensitivity to water prices on page 106.	Continuously improving resource efficiency. New technologies. Long-term supply contracts and relying on alternate suppliers. Selected ownership of forest land and long-term forest management contracts.	UPM's continuous improvement in resource efficiency and circular economy mitigate risks and offer competitive advantage.	1 3 4 5
	International trade barriers, e.g. antidumping duties	Impacts trade flows and short-term market balances and may directly or indirectly impact sales prices and deliveries of UPM's products.	Monitoring through international trade associations. Compliance. Continuous improvement in competitiveness. Disciplined planning and selection of investments. Business portfolio development.	UPM's diverse business portfolio, geographical presence and responsible business practices mitigate risks and may present opportunities for optimisation in case of trade barriers in some products and locations.	1 2 4 5
	Changes in regulation, subsidies, taxation, e.g. related to climate policies	May distort markets, e.g. for energy or wood raw material. May change relative competitiveness of energy forms. May change relative competitiveness of countries. May create additional competition for wood raw material. Direct and indirect impacts of climate change. UPM's sensitivity to carbon pricing is presented on page 106.	Monitoring for early signals for regulation changes. Communicate the impacts of such policies on employment and creation of value-added clearly. Compliance. Continuous improvement in competitiveness, resource efficiency and energy efficiency. Leading environmental performance. Innovation and selected investments in value added renewable products and energy. Business portfolio development. Sustainable forest management and UPM biodiversity programme.	May drive market growth for sustainable products and energy, e.g. renewable fuels. Resource efficiency, circular economy and renewability are increasingly important sources of competitive advantage. In electricity markets, hydropower is an increasingly important form of power generation. Increased wood growth in northern hemisphere.	1 2 3 4 5
OPERATIONS AND STRATEGY	Continuous improvement in competitiveness	Weakening relative competitiveness impacts profitability and increases risks related to the external business environment (above).	Commercial strategies. Programmes for savings in variable and fixed costs. Culture and track record of continuous improvement in productivity and resource efficiency. Product and service development.	Increasing relative competitiveness improves profitability and mitigates risks related to the external business environment (above).	1 3 4
	Selection and execution of investment projects	Material cost overruns. Inopportune timing. Return on investment does not meet targets.	Disciplined selection, planning, project management and follow-up processes. Investing in projects with attractive returns and sustainable competitive advantage.	Carefully selected and implemented growth projects improve UPM's ROCE and grow its earnings. UPM's financial targets are presented on page 14.	2 4
	Delays in OL3 nuclear plant project completion and start-up	Adverse impact on PVO's business and financial position, the fair value of UPM's energy holdings and the cost of energy sourced from OL3 when completed.	Ensuring that contractual obligations are met by both parties. Arbitration proceedings have been initiated by both parties.	The investment provides a competitive, safe and CO_2 emission-free electricity supply for the long term.	2 4
	Selection and execution of M&A	Cost of acquisition proves high and/or targets for strategic fit and integration are not met. Return on investment does not meet targets. Damage to reputation.	Disciplined acquisition preparation to ensure the strategic fit, right valuation and effective integration. Environmental and social impact assessments. Stakeholder engagement.	UPM's strong balance sheet and cash flow enable value-enhancing M&A when timing and opportunity are right. Societal value creation.	2 4 5
	Developing and commercialising innovations and new businesses	Return on investment does not meet targets. Lost opportunity.	Disciplined selection, development and commercialisation processes for innovations. Collaboration and partnerships in R&D and commercialisation. Business model development.	Existing products and services redesigned to bring more value. New value-added products to replace oil-based materials may be a significant source of value creation and growth for UPM.	1 2 3 4
	Compliance risks; competition law, anti-corruption, human rights, securities regulation, taxation	Damage to reputation. Loss of business. Fines and damages. May impact the value of the company.	Governance, compliance procedures, UPM Code of Conduct, UPM Supplier and Third Party Code, audits, whistleblowing channel, trainings.	Good governance mitigates risks and promotes best practices. High responsibility standards and transparency are a differentiating factor and create long term value.	1 2 4 5
	Supply chain and third party reputation risks	Damage to reputation. Loss of business. Loss of competitive position. May impact the value of the company.	UPM Code of Conduct, UPM Supplier and Third Party Code, supplier audits, certification.	Good governance and responsible sourcing practices mitigate risks and provide competitive advantage.	1 2 4 5
	Environmental risks; a leak or spill due to malfunction or human error	Damage to reputation. Sanctions. Direct costs to clean up and repair potential damages to production plant. Loss of production.	Best available techniques (BAT). Maintenance, internal control and reports. Certified environmental management systems (ISO 14001, EMAS).	Industry-leading environmental performance provides competitive advantage, including efficiency gains.	1 2 3 4 5
	Physical damage to the people or property	Harm to employees or contractors and damage to reputation. Damage to assets or loss of production.	One Safety system (p. 49). Loss prevention activities and systems. Emergency and business continuity procedures.	Leading health and safety performance strengthens the brand as an employer, as well as improving engagement, efficiency and productivity.	1 4
	Ability to recruit and retain diversely skilled employees	Business planning and execution impaired, affecting long-term profitability and value creation.	Competence development. Incentive schemes. Workplace safety. Acting on employee engagement and management effectiveness. Value-based leadership and integrity.	Engaged high-performing and diverse people enable the implementation of the Biofore strategy as well as commercial success.	1 2 3 4 5
	Availability and security of information systems, malware	Interruptions in critical information systems cause a major interruption to UPM's business. Damage to reputation. Loss of business.	Technical, physical and process improvements to mitigate availability and security risks.	Sophisticated IT systems enable efficient operations, optimised performance as well as new customer services and data security.	1 3 4

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Performance improvement and transformation continued in 2017

1 PERFORMANCE

2 GROWTH

3 INNOVATION

4 RESPONSIBILITY

5 PORTFOLIO

BUSINESS AREA	STRATEGIC TARGETS	ACTIONS IN 2017		ACTIONS PLANNED FOR 2018 *)	
UPM GROUP AND ALL BUSINESSES	Continuous improvement of financial, social and environmental performance Maintain strong balance sheet and capability for future opportunities Developing winning culture for business success Compliance with laws and regulation Mitigate risks and capture opportunities Enhance competitiveness	Continuous improvement programmes on safety, environment, variable costs, working capital, site optimisation, maintenance and commercial strategies in all businesses Disciplined capital allocation, net debt reduction Renewed purpose and vision and aiming higher culture Renewed financial targets and revised several other targets Strengthening of compliance framework Human rights due diligence	1 3 4 1 2 4 5 1 2 3 4 5 1 2 4 5 1 4 1 4	Continuous improvement programmes Disciplined and effective capital allocation Continue change in the corporate culture Actions to reach targets and materiality analysis to keep the responsibility targets up-to-date Further steps in compliance management Implementation of the findings	1 3 4 1 2 4 5 1 2 3 4 5 1 2 4 5 1 4 1 4
UPM BIOREFINING	Grow as a responsible and cost-efficient pulp producer with the most versatile product offering Provide sustainable, advanced biofuels, achieve top performance and evaluate opportunities for scaling up biofuels business Enhance profitability through efficient use of wood supply, integrated full-production and focused commercial strategy	Investment completed at the UPM Kymi pulp mill UPM Kaukas pulp mill investment decision Agreement signed with the Government of Uruguay on local prerequisites for a possible new pulp mill UPM Lappeenranta Biorefinery reached designed capacity, evaluation of biofuels growth opportunities and feedstocks continued Measures to improve production efficiency at sawmills	2 2 1 2 5 2 3 5 1	Capture benefits of pulp capacity expansions Complete UPM Kaukas pulp mill investment Engineering study and permitting process for a possible pulp mill in Uruguay Evaluate growth opportunities and feedstocks in biofuels An environmental impact assessment (EIA) for a possible biorefinery in Kotka, Finland	2 2 1 2 4 5 2 3 4 5 2 3 4 5
UPM ENERGY	Create value in electricity generation and physical and financial markets Ensure competitiveness through cost efficiency and high asset utilisation rate in hydro and nuclear Profitable growth on the Nordic electricity market with CO_2 emission-free generation	Completed refurbishment of existing two turbines at Harjavalta hydropower plant Continued OL3 construction Launched a new service offering to industrial-scale electricity consumers	2 2 3 4	Continue OL3 project Developing the service offering further	2 3 4
UPM RAFLATAC	Profitable organic growth, potentially complemented with acquisitions Widen product portfolio especially in high value-added products Expand customer reach through increased distribution, sales and service coverage	Commenced production at the new coating line at the Wroclaw factory in Poland Investment in special label capacity in Tampere, Finland Strengthened product and service offering Improved sales and logistic capability Launched RafCycle® recycling solution in China	1 2 1 2 3 4 1 2 4	Capture growth opportunities and develop product portfolio Complete specialty label investment in Tampere, Finland Expand distribution coverage in attractive markets Open a new terminal in Santiago, Chile	2 3 4 1 2 2 1 2
UPM SPECIALTY PAPERS	Growth to maintain global leadership positioning in labelling materials Growth as one of the most preferred office paper suppliers in Asia Widen product offering in specialities and through new product development	Product mix development at UPM Changshu, China Growth in the Asian, European and North American markets Introduced Responsible Fibre concept in Asian markets China More with Biofore research programme	1 2 2 3 4 3 4	Expand release liner capacity at UPM Jämsänkoski, Finland Feasibility study on Nordland PM2 conversion from fine papers to release liners in Germany Develop new value added specialty products segments China More with Biofore research programme	2 1 2 3 3 4
UPM PAPER ENA	Maximise cash flow and leverage optimisation opportunities in extensive, highly performant operations Strengthen market position through differentiated commercial strategies, business development and targeted product development Increase efficiency of operations and foster digitalisation and robotics	Launched new paper products Three paper machines were closed Measures to reduce fixed costs, plan to optimise operations in Germany Sale of hydropower facilities	2 3 4 5 1 1 1 5	Capture opportunities in certain end-uses and segments Implement new sustainability agenda Complete optimisation at UPM Nordland Papier, Germany Implement digitalisation roadmap	2 3 4 1 1 3
UPM PLYWOOD	Profitable growth through superior customer experience and operational excellence Strengthen market position in selected businesses by increasing value and service offering	Production ramp up at the Otepää mill in Estonia Decision to expand Chudovo plywood mill capacity in Russia Completed the peeling investment at the UPM Kalso veneer mill Introduction of WISA BioBond gluing technology	2 2 4 1 3 4	Production optimisation at Otepää mill in Estonia Proceed with Chudovo mill expansion in Russia Enhance in-depth understanding of the market drivers in selected businesses Strengthening the supply chain service models	2 2 4 1 2 1 3
WOOD SOURCING AND FORESTRY	Secure competitive wood sustainably	Sold 73,000 hectares of forest land in Finland Global partnership with FSC International	5 4	Continue forest land sales Continuous cost efficiency improvement Study availability and quality of competitive wood for UPM's growth projects	5 1 3 1 2 3 4
UPM BIOCHEMICALS	Further application development and piloting, product commercialisation	Started a basic engineering study regarding a potential industrial-scale biochemicals refinery in Germany	2 3 5	Proceed with the engineering study to verify attractiveness of the potential biochemicals refinery	2 3 5
UPM BIOCOMPOSITES	Business creation and continued growth	Developed new UPM Profi products	2 3	Launch of new UPM ProFi products Continue to commercialise UPM Formi	2 3 2 3

*) not a complete list

CONTENTS

UPM Biorefining

Sustainable growth

OUR DIRECTION

- **In Pulp:** Provide customers with direct access to the most versatile pulp range and advanced technical service. Maintain cost competitiveness through continuous operational improvement. Grow as a responsible and cost-efficient pulp supplier.
- **In Biofuels:** Provide unique, sustainable, advanced biofuels in various markets and segments, achieve top performance, evaluate opportunities for scaling up biofuels business.
- **In Timber:** Enhance profitability through efficient use of wood supply, integrated full-production and focused commercial strategy. A streamlined business model to secure position in chosen key markets and end-use segments.

OUR STRENGTHS

- Versatile range of sustainably produced pulp grades suitable for a wide range of end uses
- Modern, efficient mills and business committed to growth
- Responsibility integrated in all operations from wood sourcing to logistics
- Established producer of advanced renewable diesel and naphtha
- Competitive sawmills with skilled own global sales and logistics network
- Synergistic supply chain of wood for sawn timber, pulp and renewable fuels

GROWTH DRIVERS

Pulp and timber

- Demand growth of consumer goods
- Population growth, increasing income levels
- Growth of e-commerce
- Urban lifestyle
- Demographic change
- Environmental consciousness
- Decreasing supply of white recycled fibre

Advanced biofuels

- Climate change mitigation
- Sustainability
- Pressure to replace fossil fuels with renewables
- Low carbon mobility
- Pressure to reduce greenhouse gas and tailpipe emissions in transport
- Increasing the EU's self-sufficiency in energy

Strong performance improvement

Profitability increased clearly due to higher pulp sales prices, pulp deliveries and increased operational efficiency. Production efficiency improved significantly at the Lappeenranta Biorefinery and market fundamentals remained favourable for the biofuels business. Delivery volumes and production efficiency in sawmill operations improved.

Pulp market balance tightened due to persistent, strong demand in 2017. Supply was restricted due to delayed start-up of new capacity and large production outages in the industry. Chinese regulatory efforts to clean up the inflow of mixed imported recycled paper tightened the fibre market during the second half of the year. Pulp prices increased during the course of the year.

In 2017, activity in the Finnish wood market increased as a result of expanded pulp production capacity and increasing sawn timber demand. New digital services for forest owners were launched during the year (read more on page 42).

Focused growth investments deliver

UPM Pulp has been able to respond to growing demand from customers in tissue, speciality papers and packaging due to increased production capacity.

Over recent years, UPM has made focused investments to expand production at all four pulp mills. Total pulp production capacity has increased by nearly 600,000 tonnes since 2013 with investments of approximately EUR 400 million. Simultaneously, operational efficiency has improved at all mills.

In 2017, investment was completed at the UPM Kymi pulp mill and the maintenance cycle at the UPM Fray Bentos mill was rescheduled. New pulp production records enabled growth in UPM pulp deliveries of 5%.

KEY FIGURES	2017	2016
Sales, EURm	**2,531**	2,206
Comparable EBIT, EURm	**587**	406
Capital employed (average), EURm	**3,225**	3,231
Comparable ROCE, %	**18.2**	12.6
Personnel on 31 Dec.	**2,628**	2,630

TEN YEARS OF GROWTH

2017 marks the 10th anniversary of the Fray Bentos pulp mill, still considered one of the best in the world to this day. The mill has produced over 11 million tonnes of eucalyptus pulp for global markets.

The economic impact of the mill is significant. It creates jobs, increases people's purchase power and enhances the wellbeing of the surrounding community. Nearly 800 people, including UPM's direct employees, suppliers and subcontractors, enter the mill site daily to work on different operations from production and maintenance to logistics.

Uruguay has a large reserve of wood raw material and a well-trained and skilled workforce. UPM Fray Bentos uses approximately 4.5 million cubic metres of wood every year and generates approx. 8% of the Uruguayan energy supply. The mill generates bio-based energy and electricity, which is then sold to the national grid. UPM sponsored the establishment of the regional technological university in Fray Bentos, at which students can study mechatronics, renewable energy, transport and logistics.

"In terms of GDP, the forest industry has emerged as the most important value chain for the national economy of Uruguay, and pulp has become the second most valuable export item. The forestry sector has flourished over the past decade, and its future prospects look promising," sums up Alfonso Capurro, Senior Director of the Economic Department from CPA Ferrere consultancy.

Read more:
www.upmpulp.com

CAPITALS

- Capital-intensive process industry
- Sustainable wood from certified sources
- State-of-the-art production technology
- Community engagement
- Engaged, high-performing people
- Reliable, well-functioning supply chain

UPM PULP AND TIMBER VALUE CREATED

Multi-fibre pulp product offering
Certified stable quality timber offering
Reliable deliveries
World-class technical service close to customer
Best-in-class sustainability offering
Responsible and competitive sourcing
Modern and efficient production

CUSTOMERS

PULP
- Tissue, board, speciality and graphic paper producers

TIMBER
- Furniture, joinery industries, construction, planing and packaging

OUTCOMES

- Sustainable and safe products that store carbon
- Employment, work safety
- Community wellbeing
- Sustainable forest management and biodiversity
- Renewable energy
- Low emissions
- ROCE
- Growth

In June 2017, UPM announced it would further improve the efficiency and competitiveness of the UPM Kaukas pulp mill with a EUR 30 million investment, increasing annual production capacity by 30,000 tonnes to 770,000 tonnes in 2019.

As an integral part of the value chain, efforts to enhance wood supply continued in 2017. A new production record was achieved through several efficiency improving investments in the sawn timber operation. UPM is seeking further improvement in the wood sourcing value chain in Finland.

Long-term growth opportunity in Uruguay

In November, UPM and the Government of Uruguay signed an investment agreement to establish a competitive operating platform for a possible new pulp mill in Uruguay. The site of the mill would be close to the city of Paso de los Toros, in the department of Durazno in central Uruguay.

The agreement brings UPM into the pre-engineering and permitting phase, which is expected to take 1.5 to 2 years. Achieving significant progress in the implementation of the infrastructure initiatives is critically important for the final investment decision.

UPM is carrying out an engineering study and permit process for a pulp mill with an annual capacity of about 2 million tonnes of eucalyptus market pulp. The preliminary estimate for a pulp mill investment is approximately EUR 2 billion. In addition, a successful project requires off-site investments in plantation land and forestry, road network and nursery capacity, harvesting and transport equipment, rolling stock for the rail network, export facilities and training. UPM has consistently increased its plantation base in Uruguay.

When in operation, the mill, forestry and related activities would employ 8,000 additional people in its full value chain. The operations would also have a significant positive impact on the central and north-eastern regions.

The global megatrends support a strong growth of the market pulp demand. UPM's customers value the stable quality of the Uruguayan eucalyptus pulp. The possible new capacity in Uruguay would support UPM's multifibre strategy: to serve customers in growing hygiene, packaging and speciality as well as printing and writing paper end-use segments.

The first significant biofuel investment at design capacity

UPM has been producing UPM BioVerno renewable diesel and naphtha from wood-based residues since early 2015. UPM BioVerno drop-in diesel is a unique, competitive and sustainable alternative to fossil fuels or first-generation biofuels, and is well positioned among the few existing advanced biofuel alternatives available on the market. UPM's renewable naphtha can be used as a biocomponent for gasoline or for replacing fossil raw materials in bioplastics (read more on page 43).

UPM BioVerno significantly reduces greenhouse gas and tailpipe emissions. Future demand for sustainable, high-quality advanced biofuels is predicted to be strong, driven by sustainability and stricter environmental standards.

In 2017, the UPM Lappeenranta Biorefinery reached its design capacity and generated a good financial return. Successful field tests with dedicated fleets, public transportation and shipping enabled UPM Biofuels to expand its renewable diesel customer base in the Nordics and selected EU countries. The first commercial deliveries of renewable naphtha as feedstock for producing bioplastics were launched in 2017. UPM Biofuels was chosen as the Bioenergy Industry Leader at the 2017 Platts Global Energy Awards.

The UPM Lappeenranta Biorefinery is the first significant investment in a new and innovative production facility. Having proven that the technology and business case work, UPM is evaluating future growth opportunities.

The planning includes new alternatives in sustainable liquid feed-stocks, waste and residue, as well as wood-based feedstocks for low carbon biofuels. New markets and customer segments, as well as applications and product development are also being pursued. In February 2018, UPM announced that it is starting an environmental impact assessment (EIA) for a possible biorefinery in Kotka, Finland.

UPM continues to develop new process technologies using solid wood biomass. Alongside the planning, UPM is closely monitoring and striving to influence the future prerequisite for the advanced renewable fuels markets.

In June, UPM Biofuels announced it is developing a new feedstock concept by growing Brassica carinata as a sequential crop in South America. The carinata crop produces non-edible oil suitable for biofuel feedstock and protein for animal feed. The sequential cropping concept enables contract farmers to take agricultural land into use outside the main cultivation period – i.e. in winter time – without compromising existing food production. It does not cause any land use change, prevents erosion and improves soil quality. Carinata will provide additional income to local farmers, who do not normally have their fields in productive use during winter.

Sustainability offers competitive advantages and growth opportunities

Sustainability is growing in importance in the pulp and biofuels industry, a trend that is benefitting UPM with its leading competences both in forestry and industrial operations as well as in environmental and social responsibility.

UPM's modern pulp mills have all main management systems certified and the production technology enables efficient use of raw materials, chemicals, energy and water. In wood sourcing, UPM only uses wood from sustainable sources. UPM plays an active role in the local communities in which it operates as a significant employer and as a business partner, bringing prosperity to the surrounding area. UPM is also actively collaborating with local educational institutes.

The pulp and biofuels industries globally must meet the standards of responsible business in raw material sourcing, mill technologies and processes, as well as business practices in general. Increasing consumer awareness requires brand owners to be selective when it comes to choosing their pulp suppliers to assure that responsible practices are followed throughout the supply chain. As an example of governmental impact on setting stricter environmental criteria, the Chinese regulatory efforts to clean up the inflow of mixed imported recycled paper is an attempt to protect the environment.

UPM continues to engage with its customers to promote sustainability and drive transparent business practices across the value chain.

Read more on the infrastructure development in Uruguay on page 80.

AIMING FOR IMPROVED AIR QUALITY

UPM has been testing its wood-based renewable diesel UPM BioVerno on buses in the Helsinki metropolitan area, Finland, since 2016. The tests showed that UPM BioVerno performed as well as the highest-grade diesel in heavy duty city traffic.

In 2017, the project continued with the launch of BioSata, an initiative, where buses and the majority of the city's machinery and trucks are switching to waste- and residue-based biofuels. In addition to UPM Biofuels, HSL (Helsinki Regional Transport Authority), Stara, the Ministry of Economic Affairs and Employment, the Finnish Petroleum and Biofuels Association, the VTT Technical Research Centre of Finland and several energy companies operating in Finland are involved in the project.

HSL aims to have buses operating within the Helsinki area using 100% renewable fuels by the year 2020. With the use of renewable fuels, harmful tailpipe emissions, such as nitrogen oxide and particles, can be reduced too. The effects can be seen in the air quality of Helsinki city centre, in particular.

Read more:
www.upmbiofuels.com

CAPITALS

- Capital intensive process industry
- Engaged, high-performing people
- Responsible raw material sourcing
- Integration to internal raw material
- Intellectual property rights
- Community engagement

UPM BIOFUELS VALUE CREATED

Advanced renewable diesel and naphtha
Competitive and sustainable non-food feedstock
Infrastructure synergies
Sustainability leader in biofuel solutions

CUSTOMERS

- Oil refiners and blenders
- Distributors and retailers
- Dedicated heavy-duty fleets
- Marine fleets

OUTCOMES

- Sustainable products
- Renewable energy
- Low-emission transportation fuels
- Employment
- Work safety
- Community wellbeing
- ROCE
- Growth
- Best available technology

UPM Energy

Market agile energy

Top-line decline affected profitability

Profitability decreased mainly due to lower average sales prices and lower power generation volumes. Power generation in the first half of the year was affected by the weaker hydrological situation and longer maintenance at the Olkiluoto nuclear power plant. Hydrology improved during the latter part of the year, which improved hydro production volume and supported profitability. For the full year, the average Finnish spot price was EUR 33.2/MWh, 2% higher than in 2016 (EUR 32.5/MWh). Power consumption overall has shown a slight increase in the Nordics.

Challenging operating environment

The Nordic electricity market remained challenging. Supply of subsidised renewable electricity, wind power in particular, continued to increase and the market price of electricity remained low. The market remained distorted due to factors such as regulation, taxes and support schemes, benefitting some renewable energy generation forms such as wind power while selectively harming others such as hydropower. Hydropower is an efficient way to produce balancing power and operators have invested in growing capacity and improving performance. The high tax burden on CO_2 emission-free hydropower is harming its economic sustainability.

New service offering for industrial-scale power consumers

In 2017, UPM Energy launched a new service offering for industrial-scale power consumers to optimise their consumption in a market-agile way. Up to now, power generators have been responsible for the power grid balancing. In the future with more wind and solar power generation, power consumers increasingly need to take on the balancing role. One example of that role is demand response from industrial-scale consumers.

Investing in CO_2 emission-free generation

UPM Energy is investing in emission-free power generation capacity with part-owned hydro and nuclear companies and own hydropower assets. The largest ongoing project is taking place at Teollisuuden Voima Oy (TVO), which involves building a new EPR-type (European Pressurized Water Reactor) nuclear power unit, known as OL3 EPR, at Olkiluoto, Finland. Through Pohjolan Voima Oyj (PVO), UPM is entitled to approximately 500 MW of its capacity. At Olkiluoto 3 EPR, the installation works and process system tests continued. According to the plant supplier's reviewed schedule, regular electricity production is scheduled to start in May 2019.

UPM Energy participated in the expansion of the Länsi-Suomen Voima Oy's Harjavalta hydropower plant in Finland. A new machine unit was brought into use in 2016, and refurbishment of the existing two turbines was completed in December 2017. The project improved the efficiency, control and environmental safety of the plant, while also responding to the increasing demand for flexible capacity. The annual output of the Harjavalta plant on an average hydrological year is expected to increase from the current 390 GWh to 430 GWh.

Low-emission power generation mitigates climate change

UPM Energy assets play an important part in providing security of power supply for the society, responding to national economic and social needs. UPM Energy's low-emission generation assets are well-positioned to mitigate climate change and support political energy and climate objectives. Hydropower is a form of generation that is efficient in handling grid power stability, a task that is becoming increasingly challenging due to the growing share of wind and solar power generation.

The environmental impact of hydropower generation is local and is mitigated through collaboration between plant operators and local authorities. Hydropower plants also play a major role in seasonal flooding management.

OUR DIRECTION

- Create value in electricity generation as well as in physical and financial markets
- Ensure competitiveness through cost efficiency and high asset availability
- Profitable growth on the Nordic electricity market with CO_2 emission-free generation of power

OUR STRENGTHS

- Cost competitive, low-emission electricity generation portfolio
- Hydropower as flexible generation to create value in volatile markets
- Reliable nuclear as baseload generation
- Value creation track record in physical and financial electricity markets
- Strong knowledge and track record in optimisation of industrial power consumption
- Agile and competent organisation

MARKET TRENDS

- Modest growth outlook for electricity demand in Nordic countries
- Grid balancing is more challenging due to increasing share of weather-dependent wind and solar supply
- Market integration increased through investments in grid interconnectors
- Flexible power generation and active customers reshape industry operating models

MARKET AGILITY PROVIDES A COMPETITIVE EDGE

UPM Energy is selling its expertise to industrial-scale electricity consumers. The aim of this business model, which is brand new within the industry, is to help customers integrate their industrial processes into the electricity market.

UPM Energy has developed its expertise in trading, IT systems and hydropower production models, as well as in developing market analyses.

The new service aims to provide electricity consumption capable of responding to changes in the market and operates in the market on behalf of the customer. By monitoring the price of electricity, understanding the inherent flexibility of their processes and predicting their consumption reasonably accurately, electricity consumers can keep the price risk under control and reap major benefits.

Read more:
www.upmenergy.com

KEY FIGURES	2017	2016
Sales, EURm	**317**	357
Comparable EBIT, EURm	**91**	116
Capital employed (average), EURm	**2,267**	2,340
Comparable ROCE, %	**4.0**	5.0
Personnel on 31 Dec.	**60**	71

CAPITALS

- Capital intensive utility business
- Regulation
- Low-emission energy sources
- Engaged, high-performing people

UPM ENERGY VALUE CREATED

HYDROPOWER
Renewable
Flexible
Low cost
Low emissions

NUCLEAR POWER
Reliable baseload
Cost competitive
Low emissions

Electricity sales for day-ahead and intraday markets
Hedging activities in financial markets
Active owner in co-owned companies
Centre of excellence for energy services

WHOLESALE MARKET

END USES

- Electricity and services to industrial-scale power consumers
- Electricity to small and medium-sized enterprises
- Electricity to households

OUTCOMES

- Low-emission electricity
- Top safety performance
- Flexible power supply
- Demand side flexibility
- Energy supply security
- ROCE

UPM Raflatac

Labeling a smarter future

Performance driven by demand growth

Global demand for self-adhesive label materials continued to grow. Demand growth remained stable in Europe and North America. Strong demand growth continued in Asia.

UPM Raflatac was able to respond to the improved demand due to its globally competitive production platform and efficient distribution. New product launches and expanded market presence further supported the commercial success. Profitability improved mainly due to higher delivery volumes. Sales price increases were gradually implemented to mitigate the negative impact of input cost inflation. Fixed costs increased in response to the larger operating platform, partly relating to capability building for future growth.

Expanding commercial footprint

In August, UPM Raflatac acquired Texas-based Southwest Label Stock to expand its customer reach and improve its service offering through a wider high-quality product range.

In January 2018, UPM Raflatac opened a new slitting and distribution terminal in Santiago, Chile. The new terminal allows UPM Raflatac to improve its service capabilities and offer an expanded product range in the Chilean market, particularly in the wine and craft beverage segments.

Leveraging from scale

Reliable high-volume supply is a competitive edge in the label stock business. UPM Raflatac commenced production at the new coating line at the Wroclaw, Poland, label stock factory ahead of schedule. The expansion further strengthens UPM Raflatac's position in high-volume standard products for e-commerce and packaged food end-uses. Combining the latest technology with a low-cost location improves operational efficiency and cost competitiveness, and strengthens UPM Raflatac's world-class operating platform.

Innovative labeling solutions

The capability to generate innovative and sustainable solutions drives growth in the label stock business. Ecodesigned solutions are important for reaching sustainability targets throughout the value chain. In 2017, UPM Raflatac launched several sustainably designed products in film and paper labels. Good examples of these are RAFNXT+ and RafBio products. Bio-based materials provide a sustainable alternative to fossil-based films for a wide variety of end uses.

RafCycle®, an innovative recycling concept, was launched in China at the end of 2017 and has now 100 partners globally.

UPM Raflatac's close partnerships with label printers and brand owners are an elementary part of building brand and product appeal in end-use markets. Developments in adhesive technologies and product constructions enhance functional performance and provide growth opportunities.

In April, UPM Raflatac decided to invest in a new special products production line in Tampere, Finland. The investment strengthens UPM Raflatac's position in the high value-added labels market.

The industry sustainability leader

UPM Raflatac is well positioned to drive the key sustainability issues related to circular economy and product safety together with brand owners, converters and raw material suppliers as well as other stakeholders.

In 2017, UPM Raflatac started piloting the Biofore Site™ concept. It is a framework designed to advance the culture of sustainability in factories and terminals, and provide a platform for continuous improvement towards meeting UPM's 2030 responsibility targets (page 17). Each location will engage its employees and build a roadmap to meet the local Biofore Site targets.

OUR DIRECTION

- Profitable organic growth, potentially complemented with acquisitions
- Widening product portfolio especially in high value-added products
- Expanding customer reach through increased distribution, sales and service coverage

OUR STRENGTHS

- Global delivery network, accurate and efficient supply chain
- Global scale in R&D, quality development and technical know-how
- Modern, strategically located and efficiently scalable production assets
- Industry leader in sustainability and product safety

GROWTH DRIVERS

- Private consumption
- Urbanisation
- Population growth
- Higher standard of living
- E-commerce
- Legislation
- Self-adhesive labelling technology gaining market share
- Brands and product innovations

KEY FIGURES	2017	2016
Sales, EURm	**1,495**	1,437
Comparable EBIT, EURm	**136**	133
Capital employed (average), EURm	**502**	524
Comparable ROCE, %	**27.2**	25.5
Personnel on 31 Dec.	**3,186**	3,062

THE FUTURE FORMULA FOR SUSTAINABLE LABELING

UPM Raflatac has developed a Forest Positive concept that promotes sustainable label solutions. Products marketed under this umbrella are carbon positive and resource-optimised, and their wood raw material is 100% derived from FSC or PEFC certified sustainably managed forests.

In 2017, UPM Raflatac launched RAFNXT+ as the first product range under the Forest Positive concept. RAFNXT+ is up to 20% more carbon positive than standard paper labels. The sustainably managed forests act as carbon sinks and can absorb up to double the amount of carbon dioxide emitted during the product lifecycle.

RAFNXT+ products are thinner than standard labels, so they use less energy and water and generate less waste during their lifetime. By choosing RAFNXT+ label converters and brand owners in areas such as food, retail and logistics can demonstrate their commitment to making sustainable choices.

Read more
www.upmraflatac.com

CAPITALS

- Capital-light converting business
- Engaged, high-performing people
- Sustainable raw materials such as papers, films and chemicals
- Responsible sourcing

UPM RAFLATAC VALUE CREATED

Global customer reach with sales and service
Efficient and accurate supply chain, responsive distribution network
Modern, efficient and strategically located label stock factories
Technical know-how, product development

CUSTOMERS

- Label printers
- Brand owners

END USES

- Home and personal care
- Food and beverages
- E-commerce and retail
- Transport and logistics
- Pharmaceutical
- Industrial, durables

OUTCOMES

- Sustainable and safe products and services
- Employment and work safety
- End-use brand appeal
- ROCE
- Growth

UPM Specialty Papers

Confidence delivered

Sales price and volume-driven profit improvement

Profitability improved mainly due to higher sales prices, an improved product mix and higher release liner volumes, supported by the ramping up of the new production line at UPM Changshu, China. Pulp costs increased significantly but it was partly mitigated by continuous variable cost saving measures. Label and release paper demand increased globally, particularly in Asia. Growth picked up in office paper demand.

Benefitting from local presence and global reach

The new speciality paper machine at UPM Changshu, China, has strengthened UPM's labelling materials positioning in the Asia-Pacific region. Shorter lead times, improved local cost efficiency, consistency in the quality of the products and services, and reliability of customer deliveries have allowed UPM to take a significant share of the fast-growing Asian labelling materials market. The new line provides a competitive platform for strengthening partnerships with customers further. The new line has also improved the production flexibility and enabled growth in the European and North American markets.

The brand promise 'Confidence delivered' represents UPM Specialty Papers' consistency in the quality of its products, services and performance.

Several opportunities for future growth

UPM Specialty Papers has attractive growth opportunities through its existing product offering and production assets. The plan is to develop the more value-added speciality product segments while allowing for a more selective approach in slow growth segments where competition is intense.

UPM Specialty Papers seeks growth in labelling materials by reinforcing its position in a wider range of end uses. With a broader product offering and through new product development there are attractive growth opportunities in converting applications and packaging papers. Demand for office paper in Asia continues to grow.

In January 2018, UPM announced that it will expand release base paper capacity by rebuilding a calender at UPM Jämsänkoski mill in Finland. The additional capacity of approximately 40,000 tonnes will be available in the fourth quarter of 2018.

In addition, UPM will conduct a feasibility study on the conversion of the fine paper machine PM2 at Nordland Papier in Germany into release liner production. The study is planned to be completed during the first half of 2018.

Recognised industry leader in sustainability

UPM Specialty Papers' products comply with the most demanding responsibility criteria in the industry, including ethical and social aspects. Thanks to its environmental excellence at the UPM Changshu mill, UPM enjoys a high level of recognition in China.

UPM is committed to only sourcing raw materials from suppliers who demonstrate high standards of responsibility. UPM's paper is safe to use throughout its entire product lifecycle.

In 2017, UPM developed high-quality release liner made partly of recycled fibres as customers such as self-adhesive label manufacturers and brand owners look for sustainable solutions (read more on page 73).

In 2017, UPM Specialty Papers introduced UPM's Responsible Fibre™ trademark to Asian markets. The trademark combines UPM's environmental and social responsibility criteria into one entity which is adhered to throughout the product lifecycle.

OUR DIRECTION

- In labelling materials, growth to maintain global leadership positioning through strengthened partnerships with customers
- In office papers, growth as one of the most preferred office paper suppliers in Asia
- Widen product offering in specialities and through new product development

OUR STRENGTHS

- Strong market position, competitive products and world-class assets
- Extensive experience in high-quality release liners and face papers
- Office papers in Asia Pacific with extensive distribution network and strong brands in China
- Reliable supplier with exceptional customer service globally
- Recognised industry leader in sustainability and environmental excellence

GROWTH DRIVERS

Labelling materials
- Urbanisation
- E-commerce
- Globally growing consumer demand

Office papers
- Economic growth
- Increased business services
- Urbanisation
- Establishment of new enterprises

CONSUMERS PREFER LABELLED PRODUCTS

Sales of labelling materials are increasing globally, and the growth is expected to continue to be especially rapid in Asia. Strong growth is driven by global megatrends. In particular, continuing urbanisation and higher consumer income levels in developing economies are increasing the consumption of labelling materials thanks to the rising demand for packaged products.

Previously, people mainly purchased their food products in bulk from markets in China, for example. Today, a growing number of consumers buy packaged and labelled food products from the supermarket. In addition to consumer packaging, there is an increasing need for labels in the logistics chain, as this allows product batches to be better managed and identified.

E-commerce, for which China has become the global driving force, is another important growth area. Ensuring that huge volumes of products are delivered to customers efficiently requires the use of labels to identify packages. The materials also have end uses in other industries, tapes and in medical and hygiene products, for example.

Read more: www.upmspecialtypapers.com

KEY FIGURES	2017	2016
Sales, EURm	1,336	1,273
Comparable EBIT, EURm	152	123
Capital employed (average), EURm	885	1,012
Comparable ROCE, %	17.2	12.1
Personnel on 31 Dec.	1,949	1,984

CAPITALS

- Capital-intensive process industry
- Engaged, high-performing people
- Community engagement
- Responsible sourcing
- Chemical pulp with full traceability

UPM SPECIALTY PAPERS VALUE CREATED

Reliable supplier
Extensive experience and insight in labelling materials
Global market leader in labelling materials
Leading office paper brands in China
Recognised leader in sustainability
Extensive distribution network in Asia-Pacific
Cost-efficient production

CUSTOMERS

- Label stock manufacturers, commercial siliconisers
- Converters
- Merchants and distributors
- Printers and publishers

OUTCOMES

- Safe and certified products that are recyclable
- Work safety
- Employment and career opportunities
- High ethical standards and compliance
- Low emissions
- ROCE
- Growth

UPM Paper ENA

Long-term commitment

Strong performance continued

UPM Paper ENA strengthened its position by continuing a consistent level of performance management. Capacity management stayed stringent, cost-reduction measures were implemented and the commercial strategy progressed well.

Profitability remained solid, albeit decreased from the previous year's high level mainly due to significantly higher fibre costs.

UPM Paper ENA's improved commercial footprint and high reliability of supply paid off. Deliveries decreased 2%, less than the overall market demand. The key financial metric – free cash flow – remained strong due to the good profitability level, the further reduction in working capital and the sale of hydropower facilities.

Long-term commitment – steps for future success

In 2017, UPM Paper ENA launched new paper products, strengthening customer relationships and benefitting customers' businesses. The improved offering enables commercial printers to grow their business and increase press utilisation, while allowing UPM Paper ENA to enter new profitable end-uses. Print quality was also improved and new fibre alternatives were introduced to meet varied customer needs. The differentiated commercial strategies allowed UPM Paper ENA to successfully reach out to new customers.

UPM Paper ENA continues to strengthen its operations and customer interface with targeted innovations. The eOrder service, a new innovative digital ordering solution, was launched in 2017. The service is a groundbreaking online tool enabling speedy, transparent round-the-clock order fulfilment (read more on the next page). Furthermore, innovative approaches to maintenance were introduced in order to maintain high level of operational efficiency in the future.

Maintaining cost competitiveness

UPM Paper ENA adjusts its operations to prospective customer demand with timely capacity adjustments and cost reduction. Machine closures in 2016 and further actions in 2017 supported high asset utilisation rates. UPM closed 305,000 tons of magazine paper capacity in Europe and contract manufacturing ceased at the divested Schwedt newspaper mill in Germany.

In December, UPM closed 128,000 tons of magazine paper capacity at the UPM Blandin mill in Minnesota, USA. In November, UPM announced a plan to streamline internal processes and invest in automation at UPM Nordland Papier and UPM NorService in Germany. Variable cost reduction measures targeted in particular fibre, energy and logistics costs. UPM Paper ENA also proceeded with dedicated programmes to lower fixed costs across mills and offices.

Paper is a true Biofore product

Paper is a renewable material and can be recycled efficiently. Products are sustainable over their entire lifecycle, from forest to recycling. The wood raw material is sourced from sustainably managed forests and the production process complies with the occupational health and product safety requirements, and minimises impact, waste and consumption of water and energy. UPM Paper ENA provides customers with EU Ecolabel-awarded products from all its European mills, having the most comprehensive offering of papers carrying the EU Ecolabel mark in the industry. UPM Paper ENA is committed to responsible sourcing standards and actively fosters employee development and diversity. At mills and other business sites, UPM Paper ENA is an active partner to communities and a respected employer.

OUR DIRECTION

- Maximising cash flow and leveraging optimisation opportunities in extensive, highly performant operations
- Strengthening market position through differentiated commercial strategies, business development and targeted product development
- Increasing efficiency of operations and fostering digitalisation and robotics
- Targeted investments in maintenance development

OUR STRENGTHS

- Long-term commitment to paper and reliability of supply
- Broad portfolio and strong geographical presence
- High product and service quality
- Extensive, thoroughly optimised production
- Proven ability to manage operations ahead of market development
- Clear and transparent sustainability agenda based on responsible operations, strong ethical values and a fully traceable supply chain

DEMAND DRIVERS

- Advertising spend
- Role of paper in the marketing mix
- Publishers' business model
- Reading habits
- Ways of working and learning
- Opportunities relating to bioeconomy

ONLY A FEW CLICKS AWAY

UPM Paper ENA strives to increase efficiency and capture the many potentials of digitalisation to give room for innovation and business development.

A good example of this is UPM's new eOrder service, launched in 2017. The customer logs in, browses the digital catalogue, chooses the paper product, selects the desired quality and delivery date and submits the order. The order is then processed instantaneously as the eOrder online tool is integrated into the production process. The tool provides reliable real-time feedback on UPM's order-fulfilment capabilities.

Furthermore, UPM's Customer Online digital portal offers functionalities that are uniquely tailored to the individual customer's needs. This easy-to-use portal provides paper customers with full access to their inventory, account history, invoicing and order status.

Read more:
www.upmpaper.com/col

KEY FIGURES	2017	2016
Sales, EURm	**4,615**	4,818
Comparable EBIT, EURm	**231**	280
Capital employed (average), EURm	**1,702**	1,964
Comparable ROCE, %	**13.6**	14.3
FCF/CE, %	**24.3**	31.0
Personnel on 31 Dec.	**8,252**	8,664

CAPITALS

- Capital-intensive process industry
- Engaged, high-performing people
- Community involvement and local presence
- Virgin fibre from certified sources
- Recycled fibre
- Low-emission energy
- Responsible sourcing

UPM PAPER ENA VALUE CREATED

Industry-leading, wide product range
Customer focus and services
Leading, reliable and committed supplier
Market-based, global sales
World-class technical service
Common operational platform for production, supply chain and sales
Efficient and cost-competitive production
Environmental and technical expertise

END USES

- Direct marketing
- Advertising
- Magazine publishing
- Newspaper publishing
- Home and office

OUTCOMES

- Safe and certified products that are recyclable
- Secure customer businesses
- Safe working environment and practices
- Vitality of local communities, employment
- Operational excellence
- Low emissions
- Cash flow return on capital employed

UPM Plywood

Efficiency made easy

Top performance continued

The market environment was favourable in Europe and demand increased from the previous year. Spruce plywood demand strengthened due to further improvement in the building and construction industry. Demand in birch plywood-related industrial applications such as vehicle floors and LNG carrier insulation material was good. The favourable economic environment caused input cost inflation, to which UPM Plywood responded by implementing sales price increases. The completion of the UPM Otepää mill expansion in Estonia at the end of 2016 supported growth in deliveries of 5% in 2017.

Following successful growth investments and consistent improvement in profitability in past years, UPM Plywood decided to expand its Chudovo plywood mill capacity in Russia. The EUR 50 million investment will increase the mill's birch plywood production capacity by 45,000 to 155,000 cubic metres while also broadening the mill's product portfolio. The expansion of cost competitive capacity at the Chudovo mill is another important step in executing UPM Plywood's strategy to strengthen its position in priority end-use segments. The project is estimated to be completed by the end of 2019.

The completion of the peeling investment at the UPM Kalso veneer mill improved quality and production efficiency in spruce veneer production.

Building and construction

UPM Plywood is the leading supplier in the high-end and mid-range segments in Europe thanks to an established distribution and customer service network. After years of low construction activity in Europe, the recovery continued in 2017. New innovative and sustainable solutions are further strengthening UPM Plywood's offering for construction applications.

Vehicle flooring

In transportation equipment, UPM Plywood provides expertise and solutions for customers' product and process development. Fleet replacement need is levelling off while improving economic activity is supporting trailer demand in Europe. Growing e-commerce volumes are driving growth in light vehicles by increasing parcel deliveries from terminals to consumers and thus increasing demand for flexible deliveries in urban areas. UPM Plywood seeks growth by expanding to new markets and end-use segments.

LNG carriers

UPM Plywood has seen solid growth in the LNG (liquefied natural gas) segment in recent years. WISA birch plywood is ideal material for insulation in LNG vessels due to its strength and stability at extremely low temperatures. UPM Plywood provides on-time deliveries of certified quality through long-term partnerships. UPM Plywood secures its leading position and seeks growth through extending its offering into related applications with same technology.

Unique innovations in 2017

UPM Plywood started using a new sustainable lignin-based WISA BioBond gluing technology in plywood manufacturing (read more on the next page).

UPM Plywood introduced a new fire-retardant structural plywood for building and construction end uses. The fire-retardant treatment saves time, material and costs when applied on panels during manufacturing.

Plywood from sustainably managed forests

Forest certificates guarantee that the wood raw material comes from sustainably managed forests with legal logging operations. All wood raw material is used either in plywood production, as raw material to other products or in energy generation. Plywood is increasingly used because it is a cost-efficient material, a renewable resource and carbon storing product.

OUR DIRECTION

- Profitable growth through superior customer experience and operational excellence
- Strengthen market position in selected businesses by increasing value and service offering

OUR STRENGTHS

- End-use, market and customer insight and superior customer service
- Leading reliability of supply with consistent high quality
- Leading supplier in demanding end-use segments
- Strongest brand in the market – WISA®
- Operational excellence through competent personnel

GROWTH DRIVERS

- Building and construction activity in Europe
- Road transportation in Europe
- LNG carrier and terminal investments globally
- Light vehicle transportation in urban areas through e-commerce

KEY FIGURES	2017	2016
Sales, EURm	484	444
Comparable EBIT, EURm	62	58
Capital employed (average), EURm	267	259
Comparable ROCE, %	23.1	22.6
Personnel on 31 Dec.	2,454	2,469

BONDING BREAKTHROUGH

UPM Plywood's new WISA BioBond, lignin-based gluing technology for use in plywood production is the most significant innovation in plywood bonding in five decades.

In the new technology, 50% of the fossil-based phenol has been replaced with bio-based lignin obtained as a residue of pulp production. The goal is to increase this amount to almost 100% over the coming years. The technical performance of the plywood produced using the new gluing technology is similar to that of the WISA products produced using traditional methods.

Customers will gradually be able to utilise this ever-increasing sustainability of WISA plywood products in their own business as UPM Plywood plans to introduce the technology into all of its plywood mills.

Read more:
www.wisabiobond.com

CAPITALS

- Relatively labour- and capital-intensive industry
- Engaged, high-performing people
- Community engagement
- Legally sourced wood from sustainably managed forests

UPM PLYWOOD VALUE CREATED

Thorough customer insight
Professional technical services, supply chain services
High-quality, reliable supplier
Wide distribution and customer service network
Leading supplier in demanding end uses
Strong brand
Efficient and competitive production
Renewable energy production

END USES

- Construction
- Vehicle flooring
- LNG shipbuilding
- Parquet
- Other industrial manufacturing

OUTCOMES

- Safe and certified products that store carbon
- Employment
- Vitality of local communities
- Work safety
- Renewable energy
- Low emissions
- ROCE
- Growth

Innovations

Growth and competitive edge

UPM's new wood-based businesses are based on the company's extensive know-how and strong position in forest biomass processing. Biofuels and biochemicals are natural evolutionary steps in wood-based value creation.

Innovations and R&D programmes are essential in the development of new products. These development programmes aim to create new technologies and products and to ensure the competitiveness of UPM's businesses.

In 2017, UPM spent EUR 58 million (46 million) on research and development, making up approximately 3.7% (2.7%) of UPM's operating cash flow. The focus was on new technologies and developing businesses.

On top of the direct R&D expenditure of approximately EUR 51 million (40 million), the figures include negative operating cash flow and capital expenditure in developing businesses. A global network of research centres supports UPM's new and existing businesses.

Progress in sustainable biochemical business

UPM Biochemicals focuses on three product categories: biochemicals, biomedical products and lignin products.

Biochemicals can replace oil-based chemicals. The products using UPM's biochemicals can be converted into various industrial products and everyday consumer goods. In 2017, UPM announced that it was going to evaluate the potential of building a biorefinery in the Frankfurt-Höchst Chemical Park in Germany. This brand new industrial-scale biorefinery would produce 150,000 tons of bMEG (bio-monoethylene glycol), bMPG (bio-monopropylene glycol) and lignin from hardwood (page 41).

OUR DIRECTION

- Value creation and limitless opportunities of bioeconomy
- Research and development, bioeconomy innovations and new technologies support UPM's transformation and extend its future business portfolio
- Replacement of non-renewable materials by alternatives that are renewable, recyclable and environmentally sound

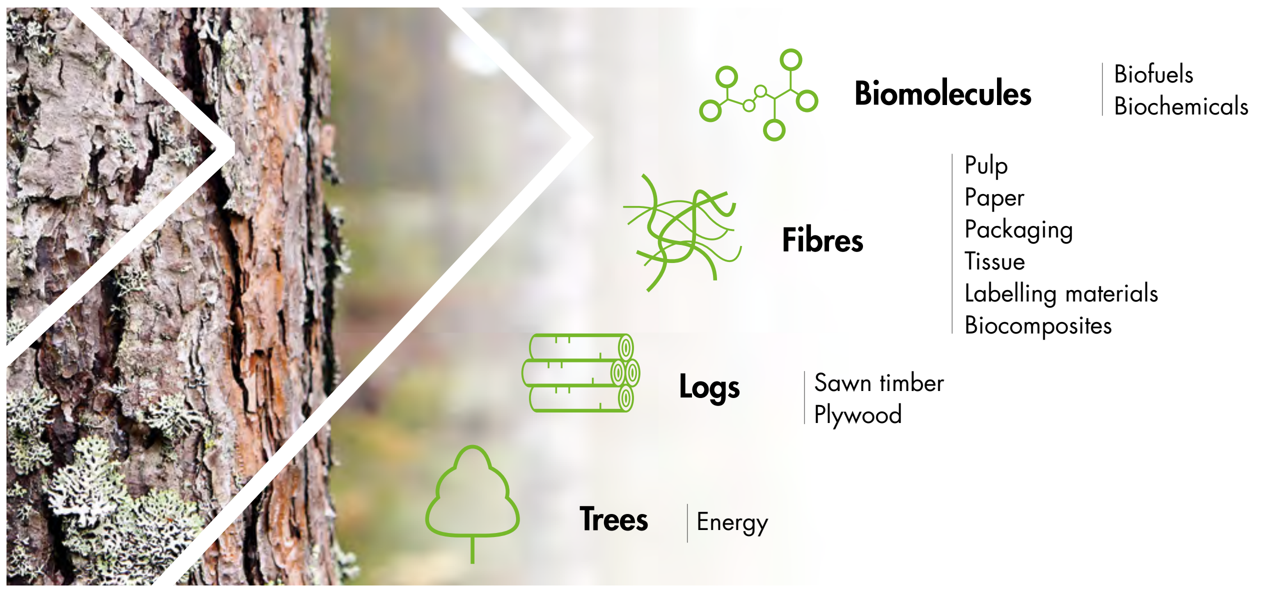
OUR STRENGTHS

- Strong expertise in forest biomass processing
- Circular economy, resource efficiency, product stewardship and an ecodesign concept that covers the entire value chain
- Technological development
- Leading responsibility position in the entire value chain
- Partnerships, networking

GROWTH DRIVERS

- Global megatrends create a growing need for bioeconomy innovations
- Growing middle class in the emerging markets
- Changing consumer behaviours and preferences
- Growing demand for renewable and biodegradable materials and renewable energy

Evolution of wood usage



UPM EVALUATES BUILDING A BIOREFINERY IN GERMANY

In 2018, UPM will evaluate the potential of building a biorefinery in the Frankfurt-Höchst Chemical Park in Germany. This brand new biorefinery would combine novel technologies and utilise sustainable wood raw material in an innovative way. This opportunity is the outcome of more than five years of extensive technology development and piloting.

Production would be based on hardwood from sustainably managed forests in Central Europe. If executed, the biorefinery's renewable bio-based products would replace fossil-based materials and would enable significant reduction of the CO_2 footprint compared to fossil-based products.

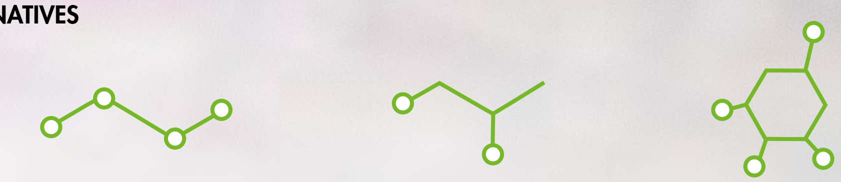
Application areas for bio-monoethylene glycol include textiles, bottles, packaging and de-icing fluids. Bio-monopropylene glycol is used, for example, in composites, pharmaceutical products, cosmetics and detergents. Lignin can be used, for example, in wood resins, plastics, foams and coatings (see below).

UPM will now proceed with both a detailed commercial study and a basic engineering study to verify the attractiveness of the business opportunity. If all preparation phases are concluded successfully, UPM will initiate the company's standard procedure of analysing and preparing an investment decision.

BIOCHEMICALS PRODUCTS ARE SUSTAINABLE AND COMPETITIVE DROP-IN ALTERNATIVES

WOOD COMPONENTS

WOOD COMPONENTS		
40%	Cellulose	
30%	Hemicellulose	
25%	Lignin	



Monoethylene Glycol	Monopropylene Glycol	Lignin
Existing fossil-based market Market demand >26 mio tons Annual growth (CAGR) >3%	Existing fossil-based market Market demand >2 mio tons Annual growth (CAGR) >5%	Performance chemical Application driven Strong IP position

APPLICATION EXAMPLES:

Monoethylene Glycol	Monopropylene Glycol	Lignin
Textiles Bottles & Packaging Deicing fluids	Composites Pharma & Cosmetics Detergents	Wood resins Plastics Foams & Coatings

Read more:
www.upm.com/innovations
www.upm.com/circulareconomy

DIGITALISATION AS A TOOL FOR TRANSFORMATION

Digitalisation continuously creates new opportunities for UPM to explore new technologies, applications and robotics to gain newly optimised outcomes for competitive advantage. In addition to process automation and industrial robots, which have long been used at production facilities, tools for analytics, optimisation, forecasting and more agile decision-making are being created.

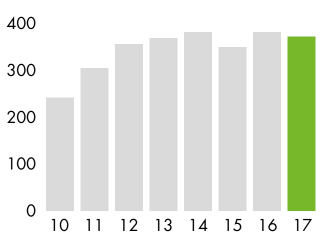
Digitalisation, extensive use of existing and new data and industrial internet solutions are already in use in processes in the mills; however, in the future digitalisation will increasingly be visible in customer fronted processes such as supply chain, sales and quality monitoring.

Visual and user friendly mobile applications for customers, suppliers and personnel are being developed. UPM has been very active at various innovation events and in searching for partners. As a result, an extensive co-operation network has been established to pilot and scale up new digital possibilities in industrial processes, customer interfaces, the supply chain and administrative work.

A good example is UPM's new eOrder service for paper ordering, launched in 2017 (page 37). The service developed for UPM ProFi, a biocomposite material for decking materials, helps managing the certified installer base by combining online marketing and training, extranet services and the customer relationship management (CRM) platform.

The UPM Metsäni (My Forest) application provides forest owners with a mobile service that gives them an estimation of the distribution, volume and age structure of their forests in a matter of seconds as well as allowing them to estimate the value of the forest in euros. The aim is to engage private forest owners and therefore increase wood trade.

Number of UPM patent filings



UPM continues to develop biomedical products in collaboration with researchers at Biomedicum in Helsinki, Finland. GrowDex hydrogel is suitable for cell culturing, and medical research is finding more new applications for it. One example is a new wound dressing product that is expected to be launched soon.

Lignin can be used in resins employed as binders in wood-based products, as well as in plastics, foams and coatings. In 2017, UPM Plywood launched WISA BioBond, a gluing technology for plywood manufacturing where fossil-based phenol is replaced with lignin (read more on page 39). Formed as a side stream in the pulp production process, lignin has traditionally been burned to generate energy, but the new technology turns it into a high-quality product that can replace fossil raw materials. The gluing technology is based on lignin technology developed and patented by UPM Biochemicals.

Developing new end uses and feedstocks in biofuels

Made from a renewable raw material, crude tall oil, UPM BioVerno naphtha is an excellent biocomponent for gasoline. It also works exceptionally well as a raw material for producing bioplastics (read more on the next page).

UPM Biofuels announced that it is testing a sequential crop of Brassica carinata in Uruguay and Brazil as part of biofuels future development. Carinata is an oilseed crop specially developed for sustainable production of biofuels.

New biocomposite materials for indoor and outdoor uses

UPM Biocomposites develops innovative and sustainable composite products for various outdoor uses and consumer products.

The patented UPM ProFi production process is a good example of circular economy: cellulose fibres and polymers from self-adhesive label waste is used to create high-quality decking systems.

UPM Formi composite material, made from cellulose fibres and polymers, is suitable for a variety of applications from furniture to consumer electronics. UPM Formi complies with the requirements set by the EU for reinforced plastics in relation to circular economy, and its carbon footprint is up to 50% lower compared to traditional plastics.

Advanced analytics for efficient decision-making

UPM utilises advanced analytics to significantly improve the optimisation of sales, production, logistics and inventory management, as well as risk management. Analytics provide a competitive edge and added value quickly and cost-efficiently.

UPM set up an advanced analytics team in 2017 to develop modern tools based on applied mathematics, both to support decision-making in UPM businesses and for use across the company. UPM Forecasting Platform, launched in 2017, made top-level algorithmic forecasting available throughout the company. The analytics team offers data science training for UPM employees and is involved in academic collaboration with UPM's external networks.

Solid patent portfolio

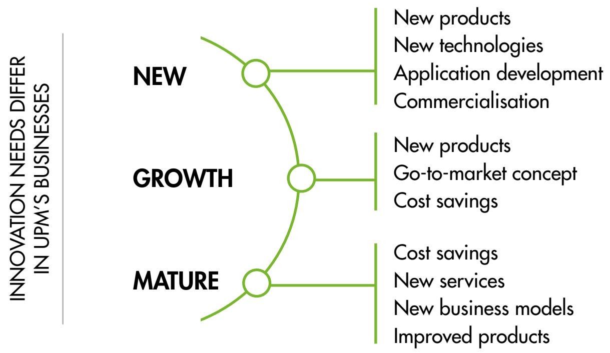
UPM actively protects innovations and brands with intellectual property rights, and manages and uses its patents, trademarks and other intellectual property rights worldwide. Protected innovations and high-level risk management are an integral part of UPM's business model. UPM is also actively seeking partners and licensing opportunities to develop new technologies and solutions for its customers.

The significance of the patents and intellectual property rights protecting UPM's innovations is even more pronounced in new businesses. A solid patent portfolio boosts UPM's competitive edge and also provides an excellent basis for value creation in the future. UPM files approximately 360 patent applications around the world every year.

Technical solutions and innovations that use wood, chemicals, energy and water more efficiently are being patented also in existing businesses like pulp and paper production.

Research projects to enhance circular economy

UPM's research into the side streams of pulp and paper mill integrates aims to find more efficient ways to utilise side streams such as sludge, ash, green liquor dregs and waste heat.



A joint project with fertilizer manufacturer Yara develops recycled fertilizers for crops from sludge. Research projects have investigated many solutions for the use of green liquor dregs and ash, and some more promising development projects are currently underway in the construction sector (read more on page 73).

UPM also applies the positive results in its Zero Solid Waste project, aiming to develop intelligent and sustainable solutions for recycling surplus materials to ensure they produce added value.

The China More with Biofore research programme is looking for technical solutions for UPM Changshu paper mill to decrease water consumption and emissions, save energy and utilise solid waste, for example. The mill's water consumption and energy-efficiency are already at a good level and among the best in the world, and their sulphur dioxide, nitrogen oxide and dust emissions are clearly lower than China's most stringent limit values.

Aiming for bioeconomy

The bioeconomy is based on the sustainable use of renewable resources. UPM's bio-based products can reduce the use of fossil raw materials and replace non-renewable materials with renewables. The bioeconomy utilises the best available techniques to consume and recycle natural resources and nutrients efficiently. Biodiversity forms the basis for a sustainable bioeconomy.

One example of a research project exploring opportunities of bioeconomy is UPM's Sustainable Fibre Materials programme, which examines new ways to utilise fibre-based, value-added products and materials. The aim is to find sustainable and safe solutions that replace fossil alternatives and are environmentally sound and versatile. The starting point for the development work is UPM's ecodesign thinking, covering the impacts of the entire lifecycle. Special attention is paid to the biodegradability of products. Business Finland supports this programme.

Fibre-based materials are being developed for growing end-uses such as tissue, hygiene, nonwovens, flexible packaging, labels and biocomposites. New solutions will be developed in collaboration with UPM's businesses, research organisations and customers.

Extensive partner network

UPM's extensive partner network comprises universities, research institutes, suppliers and start-up companies. Collaboration speeds up the development and launch of new solutions, particularly for new businesses.

UPM is involved in the European Joint Undertaking on Bio-based Industries, BBI. The partnership programme focuses on the development of bioeconomy, bio-based products and their production, as well as on strengthening their competitiveness in Europe. The members of the programme represent several industries.

UPM is a shareholder in the Finnish CLIC Innovation company whose research programmes focus on bioeconomy and cleantech research, as well as energy and environmental research, thus supporting UPM's own R&D efforts.

Read more:
www.upmbiofuels.com, www.upmbiochemicals.com, www.wisabiobond.com, www.upmprofi.com, www.upmformi.com

Opportunities of bioeconomy

BIOFUELS

- Significantly decrease both fossil greenhouse gas emissions and tailpipe emissions
- Renewable diesel fuel suitable for all diesel engines
- Renewable naphtha that can be used as a bio-component for gasoline and as a raw material for bioplastics

BIOCHEMICALS

- Biochemicals replace oil-based products and can be used in, e.g., textiles, bottles, packaging, deicing products, composites, cosmetics, pharmaceutical products and detergents
- Medical products, such as wood-based hydrogel GrowDex, for 3D cell culturing and other biomedical applicatio ns
- Lignin products replace oil-based products and can be used in, e.g., resins, plastics, foams and coatings

BIOCOMPOSITES

- Biocomposites are recyclable materials that reduce the amount of solid waste and carbon footprint
- UPM ProFi composite for decking boards for terraces and fences
- UPM Formi composite material for various end uses targeting at consumer electronics

RENEWABLE RAW MATERIALS FOR PLASTIC INDUSTRY

Packaging industry strives to enhance the usage of renewable raw materials, also in plastics. UPM aims to offer high-quality alternatives to non-renewable materials.

UPM BioVerno naphtha produced from crude tall oil, a residue of pulp production, is an excellent biocomponent in petrol. It also works exceptionally well as a raw material for producing bioplastics.

Bioplastics produced from renewable naphtha are suitable for various packaging applications. These include packaging used by the food industry, such as cartons for liquids. UPM is one of the very few renewable naphtha producers in the world.

Read more:
www.upmbiofuels.com

Our people

SIGNIFICANCE

- The capabilities, integrity and drive of our people make us unique

TARGETS

- Aim higher in business performance
- Advocate value-based and inspiring leadership
- Continuously challenge the status quo to develop the company
- Ensure safe and healthy working environment and wellbeing of employees and contractors

OUR WAY

- Encourage learning and promoting a culture of aiming higher
- Engage with clear goal setting and individual development plans
- Engage employees to develop the workplace
- Emphasise value-based, inspiring and responsible leadership and integrity
- Develop an inclusive and diverse working environment that empowers people to perform
- Reward and recognise good performance for business success
- Focus on 2030 targets on diversity and inclusion, working conditions, learning and development and responsible leadership

2030 TARGETS

67% favourable responses to Employee Engagement Survey's diversity and inclusion question

2030 TARGETS

89% of permanent employees had goal setting and annual discussion completed

Aiming higher is an aspirational call-to-action for all UPM employees to further develop and improve every aspect of performance – both as individuals and as a company.

Promoting a culture of aiming higher

Based on internal surveys and discussions in management teams, UPM defined aspirational mindsets, encouraging a culture of aiming higher and supporting each other in doing so.

UPM employees have clear goal setting. UPM has a systematic process for goal setting and manager-employee dialogue on performance. The UPM Employee Engagement Survey (EES) results on enablement, 73% favourable, are well above the external high performing norm. Enablement refers to employee skills and abilities being fully utilised in their roles.

In 2017, UPM reviewed its performance management and created new ways of leading and enabling performance. To aim higher, the change focuses mainly on active manager-employee relationships and will include more regular, forward-looking manager-employee discussions, agile goal-setting and more regular feedback.

Engaging employees to develop the workplace

The UPM Employee Engagement Survey invites all employees across the company to evaluate different aspects of their working environment every year. In 2017, 85% of UPM employees responded to the survey, which shows a high level of willingness to participate in developing the workplace.

UPM renewed the survey in 2017. The new survey measures the development of both engagement and enablement. In addition, factors that are important to UPM such as safety, team work and diversity and inclusion are also measured. The engagement index at UPM has shown consistent improvement. From 2016, the engagement index rose by 2 percentage points to 71% in 2017.

Team effectiveness at UPM scored 5 percentage points higher than the global norm, and when employees were asked what is best about working at UPM, the number one theme was teamwork.

The EES provides an opportunity to monitor long-term trends and the progress of agreed development activities annually. This progress is followed up and evaluated to enable continuous development of the workplace at both organisational and team levels.

The three global focus areas for development at UPM are: encouraging sharing of ideas and resources; respect and recognition; and valuing diversity.

Encouraging learning

Ensuring high performance for business success, and continuous professional development of employees are UPM's long-term targets. UPM aims for all employees to have an individual development plan. In 2017, 62% of employees had such a plan.

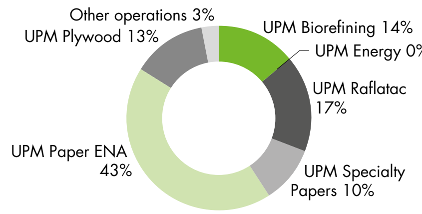
UPM applies the learning and development framework 70-20-10, where of 70% of the learning takes place on the job, 20% comes from learning from others and 10% comes from off-the-job training. While most of learning happens outside the classroom, UPM tracks the training hours.

To support learning from others and real-life experiences, UPM invested in a new learning platform, OurWorkday, in 2017. UPM employees can now create digital learning content and share and consume it flexibly.

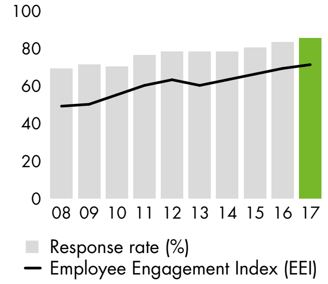
In the changing and complex business environment, ensuring employees'

Permanent	Fixed term	Shop-floor	Salaried
88%	12%	61%	39%

UPM's personnel by business area 2017



Employee Engagement Survey results, Trend 2008–2017



PERSONNEL BY COUNTRY

31 Dec.	2017	2016	2015
Finland	7,376	7,347	7,464
Germany	4,146	4,262	4,591
Russia	771	793	798
United Kingdom	734	752	763
Poland	665	608	535
France	500	505	585
Austria	390	483	518
Estonia	263	250	217
Spain	104	105	109
Italy	51	52	55
Turkey	44	42	42
Belgium	35	34	31
Ukraine	22	26	27
Sweden	15	27	26
Other Europe	83	80	79
China [1]	1,769	1,790	1,546
United States [2]	950	970	1,070
Uruguay	574	580	573
Malaysia	146	140	122
South Africa	96	94	78
Mexico	91	92	81
Brazil	55	56	58
Australia	51	50	50
India	47	40	42
Rest of the world	133	120	118
Total	**19,111**	**19,310**	**19,578**

[1] Incl. Hong Kong
[2] Incl. Madison 50%

UPM PERSONNEL IN FIGURES	2017	2016	2015
Turnover %	9.2	9.0	10.5
Turnover % (voluntary)	3.9	3.2	3.3
Average age of personnel	44.5	43.7	43.6
People development			
Average training hours[1] (hours/employee)	13	13	14
OHS figures, UPM workforce			
Lost-time accident frequency	3.3	3.7	3.9
Total recordable injury frequency	8.2	9.3	10.6
Absenteeism % [3]	3.8	3.4	3.7
Number of occupational diseases [3]	17	12	6
OHS figures, contractors			
Lost-time accident frequency	7.0	6.2	5.5
Total recordable injury frequency	9.4	7.5 [2]	n/a

1) Reflects active employees
2) Figure for last 9 months of the year, excl. Germany and Austria
3) Reflects own employees

AIMING HIGHER SETS THE TONE

Aiming higher is an aspirational call-to-action for all UPM employees to further develop and improve every aspect of our performance — both as individuals and as a company. We started the journey towards achieving this by introducing new, more ambitious long-term financial targets.

Since a winning culture is a prerequisite for high performance, we introduced a company-wide initiative for developing selected key mindsets which, together with our current strengths, will support UPM's future success.

The chosen mindsets were co-created through online dialogue and team discussions where several thousands of UPMers were invited to join and share their views on UPM's strengths and development areas for our future culture. As a result, the most important Aiming higher mindsets were identified. Discussions and plans for strengthening these mindsets were started in teams and one-on-ones.

To support the development of the Aiming higher mindsets, UPM also introduced a new performance enablement model for salaried employees to complement current strengths such as clarity of strategic direction and financial target setting. The new model places emphasis on regular manager-employee discussions, agile goal-setting and regular feedback.

Each business and function also received feedback on the status of its organisational health. Management teams did a self-assessment to ensure that agenda and diverse competencies are in place to lead best-in-class performance.

Full time

97%

Part time

3%

21%

79%

capabilities and wellbeing is important for both business success and sustained employability. Competences are continuously developed at UPM production sites. UPM trains people to become multi-skilled employees. UPM mills have apprenticeship programmes where employees learn the practical and theoretical demands of the work.

Engaging leadership

UPM strives to lead by example, in accordance with UPM's values and with integrity. UPM's values — trust and be trusted; achieve together; renew with courage — guide and support employees in their daily actions.

UPM continuously invests in developing leadership capabilities and management teams. The development programmes support the three cornerstones of leadership: leading oneself, people and business. Dealing with complexity, coaching capabilities and promoting inspiring leadership have been the key areas of development in recent years.

Leadership development solutions are continuously renewed. Based on the development needs evaluated in 2017, UPM will further focus on improving the performance and motivation of people in 2018. Coaching capabilities and giving feedback will continue to be focused on.

UPM continues to emphasise the development of front-line managers, as most of the UPM employees are led by them. UPM aims to have world-class management teams. In 2017, all key management teams conducted a self-assessment, planning and implementing development actions accordingly.

Valuing diversity

UPM aims to develop its working environment so that it is diverse and inclusive. It is important to employ people with different competences, backgrounds and experiences and of different genders, ages and nationalities, in order to bring together multiple views and improve decision-making and business success.

In 2017, promoting diversity and an inclusive leadership culture continued to be a primary focus. UPM regularly reviews its diversity status and defines intent for each business and function. Diversity and inclusion are included in the regular management team self-assessments. Inclusive behaviour is integrated into key UPM leadership development programmes and emphasised also in UPM Code of Conduct training.

UPM is committed to developing a diverse and inclusive workplace through the Finnish Diversity Charter.

Enabling renewal through recruitment programmes

UPM's apprenticeship programmes in Finland and in Germany are a way to ensure the required level of expertise for future employees. The programmes are typically targeted at shop floor positions in production or maintenance. UPM carries out the programmes together with regional vocational schools. In Finland, approximately 100 people are included in the programmes annually. Most of the graduated apprentices have continued to work at UPM.

Being the employer of choice has become more important when recruiting new employees and especially young professionals. Following a systematic employer branding work, UPM's position has improved and it has been recognised by third parties in Finland and in China.

Promoting active participation

As a multinational company, UPM complies with international, national and local laws and regulations, and respects international agreements concerning human and labour rights and freedom of association.

UPM abides by legally binding collective agreements. UPM does not collect information on or report on its employees' union membership at a global level due to differences in national legislation in the various countries. The estimated percentage of employees covered by collective agreement mechanisms was 69% in 2017.

UPM promotes active employee participation and consultation, organised in accordance with international and national rules and regulations. UPM respects the privacy of employees and promotes equal opportunities and objectivity in employment and career development.

To encourage an open, international dialogue, UPM has a co-operative body, the UPM European Forum, which focuses on issues related to changes within the company and the business environment in general. The forum organises regular meetings for employee representatives from business units operating in Europe.

Rewarding and recognising good performance

UPM rewards and recognises high performance. UPM has a total compensation approach, consisting of a base salary, benefits and incentives, which are determined by UPM's global rules, local legislation, general agreements, local market practice, the level of the position and individual performance. Gender, age, ethnic origin and nationality have no role in the definition of salaries and wages. The differences between male and female average salaries do not vary a lot and in both directions, as assessed in UPM's main countries of operations of salaried employees. Intangible recognition is included in the total reward portfolio, which means that UPM provides, for instance, a safe and healthy working environment, interesting and meaningful work and good leadership and career opportunities. Individual, team and business performance are criteria for compensation planning and decisions.

All of UPM's employees belong to a unified annual Short Term Incentive (STI) scheme. The plan includes group- and business-level targets and personal and/or team performance targets.

EBITDA is one of the key financial indicators for the group- and business-level targets. The annual incentives paid in 2017 for the 2016 STI plan were EUR 65 million and the estimated amount of annual incentives for the 2017 STI plan is EUR 57 million. For significant individual or team successes, there is a separate Achievement Award system in place.

UPM has two long-term incentive plans: a Performance Share Plan (PSP) for senior executives and a Deferred Bonus Plan (DBP) for other key employees. Since 2011, the plans have been launched annually and approximately 700 employees have been covered by the plans. In both plans, the earning of shares is subject to the achievement of predetermined criteria. Under the plans, UPM shares are awarded based either on group/business area-level performance or total shareholder return. More information about long-term incentives can be found on www.upm.com in the Investors section, under Governance, in the Remuneration Statement.

Changes in 2017

At the end of 2017, UPM had 19,111 employees working in 46 countries. In March, UPM permanently closed two paper machines in Austria and Germany, based on a plan announced in November 2016. In June, UPM restructured Paper ENA Supply, customer service and sales organisations in Europe. In October, UPM announced plans to permanently close one paper machine at UPM Blandin in the US, closed in December, and optimise operations at its UPM Nordland Papier and UPM NorService units in Germany. As a consequence of these measures, the number of UPM personnel was reduced by approximately 650 people by the end of 2017.

During the year, UPM Raflatac acquired a Texas-based Southwest Label Stock and opened a new terminal in Chile. UPM's investments and business development, in biochemicals for example, increased the number of employees by approximately 300 people.

UPM BIOFORCE GRADUATE TRAINEES SEIZE THEIR OPPORTUNITY

Enthusiastic young professionals from various backgrounds and of several nationalities began the 18-month UPM Bioforce graduate trainee programme at a two-day boot camp in September.

Aspiring trainees applied directly for specific positions in China, Finland, Germany, Russia and Uruguay, with the 14 accepted for the new pilot programme going through a thorough recruitment process involving detailed forms, psychological tests, video interviews and problem-solving teamwork assignments during the assessment day.

Besides their own role and business area, all trainees will work on three modules outside of their own area. These tailored modules can be in other business areas or in global functions, and working abroad is obligatory.

"Applying for the programme introduced me to new recruitment processes, especially the individual and team assignments," says Juanita Roqueta from Uruguay. Juanita heard about the programme from the Universidad de Montevideo, where she studied International Business. During the programme, Juanita will work in Uruguay and Finland in a Stakeholder Relations role.

Read more:
www.upm.com/careers
www.upmbiofore.com

2030 TARGETS

8 DECENT WORK AND ECONOMIC GROWTH

71%

Employee engagement index favourable

Driving continuous safety improvements

SIGNIFICANCE

- People are at the core of business. Ensuring the health and safety of employees, visitors and all other people impacted by our operations is of paramount importance
- Employees' wellbeing is built on supportive working environment, healthy lifestyle and work-life balance
- Safety and wellbeing have a direct impact on employee engagement and UPM's business success

TARGET

- Ensure safe and healthy working environment and wellbeing of employees and contractors

OUR WAY

- Development of preventive safety culture
- Training of personnel and contractors on safe working practices and safety requirements
- Regular audits and evaluations of all safety processes
- Correcting identified safety issues or vulnerabilities quickly
- One Safety — a global UPM reporting tool
- Close co-operation with employees and external occupational health organisations
- Quarterly health-related themes
- Focus on 2030 targets on preventive safety culture, LTAF, TRIF and absenteeism rate

Coverage of One Safety tool
100%
of UPM employees since the beginning of 2018

In 2017, a total of
47,800
safety-related near-miss and safety observation reports were recorded

33,000
safety walks and discussions took place

2030 TARGETS

3.3 | **4.3**

Lost-time accident frequency for UPM workforce only and UPM workforce including contractors

In 2017, UPM's lost-time accident frequency (LTAF, the number of lost-time work accidents per one million hours of work) was 3.3 (3.7). Total recordable injury frequency (TRIF) improved, reaching 8.2 (9.3). The TRIF includes LTA cases as well as modified duty cases and accidents requiring medical treatment. The safety of the external workforce also improved. The frequency of accidents including UPM's contractors was 4.3 (LTAF) and 8.5 (TRIF) in 2017.

Despite UPM's efforts, there were eight serious accidents and three fatal contractor accidents in 2017: two accidents in Wood Sourcing and Forestry in Finland and one fatal accident at Shotton paper mill in the UK. Thorough root cause analyses have been conducted and key learning points have been shared to avoid any serious accidents in the future, with a view to achieving UPM's permanent target of zero accidents.

Good safety performance is recognised with company-wide safety awards. The 2017 UPM Safety Award for the most improvement was given to UPM Kymi integrated pulp and paper mill in Finland.

UPM life-saving standards

UPM's management system enforced through the "Step Change in Safety 2012–2014" initiative provides a solid foundation and a systematic approach.

Audit results and findings are an integral part of UPM's continuous safety improvements. OHS focus areas in 2017 were risk management, process safety and the implementation of six life-saving standards.

At the beginning of 2017, UPM introduced six life-saving standards, considered to be the most effective in preventing serious accidents. The standards help UPM employees and contractors to stay safe while performing certain duties with higher risk, including working at height, permission to work, mobile equipment and cranes as well as the isolation of energised equipment.

Global UPM safety reporting

All UPM employees and contractors are encouraged to report all near misses and to make safety and environment observations. This information is available for sharing and learning in One Safety, UPM's global reporting tool, which was introduced in 2016. It covers environment, health and safety, product and process safety and security. Since the beginning of 2018, all UPM sites have had access to the tool. External contractors working on UPM premises can also record their observations using the system.

The main uses of the tool are the recording of observations, near-miss situations and accidents, managing investigations and corrective actions for incidents, preparing risk assessments and reliable reporting. Proactive observation is also promoted during regular safety walks.

Promoting employees' health and wellbeing

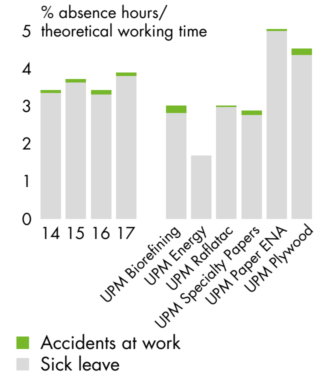
To support the wellbeing of its personnel, UPM is working closely with employees and external occupational health organisations.

71% of UPM employees are represented by a well-balanced, formal management-worker health-and-safety committees. The aim of these location-specific committees is to monitor and advise on occupational health and safety issues and programmes.

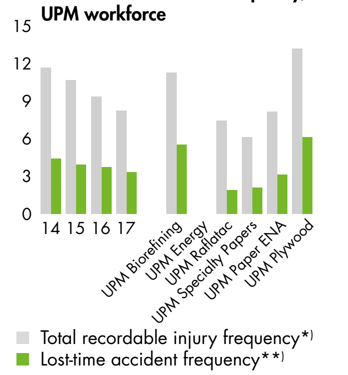
In 2017, UPM continued with its quarterly global health and safety themes. The aim is to support the continuous improvement of employees' health, quality of life and ability to perform. In 2017, themes included organisational climate, travelling, as well as health and a hectic life.

Additionally, several health and wellbeing initiatives were launched at various UPM sites and businesses based on local needs and these produced positive results. Activities covered topics from physical and mental wellbeing to health and nutrition. In Finland, for example, more than 1,500 employees (20% of UPM personnel in Finland) participated in different types of health and wellbeing programmes in 2017.

Absenteeism due to sickness and accidents at work, UPM workforce



Total recordable injury frequency and lost-time accident frequency, UPM workforce



*) Total injuries/one million hours worked
**) Number of lost-time accidents/ one million hours worked

SAFETY AS A TOP PRIORITY

UPM Raflatac's project to extend a storage area and install a new coating line in the Wroclaw factory, Poland, involved a meticulous approach to safety right from the start.

Safety rules were included in the agreement with the contractors and the main contractors were required to have their safety specialist present on site. A lot of progress was achieved through discussions, understanding what kind of work needed to be done and regularly exploring ways to improve safety with contractor supervisors.

At the peak of the project, there were approximately 100 contractors' employees on site every day. In the daily meetings, safety was always included as the first point on the agenda.

UPM's six life-saving standards have played an important part in the day-to-day work throughout the project. The topics were discussed at the first training sessions with the contractors.

Read more:
www.upm.com/responsibility

In November, UPM signed an agreement with the Government of Uruguay on infrastructure development and other local prerequisites for a potential pulp mill investment in the country. The signing was followed by a handshake and press conference in Montevideo.

Our stakeholders

SIGNIFICANCE

- Stakeholder engagement is providing UPM with stability, predictability and a competitive advantage
- Dialogue with stakeholders helps identify risks and improves understanding of key challenges and opportunities in the company's operating environment

TARGET

- UPM aims to ensure that the company is in dialogue with its stakeholders and that their needs are understood and considered in strategic development and in decision-making processes

OUR WAY

- The UPM Code of Conduct sets the standards for responsible behaviour towards stakeholders for each and every UPM employee
- Every year, UPM updates a materiality analysis that highlights the most important issues for UPM and its stakeholders
- Stakeholder engagement is measured by several indicators
- Stakeholder relations are led and coordinated globally at the Group level while UPM's businesses are responsible for local engagement activities
- Focus on 2030 targets on community involvement

To ensure long-term engagement, UPM works consistently with its diverse range of stakeholders to understand their specific expectations. It is equally important to communicate and discuss the company's targets, operating principles, values and the challenges it faces within the operating environment.

Stakeholder engagement brings stability to operations

As stakeholders view UPM primarily as an economic operator, financial success, stability, future outlook and growth are key themes for most stakeholders. In addition, UPM's environmental performance and social responsibility play a significant role in UPM licence to operate and affect the long-term success of its businesses.

UPM aims to provide a balanced view of the economic, environmental and social aspects of its business activities, recognising, however, that expectations vary between stakeholders.

Stakeholder engagement is part of the strategy process

For all businesses, stakeholder mapping is an essential part of stakeholder relations, along with the systematic gathering of feedback and views from different sources.

UPM's materiality analysis highlights the most important issues for UPM and its stakeholders. The analysis is based on stakeholder feedback and the company's risk mapping.

UPM's most important stakeholders are customers, investors and financiers, employees, suppliers, local communities, authorities and decision makers, the media and non-governmental organisations. The approach for each stakeholder varies depending on business focus, region and individual stakeholder groups. Best practices are regularly shared.

The UPM Code of Conduct sets the standards for responsible behaviour towards stakeholders for each and every UPM employee. The standards cover topics relating to legal compliance and disclosure, conflicts of interest, anti-corruption and anti-bribery, HR practices, human rights questions and environmental matters.

The level of stakeholder engagement is measured by several indicators, such as customer enquiries, contact with the mills, forest department or investor relations, number of job applications and share-price development.

Activity in 2017

UPM carried out a materiality analysis based on several surveys, customer enquiries and feedback from an anonymous web-based tool. A detailed description of the analysis is available on page 53.

Implementation of the Code of Conduct, renewed in 2016, continued. Targeted training sessions were organised for specific employee groups (read more on page 77). By the end of the year, 98% of active UPM employees had completed a Code of Conduct training session.

Sustainable forestry issues were highlighted during the year and discussions on forestry were carried out with environmental organisations, certification bodies, authorities and decision makers (read more on page 63).

Customer enquiries focused on topics such as product safety, ecolabels and the origin of raw materials.

The majority of direct feedback from stakeholders focused on the local effects of UPM's operations, such as odours or visual impact of forest logging. UPM provided further information relating to each topic. In addition, some UPM sites, UPM Kaukas for example, introduced community evenings to share information and receive feedback.

Competitiveness at the forefront of public affairs

Through public affairs work, UPM aimed to foster the necessary prerequisites for operations, particularly in Finland, Uruguay, Germany and China. UPM co-operated with a number of trade associations on these topics, the most important of these being the Finnish Forest Industries Federation (FFIF) and the Confederation of European Paper Industries (CEPI).

FOCUS ON EU'S CLIMATE POLICY

The focus of the EU's climate change policy agenda for 2030 and beyond can be divided into three parts: land use emissions, which are regulated through the LULUCF regulation (Land Use, Land Use Change and Forestry), industrial emissions, within the EU emission trading scheme, and emissions outside emission trading, such as transport.

The aim of land use regulation is to ensure that emissions are followed and accounted for, and that an equivalent amount of CO_2 is captured from the atmosphere by each member state.

During 2017, a regulative proposal for these measures was handled in legislative procedures of the European Parliament and EU member states. The EU renewable energy directive, including sustainability criteria for biomass in energy production and the new post 2020 framework for biofuels in traffic, was also revised in 2017.

In its advocacy communication through, for example, one-to-one meetings, joint association outreach, and letters and articles directed at MEPs, politicians and civil servants, UPM has been stressing that forests, and sustainable wood harvested from the forests, can form a sustainable alternative for fossil-based raw materials and products.

The LULUCF legislation should contribute to an increased use of sustainable renewable material, by promoting active and sustainable forest management. For the de-carbonisation of the EU traffic sector, UPM can offer cost-efficient and sustainable solutions, which at the same time require a predictable and reliable regulative framework for advanced biofuels.

Read more:
https://ec.europa.eu/clima/lulucf_en

VERLA WAKES UP IN SUMMER

UPM is renovating the Verla groundwood and board mill, owned and maintained by UPM, in South-Eastern Finland. Verla is the only preserved industrial history complex in the Finnish forest industry. In Verla, the changes in industrial work and technological development are visible.

UPM wants to keep the valuable UNESCO World Heritage Site in good condition for the future. In 2017, UPM repaired the old chimney, the boiler room structures and the buildings in the museum area. At the beginning of 2018, a new heating plant will be built in Verla, which has been serving as a mill museum since 1972.

The brick buildings were heated when the groundwood and cardboard mills were still in operation. However, the heating was removed after operations ceased in 1964. When the buildings are heated again, the heat will be conducted through its structures, drying both the air inside the building and the structures in turn. Heating the facilities also protects the preserved machines and equipment.

The new boiler produces heat using renewable wood pellets. The project has been developed in co-operation with the National Board of Antiquities. Until now, Verla has only been open to the public during the summer season. Heating enables the development of tourism and a longer – at best, year-round – operating season.

After Verla was named a World Heritage Site in 1996, the buildings were fitted with fire protection systems, for example. As the mill stands by the stream, a dam was also constructed to protect the buildings from flooding and water leakages.

In 2017, Verla had some 40,000 visitors, of which nearly half participated in the guided mill tours.

Read more:
www.verla.fi/en

2030 TARGETS

Ensuring local commitment, enhanced co-operation, stakeholder engagement and sustainability initiatives

Within the EU, UPM promoted the competitive and consistent regulation of energy and climate policy. The discussion on the impact of forests on climate was especially relevant as the EU made a legislative proposal on land use, land use change and forestry regulation (LULUCF). Influencing the future prerequisites and markets within the advanced renewable fuels sector, as well as sustainability criteria for forest-based biomass, were the key themes of the revision to the Renewable Energy Directive for the years 2021–2030.

In Finland, UPM contributed to discussions on the Finnish operating environment that impact the competitiveness of the forest industry in Finland. One Finnish discussion topic during the year related to different public subsidies and existing tax mechanisms, for example to promote renewable energy generation or the competitiveness of industries exposed to international competition.

UPM was actively involved in the stakeholder processes related to sustainable forestry. The round-table forum initiated by the Ministry of the Environment and FFIF's "Forest Environment" programme focuses on maintaining the biodiversity of forests as part of sustainable forestry practices. For its part, UPM promoted means to increase the amount of wood on the Finnish markets. The act on forest inventory data, which makes forest data public information, will be introduced in 2018. Together with the launch of Kuutio.fi, an electronic wood-trade portal, this will facilitate modern wood-trade services and activate the wood market.

In Uruguay, UPM concluded discussions with the Government of Uruguay regarding the development of a logistics infrastructure and other local prerequisites for a potential pulp investment in the country. An agreement on local prerequisites was signed in November. Rail and road connections are a critical challenge for establishing a large-scale industrial operation in the Uruguayan inland and connecting it to a deep sea port (read more on page 80).

Co-operation on responsibility issues helps secure operations

For environmental and responsibility issues, UPM's stakeholder engagement activity concentrated on promoting and improving UPM's performance, along with securing the prerequisites for future activities. Globally, UPM continued its active co-operation with local permit authorities.

UPM participated in the UN Global Compact LEAD group, which represents the world's leading companies to promote sustainability through innovation and actions.

Co-operation also continued on a voluntary basis with a wide range of stakeholders relating to ecolabels, standards and standardisation frameworks, as well as nature conservation. UPM entered into a two-year cooperation agreement with Forest Stewardship Council FSC® and significantly increased the share of FSC® certified wood in Finland (read more on page 63).

Biofore Share and Care programme supports company strategy

UPM's Biofore "Share and Care" programme demonstrates the company's dedication to a sustainable and innovative future through sponsorships and donations. UPM shares its resources with causes that respect sustainable development and work in line with the company strategy.

The company's rules for sponsorships and donations were revised during the year to ensure appropriate decision making. Rules for employee volunteering were also outlined. UPM directs support to reading and learning projects, water initiatives, bio-innovations and community engagement. UPM does not financially support political parties or individual candidates.

The focus of the local sponsorship is on supporting the vitality of UPM production locations. UPM spent approximately EUR 1.1 (1.4) million on local sponsorships and donations.

UPM's support for its Uruguayan UPM Foundation continued with USD 400,000. The foundation supports and encourages training, entrepreneurship, employment, healthy living and entertainment in local communities in the Uruguayan countryside.

EUR 406,300 (232,500) was donated to charities or other non-profit causes, including a donation to the Biomedicum Foundation for cell-based cancer research, Save the Children for reading materials for pupils from deprived families, the Finnish Olympic Committee for organising children's afternoon sports clubs and the Economic Information Bureau for developing digital business course modules for Finnish secondary-school students.

UPM's most important stakeholders

UPM's Biofore strategy forms the foundation of UPM's stakeholder dialogue. The key focus areas and activities vary locally and according to stakeholder needs.

UPM's materiality analysis 2017

The materiality analysis (below) of the company's responsibility issues covers topics that directly or indirectly influence the ability to create, maintain or acquire economic, environmental or social value for UPM, its stakeholders and society.

Analysis is carried out annually, based on follow-up of the interests and concerns of various stakeholder groups, including communities, employees, NGOs, customers, suppliers, government and regulators, investors and media.

All customer questions and stakeholder concerns received during the year are taken into consideration. Additionally, UPM conducts a specific stakeholder survey using a web-based tool that enables stakeholders to answer anonymously.

Results of the survey are gathered and analysed by an independent third party and used to support UPM's wider evaluation. Most material economic, environmental and social responsibility topics identified in UPM's analysis are presented on the right. UPM's responsibility focus areas and targets (p. 16-17) reflect these material aspects. UPM does not distinguish between topics within the section and considers them all equally material.

Strategic focus areas

1 PERFORMANCE 2 GROWTH 3 INNOVATION 4 RESPONSIBILITY 5 PORTFOLIO

SKILLS FOR WORK

The third one-day Slush Youth event welcomed high-school students from around the Nordic countries to learn practical working and entrepreneurship skills. A total of 300 secondary-school students participated in UPM's workshop on sustainability in business.

UPM also reached out to students through the Bio Era event tour. The main attraction on the tour was the Bio Era truck – a science centre on wheels. The tour around Finland included school visits and public events across Finland.

The Words Matter project – supported by UPM and organised by the Finnish Reading Centre – was completed at the end of 2017. Around 3,000 students from technical vocational schools participated in the literacy workshops during the project. The workshops took a practical approach to reading skills, acknowledging the students' own interests.

During autumn 2017, UPM took pupils from sixth grade to learn about forest management at UPM mill locations in Finland. Around 1,400 students took part in the forest trips.

The "Local Waters" school project also continued throughout the year at UPM's paper mill locations in Finland. As part of the project, primary school students carry out assignments related to water and then use smart phones to send study results to their teachers. UPM has donated equipment required for studying water to schools.

Together with Helsinki Think Company, UPM challenged university students to find solutions to improve dialogue with stakeholders at UPM's mill locations. The Mini Challenge competition involved discussions on responsibility in business operations and stakeholder engagement.

The projects are part of UPM's Biofore Share and Care programme. The focus areas are reading and learning, engaging with communities, responsible water use and boosting bioinnovations.

Read more:
www.thinkcompany.fi
www.upm.com/responsibility

INDUSTRY LEADER

Our consistent efforts regarding responsibility issues have received recognition from several third parties and have made us one of the industry leaders in several fields.

UN Global Compact LEAD: UPM is the only forest-industry company and Finnish company participating in the UN Global Compact LEAD.

Dow Jones Sustainability Index: UPM has been listed as the industry leader in the forest and paper sector in the Dow Jones Sustainability World and Europe Indices (DJSI) for 2017–2018.

CDP Programs: UPM has been recognised with a global leadership position in the 2017 Forest A List and Water A List. UPM received an A- leadership position in the CDP Climate programme.

UPM Biofuels won the Industry Leadership category in Bioenergy at the **2017 Platts Global Energy Awards** — often described as the Oscars of the energy industry.

The Nordic Bioeconomy Panel included UPM BioVerno renewable diesel and GrowDex® 3D cell hydrogel in the Nordic Bioeconomy 25 Cases for Sustainable Change catalogue.

UPM's Zero Solid Waste to Landfill initiative received the Gold Award in the Midwest Region Sustainability competition.

Water Efficiency Frontrunner: UPM has been recognised as a Water Efficiency Frontrunner in China, in one of the key initiatives launched by the government to reduce industrial emissions.

UPM businesses actively engage with stakeholders

In addition to the group-wide focus areas, UPM's businesses had their additional focus areas in stakeholder dialogue in 2017. Customer collaboration is presented on pages 56–57, employee activities on pages 44–49.

BUSINESS	COMMUNITIES	GOVERNMENT AND REGULATORS	SUPPLIERS	NGOs	MEDIA
UPM PULP	Finland: forest trips, tree planting events and an arts and crafts competition for kids. "Local Waters" project at schools. Recruitment events and excursions for students. Uruguay: regional technical university and other training programmes. UPM Foundation activities. Distribution of UPM Fray Bentos tenth anniversary issue of Espacio magazine.	Discussions with the Government of Uruguay regarding the development of logistics infrastructure as a prerequisite for a pulp mill investment resulted in an investment agreement. In Finland, discussions on logistics and transport.	Safety training with contractors. Co-operation on technical development with machine suppliers.	Uruguay: Aves Uruguay, BioUruguay, DESEM, Vida Silvestre.	Communications on growth plans in Uruguay and related topics. Mill events and visits.
UPM BIOFUELS	Co-operation with universities and research institutes (VTT, LUT), associations (Association for Finnish Work) and certification bodies and auditors (ISCC, RSB). Participation in seminars and conferences.	Discussions with Finnish and EU politicians and authorities on future biofuel policies.	Safety training with contractors. Continuous dialogue and supplier audits.	Co-operation with the Roundtable on Sustainable Biomaterials, Below50 coalition and Zero Emission Resource Organisation (Norway).	Visits to biorefinery, interviews and communications on mill events.
UPM TIMBER	Active participation in local events and projects, e.g. DuuniExpo recruitment event and building an unobstructed nature trail in Pietarsaari. Forest owner visits the sawmills.	Active co-operation with local authorities on logistics, traffic and permits. Sawmill visits.	Induction and training for maintenance and logistics companies.		Interviews.
UPM ENERGY	Participation in Nordic Energy Forum 2017 congress. Innovation event Industryhack and student workshops.	Discussions with Finnish and EU politicians and authorities on energy policy development.	Collaboration related to hydropower maintenance and Harjavalta investment.		Promotion of UPM Energy expertise and service offering.
UPM RAFLATAC	Local sponsorships, e.g. Icehearts in Finland, river clean-up in North Carolina, USA and Water Cellar for Mothers initiative in China.	Active co-operation with local authorities regarding environmental investment in Changshu, China.	Label Life Awards for suppliers, supplier audits, joint projects and workshops.	Sustainability partnerships with WWF Poland and WWF South Africa. Project for the reforestation of the Jaguari River in Brazil.	Factory visits, press conferences on main events.
UPM SPECIALTY PAPERS	Collaboration with local communities and responsibility programmes: "Green Future" in China, "Local Waters" school project in Finland. Tree planting days in Finland and China. "Mini Library Project" and "Little Scientist Labs" continued.	High Tech status of the UPM Changshu mill. Active participation in industry associations' programmes, contribution to industry standards.	Training on compliance, the Code of Conduct, responsibility and safety. Supplier Day in Changshu, China.	Joint programmes on sustainable forest management and sustainable paper with the China Sustainable Paper Alliance (CSPA) and China Green Foundation (CGF).	Regular media coverage, Chinese media trip to Finland, media roundtable, mill visits and social media development.
UPM PAPER ENA	Partnership with Stiftung Lesen. Community engagement at mill locations through micro-sponsorships, donations and volunteering, as well as recruitment activities focused on school and university students. Zero Solid Waste programme in Finland.	Discussions on the operating environment and competitiveness of the Finnish forest industry. Discussions with local authorities in Germany, Austria and the US on the divestment of hydropower assets. Contribution to industry and government expert groups on energy, RCP and wood sourcing in Central Europe.	Safety training with contractors. Continuous dialogue and development of co-operation based on annual supplier survey and audits.	Chairmanship of the board of Biodiversity in Good Company.	Mill visits and background meetings, active dialogue around various topics incl. restructuring. Responsible Fibre concept.
UPM PLYWOOD	Open door events at several mills. Apprenticeship programmes at the mills.	Active participation in the industry associations' work. Hosting policy maker visits to the various mills.	Briefings on supplier compliance.		Background meetings and briefings, e.g. on new plywood technologies.
WOOD SOURCING AND FORESTRY	Local events to demonstrate modern forestry methods and to discuss sustainable forestry topics. Dialogue with communities on logging plans. Forest trips for 1,400 Finnish 6th grade students. Forest Fair in Finland. Bio Era tour in Finland.	Discussions with EU and Finnish politicians and authorities on forest and biomass policies. Discussion with Finnish authorities on sustainable forestry, voluntary forest protection and active forest ownership promotion.	Supplier audits. Joint UPM Safety Team. Management training programme for contractors. Nature management training. Griffin e-learning environment.	Stakeholder event at Verla. Joint projects with BirdLife and Osprey Foundation. Meetings and forest visits. Continuous dialogue.	Press conferences and background discussions on new products and services and the wood market.
UPM BIOCHEMICALS	Co-operation with universities and research institutes in Finland, Central Europe and the UK. Development co-operation with start-ups and SMEs. The third scientific "Visions for 3D cell culture" seminar.	Discussions with Finnish and EU authorities on standards, directives and regulation.	Continuous dialogue and development of co-operation with key suppliers and service providers.		Several interviews and coverage on trade press. Press release on biorefinery basic engineering.
UPM BIOCOMPOSITES	Technology development co-operation with universities. Participation in housing fairs and exhibitions. Closed material circulation in production.	Active participation in national and Europe-wide wood plastic composite standardisation development.	Supplier mapping and categorisation. Supplier qualifications and audits. Continuous dialogue with main suppliers.		Campaign celebrating ten years of UPM ProFi recycling materials to create the Design Deck range.

Value to customers globally

UPM offers a wide range of sustainable and safe products for everyday use. Products are made of renewable and biodegradable materials and are recyclable.

UPM's businesses vary in the products and services that they offer. Each business has its own customer management process and way of interacting with customers. A comprehensive understanding of the markets, knowledge of end uses and an appreciation of customers' needs form the basis of UPM's customer relationship management.

Opportunities of bioeconomy

Trends in the consumer marketplace have a significant impact on the demand for forest industry products. As the population grows, and consumption along with it, the use of renewable raw materials and recycling must be increased. More renewable raw materials will have to be used in production to replace fossil materials and other non-renewable natural resources. Biomass and biomaterials will play an increasingly important role in the circular economy and the innovations related to it.

UPM actively develops solutions based on the circular economy model, in which materials and value circulate and added value is generated by services and smart operations. The target is to provide customers with solutions that improve customers' business processes, with a special focus on creating mutual benefits and investigating new business opportunities.

Continuous dialogue and collaboration

UPM's interaction with customers is based on continuous dialogue and regular customer satisfaction surveys.

In addition to a continuous working dialogue, UPM is engaged in various development projects with customers. Many of these projects are linked to product development and to supply chain efficiency and optimisation, as well as the co-planning of activities.

Customer satisfaction is measured regularly in most businesses through customer satisfaction surveys. Based on results from various business customer satisfaction surveys, the overall total satisfaction with UPM as a supplier is 86% (86%). These surveys act as a tool for further development, and bring an important customer dimension.

Customers value UPM's comprehensive high-quality product range, reliability and excellent environmental performance. Product safety, forest certification, chains of custody, resource efficiency and recyclability are among the most important factors for customers.

UPM offers product declarations and environmental data for most products as a tool to provide customers with information on the sustainability of products and the supply chain.

BUSINESS	PRODUCT RANGE	CUSTOMER INDUSTRIES	COLLABORATION ACTIONS IN 2017	IMPORTANT CORPORATE RESPONSIBILITY TOPICS	MAJOR CHANGES IN CUSTOMER INDUSTRIES
UPM PULP	Softwood, birch and eucalyptus pulp	Tissue, specialty, graphic papers and packaging	• Joint development projects with customers and suppliers on technical and sustainability issues • Sustainability services and training • UPM Pulp Schools • Improvement of supply chain efficiency • Strengthening of sales support	• Product safety • Forest certification, origin of wood, sustainable forestry • Environmental performance of pulp mills, water use • Resource efficiency	• Growth of tissue and packaging board production • Continued decline of printing and writing paper industry in mature markets • Limitations of RC paper imports in China
UPM BIOFUELS	Wood-based renewable diesel for transport and renewable naphtha for transport and for bioplastics	Fuel distributors, transportation, oil and petrochemicals industry	• Opening the bioplastics sector sales of UPM BioVerno naphtha in Europe • Joint development projects with customers • Ensuring product functionality through comprehensive motor and fleet testing • Strengthening sales and technical product support • Customer focus throughout the organisation	• Reducing greenhouse gas emissions and tailpipe emissions • Biofuel-specific sustainability certification (ISCC and RSB) • Social and traceability criteria for targets set by the EU Renewable Energy Directive • Safety and product safety	• Global increase of advanced biofuel volumes and demand • Waste- and residue-based biofuels are favoured by both customers and legislation • Growing petrochemical sector for renewable naphtha as feedstock
UPM TIMBER	Standard and special sawn timber	Joinery, packaging, furniture, distribution and construction industries	• Further focus on strategic markets and market-specific weighting • Customer categorisation and customer-specific account plans • Optimisation of raw material quality and usage • Delivery accuracy • Excellent service throughout the supply chain	• Chain of custody, origin of wood, forest certification, sustainable forest management • Safety	• Growing importance of Eastern Europe as a production area • Instability and financial challenges in MENA markets
UPM ENERGY	Electricity and related services	Nordic market and industrial consumers	• Enhanced service portfolio	• Low-emission electricity production • Active grid balance management • Fish migration	• Structural changes in the Nordic electricity market • Increased volatility of electricity market through subsidised weather-dependent production capacity • Mitigation of climate change through decarbonisation
UPM RAFLATAC	Self-adhesive paper and film label stock	Label printers, converters, packers, brand owners in food, beverage, home and personal care, pharmaceutical, retail, logistics, durables, tyres and A4 segments	• New scalable global operating model • Expanding customer reach through increased distribution and sales & service coverage • Investment in significant capacity increase in Poland and Finland • Joint projects with customers and brand owners • Sustainability and product safety solutions	• Product safety, lifecycle analysis, ecodesign and bio-based components • Waste management • Recyclability • Responsible sourcing • Forest certification	• E-commerce increasing label use for packaging and logistics • Increase in automated product labelling and identification • Retailer and distributor network development • Adhesive technologies for demanding differentiated applications • Legislation: Increase in mandatory product information
UPM SPECIALTY PAPERS	Labelling and packaging materials, office papers, graphic papers	Converters, merchants, distributors, retailers, OEMs (original equipment manufacturers), printers, publishers	• Ongoing development work on supply chain performance and service • New value-added products and services • Joint development projects • Brand renewal promotion • Further enhancing sustainability message • Customer focus throughout the organisation • Introduction of Responsible Fibre concept in China	• Product safety • Forest certification, origin of wood • Responsible sourcing, supplier audits at the mills (social responsibility) • Resource efficiency	Labelling materials: • Growth in personal care products • Increased share of e-commerce • Increase in automated product labelling and identification Office papers: • Needs for more documentation, and increase in the number of personal printers • Quality upgrade, specialised business services
UPM PAPER ENA	Magazine papers, newsprint and fine papers for various end uses	Newspaper and magazine publishers, printers, cataloguers, retailers, merchants and converters	• Joint product development initiatives • Launch of new products • EU Ecolabel became available for all paper products in the EU • Launch of eOrder service as part of UPM's advanced digital services	• Safety culture • Supplier social responsibility and safety performance • Forest certification, ecolabels • Resource efficiency	• Digitalisation • Consolidation • Eco-tax in France
UPM PLYWOOD	Plywood and veneer products, thermoformable wood material	Construction, vehicle flooring, LNG shipbuilding and parquet industries as well as furniture and other manufacturing industries	• Launch of WISA BioBond gluing technology • Introduction of several new or improved functional product properties for construction use • Continuous customer and contract management • Development of digital end-use marketing concepts	• Forest certification, chain of custody • Product safety • Resource efficiency	• Increased need for services, stocks and short lead time • Requirement for forest certifications has increased within on-site construction end use • More customer-driven specifications among industrial end users limiting supplier's opportunity to differentiate with a product
WOOD SOURCING AND FORESTRY	Wood and wood-based biomass (logs, pulpwood, chips, forest residues etc.), full forestry service offering	All UPM businesses using wood or wood-based biomass, forest owners	• Focus on creating unique customer experience for forest owners • Development of forestry service offering • Enhanced digital solutions to improve customer service	• Sustainable forestry, forest certification • Income and employment for people living in rural areas, employment of entrepreneurs	• Increasing wood demand and competition due to pulp mill investments in Finland
UPM BIOCHEMICALS	Lignin products for industrial use. Cell culture hydrogel products for biomedical applications.	Resins and adhesive industry, plastic compounds. Biomedical and pharma industries.	• Joint development projects with customers on technical and sustainability issues • Biochemicals webshop launch	• Forest certification • Safety • Animal-free in-vitro medical research	• Strong preference for renewable and sustainable raw materials • New technologies available • Increasing prices of fossil-based raw materials.
UPM BIOCOMPOSITES	UPM ProFi decking products and UPM Formi granules	Distributors of building products in Europe, contract manufacturers for large-scale consumer brands	• Joint development projects with customers on technical and design issues • Customer and stakeholder training • Digital marketing development • Demand chain understanding	• Sustainable alternatives to fossil-based plastic materials • Recycling label production side streams	• Trend to find renewable alternatives to fossil-based polymers • Trend to increase the content of recycled materials in products

UPM's value creation also generates tax revenues

SIGNIFICANCE

- UPM's continuous improvement in its financial performance also generates higher tax revenues.
- UPM is strongly committed to continuously improving its economic and social performance, where the company's income tax payments mainly in countries of production or service operations, play a major role.

OUR WAY

- Based on the standards of the UPM Code of Conduct, UPM's Tax Policy describes the main principles and guidelines of UPM's taxation.
- In accordance with UPM's tax policy, UPM pays corporate income taxes in the countries where added value is created and profit is generated. Taxes are paid in accordance with the local tax legislation and regulations of the country in question.

Based on UPM's corporate and operational structure, UPM reports and pays its corporate income taxes on taxable profits mainly in countries where production activity takes place and in the countries where innovations are developed. In the table on the next page, the corporate income tax figures are reported on a cash basis and thus include some taxes of previous years as well but exclude deferred taxes as they may not be paid.

In Finland, UPM has significant production operations through all of its six business areas, as well as research and development operations. Due to these factors, UPM is also one of the biggest taxpayers in Finland.

In Uruguay, the government has granted UPM's pulp mill with a permit to operate in a special economic zone, whereby taxes in Uruguay mainly consist of property/real estate taxes and annual tax-like charges paid to the government for the development of the special economic zone.

In China, with regard to fine paper production, UPM qualifies as a high-tech enterprise with a reduced corporate income tax rate of 15%. In those countries where UPM's companies are using tax losses from previous years to offset the tax liability of the year in question, such as Germany, there are no or only limited corporate income taxes paid.

TRANSPARENCY IN LOCAL SOCIETAL VALUE CREATION

UPM Kaukas is a large integrated forest industry plant in Lappeenranta, Finland comprising a pulp and paper mill, biorefinery, sawmill, co-owned biofuel power plant, UPM R&D centre and wood sourcing and forestry operations.

The mills' operations benefit the local community in many ways. As the largest private employer in the city, UPM Kaukas plays a major role as a generator of tax revenue and, in addition to the municipal share of corporation tax and the real estate tax paid by UPM, the taxes that UPM employees pay on their wages have a significant local impact. Furthermore, the purchasing power of UPM employees and subcontractors maintains and enhances the vitality of the city.

UPM Kaukas invests in the future by actively collaborating with local educational institutions. The mills principally sponsor children and young people through local schools, associations and sport clubs.

Read more on UPM's project to provide locally relevant information on societal impacts under EMAS environmental performance reports on page 19.

EMPLOYMENT EFFECT

1,175 jobs

at the mill site when jobs provided by subcontractors are included

160 summer jobs

2,600 indirectly employed *)

1,700 external employees in pulp mill maintenance shutdown

INDIRECT EFFECT (PURCHASE POWER)

- UPM Kaukas employees EUR 30 million
- consumption through indirect employment EUR 38–45 million
- stimulating effect of consumption on regional economy EUR 68–75 million

LOCAL TAXES *)

EUR **31–34m**

- estimated municipal tax on personnel wages
- municipal share of corporation tax
- real estate tax
- estimated effect indirect employment has on taxes

COLLABORATION WITH EDUCATIONAL INSTITUTIONS

47

- students performing upper-secondary vocational education and training completed an on-the-job learning placement
- active collaboration with various schools and educational institutions

*) Source: City of Lappeenranta

In 2017, UPM's corporate income taxes in Finland are estimated to be approximately EUR 173 million in total (EUR 138 million), of which subsidiaries report and pay approximately EUR 65 million (EUR 56 million). The remaining figure of approximately EUR 108 million (EUR 82 million) is reported and paid by UPM-Kymmene Corporation.

Tax compliance

UPM's tax policy is supported by internal instructions, benchmark analysis of best practices and related internal controls. Tax matters at UPM are managed by UPM's own tax function, which is complemented by third-party tax services in order to comply with local tax reporting, filings and other duties.

The Audit Committee of the Board of Directors is responsible for the supervision of tax risk management as part of UPM's risk management processes. UPM's internal control and risk management functions review the tax risks regularly and update the control framework together with the tax function. More thorough scanning of tax practices of customers and suppliers is a part of UPM's new counterparty risk management processes. UPM aims to co-operate transparently and proactively with tax authorities and other important stakeholders regarding taxation. The tax revenues generated across the whole value chain are used to finance common services and projects of countries, while the purchasing power of UPM employees and contractors also adds to the local vitality of regions where UPM has operations. Read more about how value is created around UPM Kaukas mill integrate in Lappeenranta, Finland (on previous page).

Energy taxation at various levels of the value chain

Taxation of end products

In addition to the taxes on income, UPM's various production inputs and outputs are also subject to taxation. These taxes may either be paid by UPM or collected by UPM from the customers and remitted to the local authorities.

Energy taxation is especially relevant for UPM in various countries and it refers to excise taxes of liquid fuels as well as electricity and certain other fuels. Energy taxation is subject to detailed regulation not only at country level but also at EU level.

The majority of UPM's own electricity production is hydropower or combined heat and power (CHP) production at mill sites, where the majority of the fuels used in energy production are from renewable sources. The electricity produced by UPM is subject to electricity taxation regardless of which sources are used.

The renewable UPM BioVerno diesel and naphtha which are produced from crude tall oil, a residue of the pulp production, are also subject to energy taxation. The taxes are charged by fuel distributors to their customers at service stations. The environmental goals of taxation of transport fuels directly impact the business. The energy taxes of transport fuels from renewable sources like UPM BioVerno are lower than those of fossil fuels due to their lower carbon dioxide emissions.

Taxation of raw materials and other inputs

UPM is also a significant energy consumer, especially for the paper production. Most of the energy used in the production processes is subject to energy taxes, though there are different tax rates or even exemptions depending on the type of use.

UPM pays a significant amount of energy tax also on fuels as part of logistics costs, especially for road transportation.

Compensation of paid energy taxes for global cost-competitiveness

Within the EU, the energy taxation legislation allows member states to compensate paid taxes or apply lower tax rates for industrial production or activities which are considered energy intensive. Many of the main UPM production countries, e.g. Finland and Germany, apply such tax reliefs because the level of energy taxation has increased significantly in recent years.

In Finland, electricity is taxed at a lower tax rate when used in industrial production. Energy-intensive industries get a retroactive refund of paid energy taxes based on a separate application, if the amount of energy tax paid exceeds a certain threshold dependent on the company's added value.

A similar retroactive energy tax refund can be applied for in Austria while in the UK and France, relief is granted upfront in the form of lower tax rates for energy-intensive industrial users that fulfil the requirements. In Germany, there are certain energy tax reliefs that companies may apply for in advance and some that are applied for retroactively if the company fulfils various eligibility criteria. Energy tax reliefs are also subject to detailed regulation not only at national level but also at EU level.

Regarding energy production, UPM benefits from some subsidy schemes and feed-in tariffs related to renewable energy production, such as EEG (Erneuerbare Energien Gesetz) in Germany and operating aid for wood fuel power plants in Finland.

Read more: UPM's assets and capital expenditure by country on page 121.

UPM's tax policy is available on the corporate website under **www.upm.com/governance**.

CORPORATE INCOME TAXES PAID AND PROPERTY TAXES BY COUNTRY

EURm	2017	2016
Finland	**177**	133
China	**25**	15
United States	**19**	7
Uruguay	**12**	10
Russia	**6**	5
United Kingdom	**5**	6
France	**2**	3
Other countries	**6**	4
Germany	**–1**	–2
Total	**251**	**181**

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED BY UPM IN 2017 (EUR MILLION)

Direct economic value created		Economic value distributed	
		Operating costs	–7,225
Sales	10,010	Employee wages and benefits	–1,265
Income from sale of assets	110	Payments to providers of loans	–83
Income from financial investments	12	Dividend distribution	–507
Other income	28	Corporate income taxes paid and property taxes	–251
		Donations	–0
Total	**10,160**		**–9,331**

Economic value retained 829

UPM's economic impact is significant in the surrounding communities. The company's operations contribute to local, regional and national economies by generating economic benefits for different stakeholder groups. The related direct monetary flows indicate the extent of added value globally.

Product stewardship

UPM provides sustainable and safe solutions to growing global consumer demand.

SIGNIFICANCE

- Global megatrends are driving demand for sustainable and safe solutions
- Renewable wood and recyclable products reduce the world's dependency on fossil-based and other non-renewable raw materials

TARGETS

- Sustainable and safe solutions
- Taking care of the entire lifecycle
- New wood-based businesses

OUR WAY

- Products are made of renewable and biodegradable raw materials and are recyclable
- Ecodesign approach, that covers the entire value chain from the procurement of raw materials to end products and their afterlife, for all products
- Restricted Chemical Substances List and certified management systems
- Open and transparent product communication through ecolabels, certificates and product declarations
- Focus on 2030 target: all applicable products eligible for ecolabelling

Ecolabels and product declarations as a sign of transparency

UPM provides product declarations to grant customers easy access to information concerning the responsibility of products and the supply chain. They are developed for various customer needs; for instance, to verify that products do not contain harmful chemicals.

Ecolabels help customers make responsible choices and provide stakeholders with important information. UPM is globally the largest producer of EU ecolabelled newsprint, office papers and graphic papers and as of 2017, the EU Ecolabel has been available for all UPM graphic papers in Europe. UPM also provides its customers with the opportunity to use well-known local ecolabels, such as the German Blue Angel or the Nordic Ecolabel. All UPM businesses have FSC® and PEFC™ chain of custody certification.

In 2017, UPM Biofuels received a RSB (The Roundtable on Sustainable Biomaterials) certificate for both UPM BioVerno renewable diesel and naphtha, as well as production side streams turpentine and pitch. RSB verifies the sustainability and reliability of feedstock sourcing and production.

UPM Specialty Papers introduced UPM's Responsible Fibre™ concept to Asian markets. The trademark combines environmental and social responsibility criteria into one entity.

UPM products create societal value

Most of UPM's businesses today and in the future are based on efficient use of sustainably sourced, renewable forest biomass. The fact that UPM's products replace products made of non-renewable raw materials adds to their value.

Wood is a versatile construction material with many beneficial properties. The excellent indoor air quality of wood buildings is due to the natural 'breathability' of timber walls and the acoustic properties are also of high quality. In addition, wood has been proven to have positive effects on wellbeing and is an outstanding material to mitigate climate change, because it stores a large amount of carbon.

In 2017, UPM Plywood introduced WISA BioBond, a new lignin-based gluing technology in plywood manufacturing. With the new technology, 50% of the fossil-based phenol can be replaced with lignin obtained as a by-product of chemical pulp production.

UPM Biofuels is developing a new feedstock concept by growing Brassica carinata as a sequential crop in South America. The Carinata crop produces non-edible oil suitable for biofuels' feedstock and protein for animal feed. Carinata will provide additional income to local farmers, who do not normally have their fields in productive use during winter.

UPM Raflatac launched new labels for authenticating products and preventing counterfeit products from entering the market in order to ensure consumer safety. During the year, UPM Raflatac also extended its range of film face materials for the European market, providing a sustainable alternative to fossil-based films for a wide variety of end-uses.

UPM paper businesses continue to develop lightweight papers where less material is used to produce the same printing area.

The Nordic Bioeconomy Panel under The Nordic Council of Ministers chose two UPM products (UPM BioVerno and GrowDex®) for the "Nordic bioeconomy – 25 cases for sustainable change" catalogue, as products that create a large amount of societal value and promote the Sustainable Development Goals of the UN.

Read more:
www.upm.com/responsibility

2030 TARGETS

85% of UPM sales was eligible for ecolabelling

Committed to sustainable forestry

SIGNIFICANCE

- Forests and wood-based products have a unique role in climate change mitigation
- Biodiversity loss and deforestation are of concern, especially in the tropics
- Forest area increases in Europe
- Renewable wood is UPM's most important raw material

TARGET

- Ensure sustainable land use and keep forests full of life

OUR WAY

- Sustainable forest management with credible certification systems for all our own forests
- Third-party verified chain of custody systems to ensure 100% traceability of wood
- Global biodiversity programme
- We do not use wood from tropical rainforests or accept wood from forest plantations that have been established by destroying rainforests
- No operations in areas where the rights of indigenous peoples are threatened or endangered
- Focus on 2030 target: all fibre certified

As a responsible forest owner and wood user, UPM ensures that the wood it receives is legally sourced from sustainably managed forests.

At the end of 2017, UPM owned 570,000 hectares of forest in Finland and 75,000 hectares of forest in the United States. Additionally, the company has 255,000 hectares of forest plantations in Uruguay. Forests owned by UPM house around 45,000 protected sites with a total area of 135,000 hectares. The company is also responsible for managing approximately 960,000 hectares of forests and forest plantations owned by private forest owners.

UPM continued to sell forest land that is remote from its production sites. In Finland, UPM and the Ministry of the Environment agreed on the establishment of several private conservation areas on UPM land.

Co-operation with stakeholders

The growing need for food production and wood causes deforestation, especially in the tropics, which is an important concern for the entire forest industry. UPM recognises this challenge and has reacted by taking action in its own operations and by actively participating in international co-operation networks.

Forest certification is based on standards that have been defined in an open stakeholder process, and compliance with these standards is monitored by an independent third party. All UPM owned forests are certified. To promote the certification of privately owned forests in Finland, UPM has established FSC® and PEFC™ group certification schemes. In 2017, UPM's Finnish FSC group certification scheme grew to cover over 300,000 hectares of forest.

UPM and the Forest Stewardship Council® (FSC) signed the partnership agreement in 2017. The partnership aims to deliver benefits to forest owners through FSC certification and to increase the FSC certified wood supply.

In 2017, the CDP Forest Program listed UPM as one of the six global leaders on the 2017 Forest A List for timber and timber-based products. Companies on the A List are recognised as having responded to market demand for environmental accountability and taken action to prevent deforestation.

Active forestry-related research and development in UPM forests

Forest biodiversity is one of the key factors in UPM's forest operations. The aim of UPM's global biodiversity programme is to maintain biodiversity in forests, to promote best practice in sustainable forestry and to emphasise the role of ecosystem services. The company is involved in several biodiversity projects in collaboration with various stakeholders.

The Finnish Government's bioeconomy strategy raised conflicting opinions due to the increasing demand for wood and its impacts on biodiversity. UPM continued to participate actively in a roundtable process coordinated by the Ministry of the Environment and the Ministry of Agriculture and Forestry. The process involves forest owners, forest and environmental organisations and representatives from industry, research and public administration. The common goal is to find ways to safeguard forest biodiversity.

A biodiversity-related project continued into its 12th year at UPM's forest in Harviala in Finland. Controlled burning is used to increase biodiversity, but in the research project, burned trees have been combined with another key habitat, decaying wood. The aim of the long-term research project is to find practices that can be used to increase biodiversity as part of normal forestry operations.

UPM has also systematically developed methods for maintaining biodiversity in its eucalyptus plantations in Uruguay. In the first phase, UPM conducted a biological survey at the beginning of the 1990s to discover and classify species in the regions where it was going to operate. Mafalda was found to have very special flora, fauna and ecosystems. Therefore, a valuable part of the site was saved from planting and since then, this has been an important part of our biodiversity work in Uruguay. It demonstrates that it is possible to enhance biodiversity and run forest operations in the same area. Currently UPM is developing the infrastructure of the site to allow visitors such as locals, students, authorities and experts to research and enjoy the nature of the region.

Read more:
www.upm.com/responsibility

2030 TARGETS

85% Share of certified fibre

UPM SIGNED A GLOBAL PARTNERSHIP WITH FSC INTERNATIONAL

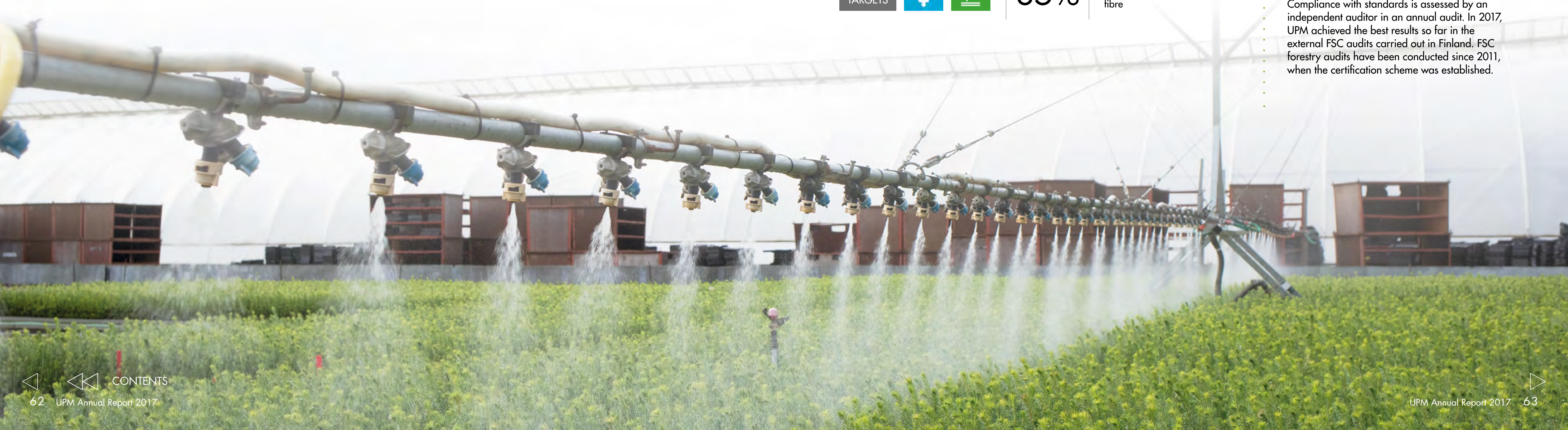
UPM's global partnership with FSC International, signed in spring 2017, is aimed at developing the FSC forest certification scheme to better suit the northern boreal forest zone and operating environment, where a significant proportion of sourced wood comes from small private forest owners. Other areas of co-operation are the general strategic development of standardisation and development work on ecosystem services.

UPM has extensive experience of sourcing FSC certified wood. All wood sourced by UPM is FSC controlled. UPM's plantations in Uruguay and the majority of UPM's forests in Finland are FSC certified. In these countries, UPM is also responsible for managing FSC group certification which is a way of offering FSC as a forest service to interested forest owners.

Major environmental organisations are also committed to the FSC forest certification scheme. FSC emphasises the environmental issues of forestry, stakeholder engagement and the transparency of operations.

UPM's FSC operations received a lot of public attention in Finland in 2017. The discussion focused particularly on the protection of endangered species in connection with forest management. Finland has the highest levels of knowledge in the world about forest species and their habitat requirements. UPM participates in a national development group that aims to improve the protection of species as part of FSC certification.

Compliance with standards is assessed by an independent auditor in an annual audit. In 2017, UPM achieved the best results so far in the external FSC audits carried out in Finland. FSC forestry audits have been conducted since 2011, when the certification scheme was established.



Co-operation with suppliers is the basis of a responsible supply chain

SIGNIFICANCE

- An effective supply chain guarantees the availability and production of commodities, even in exceptional circumstances
- Suppliers are an essential part of UPM's value creation

TARGETS

- UPM is a reliable and future-oriented business partner and sets clear requirements and expectations for its suppliers
- Together with its suppliers, UPM uses cost leadership, innovation, continuous development and proactive risk management to generate competitiveness

OUR WAY

- Focus on long-term co-operative relationships
- Continuous monitoring of suppliers' performance and improvement of processes in co-operation with key suppliers
- Responsible and ethical practices in the supply chain create long-term value for UPM and its stakeholders
- The UPM Supplier and Third Party Code sets transparent requirements
- Focus on 2030 targets

Suppliers are an essential part of UPM's value chain. Continuous development work with the suppliers ensures the efficiency, transparency and responsibility of the whole supply chain.

Globally, UPM has over 25,000 material and service suppliers. The company's sourcing network includes suppliers from private forest owners to international corporations.

UPM buys numerous different products, materials and services. The main sourcing groups are fibre, raw materials, other indirect material purchases and services, logistics and energy. Co-operation between UPM and its suppliers is based on mutual commitment and openness. The aim is to ensure productivity, quality, innovative development and systematic performance improvement.

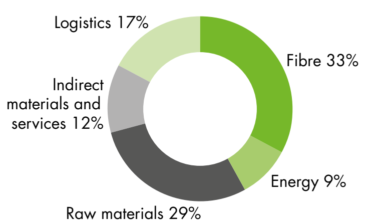
All new suppliers are evaluated and they must meet the requirements set for UPM's suppliers and third parties.

Cost efficiency and responsibility as principles

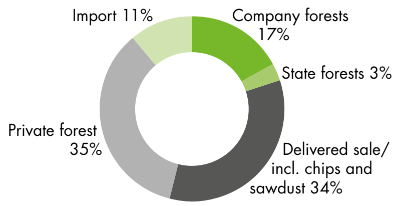
UPM aims to ensure that suppliers are able to provide responsibly produced, cost-competitive and innovative materials and services for UPM business units globally — in all market situations.

Long-term reliable deliveries, product and service quality, suppliers' financial stability, social and environmental responsibility, product safety and occupational health and safety are taken into consideration when selecting suppliers.

UPM's external purchasing spend 2017



Sources of wood to UPM mills 2017



UPM Responsible Sourcing principles

Compliance	Transparent supplier requirements	Systematic risk assessment	Continuous development in co-operation
UPM is committed to responsible sourcing practices in its own Code of Conduct.	All suppliers must comply with UPM's global responsible sourcing requirements.	Suppliers are evaluated on a regular basis for social, financial and environmental risks.	In addition to supplier audits, tools such as joint development plans and competitions are used for continuous development.

The UPM Supplier and Third Party Code guarantees global common rules

UPM is committed to responsible sourcing practices in the company's Code of Conduct. All the minimum requirements for suppliers are defined in the UPM Supplier and Third Party Code. UPM requires that the suppliers promote the same requirements in their own supply chains.

In 2017, 82% (80%) of UPM spend was qualified against the UPM Supplier and Third Party Code. For the first time, energy sourcing was included in the KPI. Despite the inclusion, the share of qualified suppliers grew from the previous year, so the relative improvement is excellent. The qualified suppliers are committed to complying with UPM's responsibility criteria, including occupational health and safety.

All suppliers working at UPM's production plants must be aware of UPM's safety requirements. Various additional requirements are applied to wood, chemicals, pulp, packaging materials, safety and logistics.

All UPM's wood, pulp and recovered paper suppliers are continuously evaluated in regard to environmental issues, personnel policy, human rights and the local community involvement. These raw materials are either FSC® and PEFC™ certified, or comply with the FSC Controlled Wood standard or Due Diligence requirements for PEFC.

Proactive risk management, audits and data analysis

UPM's supplier risk assessment includes supplier-specific financial, quality and supply and responsibility related risks. Country of origin, sourced commodity and complexity of supply chain are used to determine responsibility risks.

Based on the risk assessment, selected suppliers' activities are evaluated in more detail through annual surveys, supplier audits and joint development plans. Audits are carried out by both UPM's own trained auditors and external auditors. Human rights are one of the main focus areas of these audits. In 2017, UPM organised extensive audit training for key personnel regularly visiting suppliers' production facilities. UPM also conducted several audits that included every layer of the supply chain.

When non-conformances are discovered, the supplier is required to take corrective measures. UPM monitors the implementation of these measures and provides support for improving the suppliers' operations if needed. Despite corrective measures, some contracts had to be discontinued due to insufficient measures or the severity of UPM's findings.

Special focus areas for UPM are CO_2 emissions and water-related risks caused by supply chains. UPM monitors CO_2 emissions and water consumption throughout the supply chain and encourages suppliers to continuous improvement.

A prominent user of wood and recovered paper

UPM is both a major forest owner and purchaser of wood. Wood is a valuable raw material and UPM ensures its optimal utilisation by acquiring all types of wood. In 2017, UPM sourced 27.4 (27.8) million cubic metres of wood worldwide.

UPM is also the world's leading user of recovered paper for the production of graphic paper. In 2017, the company used a total of approximately 2.6 (2.8) million tonnes of recovered paper. The share of recycled fibre represents approximately 30% of all fibre raw materials used in UPM's paper production.

Tracing the origin of wood is an essential prerequisite

All the wood used to produce UPM products is legally harvested and comes from sustainably managed forests. UPM does not use wood harvested from tropical rainforests or accept wood from plantations that have been established by converting natural forests. UPM does not accept wood from regions that do not respect the rights of indigenous peoples. All of UPM's wood supplies are covered by third-party-verified, FSC® and PEFC™ certified chains of custody.

UPM ensures that the wood supplied to its mills is compliant with the EU Timber Regulation, the U.S. Lacey Act and other regional requirements.

Continuous improvement together with raw material suppliers

UPM buys approximately 1.8 million tonnes of pulp from external suppliers. Pulp suppliers have special requirements for environmental performance, social responsibility, forestry, wood sourcing and reporting. Collecting and analysing data on pulp and chemical suppliers' environmental and social responsibility is an integral part of supplier and risk management. UPM creates development plans together with the suppliers based on these analyses.

UPM also monitors the performance of its other raw material suppliers by performing various surveys. Over the past few years, UPM has organised responsibility-focused Supplier Days and competitions, and has granted awards to its best-performing suppliers. The aim of these awards is to encourage suppliers to improve their performance.

In 2017, UPM organised a Supplier Day for partnerships and key suppliers in China. The goal was to provide information on the UPM Changshu mill development projects, bolster collaboration with suppliers, form networks, give recognition to the suppliers and encourage them to perform even better.

Read more about UPM's operating practices and compliance on pages 76–77, sustainable forest management on pages 62–63 and UPM's value creation on pages 74–75.

2030 TARGETS

96% of raw material spend is qualified against the UPM Supplier and Third Party Code

Resource-efficient production

UPM uses raw materials, water, energy and other resources in a responsible manner and continuously improves its energy, resource and cost efficiency.

2,600
preventive environmental observations

SIGNIFICANCE

- Global megatrends such as population growth lead to resource scarcity and competition for natural resources
- Resource efficiency eases the pressure on resources and brings competitive advantages and growth opportunities

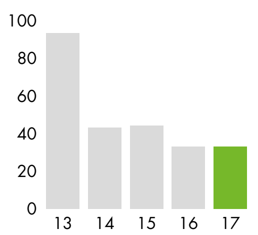
TARGETS

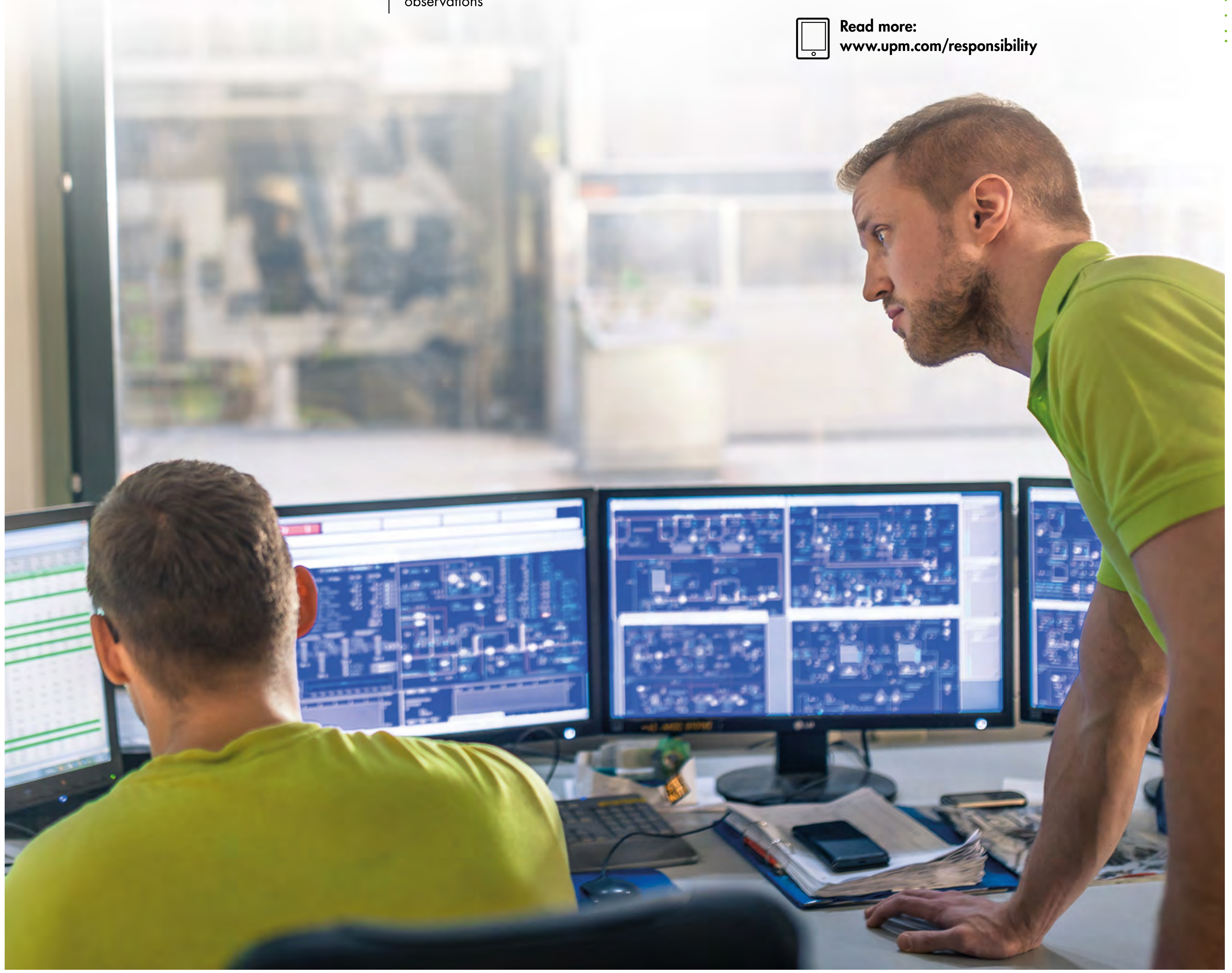
- Continuous improvement of efficiency
- Excellent environmental performance
- Accountability and compliance
- Minimise possible negative impacts of operations

OUR WAY

- Certified management systems
- UPM's Clean Run programme aims to improve environmental performance and awareness
- Best available techniques (BAT) in use
- Reliable, credible and transparent reporting
- Focus on 2030 targets

The number of environmental deviations at UPM mills





MULTISITE BRINGS TRANSPARENCY AND EFFICIENCY

UPM's Finnish paper mills have moved to a shared management system certification. This covers the activities, methods and guidelines shared by the two businesses and complies with the requirements of assured occupational health and safety, energy efficiency, quality and environmental standards.

The multisite audit of the paper mills' new way of working and the mill audits were conducted in autumn, to ensure they met the requirements. The project required close collaboration between the mill and function representatives.

The most significant change is that the descriptions and guidelines for shared functions have been centralised. This change makes it easier to learn from one another and share best practices. This new way of working improves efficiency and also reduces costs.

Read more:
www.upm.com/responsibility

Almost all of UPM's production plants, as well as its wood sourcing operations, are covered by environmental, quality and occupational health and safety systems and are certified in accordance with the ISO 9001, ISO 14001 and OHSAS 18001 standards. Additionally, the ISO 22000 management system is in use at all production plants in which food safety management is required.

In order to improve energy efficiency, UPM has introduced the ISO 50001 energy management system in Central Europe and Uruguay and a national energy efficiency system (EES+) in Finland. The UPM Paper ENA and UPM Specialty Papers paper mills in Finland moved to a shared management system certification in 2017 (read more on the left).

UPM has certified all its European pulp and paper mills, the UPM Fray Bentos pulp mill in Uruguay and the UPM Changshu paper mill in China in accordance with the EU Eco-Management and Audit Scheme (EMAS). In 2017, four of the company's mills completed their EMAS Environmental Performance reports with locally relevant information on societal aspects and impacts. After piloting the approach, the scope will be expanded in 2018.

Investments in environmental performance

UPM's investments in environmental performance are part of the Group's investment programme. In 2017, the company's environmental investments totalled EUR 21 (22) million. The single largest investment was effluent treatment plant improvements at the UPM Fray Bentos pulp mill. UPM's environmental costs, which are mainly attributable to effluent treatment and waste management, totalled EUR 125 (120) million, including depreciation. The main cost items were effluent treatment with EUR 49 (48) million, waste management with EUR 26 (28) million, and air pollution control with EUR 6 (5) million.

Steady decline in number of environmental non-conformances

There has been a significant decrease in the number of environmental non-conformities since UPM's internal Clean Run programme was launched in 2012. No major environmental incidents occurred at UPM production plants in 2017 and UPM was not required to pay any significant fines due to non-conformities. However, a total of 33 (33) temporary deviations from permit limits or major deviations from the environmental limits set by UPM occurred at the company's mills over the course of the year.

The most serious single incident was related to the rupture of a wastewater pipeline at the UPM Kaipola paper mill. The rupture led to a short-term leak of untreated wastewater into Lake Päijänne. No harmful impacts were identified afterwards in studies completed in co-operation with the local authorities.

Occasional odours from pulp mills have caused some criticism. UPM responded to stakeholder feedback locally and organised feedback meetings for the surrounding community, for example, in Lappeenranta, Finland. In all cases, UPM immediately reported deviations to relevant stakeholders and undertook corrective measures. The global One Safety reporting tool supports a common, UPM way of managing and reporting safety and environment-related operations. In 2017, nearly 2,600 (2,300) preventative environmental observations were reported. The goal of this reporting is to improve environmental performance, share best practices and promote environmental awareness.

Read more about environmental performance on page 106 (Report of the Board of Directors) and **www.upm.com/responsibility.**

Responsible water use

SIGNIFICANCE

- Water resources around the world are under increasing pressure, but each watershed is unique
- Forests have a crucial role in the water cycle
- Water is an essential resource for production and is also needed for cooling machinery

TARGET

- Minimise the negative impacts of operations on water resources

OUR WAY

- Operations in areas with sufficient water resources
- Efficient water use with suitable recycling techniques
- Treatment of used water with best available techniques
- Water returned to original watersheds always when possible
- Local co-operation to minimise negative impacts and ensure water availability to all
- Focus on 2030 targets

Water flows through every part of our business. It flows in and out of our production processes, it passes through our forests which help to purify and regulate its movement, and we even leverage its flow to create an important source of renewable energy.

UPM uses water responsibly in terms of the company's water consumption and effluent quality. This has also been acknowledged by the CDP Water Program which has rated UPM as one of the leaders on the 2017 A List for water. CDP's Water Program annually identifies companies that have proven their leadership in the sustainable management of water through specific actions. UPM is a signatory of CEO Water Mandate by the UN Global Compact.

Responsibility targets for 2030 encourage forward thinking

Using less water also means using less electricity, chemicals and thermal energy. The water used in different processes is recycled as much as possible and returned to watersheds.

All of UPM's pulp and paper mills are required to have both a mechanical and a biological effluent treatment process. In order to ensure the best possible treatment result and to share best practices, UPM operates a global specialist network. The results have been positive and the number of incidents has decreased steadily.

UPM's pulp and paper mills continue working towards the 2030 targets: reducing effluent load (COD) and wastewater volume and using 100% recycled nutrients for effluent treatment. Examples of UPM's activities in 2017 include the efforts made at the UPM Nordland paper mill in Germany and the UPM Changshu paper mill in China (read more on the right).

The nutrient target was piloted at UPM Kaukas, and UPM already has several mills utilising recycled nutrients at biological wastewater treatment plants. As UPM already optimises its use of nutrients, switching to recycled nutrients reduces local eutrophication as nutrients are removed from other nearby sources. The Finnish Ministry of the Environment has granted funding for a joint project established by UPM together with Yara to develop nutrient recycling, with funding granted for 2017–2018. The ecological state of the effluent discharge areas at UPM pulp and paper mill sites has been studied using a number of bio-indicators.

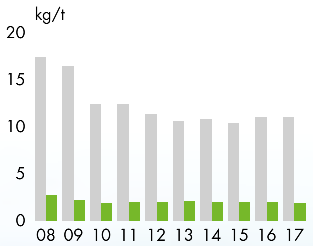
The school project called Local waters, originally launched in Rauma, continued at UPM pulp and paper mill locations in Finland. The purpose of the project is to encourage pupils' interest in natural sciences through hands-on research at waterways. In addition to UPM, the Finnish Environment Institute (SYKE), the organisation puhdasmerivesi.fi and local Rotary Clubs are involved in the project. Other stakeholder projects have taken place, for example at the River Oder in Poland in co-operation with the local WWF organisation and at the Jaguari River in Brazil in co-operation with various local parties.

Hydropower plays an important role in UPM's versatile energy production portfolio. In many areas, constructing hydropower facilities has affected the reproduction opportunities of migratory fish species. This has traditionally been compensated by fish planting obligations and fish management fees set by authorities.

UPM participated in a two-year project to determine suitable means for restoring migratory fish stocks and supporting their natural reproduction. In 2017, UPM decided to participate in the project at the River Pielisjoki in Finland, in which learnings from earlier studies are being put into practice, to establish a hatching area for endangered lake salmon to reproduce in.

Read more:
www.upm.com/responsibility

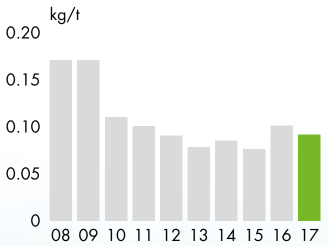
UPM's COD load



- Per tonne of chemical pulp
- Per tonne of paper

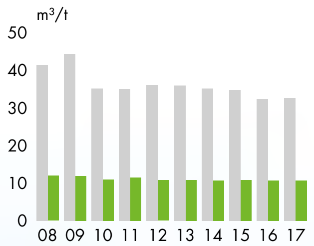
The COD load has decreased by 32% per tonne of paper, and by 37% per tonne of chemical pulp, over the last ten years.

UPM's AOX load per tonne of bleached chemical pulp



AOX indicates the amount of halogens bound to the organic compounds present in the effluent. The AOX load per tonne of bleached chemical pulp has decreased by 48% over the last ten years.

UPM's process wastewater volumes



- Per tonne of chemical pulp
- Per tonne of paper

UPM has reduced wastewater volumes per tonne of paper by 10% and per tonne of chemical pulp by 21% over the last ten years.

2030 TARGETS

32% Reduction in effluent load (COD) since 2008

UPM REDUCES WATER USE AT ITS PAPER MILLS

UPM has set challenging water-related responsibility targets for 2030, reflecting the Global Sustainable Development Goals (SDGs). The UPM Changshu paper mill in China and the UPM Nordland paper mill in Germany are at the forefront of developing new technologies which aim to reduce water use and cut emissions through an intensive R&D programme.

In Germany, UPM Nordland will improve its wastewater treatment by investing in water purification technology. To be able to reuse treated wastewater in the paper mill process, organic material and dissolved salts have to be removed. After the treatment, approximately 20% of water can be reused at the first phase, which means the corresponding amount of fresh water, as well as wastewater sent to the river Ems, can be reduced.

In China, the UPM Changshu mill aims to decrease water consumption by 50% per paper tonne. In addition, their wastewater discharge is approaching zero emissions. UPM is currently piloting new solutions and technologies, together with partners, to recycle the water after it is released from the wastewater treatment plant.

The paper mills are making significant steps on the road towards closing water circulations, which is the ultimate goal.

Read more
www.upm.com/responsibility

Climate actions and energy efficiency

SIGNIFICANCE

- Climate change is a global megatrend, bringing with it both risks and opportunities and requires action
- The global climate agreement aims to keep the average temperature rise at a level that does not threaten nature and society
- Forests which act as carbon sinks and wood-based products have a unique role in climate change mitigation
- UPM is both a significant energy producer as well as a user of energy

TARGET

- Create climate solutions and working towards carbon neutrality

OUR WAY

- Ensure wood supply from sustainably managed forests
- UPM's biodiversity programme is making forest ecosystems less vulnerable to the impacts of climate change
- Renewable and recyclable products that replace fossil-based materials
- Efficient use and increasing share of renewable and low-emission energy
- Continuous improvement of energy efficiency
- Best Available Techniques (BAT)
- Focus on 2030 targets

UPM favours the use of renewable and other carbon-neutral energy sources and the use of natural gas. UPM's Biofore strategy meets the challenge set by climate change, as the transition to a low-carbon economy is expected to bring business opportunities for UPM's renewable and recyclable products.

Biomass-based fuels account for 69% (69%) of the fuel usage. UPM is the second-largest generator of biomass-based electricity in Europe.

As the use of weather-dependent energy sources increases, the need for balancing power in energy systems will also grow. In Finland, UPM is investing in hydropower, the most effective and sustainable method of producing balancing power. In 2017, refurbishment of the Harjavalta hydropower plant was completed.

Paper and pulp mills, which use power and heat in their production processes, represent the majority of UPM's total energy consumption. Most of the energy is consumed in the manufacture of mechanical pulp, pumping and paper drying. Steam and electricity are generated simultaneously by combined heat and power (CHP) plants at all pulp and almost all paper mills. At some mills, all or part of the energy is produced by external and co-owned power plant companies.

Energy efficiency improvement as one of UPM's climate actions

UPM strives to continuously improve energy efficiency across all its operations. With the help of energy audits, innovations and internal campaigns, energy efficiency in production has improved. Electricity consumption per tonne of paper has decreased by 13% over the past 10 years, and UPM reached its annual energy efficiency target of 1% in 2017.

As a result of the energy-saving actions carried out in 2017, UPM reduced its energy costs by EUR 3.0 (1.9) million, avoided 39,000 (18,000) tonnes of CO_2 emissions and achieved a 92,000 (49,000) MWh reduction in energy consumption. The annual savings were EUR 5.1 (2.0) million, 61,000 (17,300) t CO_2 and 143,000 (92,000) MWh.

A climate actions project was established in 2017 with UPM experts from different areas, to ensure that UPM is able to reduce its fossil CO_2 emissions and to achieve its 30% reduction target by 2030. In 2017, UPM received an A- Leadership listing in the CDP Climate Program.

REDUCING CO_2 EMISSIONS ON SEVERAL FRONTS

2017 was the first full year of the China More with Biofore research programme, which aims to improve the energy efficiency and environmental performance of the UPM Changshu paper mill.

The ongoing projects are aiming to reduce the paper machines' unit energy consumption by 25%, and to maximise the combined heat and power by achieving 70% thermal efficiency at the site.

UPM co-operates with suppliers to find viable technologies that may further reduce the mill's CO_2 emissions. UPM is also working with leading Chinese energy research institutes to explore renewable energy solutions.

In Germany, the installation of a new 80 MW biomass boiler at the UPM Hürth paper mill is one of the most tangible examples of reducing CO_2 emissions in practice. The boiler from the former Myllykoski paper mill in Finland will be transferred to Hürth, and is expected to be in use at the beginning of 2019.

UPM's German paper mills also aim to find new power supply partners which have lower CO_2 emissions in power production.

In Russia, UPM is expanding its Chudovo plywood mill and investing in a new 19 MW biomass boiler which will decrease fossil fuel consumption. Most of the mill's heat energy will be generated using wood-based by-products from plywood production such as bark, chips and dust. The project is estimated to be completed by the end of 2019.

2030 TARGETS		
2030 TARGETS	6%	Reduction in CO_2 emissions compared to 2016
2030 TARGETS	31%	Reduction in acidifying flue gases since 2008
2030 TARGETS	69%	Renewable fuels share

CAPACITY TO GENERATE POWER THROUGH OWN POWER PLANTS AND SHAREHOLDINGS

	Nominal MW
Hydropower	732
Nuclear power	584
Condensing power	191
UPM Energy in total	**1,507**
Mill site combined heat and power (CHP)	1,415
Mill site hydropower	7
Mill site power generation in total	**1,422**
Total UPM	**2,929**

ELECTRICITY GENERATION THROUGH OWN POWER PLANTS AND SHAREHOLDINGS

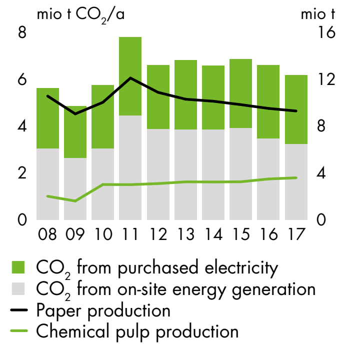
TWh	2017	2016
Mill CHP	6.2	6.1
Hydropower	3.3	3.6
Nuclear power	4.4	4.7
Condensing power	0.3	0.6
Total	**14.2**	**15.0**

FUELS USED FOR HEAT GENERATION

TWh	2017	2016
Black liquor	19.6	19.7
Bark and other biomass	8.7	9.1
Heat recovered from TMP production	1.3	1.3
Renewable fuels total	**29.6**	**30.1**
Peat	0.9	1.0
Purchased heat	0.6	1.0
Natural gas	7.8	8.1
Oil	0.6	0.6
Coal	3.2	3.4
Total	**42.7**	**44.2**

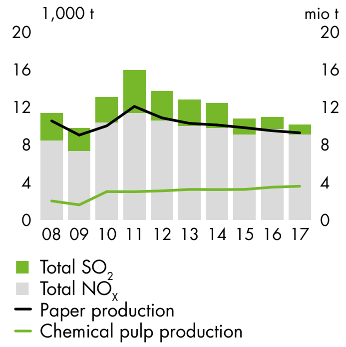
Read more:
www.upm.com/responsibility

UPM's fossil carbon dioxide emissions



In 2017 on-site CO_2 emissions (Scope 1) decreased due to lower paper production and increased biomass-based energy from pulp production. CO_2 of purchased electricity (Scope 2) decreased due to purchases with lower CO_2 factors, in Germany, the UK, Austria and Finland, for example.

UPM's acidifying flue gases



In 2017, reduction was achieved mainly due to process improvements in pulp and paper mills.

Circular economy at UPM

Many of UPM's current and new products are made from side streams and waste from traditional production processes. New technologies give UPM new ways to create innovative solutions.

SIGNIFICANCE

- Circular economy addresses two central global challenges: climate change and resource scarcity
- Growing demand and competition for raw materials
- Circular economy improves efficient use of materials and brings a competitive advantage

TARGET

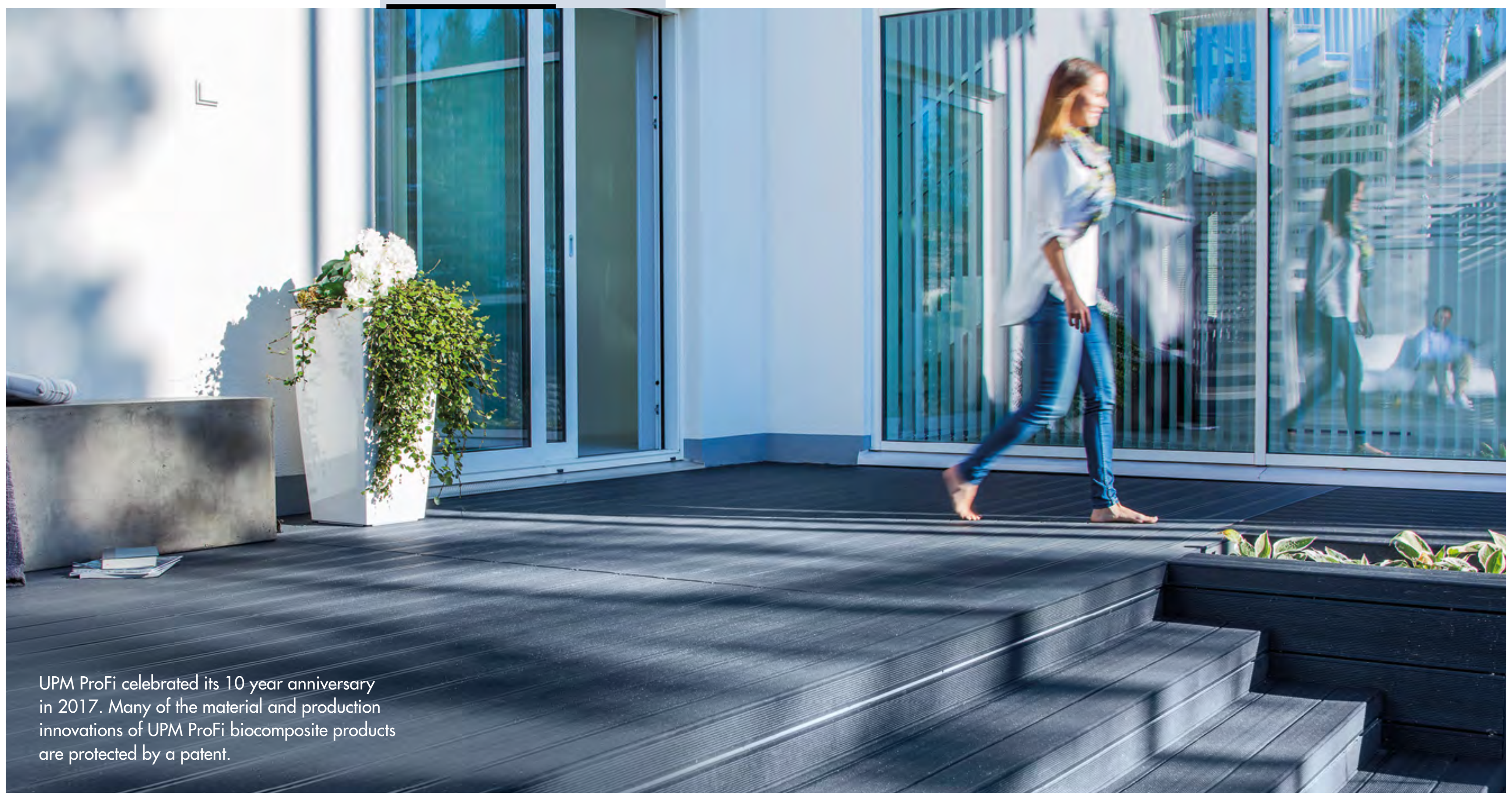
- Promote material efficiency and circular economy – reduce, reuse and recycle

OUR WAY

- Reuse materials and products several times and create value through smart solutions
- Recycle and reuse production waste and utilise by-products
- Sustainable and innovative new businesses and solutions for future needs
- Focus on 2030 target: no process waste to landfills

2030 TARGETS

89% of UPM's total process waste recycled or recovered



UPM ProFi celebrated its 10 year anniversary in 2017. Many of the material and production innovations of UPM ProFi biocomposite products are protected by a patent.

Recycling is part of a circular economy

UPM has developed innovative ways to reduce its own waste and residues and to recycle waste in new products. Good examples of the company's efforts in promoting circular economy include the following:

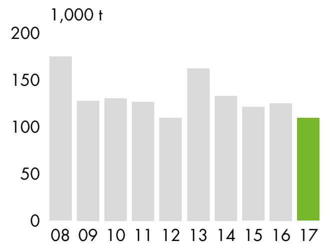
- UPM is the world's largest user of recovered paper for the production of its graphic papers, consuming 2.6 (2.8) million tonnes of recovered paper in 2017, while recycled fibre represents approximately 30% of all fibre raw materials used in UPM's paper production
- UPM's renewable diesel and naphtha, UPM BioVerno, are produced from crude tall oil, a residue of pulp production
- Celebrating its tenth anniversary, UPM ProFi biocomposite utilises the cellulose fibres and plastic polymers that are manufacturing surplus from self-adhesive label materials production
- A new sustainable lignin-based WISA BioBond gluing technology in plywood manufacturing using a lignin by-product from pulp production
- The RafCycle® recycling solution enables UPM Raflatac's customers to reduce their waste flows
- Increasing use of recycled nutrients at UPM's effluent treatment plants

UPM's target of no process waste has already been achieved at most of the paper mills in Central Europe. In Finland, UPM implemented a Zero Solid Waste project which aims to find the best practice for recycling ash, sludge, dregs, wood-based waste and landfill waste. In 2017, UPM Timber sawmills and UPM Plywood mills in Finland as well as UPM Jämsä River and Rauma paper mills reached the zero solid waste status.

In 2017, the UPM Raflatac's RafCycle recycling solution was expanded to China. The paper liner waste generated by the RafCycle partners in China is delivered to a partner where the paper liner waste can be recycled back into pulp and paper. UPM Raflatac has now 100 RafCycle partners globally.

Nearly all organic production residues, including bark and wood residues as well as fibre-containing solids from deinking and effluent treatment, are used in energy generation at mill sites. Ash originating from bioenergy production forms the most significant proportion of UPM's solid waste. Ash is used on a large scale in applications ranging from landscaping to road building.

UPM's total waste to landfills



The total amount of solid waste sent to landfill has decreased by 37% over the last ten years. However, from 2012 to 2013 the total amount of waste sent to landfill increased significantly. This is due to the fact that former reuse possibilities for ash ceased at one of UPM's paper mills. Starting from 2014, new methods of recycling were established.

CLOSING THE LOOP

UPM Specialty Papers is taking a step towards a circular economy by developing a high-quality release base paper made partly of recycled fibres.

Silicone is removed from the collected release base papers in the deinking process and the pulp is reused for papermaking.

Currently only approximately 10% of release base papers are collected and recycled, so there is plenty of raw material available. UPM is reusing materials collected from its end users, and has launched a new release base paper product family.

Recycling release base papers provide high-strength fibres that can replace virgin fibres. The product has also received Food Safety approval so it can be used for food packaging.

By recycling waste to make new valuable products, UPM aims to improve resource efficiency further and respond to the increasing demands to develop products made of recycled raw materials.

Read more:
www.upm.com/circulareconomy

NO GREEN LIQUOR DREGS TO LANDFILLS

Green liquor dregs are one of the most challenging side streams of UPM's pulp production. For several decades, efforts have been made to find a cost-efficient and sustainable alternative to landfill disposal. To reach the company's global target of zero solid waste to landfill by 2030, UPM took an even more active approach in 2017 to the challenge posed by green liquor dregs.

UPM's Research and Development centre in Lappeenranta has been working together with the company's Finnish mills, which generate green liquor dregs, to find new processing methods and end uses for productised materials based on green liquor dregs. A new product innovation is currently being tested together with partners, and initial results have been promising. A possible breakthrough would significantly reduce the amount of waste from pulp mills in Finland in the near future.

Read more:
www.upm.com/responsibility
www.upm.com/circulareconomy

Diving deeper into the societal impacts

Our activities and products have impacts on society. Understanding these impacts is a prerequisite to develop our operations. The evaluation covers our value creation from economic, social and environmental perspective.

RAW MATERIALS

Wood
27.4m m³

Purchased paper for converting
0.5m t

Plastics, adhesives, resins, films
0.2m t

Market pulp
1.8m t

Co-mingled domestic waste 0.2m t

Recovered paper
2.6m t

Minerals
2.3m t

Costs, raw materials
EUR 4.3 billion

WATER UPTAKE

Surface water
450m m³

Ground water
17m m³

Communal water
4m m³

ENERGY

Renewable fuels
28,000 GWh

Fossil fuels
12,000 GWh

Purchased electricity and heat
13,000 GWh

UPM

54 production sites in 12 countries

900,000 ha forests and plantations

19,100 employees

Approx. 90,000 shareholders

Capital employed
EUR 9,777m

Net debt
EUR 174m

Market cap
EUR 13,818m

PRODUCTS

Chemical pulp
3.6m t

Paper
9.2m t

Converting materials
0.6m t

Plywood and veneer
0.8m m³

Sawn timber
1.7m m³

Electricity and heat
10,000 GWh

By-products
1.0m t

Sales, unconsolidated
EUR 11,059m

Comparable EBIT EUR
1,292m

Comparable ROE 11.9%

Dividend distribution
EUR 507m

Employee wages and benefits
EUR 1,265m

Corporate income taxes paid and property taxes
EUR 251m

Payments to providers of loans
EUR 83m

Approx. 360 patent applications

EMISSIONS TO AIR

Nitrogen oxides
9,000 t

Sulphur dioxide
1,000 t

Particulates
670 t

VOC
300 t

Fossil CO_2 emissions (scope 1)
3.2m t

EMISSIONS TO WATER

Process wastewater
210m m³

Biological oxygen demand (7days),
7,700 t

Chemical oxygen demand
66,900 t

Adsorbable organic halogens
320 t

SOLID PROCESS WASTE

To landfills,
104,000 dry t

To temporary storage
12,000 dry t

To incineration without energy recovery
1,500 dry t

Hazardous waste for special treatment
6,000 t

PEOPLE

Employee engagement
71%

Training hours per employee
13

Total recordable injury frequency incl. contractors 8.5

Lost-time accident frequency incl. contractors 4.3

Indirect inputs and outputs provide a more comprehensive picture of the value chain. Together with the direct inputs and outputs they form the basis for impact evaluation.

INDIRECT UPSTREAM

Number of b-to-b suppliers
25,000

Forest owners in Finland supplying wood to UPM
25,000

Supplier and Third Party Code qualified supplier spend 82%

Certified wood 85%

Percentage of wood origin known 100%

Seedlings planted
70 million

UPM forests available for free recreation use
645,000 ha

Ecosystem services
EUR 390m

Fossil CO_2 emissions (scope 2 & 3 upstream)
6.8m t

Water intensive production sites located in water abundant areas 100%

Restricted chemical substances in UPM screening 5,600

New hires 2,500

INDIRECT DOWNSTREAM

Number of customers
12,000

People using UPM products over 250 million

Value of products eligible for ecolabelling EUR 8.5 billion

Virgin materials replaced
3.6m t

Carbon stored in UPM products
20m t

Fossil CO_2 emissions (scope 3 downstream) 3.6m t

Biofore Share and Care donations and sponsorships EUR 1.9m distributed to about 390 groups

*Impact evaluation is a continuous process for UPM. In 2017, UPM initiated a pilot study to assess the monetary value of certain impacts. This study provided us with examples *) shown on the right.*

OUTCOME & IMPACTS

Purchase power of workforce and shareholders
EUR 1,772m

Multiplicative effects of value added
EUR 2.8 billion

Increasing quality of life through product use and Biofore Share and Care programme

Enhanced business practices in the value chain

Vitality and prosperity for sphere of influence

Health impact on employees and contractors

Employee skills enhanced

Climate change mitigation through UPM's climate actions

Impact valuation of net carbon binding of UPM forests EUR 13m*

Impact valuation of GHG emissions EUR –73m*

Biodiversity enhanced

Impact valuation of recreational use of UPM forests EUR 85m*

Impact valuation of ash used as raw material EUR 20m*

Impact valuation of landfilled waste EUR –16m*

Read more: www.upm.com

Our governance

Our decision making, management and operations are guided by our values and the UPM Code of Conduct. Our leading principle is that we do not compromise our standards of integrity under any circumstances.

Our principles under UPM Code of Conduct

We are committed to integrity
We respect people and human rights
We take care of our environmental impact and product safety
We have zero tolerance for corruption and bribery
We know with whom we trade
We comply with competition law
We protect our assets and information
We source responsibly
We engage with our stakeholders and society
We voice our concerns

We also aim higher in our governance. We are committed to good governance and compliance with the guiding principles contained in the UPM Code of Conduct and compliance with applicable laws and regulations. We trust that our governance structure supports good governance, responsible business operations and compliance at all levels with clear responsibilities and reporting lines. Our governance structure is presented on the corporate website and in the Corporate Governance Statement 2017 which is also available on the corporate website www.upm.com/governance.

Governance of compliance

Our compliance system is embedded in our governance model and is designed to support company performance and a culture of integrity at all levels. The main emphasis of the system is on preventive actions, which are based on the annual risk management cycle and risk assessments conducted in all businesses and operations. UPM's compliance system and actions within this system are presented in the illustration on the right. The risk management process is described in the Corporate Governance Statement 2017.

Responsibility for compliance extends from the Board of Directors to every UPM employee, as described in the table below.

We strive to ensure compliance with our values and commitments by training employees, by raising awareness through active communication and by developing our risk management, monitoring and reporting processes.

Compliance trainings are arranged for specific target groups, which are defined based on risk assessments.

98%

of active employees had completed the UPM Code of Conduct training "Every choice matters" at the end of 2017

18

The number of languages UPM Code of Conduct is available on the UPM intranet and on the corporate website www.upm.com/governance.

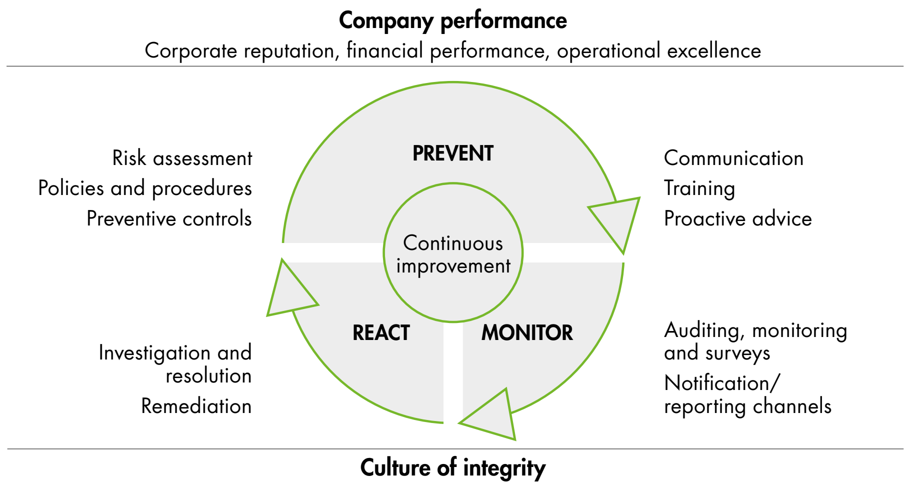
UPM Report Misconduct channel is available on the corporate website for all stakeholders and on the UPM intranet for the group employees. Number of submissions through the channel or directly to internal audit in 2017: 34. Number of other inquiries or concerns: 220

REPORTED CASES RELATED TO	2017
Fraud	4
IPR/Confidential data	2
Conflict of interest	4
General human resources	9
Miscellaneous	15

None of the cases was related to corruption or discrimination. Four cases led to disciplinary action including warnings and terminations of employment.

COMPLIANCE TRAININGS TO SPECIFIC TARGET GROUPS IN 2017	SIZE OF TARGET GROUP
Code of Conduct	18,600
Anti-corruption	7,200
Competition law	3,300
Confidentiality	7,200
Market abuse regulation (insider matters)	330

UPM COMPLIANCE SYSTEM



RESPONSIBILITIES IN THE UPM COMPLIANCE SYSTEM	
Board of Directors	Approves company values and corporate policies and monitors compliance therewith
Audit Committee	Assists the Board in monitoring compliance by reviewing quarterly assurance and compliance reports
President and CEO	Top-level commitment, manages and oversees the company's daily business operations
Group Executive Team	Top-level commitment, assists the President and CEO with the approval and execution of group-level rules and procedures
Business Area Boards	Top-level commitment, implementation of group-level rules and procedures in businesses, review of risk management and assurance
Strategy Team	Integrates integrity and responsibility in company strategies
Ethics Advisory Committee	Oversees investigation of alleged misconduct and provides advice on remediation actions
Disclosure Committee	Assesses compliance with applicable disclosure requirements
Assurance Committee	Co-ordinates quarterly group-level assurance reports and oversees compliance with applicable financial reporting requirements
Head of Internal Audit	Maintains the company's Report Misconduct channel, conducts investigations and reports quarterly to the Audit Committee
Chief Compliance Officer	Owns the UPM Code of Conduct, oversees the compliance system and manages legal compliance programmes, and reports quarterly to the Audit Committee
UPM employees	Make the right choices in everyday work
Auditor	Provides quarterly assurance reports to the Audit Committee, semi-annual assurance reports to the Board of Directors and an annual Auditor's Report to the shareholders

General meeting of shareholders

The Annual General Meeting of UPM-Kymmene Corporation took place in Helsinki, Finland on 29 March 2017. A total of 3,249 shareholders were present or represented at the meeting, representing 49.9% of registered shares and votes. The AGM approved all Board proposals and all decisions were taken without voting. Information on these decisions is available on the corporate website www.upm.com/governance.

Board of Directors

The primary role of the Board is to be responsible for the governance of the company, with the focus on overseeing the long-term value creation of UPM. In pursuing this goal, the directors have a duty to act on an informed basis with due care and in the best interests of the company, consistent with their other statutory duties.

To fulfil its role effectively, the Board sets the company's strategic objectives, reviews and approves financial and other plans relevant to the achievement of these objectives, and reviews the performance of management in meeting these objectives. The Board's other main responsibilities relate to the integrity of the company's financial reporting, effectiveness of internal control and risk management systems, and the appointment, remuneration and succession planning of the senior management of the company.

Board composition and diversity

Following the Nomination and Governance Committee's evaluation of the Board performance and review of the Board composition, competences, diversity and qualifications in relation to UPM strategy, operations and governance needs, the committee found that the Board's competence base was broad and relevant to UPM's needs and that its structure was well-balanced also in terms of other factors that contribute to appropriate diversity. Since no obvious development needs were identified, no changes in the Board composition were proposed to the Annual General Meeting (AGM) in 2017.

As proposed, the AGM elected all incumbent directors to the Board for a term that will end upon closure of the AGM 2018. Composition of the Board is presented in the table below.

The Board diversity aspects are defined in its Diversity Policy and include relevant professional experience and education, gender, age, nationality and length of tenure. Information on the directors' professional backgrounds and other significant commitments is available on pages 86–87 of this report. Information on the other aspects of Board diversity is available in the enclosed charts and in the table below. More information on Board diversity, related objectives and results is included in the Corporate Governance Statement 2017.

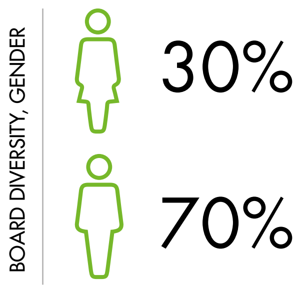
Director independence

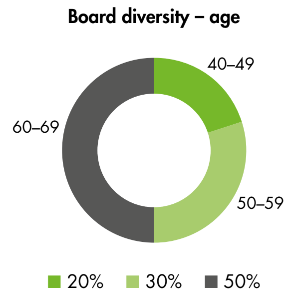
Evaluation of director candidate independence is an important factor when the Nomination and Governance Committee prepares its annual proposal for the composition of the Board. The committee assesses directors' independence continuously and in every meeting reviews a report on any changes in the directors' professional engagements and other commitments. It also assesses the potential effects of such changes on the directors' independence and availability for Board work, and reports to the Board on the outcome of such assessments. According to the committee's assessment, the few changes that took place in 2017 had no effect on the directors' independence or availability for Board work.

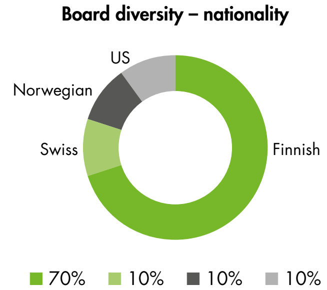
Directors' independence is assessed overall and in relation to UPM, its group companies and the company's significant shareholders. A shareholder with a shareholding of at least 10% of the company's shares or the votes attached thereto, or with the right or obligation to acquire the corresponding number of already-issued shares, is deemed significant. In order to be considered independent of the company, a director must not have a material relationship with the company other than his/her service as a director. In line with the overall assessment of a director's independence, any material relationships with a director's family members or closely related persons or entities are also taken into account, in addition to other factors that may compromise the director's independence or ability to represent all shareholders.

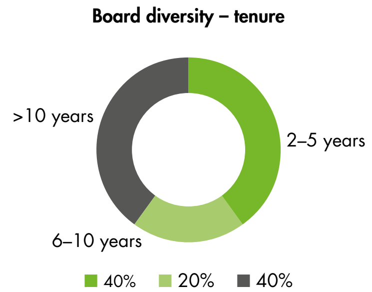
According to the evaluation carried out by the Board with the assistance of the Nomination and Governance Committee, all Board members are independent of the company's significant shareholders, as the company has no controlling shareholder and none of the company's shareholders has announced a holding of at least 10% of the company's shares or votes attached thereto.

The Board has also assessed that all non-executive directors are independent of the company, including Berndt Brunow, Wendy E. Lane and Veli-Matti Reinikkala, who have been the company's non-executive directors for more than ten consecutive years. Based on the Board's overall evaluation of these directors' independence, their independence is not compromised due to their long service history, and no other factors or circumstances have been identified that could impair their independence. As the President and CEO of the company, Jussi Pesonen is not independent of the company.









Board composition in 2017

DIRECTOR	DIRECTOR SINCE	NO. OF TERMS	AGE	EDUCATION	NON-EXECUTIVE/ EXECUTIVE DIRECTOR
Björn Wahlroos (Chairman)	2008	10	65	Ph.D. (Econ.)	NED
Berndt Brunow (Deputy Chairman)	2002	16	68	B.Sc. (Econ.)	NED
Henrik Ehrnrooth	2015	3	49	M.Sc. (Econ.)	NED
Piia-Noora Kauppi	2013	5	43	LL.M.	NED
Wendy E. Lane	2005	13	66	MBA (Harvard)	NED
Jussi Pesonen	2007	11	57	M.Sc. (Eng.)	Executive
Ari Puheloinen	2014	4	66	General Staff Officer	NED
Veli-Matti Reinikkala	2007	11	60	eMBA	NED
Suzanne Thoma	2015	3	56	Ph.D. (Chem. Eng.), BA (Business Admin.)	NED
Kim Wahl	2012	6	57	MBA (Harvard), BA (Business Econ.)	NED

Board work in 2017

The Board held nine meetings in 2017. There is no minimum attendance requirement for directors' attendance at the meetings but directors are expected to attend all meetings unless there is a valid reason for non-attendance. Directors' commitment and availability for Board and committee work is evidenced by the high attendance rates. The directors' average attendance at the Board meetings was 96.7% (98%) and at the committee meetings 100% (100%). Directors' personal attendance rates are presented in the table below.

Strategic focus areas in 2017

In line with its main duties and responsibilities, the Board focused on strategic considerations and closely monitored the implementation of the group and business area strategies. The Board reviewed and approved updated strategic plans in its strategy session in May. The main elements of UPM Biofore strategy are performance, growth, innovation, responsibility and portfolio development as presented on pages 10–11 of this report.

An essential part of the Board's annual strategy work is the review and consideration of strategic and operational risks and opportunities. These risks and opportunities and their impact on operations and strategy are described on pages 22–23 of this report.

In 2017, the Board's strategic considerations focused on the operating platform development in Uruguay. This development plan was initiated in 2015 and continued with discussions on logistical infrastructure and operating environment with the government of Uruguay in July 2016. The purpose of these discussions was to outline the local prerequisites for a possible pulp mill investment in central Uruguay. The Board was updated on the progress of these discussions continuously and considered risks and opportunities related to the platform development in light of global megatrends and their effect on the pulp market environment in the 2020s and beyond.

Mutual understanding on the establishment of a competitive operating platform was reached in November 2017 when UPM and the government of Uruguay signed an investment agreement detailing the roles, commitments and time-line for both parties, as well as relevant items to be agreed on prior to the investment decision. This decision remains at the sole discretion of the Board and is subject to significant progress in the implementation of the agreed infrastructure initiatives. More information on these initiatives and on the planned strategic investment amounting to approximately EUR 2 billion is available on the following page and on page 28 of this report.

Strategic focus areas in 2018

In 2018, the Board will continue to follow the progress of the infrastructure initiatives in Uruguay closely. The second preparation phase of the operating platform development is expected to take some 1.5 to 2 years which means that the investment decision, if any, can be expected in 2019 at the earliest.

The Board will also follow closely another interesting strategic business opportunity relating to the company's biochemicals business and potential construction of an industrial scale biorefinery in Germany. The company is proceeding with a detailed commercial and basic engineering study to verify the attractiveness of the business case that was announced in October 2017. If all preparation phases of this business platform opportunity are concluded successfully, the company will initiate its standard analysis procedure and prepare an investment proposal for Board approval in late 2018 at the earliest. (Read more on page 41).

The third nuclear power plant unit in Olkiluoto has been a matter of concern for the Board throughout the seriously delayed construction because the company is involved in this project through its energy shareholdings (more information on these holdings and on this project is available on pages 133–134 of this report). As the construction project is approaching completion and production start-up is expected in 2019, Olkiluoto 3 will be one of the Board's focus areas in 2018.

Attendance in meetings 2017

DIRECTOR	ATTENDANCE/ NO. OF BOARD MEETINGS	ATTENDANCE -%	ATTENDANCE/ NO. OF COMMITTEE MEETINGS	ATTENDANCE -%	AVERAGE ATTENDANCE -%
Björn Wahlroos (Board and NGC Chairman)	9/9	100	4/4	100	100
Berndt Brunow (Deputy Chairman, NGC member)	9/9	100	4/4	100	100
Henrik Ehrnrooth (RC member)	8/9	89	5/5	100	92.9
Piia-Noora Kauppi (AC Chairman)	9/9	100	5/5	100	100
Wendy E. Lane (AC member)	9/9	100	5/5	100	100
Jussi Pesonen	9/9	100	–	–	100
Ari Puheloinen (NGC member)	9/9	100	4/4	100	100
Veli-Matti Reinikkala (RC Chairman)	9/9	100	5/5	100	100
Suzanne Thoma (RC member)	8/9	89	5/5	100	92.9
Kim Wahl (AC member)	8/9	89	5/5	100	92.9

NGC – Nomination and Governance Committee, RC – Remuneration Committee, AC – Audit Committee

INFRASTRUCTURE DEVELOPMENT KEY ENABLER FOR URUGUAYAN OPERATING PLATFORM

UPM has agreed with the Uruguayan government on the local prerequisites for industrial investment as well as initiatives for infrastructure development for a possible world-class pulp mill investment. A long-term industrial operation requires stable and predictable operational environment. This will be supported by several measures in the areas of regional development, environment, forestry and land planning as well as labour and energy conditions.

The government will develop the rail and road network by tendering the construction and long-term maintenance of the network. The total investment by the Uruguayan government is reportedly around USD 1 billion. This investment is necessary to establish efficient logistic infrastructure for inland Uruguay. The Government will also promote concession for a terminal in the Montevideo port with rail access.

Once the permitting requirements are fulfilled, the government will grant the mill free trade zone status, which is necessary to ensure competitiveness on international markets. For UPM, the pre-engineering of the mill is in progress. The preliminary estimate for a pulp mill investment on site is approximately EUR 2 billion. In addition, a successful project requires off-site investments in plantation land and forestry, road network and nursery capacity, harvesting and transport equipment, rolling stock for rail, export facilities and training. If all preparation phases are concluded successfully, UPM will initiate the company's regular process of analysing and preparing an investment proposal for Board approval.

Read more: www.upm.uy/growth

Board evaluation

As stipulated in its charter, the Board conducts an annual evaluation of its performance and working methods including an evaluation of the performance and working methods of its committees. In addition, the committees evaluate their performance and working methods annually. The Nomination and Governance Committee assists the Board in the annual evaluation and in the review of the survey results and takes the results into consideration when preparing the Board's proposal for the composition of the Board to the Annual General Meeting.

In 2017, the evaluation was conducted as a self-assessment and its results were reviewed and discussed at the Board meeting in December. The survey included some amended questions related to the Board and committee duties and responsibilities and some new questions related to increased importance of committee work as a result of changes in the regulatory framework and subsequent charter amendments. Directors evaluated the Board's and the committees' performance of their duties and responsibilities, Board and committee composition and structure, Board culture, effectiveness of Board and committee meetings, individual director contribution, and performance of the Chairman of the Board.

The overall results of the 2017 self-evaluation survey were very favourable and indicated that the Board, Chairman of the Board and the Board committees are functioning very effectively and focus on right issues. The Board composition and structure also received very high scores. In 2017, the Board allocated more time to the company's talent review processes and succession planning, and the survey results indicated clear improvement in this respect. In 2018, the Board will allocate more time to the oversight of the assessment and management of strategic and operational risks.

Board committees

The committees assist the Board of Directors by preparing matters to be decided by the Board. In addition, the committees assist the Board in its oversight and monitoring responsibilities. The Board is responsible for the performance of any duties assigned to the committees. According to Board evaluation results 2017, the distribution of tasks between the full Board and its committees is deemed appropriate and the committees contribute effectively to the Board's work.

The Nomination and Governance Committee assisted the Board in the review of the composition, qualification criteria and duties of the Board committees, and made a proposal to the Board for the appointment of committee members and chairmen. The directors appointed to the Board committees in the Board's constitutive meeting on 29 March 2017 are shown in the table below. Neither the President and CEO nor other company executives may be members of any Board committees.

The written committee charters approved by the Board of Directors set forth the purposes, composition, operations and duties of each committee, as well as qualifications for committee membership. The charters are available on the corporate website. Each committee is responsible for carrying out the duties assigned to it in its charter.

The committees hold their meetings prior to Board meetings in order to prepare matters to be decided on by the Board. In the Board meeting following the committee meetings, the Committee Chairmen report to the Board on matters discussed and actions taken by the committees. In addition, minutes are kept for the committee meetings and submitted to the Board members for their information.

Committee members 2017

AUDIT COMMITTEE	REMUNERATION COMMITTEE	NOMINATION AND GOVERNANCE COMMITTEE
Piia-Noora Kauppi (Chairman)	Veli-Matti Reinikkala (Chairman)	Björn Wahlroos (Chairman)
Wendy E. Lane	Henrik Ehrnrooth	Berndt Brunow
Kim Wahl	Suzanne Thoma	Ari Puheloinen

Audit Committee

Duties and responsibilities of the Audit Committee are related to the oversight of the company's financial reporting processes and financial reporting, internal control, internal audit and risk management, and to monitoring the audit and compliance procedures of the company.

To perform its duties, the Audit Committee monitored the company's financial performance and reviewed the key financial figures and quarterly financial reports. The committee's results reviews also included reviews of potential significant and unusual transactions, and accounting estimates and policies for the period in question. On a quarterly basis, the committee also reviewed reports on assurance and legal matters, including status reports on compliance, internal control, internal audit, litigations, and other legal proceedings. Other quarterly reports presented for the committee's review included treasury reports and energy risk management report. With regard to monitoring the effectiveness of the company's risk management systems, the committee reviewed the company's risk management process and was informed of the major risks identified in this process including macroeconomic, political, environmental, compliance and business-specific risks.

In 2017, the committee also reviewed the following annual, quarterly, regular and other topics presented in the enclosed table.

The lead audit partner attended all committee meetings and provided the committee with reports on the interim procedures and findings as well as accounts of the audit and non-audit fees incurred during the quarter in question. The committee had quarterly non-executive sessions with the internal and statutory auditors and held sessions with executive management, and among the committee members at every meeting.

Audit Committee work in 2017

ANNUAL TOPICS	
Dividend distribution	Corporate Governance Statement
Internal audit plan and its realisation	IT compliance and cybersecurity
Auditor independence	Auditor performance and qualifications
Election of auditor	Remuneration of auditor
Audit engagement letter	Audit plan
Framework for non-audit services	Committee calendar

QUARTERLY AND REGULAR TOPICS	ADDITIONAL INFORMATION
General Data Protection Regulation	New EU-wide regulation applicable as of 25 May 2018. Progress of the implementation plan with required communications and trainings to ensure GDPR compliance at UPM reported to the committee
Finance organisation	Update on development plans
Internal audit external quality assessment	Conducted by the Institute of Internal Auditors
Auditor rotation	Auditor rotation mandatory in 2024
Audit, audit-related and non-audit services and fees	Invoices to be approved by the committee

OTHER TOPICS	ADDITIONAL INFORMATION
Long-term financial targets	The Board approved new long-term financial targets for the company in January 2017
Group Treasury Policy and Treasury Policy for Subsidiaries and Businesses	The Board approved the updated policies in April 2017
IFRS 15 Revenue from contracts with customers	New standard applicable as of 1 January 2018
IFRS 16 Leases	New standard applicable as of 1 January 2019
IFRS 9 Financial instruments	New standard applicable as of 1 January 2018
Market Abuse Regulation	New interpretation applicable as of 1 November 2017
Risk information and decision making	Review of improvement opportunities
Reporting of non-financial information	New regulatory disclosure requirements applicable as of 1 January 2018
Management of non-financial matters in UPM - Anti-corruption and anti-bribery - Labour practices, safety and human rights - Environmental and product safety - Responsible sourcing	New regulatory disclosure requirements applicable as of 1 January 2018
Group compliance dashboard	Comprehensive compliance dashboard to be included in the quarterly compliance report

Remuneration Committee

Duties and responsibilities of the Remuneration Committee are related to the remuneration of the President and CEO and senior executives who report directly to the President and CEO, and to the review of the company's talent and succession planning procedures for senior management.

The annual and other topics reviewed and considered by the committee to perform its duties are presented in the enclosed table. In 2017, the committee paid special attention to the company's talent review and succession planning procedures and reported to the Board on these matters.

Remuneration Committee work in 2017

ANNUAL TOPICS	
Design of short-term incentive (STI) plan and achievement award	Design of long-term incentive (LTI) plans
STI earning criteria and target setting	Earning criteria of LTI plans
STI plan and achievement award	LTI target setting and allocations
STI actuals	Commencing LTI plans (Performance Share Plan and Deferred Bonus Plan)
STI pay-outs	LTI actuals
Executive compensation in peer companies	LTI pay-outs
Compensation and benefits of the President and CEO	Ongoing LTI plans
Compensation and benefits of the GET members and other CEO reports	Management share ownership
Talent review process	Employee Engagement Survey results
GET performance review and succession plan	Committee charter
Business area management team talent review and succession plan	Committee calendar

OTHER TOPICS	ADDITIONAL INFORMATION
EU Shareholders' Rights Directive	Upcoming changes in regulatory environment

Nomination and Governance Committee

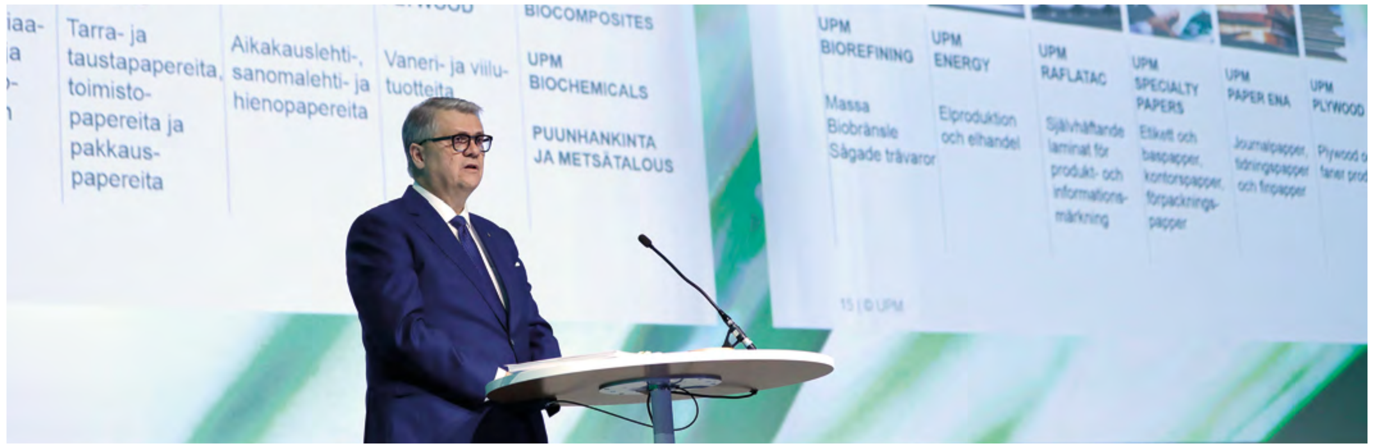
Duties and responsibilities of the Nomination and Governance Committee are related to the composition, diversity and remuneration of the Board of Directors and to corporate governance. When needed, the committee also identifies individuals qualified to serve as the President and CEO.

The annual and other topics reviewed and considered by the committee to perform its duties are presented in the enclosed table. In 2017, the committee was occupied with a search of new director candidates and preparation of amendments to the company's Articles of Association.

Nomination and Governance Committee work in 2017

ANNUAL TOPICS	
Director evaluation and nomination process	Board performance
Size and composition of the Board	Board diversity
Relevant director qualifications, skills and experience	Overall evaluation of director candidates' independence
Committee independence and expertise requirements	Composition of the Board committees
Evaluation of director nominees' independence	Biographical details of director nominees
Board and committee annual fees	Non-executive director remuneration in peer companies
Payment mechanism of Board remuneration	Board remuneration (proposal to the AGM)
Number of directors (proposal to the AGM)	Composition of the Board (proposal to the AGM)
Board evaluation survey	Board self-evaluation results

OTHER TOPICS	ADDITIONAL INFORMATION
Director independence and use of time	Assessed at every meeting
Changes in directors' commitments	Reviewed at every meeting
Amendments to UPM Articles of Association	Preparation of the Board proposal to the AGM 2018
Overboarding and slate elections	Update of governance trends



Board remuneration

The AGM 2017 decided to raise the annual Board fees, which had remained the same since 2007. It also adopted annual committee fees, which had not been paid earlier. The Nomination and Governance Committee proposed the adjustment of the fees due to the increased workload of the Board and its committees – as a result of expansive regulatory requirements and UPM's ongoing transformation – combined with the need to enhance the Board's ability to attract competent and diverse talent. The adjusted fees and each director's annual remuneration and the number of purchased shares are presented in the tables below. No annual fees are paid to the President and CEO for his role as a member of the Board.

Board members did not receive any financial benefits for their Board or committee membership other than their annual base and committee fees. Shares purchased for Board members in 2017 may not be transferred within two years from the purchase date (26 April 2017) or until the director's Board membership ends, whichever occurs first.

The payment of board remuneration in shares and cash has long been a practice at UPM. Board members are encouraged to own company shares on a long-term basis and most of them have substantial holdings, indicating a close alignment of directors' interests with those of shareholders.

Board remuneration and payment mechanism

ANNUAL BASE FEE (EUR)	2017	2016	PAYMENT MECHANISM
Chairman	190,000	175,000	40% in company shares, 60% in cash to cover taxes
Deputy Chairman	135,000	120,000	
Audit Committee Chairman	–	120,000	Two-year lock-up period
Members	110,000	95,000	

ANNUAL COMMITTEE FEES 2017 (EUR)	CHAIRMAN	MEMBERS	PAYMENT MECHANISM
Audit Committee	35,000	15,000	Cash
Remuneration Committee	20,000	10,000	
Nomination and Governance Committee	20,000	10,000	

Board remuneration in 2017

DIRECTOR	ANNUAL BASE FEE (EUR)	40% FOR SHARES (EUR)	60% IN CASH (EUR)	ANNUAL COMMITTEE FEE	NO. OF PURCHASED SHARES	UPM SHARES 31 DEC. 2017
Björn Wahlroos	190,000	76,000	114,000	20,000	3,067	259,744
Berndt Brunow	135,000	54,000	81,000	10,000	2,179	308,661
Henrik Ehrnrooth	110,000	44,000	66,000	10,000	1,776	6,351
Piia-Noora Kauppi	110,000	44,000	66,000	35,000	1,776	16,236
Wendy E. Lane	110,000	44,000	66,000	15,000	1,776	37,000
Jussi Pesonen	–	–	–	–	–	353,491
Ari Puheloinen	110,000	44,000	66,000	10,000	1,776	8,376
Veli-Matti Reinikkala	110,000	44,000	66,000	20,000	1,776	41,172
Suzanne Thoma	110,000	44,000	66,000	10,000	1,776	6,351
Kim Wahl	110,000	44,000	66,000	15,000	1,776	18,150
Total	**1,095,000**	**438,000**	**657,000**	**145,000**	**17,678**	**1,055,532**

Executive management

Jussi Pesonen has been the President and Chief Executive Officer of UPM-Kymmene Corporation since January 2004. He has also been a member of the company's Board of Directors since March 2007. In the operating management of the company, the President and CEO is assisted by the Group Executive Team, the Business Area Boards and the Strategy Team.

The Group Executive Team consists of the executives heading the business areas and the global functions and assists the President and CEO in approving and executing group-level guidelines and procedures. The President and CEO chairs the Group Executive Team.

Members of the Group Executive Team and their positions and shareholdings in the company are shown in the table below. Information on the executives' biographical details, professional and educational backgrounds and significant commitments is available on pages 88–89 of this report.

Members of the Group Executive Team

EXECUTIVE	TEAM MEMBER SINCE	POSITION AT UPM	UPM SHARES 31 DEC. 2017	UPM SHARES 31 DEC. 2016
Jussi Pesonen	2001	President and CEO	353,491	304,064
Tapio Korpeinen	2008	CFO, Executive Vice President, UPM Energy	107,103	85,355
Bernd Eikens	2013	Executive Vice President, UPM Specialty Papers	47,050	26,686
Pirkko Harrela	2004	Executive Vice President, Stakeholder Relations	69,949	58,087
Antti Jääskeläinen	2016	Executive Vice President, UPM Raflatac	6,920	–
Juha Mäkelä	2008	General Counsel	51,579	39,717
Jyrki Ovaska	2002	Executive Vice President, Technology	76,739	64,877
Riitta Savonlahti	2004	Executive Vice President, Human Resources	13,420	15,420
Winfried Schaur	2016	Executive Vice President, UPM Paper ENA	13,695	322
Mika Sillanpää	2013	Executive Vice President, UPM Plywood	26,685	12,845
Kari Ståhlberg	2013	Executive Vice President, Strategy	19,656	16,794
Heikki Vappula	2010	Executive Vice President, UPM Biorefining	37,861	40,067
Total			**824,148**	**664,234**

Management responsibilities

Members of the Group Executive Team carry the main responsibility for the business areas and global functions that they lead. These responsibility areas are shown in the illustration below.

In addition to the President and CEO who chairs the boards, the Business Area Boards comprise the CFO, the EVPs of the global functions and the EVP of the business area in question. The Business Area Boards assist the President and CEO with business-area-level decision making in matters pertaining to each business area's strategy, budget, business performance, operating investments, commercial strategies, business development plans, business and strategic risks, strategic and organisational changes, and HR matters.

The Strategy Team is chaired by the President and CEO. Its other members are the CFO and the heads of the strategy, technology and legal functions. The team assists the President and CEO in matters pertaining to the preparation of group strategies, strategic projects, capital expenditure, M&A and other strategic development initiatives for approval by the Board of Directors.

Each business area and global function has a management team. These teams assist the business area or function head in the preparation and execution of strategies, budgets, business development plans, and the operating model and organisation for the business area or function in question. The biggest business areas have further been divided into strategic business units, each with their own management teams.

Responsibility areas of the members of the Group Executive Team

PRESIDENT AND CEO JUSSI PESONEN

CFO 1)	Tapio Korpeinen	Heikki Vappula	**UPM Biorefining**
General Counsel	Juha Mäkelä	Tapio Korpeinen	**UPM Energy**
Strategy	Kari Ståhlberg	Antti Jääskeläinen	**UPM Raflatac**
Technology 2)	Jyrki Ovaska	Bernd Eikens	**UPM Specialty Papers**
Human Resources	Riitta Savonlahti	Winfried Schaur	**UPM Paper ENA**
Stakeholder Relations 3)	Pirkko Harrela	Mika Sillanpää	**UPM Plywood**

1) Incl. Finance & Control, Treasury, IR, IT, Sourcing and Real Estate (incl. Finnish forest assets)
2) Incl. Investment Management, R&D, new business development (biochemicals, biocomposites)
3) Incl. Brand & Communications, Environment & Responsibility, Public & Media Relations

Management remuneration

The aim of the company's management remuneration is to promote the company's long-term financial success, competitiveness and shareholder value. Remuneration comprises non-variable and variable components. These components are shown in the table on the right.

The variable components are linked to predetermined and measurable performance and results criteria, and maximum levels have been set for their payment. The payable amounts of incentives are linked to the executive's position and achievement of annually set business and individual targets. Salaries, benefits and incentives paid to the President and CEO and members of the Group Executive Team in 2017 are shown in the enclosed tables.

Read more on the company's Board and management remuneration principles, decision-making procedures, incentive schemes, termination payments and pension benefits in the Remuneration Statement and on pages 125–127 of this report.

Components of management remuneration

COMPONENT	PAYABLE IN	BASIS OF PAYMENT	TIME OF PAYMENT
Base salary	Cash	Executive contract	Monthly
Fringe benefits	E.g. company car and phone	Executive contract	Monthly
Short-term incentives	Cash	Short-Term Incentive Plan	Annually
Long-term incentives	Shares	Performance Share Plan	Annually following a three-year earning period

Remuneration of the President and CEO in 2017

SALARIES AND BENEFITS (EUR 1,000)	2017	2016
Salary	1,049	1,049
Short-term incentives	1,119	888
Share rewards	2,656	3,098
Benefits	31	30
Total	**4,854**	**5,065**
Income tax withholding *)	2,380	2,592

*) Income taxes withheld from salaries and benefits and remitted to tax authorities by UPM.

Remuneration of the Group Executive Team in 2017 (excluding the President and CEO)

SALARIES AND BENEFITS (EUR 1,000)	2017	2016
Salaries	3,934	3,564
Short-term incentives	2,088	1,779
Share rewards	8,174	6,269
Benefits	251	231
Total	**14,446**	**11,843**

Auditor and auditor remuneration

The Audit Committee prepared the Board's proposal to the AGM 2017 for the election and remuneration of the auditor. Together with corporate management, the committee evaluated the qualifications and independence of the auditor, and the auditor's provision of audit-related and non-audit services. The evaluation included an assessment of the effectiveness of the audit process, quality of audit, performance of the lead auditor and the audit team, and co-operation with the auditor's international audit network. As a result of this evaluation, the committee recommended to the Board the re-election of PricewaterhouseCoopers Oy as the company's auditor and the Board concurred with this proposal and made a corresponding proposal to the AGM.

The AGM re-elected Pricewaterhouse-Coopers Oy, a firm of Authorised Public Accountants, as the company's statutory auditor for a one-year term, with Authorised Public Accountant Merja Lindh as the lead audit partner. Ms Lindh has held this position since 8 April 2014 and the last year that she can act as a signing partner is 2020. The last year that PricewaterhouseCoopers Oy can act as the company's auditor is 2023.

The AGM further resolved that the audit fee would be paid against invoices approved by the Board of Directors' Audit Committee. The amounts paid to the auditor, as approved by the Audit Committee, are shown in the following table.

Auditor's remuneration

EUR MILLION	2017	2016
Audit fee	2.3	2.3
Audit-related services	0.1	0.1
Tax services	0.3	0.7
Other services	0.5	0.5
Total	**3.2**	**3.6**

Governance principles

Read more on UPM's decision-making and management principles on pages 18–19 and 104–106 of this report. More information on our governance is available on the corporate website and in the following statements, charters and policies, all available on **www.upm.com/governance:**

- Corporate Governance Statement 2017
- Remuneration Statement 28 February 2018
- Board and Committee Charters
- Diversity Policy of the Board of Directors
- Director independence criteria

UPM complies with all recommendations of the Finnish Corporate Governance Code issued by the Securities Market Association. This Code available on the Securities Market Association's website at **www.cgfinland.fi**.

Board of Directors

Björn Wahlroos

Chairman
Chairman and member since 2008
Chairman of the Nomination and Governance Committee
Independent of the company and significant shareholders

Born 1952, Finnish citizen
Ph.D. (Econ.)

President and CEO of Sampo plc 2001–2009. Chairman of the Board of Mandatum Bank plc 1998–2000, CEO and Vice Chairman of the Board of Mandatum & Co Ltd 1992–1997. Member of the Executive Committee and Executive Vice President of the Union Bank of Finland 1985–1992.

Chairman of the Board of Sampo plc, Nordea Bank AB (publ) and Hanken School of Economics.

Berndt Brunow

Deputy Chairman
Member since 2002, Deputy Chairman since 2005
Member of the Nomination and Governance Committee
Independent of the company and significant shareholders

Born 1950, Finnish citizen
B.Sc. (Econ.)

President and CEO of Oy Karl Fazer Ab 2002–2007. President and CEO of Sanitec Corporation 2000–2002. Prior to this, over 20 years of experience in executive positions at Finnpap and UPM-Kymmene Corporation.

Chairman of the Board of Oy Karl Fazer Ab. Chairman of the Board of Lemminkäinen Corporation until 31 January 2018. Deputy Chairman of the Board of YIT Corporation from 1 February until 16 March 2018. Board member of Hartwall Capital Oy Ab.

Henrik Ehrnrooth

Member since 2015
Member of the Remuneration Committee
Independent of the company and significant shareholders

Born 1969, Finnish citizen
M.Sc. (Econ.)

President and CEO of KONE Corporation since 2014 and KONE Corporation's Chief Financial Officer and Executive Board member 2009–2014. Earlier worked for Goldman Sachs International 1998–2009, most recently as a Managing Director in the Investment Banking Division. Prior to this, various positions at UBS Limited 1994–1998.

Member of the Foundation Board of the International Institute for Management Development (IMD, Switzerland) and member of the European Roundtable of Industrialists (ERT).

Piia-Noora Kauppi

Member since 2013
Chairman of the Audit Committee
Independent of the company and significant shareholders

Born 1975, Finnish citizen
LL.M.

Managing Director of Finance Finland (FFI) since 2009. Member of the European Parliament and member of various parliamentary committees 1999–2008, Head of the Finnish Delegation in the EPP-ED Group 2004–2008. Legal advisor for the Parliamentary Group of the National Coalition Party Kokoomus 1997–1999.

Board member of Sulava Oy and the Finnish Financial Ombudsman Bureau. Member of the Supervisory Board of Helsinki Deaconess Institute and Helsinki School of Economics Support Foundation. Member of the EBF Executive Committee.

Wendy E. Lane

Member since 2005
Member of the Audit Committee
Independent of the company and significant shareholders

Born 1951, US citizen
MBA (Harvard)

Chairman of the Board of Lane Holdings, Inc. since 1992. Managing Director and Principal at Donaldson, Lufkin & Jenrette Securities Corp. 1981–1992. Banking Associate at Goldman, Sachs & Co. 1977–1980.

Board member of Willis Towers Watson PLC, MSCI Inc. and Al-Dabbagh Group Holding Company Limited.

Jussi Pesonen

Member since 2007
Independent of significant shareholders, non-independent of the company

Born 1960, Finnish citizen
M.Sc. (Eng.)

President and CEO of UPM-Kymmene Corporation since 2004. COO of the Paper Divisions and Deputy to the President and CEO 2001–2004. Several management positions in UPM Paper Divisions 1987–2001.

Chairman of the Board of the Finland Chamber of Commerce and ICC Finland. Deputy Chairman of the Board of the Finnish Forest Industries Federation (FFIF). Board member of the Confederation of European Paper Industries (CEPI) and East Office of Finnish Industries Oy.

Ari Puheloinen

Member since 2014
Member of the Nomination and Governance Committee
Independent of the company and significant shareholders

Born 1951, Finnish citizen
General Staff Officer, General (ret.)

Commander of the Finnish Defence Forces 2009–2014. Chief of Finnish Defence Command 2007–2009 and Commander of the Eastern Command 2004–2007. Deputy Chief of Operations of the Finnish Defence Staff 2000–2003 and Brigade Commander 1999–2000. Principal Secretary of the Defence Council 1997–1999. Assistant Defence Attaché in Moscow 1986–1990.

Board member of Patria Plc and the Association for the New Children's Hospital 2017.

Veli-Matti Reinikkala

Member since 2007
Chairman of the Remuneration Committee
Independent of the company and significant shareholders

Born 1957, Finnish citizen
eMBA

President of ABB Region Europe during 2015 and member of the Group Executive Committee of ABB Ltd 2006–2015. President of ABB Process Automation Division 2006–2014 and Business Area Manager for ABB Process Automation 2005. Automation Technologies Division Manager in ABB China 2003–2004. ABB Drives & Power Electronics, Business Area Manager 2002 and Manager for ABB Drives 1996–2001. CFO of ABB Industry Oy 1994–1996. Prior to 1994, various positions in paper and packaging companies in Finland.

Chairman of the Board of Cramo Plc and Board member of Fortum Corporation.

Suzanne Thoma

Member since 2015
Member of the Remuneration Committee
Independent of the company and significant shareholders

Born 1962, Swiss citizen
Ph.D. (Chem. Eng.),
BA (Business Admin.)

Chief Executive Officer of BKW Ltd. since 2013. Head of BKW Group's Networks Business Unit 2010–2012. Head of WICOR Group's Automotive Division 2007–2009. Chief Executive Officer of Rolic Technologies Ltd 2002–2007. Various positions at Ciba Specialty Chemicals Corp. (former Ciba-Geigy) 1990–2002.

Board member of Schaffner Holding AG and Beckers Group.

Kim Wahl

Member since 2012
Member of the Audit Committee
Independent of the company and significant shareholders

Born 1960, Norwegian citizen
MBA (Harvard)
BA (Business Econ.)

Chairman of the Board of Strømstangen AS since 2009. Deputy Chairman and Cofounder of the European private equity firm IK Investment Partners 1989–2009. Associate, Corporate Finance, Goldman, Sachs & Co. 1987–1989.

Board member of DNB Bank ASA and Intermediate Capital Group plc. Chairman of the Board of Voxtra AS and Voxtra Foundation.

Group Executive Team

Jussi Pesonen

President and CEO
M.Sc. (Eng.)
Born 1960, Finnish citizen
Member of the Group Executive Team since 2001.
Employed by UPM Group since 1987.

Several management positions in UPM Paper Divisions 1987–2001. COO of the Paper Divisions and Deputy to the President and CEO 2001–2004. President and CEO since 2004.

Chairman of the Board of the Finland Chamber of Commerce and ICC Finland. Deputy Chairman of the Board of the Finnish Forest Industries Federation (FFIF). Board member of the Confederation of European Paper Industries (CEPI) and the East Office of Finnish Industries Oy.

Tapio Korpeinen

Chief Financial Officer, UPM-Kymmene Corporation and Executive Vice President, UPM Energy
M.Sc. (Tech.), MBA
Born 1963, Finnish citizen
Member of the Group Executive Team since 2008.
Employed by UPM Group since 2005.

Several management positions at Jaakko Pöyry Consulting in Finland and North America 1991–1998 and 1999–2005. A.T. Kearney in Finland 1998–1999 and McKinsey & Company in Sweden 1988–1990. Vice President, Corporate Development and Senior Vice President, Strategy, UPM 2005–2008. President, Energy and Pulp Business Group, 2008–2010. CFO since 2010.

Chairman of the Board of Pohjolan Voima Oy. Vice Chairman of the Board of Kemijoki Oy. Board member of Teollisuuden Voima Oyj. Supervisory Board member of Varma Mutual Pension Insurance Company.

Bernd Eikens

Executive Vice President, UPM Specialty Papers
Ph.D. (Eng.)
Born 1965, German citizen
Member of the Group Executive Team since 2013.
Employed by UPM Group since 1998.

Senior Process Engineer, International Paper Co. 1996–1998. Several management positions at UPM Nordland Papier 1998–2005. President, UPM-Kymmene Inc. North America 2005–2008. Senior Vice President, Supply Chain, Paper Business Group 2008–2013. Executive Vice President, UPM Paper ENA 2013-2016.

Supervisory Board member of Johann Bunte Bauunternehmung GmbH & Co. KG.

Pirkko Harrela

Executive Vice President, Stakeholder Relations
M.A.
Born 1960, Finnish citizen
Member of the Group Executive Team since 2004.
Employed by UPM Group since 1985.

Several positions in Communications in Finnpap and UPM Paper Division 1985–2002. Vice President, Corporate Communications of UPM 2003. Executive Vice President, Corporate Communications 2004–2013.

Member of S-Group's CSR Advisory Group. Supervisory Board member of WWF Finland. Board member of Deutsch-Finnische Handelskammer, Satalinna Foundation and UPM-Kymmene Cultural Foundation. Member of the Board of Governors of the Association for Finnish Work.

Antti Jääskeläinen

Executive Vice President, UPM Raflatac
M.Sc. (Eng.), M.Sc. (Econ.), MBA
Born 1972, Finnish citizen
Member of the Group Executive Team since 2016
Employed by UPM Group since 2014

Financial Analyst, Enso Group 1997–1998. Business Operations Manager, Nokia Networks in Finland and Italy 1998–2001. Engagement Manager & Associate, McKinsey & Company 2002–2004. Several management positions at Stora Enso in Finland, Sweden and the UK 2004–2009. Chief Development Officer, member of the Group Executive Board, Amer Sports 2009–2014. Senior Vice President, Head of Global Operations, Amer Sports 2012–2014. Senior Vice President, EMEIA, UPM Raflatac 2014–2016.

Juha Mäkelä

General Counsel
LL.M.
Born 1962, Finnish citizen
Member of the Group Executive Team since 2008.
Employed by UPM Group since 2005.

Several positions in law firms 1991–1996. Positions as legal counsel and senior legal counsel in KONE Corporation 1997–2004. Group General Counsel since 2005.

Supervisory Board member of Kemijoki Oy.

Jyrki Ovaska

Executive Vice President, Technology
M.Sc. (Eng.)
Born 1958, Finnish citizen
Member of the Group Executive Team since 2002.
Employed by UPM Group since 1984.

Several management positions at United Paper Mills Ltd and UPM in the Printing Papers Division 1984–2001. President, Fine and Speciality Papers Division 2002–2003. President, Magazine Paper Division 2004–2008. President, Paper Business Group 2008–2013.

Chairman of the Board of CLIC Innovation Oy. Member of the Finnish Research and Innovation Council. Vice Chairman of AmCham Finland (The American Chamber of Commerce in Finland).

Riitta Savonlahti

Executive Vice President, Human Resources
M.Sc. (Econ.)
Born 1964, Finnish citizen
Member of the Group Executive Team since 2004.
Employed by UPM Group since 2004.

HR Specialist positions at ABB 1990–1994. Human Resources Manager at Nokia Mobile Phones, Salo Operations 1995–2000. Senior Vice President, Human Resources at Raisio Group 2000–2001. Senior Vice President, Human Resources at Elcoteq Network Corporation 2001–2004.

Supervisory Board member of Ilmarinen Mutual Pension Insurance Company. Member of Labour Markets Committee of the Finnish Forest Industries Federation (FFIF).

Winfried Schaur

Executive Vice President, UPM Paper ENA
Dipl.Ing. (FH)
Born 1965, German citizen
Member of the Group Executive Team since 2016
Employed by UPM Group since 2001

Project Engineer, Hoerbiger Automotive 1991-1992. Project Manager, Investments, Haindl Papier GmbH 1993–2001. Several leadership positions in the UPM paper business 2001–2013. Senior Vice President, Newspaper Publishing, UPM Paper ENA 2013–2016.

Chairman of the Board of the German Pulp and Paper Association (VDP). Vice Chairman of the Board of the Bavarian Industry Association (vbw). Board member of EURO-GRAPH asbl, the European Association of Graphic Paper Producers, and the Confederation of European Paper Industries (CEPI).

Mika Sillanpää

Executive Vice President, UPM Plywood
M.Sc. (Eng.)
Born 1958, Finnish citizen
Member of the Group Executive Team since 2013.
Employed by UPM Group since 1985.

Several management positions at UPM Raflatac in Finland and in France 1985–2000. Vice President, UPM Raflatac Europe 2001–2003. Senior Vice President, Strategic Development, UPM Raflatac Group 2003–2008. Vice President, Sourcing, UPM Raflatac Group 2008–2013.

Board member of the Federation of the Finnish Woodworking Industries.

Kari Ståhlberg

Executive Vice President, Strategy
M.Sc. (Eng.)
Born 1971, Finnish citizen
Member of the Group Executive Team since 2013.
Employed by UPM Group since 2007.

Management Consultant at Jaakko Pöyry Consulting Oy 1998–2000. M&A Advisor at JP Capital International Limited in the UK 2000–2006. Investment Manager at Finnish Industry Investment Ltd 2006–2007. Director, M&A, UPM-Kymmene Corporation 2007–2010. Senior Vice President, Corporate Strategy 2010–2013.

Heikki Vappula

Executive Vice President, UPM Biorefining
M.Sc. (Econ.)
Born 1967, Finnish citizen
Member of the Group Executive Team since 2010.
Employed by UPM Group since 2006.

Several management positions at Nokia Corporation in Finland, Denmark, UK and Hungary 1993–2006. Senior Vice President, UPM Sourcing 2006–2010. President, Energy and Pulp Business Group 2010–2013.

Board member of the Finnish Forest Industries Federation (FFIF).

GRI content index – short version

UPM follows the Global Reporting Initiative's (GRI) Sustainability Reporting Standards in its corporate responsibility reporting. The reporting has been prepared in accordance with the GRI Standards: Core option.

This shortened version of the GRI index shows where the disclosures of material topics are addressed in the Annual Report and UPM's internet pages. More information on the general disclosures as well as on omissions, further explanation and disclosures on the management approach can be found in the actual GRI content index which is available at **www.upm.com/responsibility/**.

AR = Annual Report 2017

GRI index = GRI content index, published as pdf on **www.upm.com**.

The English version of the corporate responsibility information for 2017 has been assured by an independent third party, PricewaterhouseCoopers Oy (see the Independent Assurance Report on page 92), and identified as assured in the GRI content index. Congruence between the English and Finnish versions has been checked.

The company is committed to the principles of inclusivity, materiality and responsiveness as defined in the AA1000 AccountAbility Principles Standard (2008). UPM provides comprehensive environmental information, verified by third parties, on all aspects from corporate level to the mills and individual products. Ecolabelled products, product declarations and certified operations inform stakeholders about the company's sustainability, transparency and risk management (read more about UPM's product stewardship on page 60).

GRI STANDARD	DISCLOSURE	LOCATION	OMISSION [1]	ASSURANCE [2]
GRI 100: Universal standards				
GRI 102: General Disclosures 2016 [1]	102–1 to 102–13 Organizational Profile	AR, web		102-8
	102–14 to 102–15 Strategy	AR		
	102–16 to 102–17 Ethics and integrity	AR		
	102–18 to 102–31 Governance 102–33 to 102–36	AR, web		
	102–40 to 102–44 Stakeholder Engagement	AR, web		102-41
	102–45 to 102–56 Reporting practice	AR, GRI index		
GRI 103: Management Approach 2016	103–1 Explanation of the material topic and its boundary	GRI index		
	103–2 The management approach and its components	GRI index		
	103–3 Evaluation of the management approach	GRI index		
GRI 200: Economic Standard Series				
GRI 201: Economic Performance 2016	201–1 Direct economic value generated and distributed	AR 59		x
	201–2 Financial implications and other risks and opportunities due to climate change.	AR 20–23, 70	x	x
	201–3 Defined benefit plan obligations and other retirement	AR 126–129		x
	201–4 Financial assistance received from government	AR 123–124		x
GRI 202: Market Presence 2016	202–2 Proportion of senior management hired from the local community	GRI index		x
GRI 203: Indirect Economic Impacts 2016	203–2 Significant indirect economic impacts	AR 58, 74–75, web		x
GRI 204: Procurement Practices 2016	204–1 Proportion of spending on local suppliers	GRI index		x
GRI 205: Anti-corruption 2016	205–1 Operations assessed for risks related to corruption	AR 105		x
	205–2 Communication and training about anti-corruption policies and procedures	GRI index	x	x
	205–3 Confirmed incidents of corruption and actions taken	AR 77		x
GRI 206: Anti-competitive behaviour 2016	206–1 Legal action for anti-competitive behaviour, anti-trust, and monopoly practices	GRI index		x
GRI 300: Environmental Standard Series [1]				
GRI 301: Materials 2016	301–1 Materials used by weight or volume	AR 74, web		x
	301–2 Recycled input materials used	AR 65, web		x
GRI 302: Energy 2016	302–1 Energy consumption within the organization	AR 71, 74, 181, web		x
	302–3 Energy intensity	web		x
	302–4 Reduction of energy consumption	AR 70		x
GRI 303: Water 2016	303–1 Water withdrawal by source	AR 74		x
	303–2 Water sources significantly affected by withdrawal of water	AR 69, web		x
GRI 304: Biodiversity 2016	304–1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	AR 62–63, web		x
	304–2 Significant impacts of activities, products, and services on biodiversity	AR 62–63, web		x
	304–3 Habitats protected or restored	AR 62–63, web		x
	304–4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	web		x
GRI 300: Environmental Standard Series				
GRI 305: Emissions 2016	305–1 Direct (Scope 1) GHG emissions	AR 75, 181, web		x
	305–2 Energy indirect (Scope 2) GHG emissions	AR 181, web		x
	305–3 Other indirect (Scope 3) GHG emissions	AR 181, web		x
	305–4 GHG emissions intensity	AR 181		x
	305–5 Reduction of GHG emissions	AR 70		x
	305–7 NOx, SOx, and other significant air emissions	AR 75		x
GRI 306: Effluents and Waste 2016	306–1 Water discharge by quality and destination	AR 68, 75		x
	306–2 Waste by type and disposal method	AR 75, web		x
	306–3 Significant spills	AR 67		x
	306–5 Water bodies affected by water discharges and/or runoff	GRI index		x
GRI 307: Environmental Compliance 2016	307–1 Non-compliance with environmental laws and regulations	AR 67		x
GRI 308: Supplier Environmental Assessment 2016	308–1 New suppliers that were screened using environmental criteria	AR 65		x
	308–2 Negative environmental impacts in the supply chain and actions taken	GRI index	x	x

GRI STANDARD	DISCLOSURE	LOCATION	OMISSION [1]	ASSURANCE [2]
GRI 400: Social Standard Series				
GRI 401: Employment 2016	401–1 New employee hires and employee turnover	AR 46, web		x
GRI 402: Labor/Management Relations 2016	402–1 Minimum notice periods regarding operational changes	GRI index		x
GRI 403: Occupational Health and Safety 2016	403–1 Workers representation in formal joint management-worker health and safety committees	AR 49		x
	403–2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	AR 46,49, web	x	x
	403–3 Workers with high incidence or high risk of diseases related to their occupation	GRI index		x
GRI 404: Training and Education 2016	404–1 Average hours of training per year per employee	AR 46	x	x
	404–2 Programs for upgrading employee skills and transition assistance programs	AR 45–46, GRI index		x
	404–3 Percentage of employees receiving regular performance and career development reviews	AR 17, 47	x	x
	UPM–1 Human Capital Return on Investment (UPM indicator)	GRI index		x
GRI 405: Diversity and Equal Opponity 2016	405–1 Diversity of governance bodies and employees	AR 46, 78, 180, web		x
	405-2 Ratio of basic salary and remuneration of women to men	AR 180		x
GRI 406: Non-discrimination 2016	406–1 Incidents of discrimination and corrective actions taken	AR 77		x
GRI 407: Freedom of Association and Collective Bargaining 2016	407–1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	GRI index		x
GRI 408: Child Labor 2016	408–1 Operations and suppliers at significant risk for incidents of child labor	GRI index		x
GRI 409: Forced or Compulsory Labor 2016	409–1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	GRI index		x
GRI 411: Rights of Indigenous People 2016	411–1 Incidents of violations involving rights of indigenous peoples	GRI index		x
GRI 412: Human Rights Assessment 2016	412–1 Operations that have been subject to human rights reviews or impact assessments	AR 19, 105		x
	412–2 Employee training on human rights policies or procedures	GRI index		x
	412–3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	GRI index		x
GRI 413: Local Communities 2016	413–1 Operations with local community engagement, impact assessments, and development programs	GRI index	x	x
	413–2 Operations with significant actual and potential negative impacts on local communities	GRI index		x
GRI 414: Supplier Social Assessment 2016	414–1 New suppliers that were screened using social criteria	AR 65		x
	414–2 Negative social impacts in the supply chain and actions taken	GRI index	x	x
GRI 415: Public Policy 2016	415–1 Political contributions	AR 52		x
GRI 416: Customer Health and Safety 2016	416–1 Assessment of the health and safety impacts of product and service categories	AR 60		x
GRI 417: Marketing and Labeling 2016	417–1 Requirements for product and service information and labeling	AR 60–61		x
GRI 419: Socioeconomic compliance 2016	419–1 Non-compliance with laws and regulations in the social and economic area	GRI index		x

[1] See actual GRI content index for general standard disclosure as well as for omissions, explanations and reporting principles.

[2] The assurance report by PricewaterhouseCoopers Oy can be found on page 92.

AA1000
Licensed Assurance Provider
000-29

Independent Practitioner's Assurance Report

To the Management of UPM-Kymmene Corporation

We have been engaged by the Management of UPM-Kymmene Corporation (hereinafter also "the Company") to perform a limited assurance engagement on selected corporate responsibility information for the reporting period 1 January 2017 to 31 December 2017, disclosed in UPM-Kymmene Corporation's Annual Report 2017 and on its website in section "Responsibility" (hereinafter "the CR Reporting"). The assured information is indicated in the Company's GRI Content Index 2017 on the Company's website.

Furthermore, the assurance engagement has covered UPM-Kymmene Corporation's adherence to the AA1000 AccountAbility Principles with moderate (limited) level of assurance.

Management's responsibility

The Management of UPM-Kymmene Corporation is responsible for preparing the CR Reporting in accordance with the Reporting criteria as set out in the Company's reporting instructions and the GRI Standards Sustainability Reporting Guidelines of the Global Reporting Initiative. The Management of UPM-Kymmene Corporation is also responsible for such internal control as the management determines is necessary to enable the preparation of CR Reporting that is free from material misstatement, whether due to fraud or error.

The Management of UPM-Kymmene Corporation is also responsible for the Company's adherence to the AA1000 AccountAbility Principles of inclusivity, materiality and responsiveness as set out in AccountAbility's AA1000 AccountAbility Principles Standard 2008.

Practitioner's responsibility

Our responsibility is to express a limited assurance conclusion on the CR Reporting and on the Company's adherence to the AA1000 AccountAbility Principles based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) "Assurance Engagements Other than Audits or Reviews of Historical Financial Information". That Standard requires that we plan and perform the engagement to obtain limited assurance about whether the CR Reporting is free from material misstatement.

In addition, we have conducted our work in accordance with the AA1000 Assurance Standard 2008. For conducting a Type 2 assurance engagement as agreed with the Company, the AA1000AS (2008) requires planning and performing of the assurance engagement to obtain moderate (limited) assurance on whether any matters come to our attention that cause us to believe that UPM-Kymmene Corporation does not adhere, in all material respects, to the AA1000 AccountAbility Principles and that the CR Reporting is not reliable, in all material respects, based on the Reporting criteria.

In a limited assurance engagement the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained than in a reasonable assurance engagement. An assurance engagement involves performing procedures to obtain evidence about the amounts and other disclosures in the CR Reporting, and about the Company's adherence to the AA1000 AccountAbility Principles. The procedures selected depend on the practitioner's judgement, including an assessment of the risks of material misstatement of the CR Reporting and an assessment of the risks of the Company's material nonadherence to the AA1000 AccountAbility Principles.

Our work consisted of, amongst others, the following procedures:

- Interviewing senior management of the Company.
- Interviewing employees from various organisational levels of the Company with regards to materiality, stakeholder expectations, meeting of those expectations, as well as stakeholder engagement.
- Assessing stakeholder inclusivity and responsiveness based on the Company's documentation and internal communication.
- Assessing the Company's defined material corporate responsibility topics as well as assessing the CR Reporting based on these topics.
- Visiting the Company's Head Office and conducting web conferences with two sites in Finland and one site in Uruguay.
- Interviewing employees responsible for collecting and reporting the information presented in the CR Reporting at the group level as well as at the site level.
- Assessing how group employees apply the reporting instructions and procedures of the Company.
- Testing the accuracy and completeness of the information from original documents and systems on a sample basis.
- Testing the consolidation of information and performing recalculations on a sample basis.

Limited assurance conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that UPM-Kymmene Corporation does not adhere, in all material respects, to the AA1000 AccountAbility Principles.

Furthermore nothing has come to our attention that causes us to believe that UPM-Kymmene Corporation's CR Reporting for the reporting period ended 31 December 2017 is not properly prepared, in all material respects, in accordance with the Reporting criteria, or that the CR Reporting is not reliable, in all material respects, based on the Reporting criteria.

When reading our assurance report, the inherent limitations to the accuracy and completeness of sustainability information should be taken into consideration.

Our assurance report has been prepared in accordance with the terms of our engagement. We do not accept, or assume responsibility to anyone else, except to UPM-Kymmene Corporation for our work, for this report, or for the conclusions that we have reached.

Observations and recommendations

Based on the procedures we have performed and the evidence we have obtained, we provide the following observations and recommendations in relation to UPM-Kymmene Corporation's adherence to the AA1000 AccountAbility Principles. These observations and recommendations do not affect the conclusions presented earlier.

Regarding Inclusivity: UPM-Kymmene Corporation has processes in place for stakeholder inclusivity and engagement. Stakeholder Relations coordinates stakeholder engagement at the group level, while businesses are responsible for local activity. We recommend that the Company continues to enhance internal collaboration and knowledge sharing within the group in the stakeholder engagement.

Regarding Materiality: UPM-Kymmene Corporation has a systematic process in place to evaluate and determine the materiality of corporate responsibility topics. Materiality analysis is updated annually. We recommend that the Company continues to enhance the use of different methods for obtaining stakeholder feedback on the materiality analysis as well as on the responsibility focus areas, performance and reporting.

Regarding Responsiveness: UPM-Kymmene Corporation has processes in place for responding to stakeholder needs and concerns. We recommend that the Company continues to enhance the use of social media in its stakeholder engagement.

Practitioner's independence, qualifications and quality control

We have complied with the independence and other ethical requirements of the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our multi-disciplinary team of corporate responsibility and assurance specialists possesses the requisite skills and experience within financial and non-financial assurance, corporate responsibility strategy and management, social and environmental issues, as well as the relevant industry knowledge, to undertake this assurance engagement.

PricewaterhouseCoopers Oy applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Helsinki 19 February 2018

PricewaterhouseCoopers Oy

Sirpa Juutinen
Partner
Sustainability & Climate Change

Accounts for 2017

Report of the Board of Directors

UPM introduction and business model

UPM leads the forest-based bioindustry into a sustainable and innovation-driven future across six business areas: UPM Biorefining, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Paper ENA and UPM Plywood. The business areas are competitive, with strong market positions. Five of them are operating in healthily growing markets.

UPM provides sustainable and safe solutions to the growing global consumer demand. Products are made of renewable materials and they are recyclable.

UPM group creates value to its stakeholders by operating separate businesses with a focus on:

- Competitive and sustainable wood sourcing, forestry and plantation operations
- Value adding, efficient and responsible global functions
- Continuous improvement (Smart) programmes
- Technology and intellectual property rights
- A global platform to build on
- Disciplined and effective capital allocation
- Compliance with applicable laws and regulations, UPM Code of Conduct and corporate policies

Clear roles and responsibilities

Group	Businesses	Outcomes
Portfolio strategy	Business area strategies	Top performance
Capital allocation	Commercial excellence	Competitive advantage
Business targets	Operational excellence	Value creation
Code of Conduct	Cost efficiency measures	Stakeholder and societal value
Responsibility targets	Focused growth projects	License to operate
	Innovation	

Each business area is responsible for executing its own strategy and achieving targets. Group direction and support from global functions enable the businesses to capture benefits from UPM's brand, scale and integration, while navigating the complex operating environment. Capital allocation decisions take place at the group level.

Corporate responsibility is an integral part of all operations and a source of competitive advantage. UPM is committed to continuous improvement in economic, social and environmental performance. UPM promotes responsible practices throughout the value chain and is active in finding sustainable solutions in co-operation with its customers, suppliers and partners.

Market environment in 2017

A synchronised global growth was underway in 2017. Global economic growth accelerated in both advanced economies and emerging markets, compared with the previous year.

In Europe, growth was broad-based, supported by robust private consumption, stronger global demand and decreasing unemployment. In addition, investment activity also improved. Growth accelerated in the US, whereas solid growth continued in China.

Improving growth prospects and anticipation of slowing monetary stimulus strengthened the euro against the US dollar, which was also impacted by the uncertainty about fiscal policy following the US presidential election. The British pound weakened as economic momentum slowed and the UK continued with the Brexit negotiations. The euro also strengthened against the Japanese yen.

In spite of robust global economic growth and continued loose monetary policy, overall inflation showed only modest signs of picking up in 2017. However, prices of many commodities increased during the year, e.g. the price of oil. Costs for UPM's main inputs, such as wood, recycled fibre, chemicals, adhesives, films and logistics increased in comparison to 2016.

For UPM's businesses and products, the market environment was mostly favourable in 2017. Good market demand enabled healthy growth in UPM's delivery volumes. Furthermore, sales prices increased in many businesses over the course of the year.

The pulp market balance tightened due to strong demand in 2017. Demand growth was recorded primarily in Asia, particularly in China. Supply was restricted due to the delayed start-up of new capacity and significant production outages in the industry. Pulp prices increased significantly throughout the year.

Demand for advanced biofuels continued to be strong, driven by sustainability and stricter environmental standards.

Electricity consumption in Finland increased slightly, mainly due to increased commercial and industrial activity. Hydrological balance in the Nordic market started the year below normal levels and ended the year above normal levels. Electricity market prices in Finland increased slightly compared to the previous year.

Demand for both self-adhesive label materials and label and release papers increased, particularly in Asia. Demand growth remained stable in Europe and North America. Office paper demand continued to grow in Asia and prices increased.

In Europe, demand for graphic paper grades was 3% lower than in the previous year. The strengthened economic activity in Europe lessened the decline in demand to an extent. Fine paper prices increased during the year, whereas publication paper prices remained slightly lower than in 2016.

The market environment for plywood was favourable in Europe. Demand growth was driven by further improvements in the building and construction industry. Demand for plywood-related industrial applications such as vehicle floors and LNG carrier insulation material was good. In addition, demand for construction driven sawn timber was good.

Key figures

	2017	2016	2015
Sales, EURm	10,010	9,812	10,138
Comparable EBITDA, EURm	1,631	1,560	1,350
% of sales	16.3	15.9	13.3
Operating profit, EURm	1,259	1,135	1,142
Comparable EBIT, EURm	1,292	1,143	916
% of sales	12.9	11.6	9.0
Profit before tax, EURm	1,186	1,080	1,075
Comparable profit before tax, EURm	1,218	1,089	849
Profit for the period, EURm	974	880	916
Comparable profit for the period, EURm	1,004	879	734
Earnings per share (EPS), EUR	1.82	1.65	1.72
Comparable EPS, EUR	1.88	1.65	1.38
Return on equity (ROE), %	11.5	10.9	11.9
Comparable ROE, %	11.9	10.9	9.5
Return on capital employed (ROCE), %	12.5	10.5	10.3
Comparable ROCE, %	12.8	10.6	8.3
Operating cash flow, EURm	1,558	1,686	1,185
Operating cash flow per share, EUR	2.92	3.16	2.22
Equity per share at end of period, EUR	16.24	15.43	14.89
Capital employed at the end of period, EURm	9,777	10,657	11,010
Net debt, EURm	174	1,131	2,100
Net debt to EBITDA	0.11	0.73	1.56
Personnel at the end of period	19,111	19,310	19,578

» Refer Note 10.2 Alternative performance measures, in financial statements for definitions of key figures.

Results

2017 compared with 2016

2017 sales were EUR 10,010 million, 2% higher than the 2016 total of EUR 9,812 million. Sales grew in UPM Biorefining, UPM Raflatac, UPM Specialty Papers and UPM Plywood, but decreased in UPM Paper ENA and UPM Energy.

Comparable EBIT increased by 13% to EUR 1,292 million, 12.9% of sales (1,143 million, 11.6%). Comparable EBIT increased mainly due to higher delivery volumes and lower depreciation. Changes in sales prices in UPM's product range had a clear positive net impact on the comparable EBIT. Variable costs, including the impact of UPM's cost efficiency measures, increased by similar magnitude. Fixed costs were slightly lower. Changes in currencies had a negative impact on comparable EBIT.

Depreciation, excluding items affecting comparability, totalled EUR 447 million (510 million). The increase in the fair value of forest assets net of wood harvested was EUR 103 million (88 million).

Operating profit totalled EUR 1,259 million (1,135 million). Items affecting comparability in operating profit totalled charges of EUR 33 million (charges of EUR 7 million). This included gains of EUR 33 million from selling hydropower facilities in Austria and the US, net restructuring charges of EUR 38 million related to UPM Paper ENA, and charges of EUR 30 million related to reorganisation of pension schemes in UPM Biorefining.

Net interest and other finance costs were EUR 57 million (49 million). The exchange rate and fair value gains and losses resulted in a loss of EUR 12 million (loss of EUR 7 million). Income taxes totalled EUR 212 million (200 million). Items affecting comparability in taxes totalled EUR 2 million (11 million).

Profit for 2017 was EUR 974 million (880 million) and comparable profit was EUR 1,004 million (879 million).

Financing and cash flow

In 2017, cash flow from operating activities before capital expenditure and financing totalled EUR 1,558 million (1,686 million). Working capital decreased by EUR 91 million (decreased by EUR 195 million) during the period.

A dividend of EUR 0.95 per share (totalling EUR 507 million) was paid on 12 April 2017, for the 2016 financial year.

UPM prepaid EUR 523 million of its debt in Q4 2017 and EUR 40 million in Q2 2017 due to good liquidity situation.

Net debt decreased to EUR 174 million at the end of the period (1,131 million). The gearing ratio as of 31 December 2017 was 2% (14%). Net debt to EBITDA ratio, based on the latest 12 months' EBITDA, was 0.11 at the end of the period (0.73).

On 31 December 2017, UPM's cash funds and unused committed credit facilities totalled EUR 1.4 billion.

Capital expenditure

In 2017, capital expenditure totalled EUR 329 million, 3.3% of sales (325 million, 3.3% of sales), or EUR 303 million (325 million) excluding investment in shares. Total capital expenditure in 2018, excluding investments in shares, is estimated to be approximately EUR 350 million.

In July 2016, UPM announced it was to invest EUR 98 million in UPM Kymi pulp mill in Finland to further strengthen its position as a supplier of bleached chemical pulp for growing consumer and industrial end-use segments like tissue and speciality paper as well as packaging papers and board. The investment was completed in Q4 2017 and it increased Kymi's annual pulp production capacity to 870,000 tonnes of bleached northern softwood and birch pulp. The investment will further improve UPM Kymi's cost competitiveness and environmental performance.

In October 2016, UPM announced that it will build a new coating line at its label stock factory in Wroclaw, Poland. By introducing a new coating line together with related reel handling and slitting capacity additions, UPM Raflatac aims to meet the increasing demand for self-adhesive label stock in Europe. Production of the new line started in December 2017, ahead of schedule. The investment totalled EUR 34 million.

In April 2017, UPM announced that it will strengthen its position in the label market and invest approximately EUR 6 million in special label capacity in Tampere, Finland. A new special label product line will be built, focusing on small series of production runs. In addition, internal logistics will be strengthened. The new product line is expected to be completed by the end of the first quarter of 2018.

In June 2017, UPM announced it will further improve the efficiency and competitiveness of the UPM Kaukas pulp mill with a EUR 30 million investment, upgrading the mill's fibre lines, recovery boiler, evaporation, bailing and wood handling. Erection of the main equipment and start-up are scheduled for the spring of 2018. After this new project, annual production capacity of the UPM Kaukas pulp mill will increase by 30,000 tonnes to 770,000 tonnes of softwood and birch pulp in 2019.

In June 2013, UPM announced that it was participating in the share issue from Pohjolan Voima Oy to finance the Olkiluoto 3 nuclear power plant project. UPM's share of the issue is EUR 119 million, of which EUR 26 million was paid in Q3 2017 and EUR 93 million has been paid over previous years.

In October 2017, UPM announced plans to expand its Chudovo plywood mill in Russia. The project will raise the mill's production capacity to 155,000 cubic meters. The total investment will be approximately EUR 50 million.

Personnel

In 2017, UPM had an average of 19,489 employees (19,858). At the beginning of the year, the number of employees was 19,310 and at the end of Q4 2017 it was 19,111.

Further information (unaudited) about personnel is available in *» Stakeholders section in UPM Annual report 2017.*

Events during 2017

On 31 January, UPM announced its renewed long-term financial targets. In the new targets, the business area return targets and the comparable ROE target were increased. Comparable EBIT growth was introduced as a new group-level target. A new financial policy on leverage based on net debt/EBITDA was introduced. The dividend policy based on cash flow remains unchanged. The long-term financial targets are presented in the UPM Annual Report 2016, page 17.

On 2 February, UPM announced that it was permanently closing down 305,000 tonnes of graphic paper capacity in Europe by the end of Q1 2017, consisting of paper machine 2 at UPM Augsburg, Germany and paper machine 3 at UPM Steyrermühl, Austria. The plan was originally announced in November 2016. The number of persons affected was 143 for UPM Augsburg and 125 for UPM Steyrermühl. The closure of both machines is expected to result in annual cost savings of approximately EUR 30 million.

On 22 March, UPM announced it had signed an agreement on the sale of its hydropower facilities in Schongau and Ettringen, Germany to erdgas schwaben GmbH. The transaction was completed at the beginning of January 2018. The cash flow impact was booked in Q4 2017, and the sales gain of EUR 30 million will be booked in Q1 2018 as an item affecting comparability.

On 30 March, UPM announced it had signed an agreement on the sale of its hydropower facilities in Steyrermühl, Austria to Energie AG. The transaction was completed in Q3 2017.

On 30 March, UPM announced that it had signed a letter of intent on forestry land sales and long-term wood supply with Tornator PLC. As part of the transaction, UPM sold 22,235 hectares of forestry land gradually during 2017 to Tornator in North Karelia, Finland, and Tornator will sell a significant volume of wood to UPM mills in Eastern Finland each year.

On 18 April, UPM announced that Madison Paper Industries, a partnership of UPM and Northern SC Paper Corp., a subsidiary of The New York Times Company, has signed an agreement on the sale of its hydropower facilities to Eagle Creek Renewable Energy, LLC. The transaction was completed in Q3 2017.

On 24 October, UPM announced it evaluates potential of building a biorefinery in Frankfurt-Höchst Chemical Park in Germany. UPM proceeds with detailed commercial and basic engineering study to confirm the attractiveness of the business opportunity.

On 24 October, UPM announced plans to reduce graphic paper capacity and optimise operations to increase competitiveness in UPM Paper ENA. As part of the plans, paper machine 5 at UPM Blandin in Minnesota, the US, was permanently closed in December 2017. This reduced UPM's coated magazine paper capacity by 128,000 tonnes and affected 148 employees. The plans also include optimising operations at UPM Nordland Papier and UPM NorService units in Dörpen, Germany. In total 223 positions are estimated to be affected by the plans in Dörpen. UPM recognised restructuring and impairment charges of EUR 38 million in Q4 2017 as items affecting comparability. The planned actions are expected to result in annual savings of approximately EUR 30 million.

On 8 November 8, UPM announced it had signed an investment agreement with the Government of Uruguay to establish a competitive operating platform for a possible new pulp mill in Uruguay. The agreement outlines the local prerequisites for a potential pulp mill investment.

Events after the balance sheet date

The group's management is not aware of any significant events occurring after 31 December 2017.

Outlook for 2018

UPM reached record earnings in 2017. Fundamentals for UPM businesses in 2018 continue to be favourable.

Healthy demand growth is expected to continue for most of UPM's businesses in 2018, while modest demand decline is expected to continue for UPM Paper ENA. Sales prices are expected to increase in most of UPM's businesses, compared with 2017.

Input costs are expected to continue increasing in 2018, compared with 2017. UPM will continue measures to reduce fixed and variable costs to mitigate this. 2018 starts with less favourable currencies than 2017.

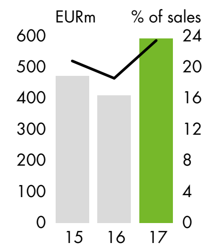
Q1 2018 results are expected to be impacted by temporary wood harvesting limitations in Northern Europe caused by unusually warm and wet weather in late 2017 and the beginning of 2018.

Business area reviews

UPM Biorefining

UPM Biorefining consists of pulp, timber and biofuels businesses. UPM has three pulp mills in Finland and one mill and plantation operation in Uruguay. UPM operates four sawmills in Finland. UPM's biorefinery producing wood-based renewable diesel started up in early 2015. The main customers of UPM Biorefining are tissue, specialty paper and board producers in the pulp industry, fuel distributors in the biofuel industry and construction and joinery industries in the timber sector.

Comparable EBIT



	2017	2016
Sales, EURm	2,531	2,206
Comparable EBITDA, EURm	714	548
% of sales	28.2	24.9
Change in fair value of forest assets and wood harvested, EURm	33	29
Share of results of associates and joint ventures, EURm	2	2
Depreciation, amortisation and impairment charges, EURm	–162	–173
Operating profit, EURm	557	406
% of sales	22.0	18.4
Items affecting comparability in operating profit, EURm [1]	–30	–
Comparable EBIT, EURm	587	406
% of sales	23.2	18.4
Capital employed (average), EURm	3,225	3,231
Comparable ROCE, %	18.2	12.6
Pulp deliveries, 1,000 t	3,595	3,419

[1] In 2017, items affecting comparability relate to the reorganisation of pension schemes.

2017 compared with 2016

Comparable EBIT for UPM Biorefining increased due to higher pulp sales prices and pulp delivery volumes, which more than offset higher costs. Production efficiency improved significantly at the Lappeenranta biorefinery.

The average price for UPM's pulp deliveries increased by 9%.

Market environment

Chemical pulp demand continued to be strong. Demand growth was recorded primarily in Asia, particularly in China.

In Europe in 2017, the average market price in euros was 10% higher for NBSK and 22% higher for BHKP than in 2016. In China, the average market price in the US dollars was 19% higher for NBSK and 29% higher for BHKP than in 2016.

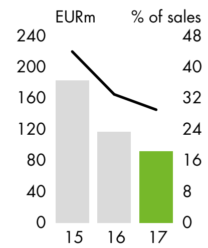
Demand for advanced renewable diesel and naphtha continued to be strong.

Sawn timber demand was good.

UPM Energy

UPM Energy creates value through cost competitive, low-emission electricity generation and through physical electricity and financial trading. UPM Energy is the second largest electricity producer in Finland. UPM's power generation capacity consists of hydropower, nuclear power and condensing power.

Comparable EBIT



	2017	2016
Sales, EURm	317	357
Comparable EBITDA, EURm	100	126
% of sales	31.6	35.4
Share of results of associates and joint ventures, EURm	–	–1
Depreciation, amortisation and impairment charges, EURm	–9	–9
Operating profit, EURm	91	116
% of sales	28.8	32.7
Items affecting comparability in operating profit, EURm	–	–
Comparable EBIT, EURm	91	116
% of sales	28.8	32.7
Capital employed (average), EURm	2,267	2,340
Comparable ROCE, %	4.0	5.0
Electricity deliveries, GWh	8,127	8,782

2017 compared with 2016

Comparable EBIT for UPM Energy decreased due to lower average electricity sales price and lower nuclear and hydropower generation. The longer maintenance shutdown at Olkiluoto nuclear power plant and the hydrological situation in the first half of year resulted in lower power generation.

UPM's average electricity sales price decreased by 4% to EUR 32.6/MWh (33.9/MWh).

Market environment

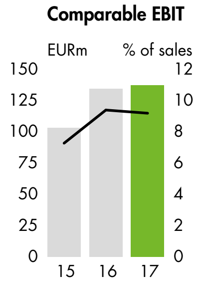
The Nordic hydrological balance divided into two weather periods in 2017, the first half of the year being dry and the second half wet. The Nordic hydrological balance improved significantly towards the end of 2017 and the year ended above the long-term average level.

Coal prices increased in 2017, driven by oil prices, Chinese regulation and currencies. The CO_2 emission allowance price of EUR 8.2/tonne at the end of 2017 was higher than at the end of year 2016 (EUR 5.1/tonne).

For the full year the average Finnish area spot price on the Nordic electricity exchange was EUR 33.2/MWh, 2% higher than in 2016 (32.5/MWh).

UPM Raflatac

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



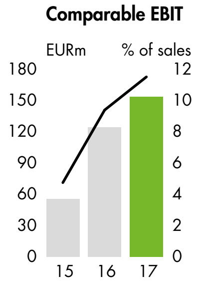
	2017	2016
Sales, EURm	1,495	1,437
Comparable EBITDA, EURm	168	166
% of sales	11.2	11.6
Depreciation, amortisation and impairment charges, EURm	–32	–33
Operating profit, EURm	136	134
% of sales	9.1	9.3
Items affecting comparability in operating profit, EURm	–	–
Comparable EBIT, EURm	136	133
% of sales	9.1	9.3
Capital employed (average), EURm	502	524
Comparable ROCE, %	27.2	25.5

2017 compared with 2016
Comparable EBIT for UPM Raflatac increased. The positive impact of higher delivery volumes more than offset the impact of lower sales margin. The fixed costs increased.

Market environment
Global demand for self-adhesive label materials grew in 2017. In Europe and North America demand growth remained stable. In Asia, strong demand growth continued.

UPM Specialty Papers

UPM Specialty Papers serves growing global markets with label papers and release liners, fine papers in Asia and flexible packaging in Europe. The operations consist of the UPM Changshu and UPM Tervasaari mills in China and Finland, as well as label and packaging papers production lines at the UPM Jämsänkoski mill in Finland. The main customers are retailers, printers, publishers, distributors and paper converters.



	2017	2016
Sales, EURm	1,336	1,273
Comparable EBITDA, EURm	232	214
% of sales	17.3	16.8
Depreciation, amortisation and impairment charges, EURm	–80	–92
Operating profit, EURm	152	123
% of sales	11.4	9.6
Items affecting comparability in operating profit, EURm	–	–
Comparable EBIT, EURm	152	123
% of sales	11.4	9.6
Capital employed (average), EURm	885	1,012
Comparable ROCE, %	17.2	12.1
Paper deliveries, 1,000 t	1,573	1,556

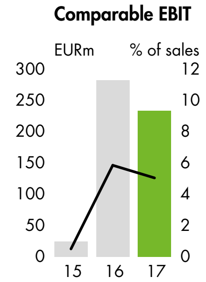
2017 compared with 2016
Comparable EBIT for UPM Specialty Papers increased mainly due to higher sales prices, an improved product mix and higher release liner volumes. Pulp costs increased significantly but it was partly mitigated by continuous variable cost saving measures.

Market environment
In 2017, office paper demand increased and the average price was higher than in 2016.

In 2017, label and release paper demand increased globally, particularly in Asia. Price development varied between the regions. In China, prices continued to increase.

UPM Paper ENA

UPM Paper ENA offers graphic papers for advertising, magazines, newspapers and home and office. The business has extensive low-cost operations consisting of 15 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.



	2017	2016
Sales, EURm	4,615	4,818
Comparable EBITDA, EURm	356	448
% of sales	7.7	9.3
Share of results of associates and joint ventures, EURm	1	2
Depreciation, amortisation and impairment charges, EURm	–130	–214
Operating profit, EURm	247	223
% of sales	5.4	4.6
Items affecting comparability in operating profit, EURm [1)]	16	–57
Comparable EBIT, EURm	231	280
% of sales	5.0	5.8
Capital employed (average), EURm	1,702	1,964
Comparable ROCE, %	13.6	14.3
Paper deliveries, 1,000 t	7,856	8,057

1) In 2017, items affecting comparability include gain amounting to EUR 43 million and EUR 11 million relating to sale of hydro power assets located at mill sites in Madison and Steyrermühl, correspondingly. In addition, EUR 13 million restructuring charges and EUR 4 million impairment charges relate to Blandin paper machine 5 closure in the United States. EUR 21 million charges relate to optimisation of operations in Germany. In 2016, items affecting comparability include impairment charges of EUR 20 million relating to Madison mill closure, EUR 23 million relating planned closure of Steyrermühl paper machine 3 and EUR 1 million relating to planned closure of Augsburg paper machine 2. In addition, items affecting comparability include restructuring charges amounting to EUR 26 million relating to Madison mill closure, EUR 22 million relating to planned closure of Steyrermühl paper machine 3, EUR 18 million relating to planned closure of Augsburg paper machine 2 and EUR 4 million income relating to reversals of restructuring provisions of prior capacity closures. Capital gains affecting the comparability comprise of a gain of EUR 47 million relating to sale of Schwedt mill and EUR 2 million relating to sale of other assets.

2017 compared with 2016
Comparable EBIT decreased for UPM Paper ENA mainly due to higher fibre and logistics costs. The negative impact of lower delivery volumes and sales prices was offset by decreased fixed costs.

The average price for UPM's paper deliveries in euro decreased by 2% partly due to an unfavourable currency impact on export prices.

Market environment
In 2017, demand for graphic papers in Europe was 3% lower than in 2016. Newsprint demand decreased by 5%, magazine paper by 2% and fine paper by 1% compared with the previous year.

In 2017, publication paper prices were on average 1% lower than in 2016.

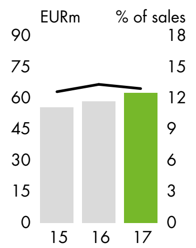
In 2017, fine paper prices were 2% higher on average than in 2016.

In 2017, demand for magazine papers in North America decreased by 7% compared with the previous year. The average US dollar price for magazine papers In 2017 was 1% lower than in 2016.

UPM Plywood

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

Comparable EBIT



	2017	2016
Sales, EURm	484	444
Comparable EBITDA, EURm	85	80
% of sales	17.6	18.1
Depreciation, amortisation and impairment charges, EURm	–23	–22
Operating profit, EURm	62	58
% of sales	12.8	13.2
Items affecting comparability in operating profit, EURm	–	–
Comparable EBIT, EURm	62	58
% of sales	12.8	13.2
Capital employed (average), EURm	267	259
Comparable ROCE, %	23.1	22.6
Plywood deliveries, 1,000 m³	811	764

2017 compared with 2016

Comparable EBIT for UPM Plywood increased due to higher delivery volumes and higher sales prices, which more than offset the negative impact of higher costs.

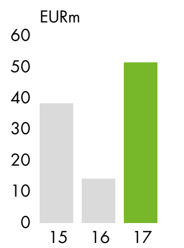
Market environment

In 2017, the market environment was favourable in Europe, and demand increased from the previous year. Spruce plywood demand growth was driven by increased activity in the building and construction industry. Demand in birch plywood-related industrial applications such as vehicle floors and LNG carrier insulation material was good.

Other operations

Other operations include wood sourcing and forestry, UPM Biocomposites and UPM Biochemicals business units and group services.

Comparable EBIT



	2017	2016
Sales, EURm	281	285
Comparable EBITDA, EURm	–5	–35
Change in fair value of forest assets and wood harvested, EURm	69	59
Share of results of associates and joint ventures, EURm	2	3
Depreciation, amortisation and impairment charges, EURm	–15	–13
Operating profit, EURm	51	15
Items affecting comparability in operating profit, EURm [1]	–	1
Comparable EBIT, EURm	51	14
Capital employed (average), EURm	1,465	1,541
Comparable ROCE, %	3.5	0.9

[1] In 2016, items affecting comparability relate to restructuring charges.

2017 compared with 2016

Comparable EBIT for Other operations increased. The increase in the fair value of forest assets net of wood harvested was EUR 69 million (59 million). The increase in the fair value of forest assets was EUR 132 million (113 million), including gains on forest sales. The cost of wood harvested from UPM forests was EUR 63 million (54 million).

In 2017, UPM sold a total of 73,000 (63,113) hectares of forests.

Shares

UPM has one class of shares. Each share entitles the holder to one vote at the Annual General Meeting of UPM.

On 31 December 2017, the total number of UPM shares was 533,735,699. Through the issuance authorisation described below, the number of shares may increase to a maximum of 558,735,699. On 31 December 2017, UPM held 411,653 treasury shares, representing approximately 0.08% of the total number of UPM shares and voting rights. There are no specific terms related to the shares except for the redemption clause described below.

In 2017, UPM shares worth a total of EUR 8,460 million (6,749 million) were traded on the NASDAQ Helsinki stock exchange. This is estimated to represent approximately two thirds of all trading volumes in UPM shares. The highest listing was EUR 26.69 in December and the lowest was EUR 20.82 in January.

The company's ADSs are traded on the US over-the-counter (OTC) market under a Level 1-sponsored American Depositary Receipt programme.

Information on the major shareholders, break-down by shareholders category and size as well as share related indicators are available in section *» Information on shares* *in UPM Annual report 2017.*

Redemption clause

Under § 12 of UPM-Kymmene Corporation's Articles of Association, a shareholder who, alone or jointly with another shareholder owns 33 1/3 percent or 50 percent or more of all the company's shares or their associated voting rights shall, at the request of other shareholders, be liable to redeem their shares and any securities that, under the Companies Act, carry the right to such shares, in the manner prescribed in § 12.

A resolution of a general meeting of shareholders to amend or delete this redemption clause must be carried by shareholders representing not less than three-quarters of the votes cast and shares represented at the meeting.

Authorisations held by the Board of Directors

The Annual General Meeting held on 29 March 2017 authorised the Board of Directors to decide on the repurchase of a maximum of 50,000,000 of the Company's own shares. The authorisation will be valid for 18 months from the date of the AGM resolution.

The Annual General Meeting held on 7 April 2016 authorised the Board of Directors to decide on the issuance of new shares, transfer of treasury shares and 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 shareholders' pre-emptive subscription rights. 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 also the number of shares that can be received on the basis of the special rights. The authorisation will be valid for three years from the date of the AGM resolution.

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

Board of Directors and the Group Executive Team

At the Annual General Meeting held on 29 March 2017, the number of members of the Board of Directors was confirmed as ten, and all incumbent directors, i.e. Berndt Brunow, Henrik Ehrnrooth, Piia-Noora Kauppi, Wendy E. Lane, Jussi Pesonen, Ari Puheloinen, Veli-Matti Reinikkala, Suzanne Thoma, Kim Wahl and Björn Wahlroos, were re-elected to the Board for a term continuing until the end of the next AGM.

At the meeting of the Board of Directors held following the AGM, Björn Wahlroos was re-elected as Chairman, and Berndt Brunow as Deputy Chairman of the Board of Directors. In addition, the Board of Directors elected the chairmen and other members to the Board committees from among its members. No changes took place in the committee compositions.

Shares held by the Board of Directors and the Group Executive Team

At the end of the year, the members of the Board of Directors including the President and CEO owned a total of 1,055,532 (987,427) UPM-Kymmene Corporation shares. These represent 0.20% (0.19%) of the shares and 0.20% (0.19%) of the voting rights. At the end of the year, President and CEO Jussi Pesonen owned 353,491 shares. At the end of the year, the other members of the Group Executive Team owned a total of 470,657 shares.

» Refer Note 3.2 *Key management personnel, of the consolidated financial statements 2017 for further information on remuneration and shares held by the members of the Board, the President and CEO and the members of Group Executive Team.*

Litigation

» Refer Note 9.2 *Litigation, of the consolidated financial statements 2017 for information on legal proceedings.*

Risks

Risk management

UPM regards risk management as a systematic and proactive means to analyse and manage opportunities and threats related to its business operations. This includes also risks avoided by careful planning and evaluation of future projects and business environment.

UPM seeks to transfer insurable risks through insurance arrangements if the risks exceed the defined tolerance.

UPM strives to ensure compliance with the UPM Code of Conduct and other corporate policies. To enhance compliance and mitigate risks, UPM performs risk assessments, training and monitoring at regular intervals.

The main risk factors that can materially affect the company's business, financial results and non-financial performance are set out below. They have been classified as strategic risks, operational risks, financial risks and hazard risks. Risks may also arise from legal proceedings incidental to UPM's operations.

Strategic risks

TYPE OF RISK	RISK DESCRIPTION
Competition, markets, customers and products	Energy, pulp, timber, paper, label, plywood and biofuels markets are cyclical and highly competitive. In all of these markets, the price level is determined as a combination of demand and supply, and shocks to either demand (decrease/increase in end-use demand, change in customer preferences, etc.) or supply (e.g. new production capacity entering the market or old capacity being closed) may impact both the volume and price level. Also competitor behaviour influences the market price development. UPM's performance is also impacted by the performance of substitute or alternative products. Most notably, the demand in graphical papers in the mature markets is forecasted to continue to decline, due to the shift away from print media to digital media. Similarly, several raw materials used by UPM have competing end uses. Consumers' environmental awareness has also increased, and depending on the product area this may have either a positive or negative impact on the consumption of UPM's products and may impose further requirements for those products. UPM sells a proportion of its products to several major customers. The largest customer in terms of sales represented approximately 3% of UPM's sales in 2017, and the ten largest customers represented approximately 15% of such sales.
M&A and changes in the business portfolio	UPM's strategic direction is to grow in businesses with strong long-term fundamentals and sustainable competitive advantage. This may result in acquisitions of new businesses or divestments of existing businesses. Participation in M&A involves risks relating to successful implementation of a divestment and the ability to integrate and manage acquired operations and personnel successfully, as well as to achieve the economic targets set for an acquisition/divestment.
Regulatory changes	UPM is exposed to a wide range of laws and regulations globally. The performance of UPM's businesses, for example the biofuels business, the paper businesses and the energy business, are to a high degree dependent on the current regulatory framework, and changes in regulation, direct and indirect taxation or subsidies would have a direct impact on the performance of UPM and its relative competitiveness. In addition, regulation may structurally restrict or exacerbate UPM's ability to compete for raw material.
Political and economical risks	UPM has significant production locations in Finland, Germany, the UK, France, Poland and the US. In these countries, the slow development of the individual economies and/or of Europe as a whole may influence adversely UPM's performance. Furthermore, policies (on European and/or national level) that hamper economic growth or lower the competitiveness of UPM (for example through adverse regulation or increase in direct or indirect taxation) may have an adverse impact on UPM's performance. In the developed countries, the unpredictability of regulation may lead to an increasing uncertainty and risk level when investing in or operating in these countries. UPM has significant production operations also in a number of developing economies, such as China, Uruguay and Russia. In the emerging market countries, the lack of transparency and predictability of the political, economic and legal systems may lead to an increasing uncertainty and risk level when investing in, or operating in these countries. These uncertainties may materialize as unfavourable taxation treatment, trade restrictions, inflation, currency fluctuations and nationalisation of assets.
Shareholdings	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 (the 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. According to a public statement by TVO in October 2017, TVO received information on the Supplier's schedule rebaseline review for OL3 project completion, according to which the start of regular electricity production at OL3 will take place in May 2019. Furthermore, TVO has expressed concerns regarding the pending restructuring of AREVA Group, involving a transfer of the operations of AREVA NP to a new company, the majority owner of which is going to be EDF, and the potential consequences for the performance of the OL3 contract. According to public statements by TVO, no assurance can be given that further delays, which could have a material adverse effect on TVO's business and financial position, will not occur prior to completion of the OL3 project. As a consequence, further delays 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 will be higher than the market price of electricity at that time.

Operational risks

TYPE OF RISK	RISK DESCRIPTION
Earnings uncertainty	The main short-term uncertainties in UPM's earnings relate to sales prices and delivery volumes of the group's products, as well as to changes in the main input cost items and exchange rates. Most of these items are dependent on general economic developments.
Supply chain management, availability and price of major inputs	UPM's business operations depend on a large number of suppliers and contractors. Majority of UPM's need of wood is covered by suppliers. Other production inputs, such as chemicals, fillers and recovered paper, are obtained from suppliers. Disruptions in the supply of key inputs would impact upon manufacturing operations, for example, by interrupting or resulting in the downscaling of production or a change in the product mix. They could also cause price increases for critical inputs or shifts in the availability and price of wood. It is also uncertain how the EU energy policies may impact upon the availability and costs of fibre and energy.
Project execution	Investment projects in UPM's businesses such as energy, pulp, paper or biofuels are often large and take one or more years to complete. UPM has experience in such projects in various businesses and locations around the world, and applies vigorous planning, project management and follow-up processes. Participation in large projects involves risks such as cost overruns or delays, as well as non-achievement of the economic targets set for the investment.
Partnerships	UPM currently works together with many partners without control over strategic direction and operational output. The highly competitive market situation and, for example, new developments in biofuels, bioenergy or biochemicals are likely to increase the importance of partnerships in the search for higher efficiency or new products and businesses. Partnerships, however, may create risks to the profitability, for example, through changes occurring within the partner entity or changes in how the partnership operates.
Ability to recruit and retain diversely skilled employees	UPM's success requires a skilled workforce and diversity in thinking. UPM is continuously developing its leadership culture, evaluating its recruitment, compensation policies and career development opportunities and taking measures to attract and retain diversely skilled personnel, thereby seeking to avoid shortages of appropriately competent and diverse personnel in the future.
Availability and security of information systems	UPM's production and business operations depend on the availability of supporting information system and network services. Unplanned interruptions in critical information system services can potentially cause a major damage in UPM's businesses. UPM has implemented numerous administrative and technical improvements to mitigate the availability and security risks and to reduce the service interruption related recovery time to acceptable level.
Climate change	Climate change exposes UPM to variety of risks. Unpredictable regulation and subsidies may distort raw material and final product markets, and costs of greenhouse gas emissions may influence UPM's financial performance. It may cause exceptional weather conditions and more severe storms, floods and draughts resulting in e.g. unpredictable wood harvesting conditions. However, transition to low-carbon economy should bring business opportunities to UPM's renewable and recyclable products.
Risks related to non-compliance in own operations and supply chain	Breach of applicable laws and regulations or corporate policies by UPM employees may lead to legal processes or serious reputational damages impacting the value of the company. The UPM Code of Conduct sets the standards of responsible behaviour. These standards apply to every UPM employee. The Code covers topics relating to legal compliance and disclosure, anti-corruption, competition law, HR practices, human rights, responsible sourcing and environmental matters. UPM's environmental performance and social responsibility play a significant role in UPM's ability to operate and influence the long-term success of its businesses. UPM strives to ensure that employees are aware of the legal requirements, the Code and corporate policies by regular trainings and communication. The company maintains a Report Misconduct channel on its website. Non-compliance in the supply chain may also lead to legal processes or serious reputational damages impacting the value of the company. The UPM Supplier and Third Party Code defines the minimum level of performance that UPM requires from its suppliers and third party intermediaries. UPM performs due diligence on third party intermediaries and carries out regular audits in its supply chain.

Financial risks

Financial risks are described in consolidated financial statements 2017.

TYPE OF RISK	CONSOLIDATED FINANCIAL STATEMENT NOTE
Credit risk	4.6 Working capital
Liquidity and refinancing risk	5.1 Capital management
Interest rate risk	6.1 Financial risk management
Foreign exchange risk	6.1 Financial risk management
Electricity price risk	6.1 Financial risk management

Hazard risks

TYPE OF RISK	
Accident, natural event and site security	UPM operates a significant number of manufacturing facilities globally, mostly UPM owned, and is also the largest private owner of forest land in Finland. UPM also owns a significant plantations area in Uruguay. UPM is exposed to risks in areas such as occupational health and safety, environment, fire, natural events and site security. These risks are managed through established management procedures and loss prevention programmes. UPM's insurance programme also provides coverage for insurable hazard risks, subject to insurance terms and conditions.

Non-financial information

Global megatrends represent many long-term opportunities and challenges for UPM towards 2030 and beyond. They are also driving demand for sustainable solutions and responsible business practices.

In order to guide its responsibility activities, UPM has established a set of responsibility focus areas with targets and key performance indicators. They are reviewed every year based on a materiality analysis (page 53). The focus areas cover economic, social and environmental responsibility.

In the area of economic responsibility, UPM is focused on economic performance, good governance and responsible sourcing. In the area of social responsibility, the focus is on the fulfilment of human rights, occupational health and safety and UPM's role as a responsible employer. Environmental responsibility covers climate, use of forests and water, and waste reduction. Product stewardship is a key element in UPM's responsibility practices.

Based on international frameworks and commitments

UPM respects international human rights agreements and agreements concerning labour rights, including the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the OECD Guidelines for Multinational Enterprises.

UPM is also a signatory of the UN Global Compact initiative, whose ten universal principles are derived from international agreements in the areas of human rights, labour standards, environment and anti-corruption. UPM is a member of the UN Global Compact LEAD forum as the only representative of the forest industry and the only Finnish participant.

UPM's Biofore strategy guides the company in achieving its responsibility targets for 2030 and in contributing to the Sustainable Development Goals (SDG) of the 2030 Agenda for Sustainable Development published by the UN.

UPM follows the Finnish Corporate Governance Code issued by the Securities Market Association and complies with all recommendations of it.

UPM Code of Conduct and other corporate policies

UPM's decision making, management and operations are guided by UPM values and the UPM Code of Conduct. Legal compliance and responsible and ethical practices are the foundation of all of UPM's businesses and create long-term value for both UPM and its stakeholders. The Code emphasises UPM's commitment to business integrity and responsible business operations manifesting the company's guiding principles.

The UPM Code of Conduct is complemented by more detailed policies approved by the Board of Directors and rules approved by the Group Executive Team, business areas and global functions. These policies and rules cover such topics as treasury, disclosure, insider matters, anti-bribery, competition law, confidentiality, contract management, taxation, human resources, environment, forestry, information security and data protection, safety, and equality.

UPM requires its suppliers, third party intermediaries and joint venture partners to apply the same principles as in the UPM Code of Conduct and to fulfil criteria concerning social and environmental responsibility. These supplier requirements are defined in the UPM Supplier and Third Party Code. To ensure compliance UPM uses tools such as annual questionnaires, audits and joint development plans. UPM expects its suppliers to promote the same requirements in their upstream supply chains.

Management of non-financial matters

UPM's responsibility thinking starts from anticipating, mitigating and managing risks and extends to creating competitive advantage and long-term value.

UPM continually strives to reduce its risk exposure and improve its performance by using tools such as certified management systems. The majority of UPM's production sites, as well as its forestry operations, are covered by quality, environmental and health and safety systems, which are certified in accordance with the ISO 9001, ISO 14001 and OHSAS 18001 standards respectively. UPM has certified all its European pulp and paper mills, the UPM Fray Bentos pulp mill in Uruguay and UPM Changshu paper mill in China in accordance with the voluntary EU Eco-Management and Audit Scheme (EMAS).

Should stakeholders have concerns or suspect misconduct, they are encouraged to contact UPM or to use the UPM Report Misconduct channel. This channel is available on UPM's intranet for UPM employees, and also on the corporate website for the company's external stakeholders. In 2017, 34 cases were reported through the UPM Report Misconduct channel or directly to internal audit. The complaints related mainly to suspected cases of fraud and suspected failures to adhere to the company's HR Rules or compliance procedures. None of the cases were related to corruption or discrimination. Four cases led to disciplinary action including warnings and terminations of employment.

Roles of the management and functions in managing non-financial matters

The Board of Directors, with the assistance of the Audit Committee, is responsible for monitoring compliance with applicable legal and regulatory requirements and with the UPM Code of Conduct and other corporate policies.

In addition, the Audit Committee oversees procedures for treatment of complaints and concerns received anonymously or otherwise by the company. As a part of the committee's compliance review, the committee is provided with a quarterly report by the company's Chief Compliance Officer and a report of submissions under the company's Report Misconduct channel by the Head of Internal Audit.

The Group Executive Team, headed by the President and CEO, is in charge of the management of corporate responsibility, determining the course of action and guiding development work. In practice, corporate responsibility efforts take place in businesses and functions, and in the Group's Environment & Responsibility team, which coordinates the projects carried out by businesses and functions.

UPM Legal Function manages legal compliance programmes and arranges related trainings at regular intervals to specific target groups, which have been defined based on risk assessments.

UPM Sourcing organisations follow clearly defined selection and follow-up processes when evaluating suppliers. Strategic fit, service range, product performance, quality, price and sustainability are the important factors when selecting and evaluating suppliers.

While executing strategies, UPM and its business areas, functions and manufacturing units are exposed to a number of risks and opportunities. Each business area, function and unit is responsible for identifying, measuring and managing of risks related to its own operations, and for reporting on risk exposures, risk management activities and results to its own management team and to the Risk Management Function.

Reporting framework used

UPM uses the GRI Standards reporting guidelines published by the Global Reporting Initiative to measure and report on corporate responsibility at group level. UPM's corporate responsibility reporting has been compiled in accordance with the GRI Standards: Core option.

Committed to anti-corruption

The UPM Code of Conduct underlines the company's zero tolerance towards corruption and bribery in any form. UPM Anti-Bribery Rules explain in further detail prohibited conduct and expected ethical behaviour.

UPM performs anti-corruption risk assessment on a regular basis. The annual risk assessment process includes a top down risk discussion with the management of each business area. All UPM group entities are also assessed on the basis of country risk and complexity of operations. UPM operates globally and has significant manufacturing operations in several emerging market countries. Such operations require a number of permits and other licenses from authorities. Some of the countries where UPM operates are perceived as highly corrupted or corrupted according to Transparency International. In these countries, there is an increased risk of corruption for example in relation to interaction with government officials and in the use of intermediaries when applying for permits and licenses requiring governmental approval.

Due diligence of suppliers and third parties with whom UPM does business is an essential part of UPM's anti-bribery compliance programme. UPM requires that due diligence is performed before entering into or renewing any contract with a third party which meets specified criteria. UPM requires anti-bribery contract terms to be included in agreements with such third parties outlining the third party's commitment to compliance with applicable anti-bribery laws and UPM's right to audit the third party to verify compliance with these terms. The company has also corresponding due diligence procedures for joint ventures, including mergers and acquisitions.

In 2017, the company's anti-bribery training was extended to cover all white-collar employees. UPM also launched an initiative to further enhance due diligence procedures, implemented a new policy management framework and performed risk-based compliance reviews in selected jurisdictions and operations.

Respect for human rights

UPM is committed to respecting human rights. UPM has mapped its operations and activity and identified the potential human rights issues and impacts. In considering both the severity and likelihood of these potential issues and impacts UPM considers the salient human rights issues in the company's sphere of influence to be environmental pollution, occupational health and safety (OHS), working conditions, protection of children, and forced labour.

Responsible sourcing

UPM requires its suppliers, third-party intermediaries and joint venture partners to apply the same principles as in the UPM Code of Conduct including commitment to anti-corruption, environmental and social responsibility, safe products, human rights and occupational health and safety practices.

Transparent supplier requirements are the basis for responsible sourcing. These supplier requirements are defined in the UPM Supplier and Third Party Code (available on the corporate website). A number of additional requirements are in place for sourcing of wood, chemicals, pulp and packaging materials as well as for safety and logistics. All contractors working on site go through UPM's safety requirements and a web-based safety induction training.

UPM's supplier risk assessment covers financial, quality, environmental, social, economic and delivery related risks. Based on the risk assessments, UPM selects suppliers whose performance is assessed in more detail and uses tools such as annual questionnaires, audits and joint development plans to monitor compliance.

In 2017, UPM trained its key personnel on the revised Supplier and Third Party Code, approved in December 2016. Personnel visiting suppliers' production units regularly were also trained on operational health and safety issues.

Social and employee-related matters

UPM's responsibility focus areas in social and employee-related matters are learning and development, responsible leadership, diversity as well as working conditions.

UPM promotes active employee participation and consultation, organised in accordance with international and national rules and regulations. UPM aims to empower and engage employees at all levels through responsible leadership. UPM encourages its employees to pursue professional growth and supports them in learning and developing their skills further.

UPM respects the privacy of employees and promotes equal opportunities and objectivity in employment and career development. All UPM employees are treated as individuals regardless of gender, age, ethnic origin, nationality, etc.

UPM promotes employees' wellbeing and health. Safety is an essential part of UPM's activities and business management system. Equal safety requirements are applied to all employees, visitors and contractors working at UPM's premises.

In People Strategy, UPM focused on value-based and inspiring leadership, aiming higher in business performance and development of agility and competitiveness in 2017. UPM continued to review the status of diversity in businesses and functions. UPM integrated diversity and inclusion in key management team self-assessments and integrated inclusion in leadership development programmes to improve performance and innovation. The proactive safety of employees and contractors remained an important focus area. UPM implemented a global reporting tool, One Safety, for all UPMers and contractors.

Product stewardship

UPM's products are made from renewable and recyclable raw materials. Product stewardship covers the entire lifecycle for all UPM products from the development phase to the end-use and beyond.

Ecodesign and product safety measures, such as Restricted Chemical Substance List, ensure that impacts on products and the environment are considered and minimised. UPM provides product declarations to grant customers easy access to information concerning the responsibility of products and the supply chain. UPM is the world's largest producer of EU ecolabelled newsprint, graphic and office papers.

In 2017, UPM introduced a new product WISA BioBond, a new lignin-based gluing technology where 50% of the fossil-based phenol can be replaced with lignin. UPM Biofuels received an RSB (The Roundtable on Sustainable Biomaterials) certificate which verifies the sustainability and reliability of feedstock sourcing and production. UPM Specialty Papers introduced UPM's Responsible Fibre™ concept to Asian markets.

Environmental matters

UPM's responsibility focus areas in environmental matters are forest, climate, water and waste. UPM uses raw materials, water, energy and other resources in a responsible manner and continuously improves its energy, resource and cost efficiency.

UPM is committed to sustainable forestry, and the company uses third-party-verified FSC® and PEFC™ chain of custody certification to ensure that the wood it procures is legally sourced from sustainably managed forests. All UPM owned forests are certified. The aim of UPM's global biodiversity programme is to maintain biodiversity in forests, to promote best practices in sustainable forestry and to emphasize the role of ecosystem services.

UPM favours the use of renewable and other carbon-neutral energy sources. Biomass-based fuels make up 69% (69%) of those used by UPM worldwide. UPM is the second largest generator of biomass-based electricity in Europe. If UPM would need to buy certificates to cover its whole fossil CO_2 emissions, and the price of CO_2 certificates would rise by EUR 5 per tonne, it would mean additional costs of approximately EUR 16 million annually.

All UPM's largest production plants are located in areas where there is sufficiently water available. The water used by UPM plants comes from rivers, lakes or groundwater resources. UPM uses water responsibly in terms of the company's water consumption and effluent quality. If the price for raw water would increase by EUR 0.01 per cubic metre, it would mean additional water costs of approximately EUR 5 million annually.

UPM has developed innovative ways to reduce its own waste and to recycle waste or residues in new products such as UPM BioVerno, UPM's renewable diesel and UPM ProFi composite which utilises partly waste from the production of self-adhesive label materials. Furthermore, residues are used in external products, e.g. ash is used in applications ranging from landscaping to road building. Regulatory changes can have an impact on the use options for waste or residues, thus causing higher costs for alternative solutions.

In 2017, UPM's environmental investments totalled EUR 21 (22) million. The single largest investment was effluent treatment plant improvements at the UPM Fray Bentos pulp mill. UPM's environmental costs, which were mainly attributable to effluent treatment and waste management, totalled EUR 125 million (120) million, including depreciation.

There has been a significant decrease in the number of environmental non-conformances since UPM's internal Clean Run programme was launched in 2012. No major environmental incidents occurred at UPM production plants in 2017. However, a total of 33 (33) temporary deviations from permit limits or major deviations from the environmental limits set by UPM occurred over the course of the year. Nearly 2,600 (2,300) preventive environmental observations were reported in 2017. The goal of the Clean Run programme is to improve UPM's environmental performance, share best practices and promote environmental awareness.

In 2017, UPM's environmental performance improved compared to 2016 with a 6% reduction of fossil CO_2 emissions (scope 1 and 2) and 13% reduction of waste to landfills. Wastewater volume remained at a stable level compared to 2016, but is still in line with UPM's 2030 target.

Material non-financial topics and key performance indicators:

TOPIC	MANAGEMENT	KEY PERFORMANCE INDICATOR	2017 RESULTS
Governance/ Anti-Corruption	Corruption related risks are identified and assessed in connection with the company's risk management process. These risks are managed and mitigated by training, communication, due diligence procedures, audits and practical guidelines specifically targeted at anti-corruption and anti-bribery. UPM Code of Conduct training is mandatory to all employees and anti-bribery training to all salaried employees.	100% coverage of participation in UPM Code of Conduct training (continuous)	98% (97%) of active employees completed UPM Code of Conduct training.
Human rights	UPM is committed to respecting human rights based on its Code of Conduct. UPM has a process for assessing human rights at UPM site level, including community relations and local sourcing as well as for risk assessments and audits for suppliers.	Continuous supplier auditing based on systematic risk assessment practices	Approximately 130 supplier audits were conducted based on identified risks and including human rights topics. UPM conducted a human rights due diligence at all production sites.
Responsible sourcing	UPM requires its suppliers and third party intermediaries and joint venture partners to apply the same principles as in the UPM Code of Conduct. These supplier requirements are defined in the UPM Supplier and Third Party Code.	80% of total supplier spend qualified against UPM Supplier Code (continuous)	82% (80%) of supplier spend qualified against UPM Supplier and Third Party Code.
Responsible leadership	UPM continuously develops leadership capabilities and management teams and develops the working environment. UPM measures the work environment, team work and leadership with annual engagement survey and has a leadership development programme portfolio covering topics such as self-leadership, leading people, coaching capabilities, innovation and leading complexity.	Employee engagement and enablement indices overall favourable score above external high performance norm by 2030	Employee engagement index 71% favourable. This is 2 percentage points below external high performing norm. Employee enablement index 73% favourable This is 1 percentage point above external high performing norm.
Learning and development	UPM has a systematic process for goal setting and creating development plans for all employees globally to ensure high performance and continuous professional development.	Target setting discussions are held and development plans created for all employees, completion rate 100% by 2030	89% of employees had individual goal setting or annual discussion completed and 62% had a development plan documented.
Safe working conditions	UPM has a comprehensive safety management system which promotes a proactive and engaging safety culture. UPM uses means such as safety audits and reporting on safety related near-misses and safety observations.	No fatalities or serious accidents in UPM operations. Total recordable injury frequency (TRIF) <2 levels permanently reached including contractors.	Three fatal contractor accidents (two fatal accidents). TRIF was 8.2 for UPM workforce and 8.5 including contractors.
Diversity	UPM wants to develop organisational culture and local conditions to ensure inclusive and diverse working environment. UPM has committed to and promotes diversity and inclusion in its policies. UPM reviews the diversity status of all its businesses and functions regularly. The composition of UPM key management teams and inclusiveness is discussed and development actions planned and implemented.	95% favorable in Employee Engagement Survey's Diversity and Inclusion index by 2030	67% favourable in Employee Engagement Survey's Diversity and Inclusion Index.
Product stewardship	Ecolabels help customers make responsible choices and provide stakeholders with important information. Third-party verified environmental certificates and labels tell customers about the environmental performance of our products.	All applicable products eligible for ecolabelling by 2030	85% of UPM sales was eligible for ecolabelling.
Climate	UPM favours the use of renewable and other carbon-neutral energy sources and strives to continuously improve its energy efficiency across all its operations.	Fossil CO_2 emissions from own combustion and purchased electricity (Scope 1 and 2) reduced 30% by 2030 (compared to 2008)	Fossil CO_2 emissions reduced by 6% compared to 2016. However, the increase in 2011 due to Myllykoski acquisition has not been compensated yet.
Water	UPM's goal is to minimise the impact of its operations on water resources, safeguard the natural water cycle in forests, and maintain the functioning of aquatic ecosystems.	Wastewater volume reduced 30% by 2030 (compared to 2008)	13% reduction in wastewater volume achieved since 2008 for the UPM average product.
Waste	Circular economy means both financial and environmental efficiency. UPM aims to reuse materials and products, reduce the amount of solid waste and increase recycling and recovery in its operations.	No process waste to landfills or to incineration without energy recovery by 2030	89% (89%) of all UPM's process waste was recovered and recycled. The total amount of waste to landfills decreased by 13% compared to 2016.
Forest	UPM is committed to sustainable forestry, and uses third-party verified chains-of-custody to ensure that wood is legally sourced from sustainably managed forests.	All fibre certified by 2030	85% (84%) of all wood used by UPM is sourced from certified forests.

Material risks and their management is described on pages 102-104 of the Report of Board of Directors and in the Annual Report on pages 22-23. Information on the company's risk management system is available on the corporate website in the governance section and in the Corporate Governance Statement 2017, which is also available as a separate report on the corporate website ***www.upm.com/governance****.*

More information about performance related non-financial topics is available in the general section of the Annual Report and on the UPM website: ***www.upm.com****.*

Research and development

Growth and competitive edge

Innovations and R&D programmes are essential in the development of new products. These development programmes aim to create new technologies and products and to ensure the competitiveness of UPM's businesses.

In 2017, UPM spent EUR 58 million (46 million) on research and development, making up approximately 3.7% (2.7%) of UPM's operating cash flow. The focus was on new technologies and developing businesses.

On top of the direct R&D expenditure of approximately EUR 51 million (40 million), the figures include negative operating cash flow and capital expenditure in developing businesses. A global network of research centres supports UPM's new and existing businesses.

Progress in sustainable biochemical business

UPM Biochemicals focuses on three product categories: biochemicals, biomedical products and lignin products.

Biochemicals can replace oil-based chemicals. The products using UPM's biochemicals can be converted into various industrial products and everyday consumer goods. In 2017, UPM announced that it was going to evaluate the potential of building a biorefinery in the Frankfurt-Höchst Chemical Park in Germany. This brand new industrial-scale biorefinery would produce 150,000 tons of bMEG (bio-monoethylene glycol), bMPG (bio-monopropylene glycol) and lignin from hardwood.

UPM continues to develop biomedical products in collaboration with researchers at Biomedicum in Helsinki, Finland. GrowDex hydrogel is suitable for cell culturing, and medical research is finding more new applications for it. One example is FibDex, a new wound dressing product that is expected to be launched soon.

Lignin can be used in resins employed as binders in wood-based products, as well as in plastics, foams and coatings. In 2017, UPM Plywood launched WISA BioBond, a gluing technology for plywood manufacturing where fossil-based phenol is replaced with lignin. Formed as a side stream in the pulp production process, lignin has traditionally been burned to generate energy, but the new technology turns it into a high-quality product that can replace fossil raw materials. The gluing technology is based on lignin technology developed and patented by UPM Biochemicals.

Developing new end uses and feedstocks in biofuels

Made from a renewable raw material, crude tall oil, UPM BioVerno naphtha is an excellent biocomponent for gasoline. It also works exceptionally well as a raw material for producing bioplastics.

UPM Biofuels announced that it is testing a sequential crop of Brassica carinata in Uruguay and Brazil as part of biofuels future development. Carinata is an oilseed crop specially developed for sustainable production of biofuels.

New biocomposite materials for indoor and outdoor uses

UPM Biocomposites develops innovative and sustainable composite products for various outdoor uses and consumer products.

The patented UPM ProFi production process is a good example of circular economy: cellulose fibres and polymers from self-adhesive label waste is used to create high-quality decking systems.

UPM Formi composite material, made from cellulose fibres and polymers, is suitable for a variety of applications from furniture to consumer electronics. UPM Formi complies with the requirements set by the EU for reinforced plastics in relation to circular economy, and its carbon footprint is up to 50% lower compared to traditional plastics.

Advanced analytics for efficient decision-making

UPM utilises advanced analytics to significantly improve the optimisation of sales, production, logistics and inventory management, as well as risk management. Analytics provide a competitive edge and added value quickly and cost-efficiently.

UPM set up an advanced analytics team in 2017 to develop modern tools based on applied mathematics, both to support decision-making in UPM businesses and for use across the company. UPM Forecasting Platform, launched in 2017, made top-level algorithmic forecasting available throughout the company. The analytics team offers data science training for UPM employees and is involved in academic collaboration with UPM's external networks.

Solid patent portfolio

UPM actively protects innovations and brands with intellectual property rights, and manages and uses its patents, trademarks and other intellectual property rights worldwide. Protected innovations and high-level risk management are an integral part of UPM's business model. UPM is also actively seeking partners and licensing opportunities to develop new technologies and solutions for its customers.

The significance of the patents and intellectual property rights protecting UPM's innovations is even more pronounced in new businesses. A solid patent portfolio boosts UPM's competitive edge and also provides an excellent basis for value creation in the future. UPM files approximately 360 patent applications around the world every year.

Technical solutions and innovations that use wood, chemicals, energy and water more efficiently are being patented also in existing businesses like pulp and paper production.

Research projects to enhance circular economy

UPM's research into the side streams of pulp and paper mill integrates aims to find more efficient ways to utilise side streams such as sludge, ash, green liquor dregs and waste heat.

A joint project with fertilizer manufacturer Yara develops recycled fertilizers for crops from sludge. Research projects have investigated many solutions for the use of green liquor dregs and ash, and some more promising development projects are currently underway in the construction sector.

UPM also applies the positive results in its Zero Solid Waste project, aiming to develop intelligent and sustainable solutions for recycling surplus materials to ensure they produce added value.

The China More with Biofore research programme is looking for technical solutions for UPM Changshu paper mill to decrease water consumption and emissions, save energy and utilise solid waste, for example. The mill's water consumption and energy-efficiency are already at a good level and among the best in the world, and their sulphur dioxide, nitrogen oxide and dust emissions are clearly lower than China's most stringent limit values.

Aiming for bioeconomy

The bioeconomy is based on the sustainable use of renewable resources. UPM's bio-based products can reduce the use of fossil raw materials and replace non-renewable materials with renewables. The bioeconomy utilises the best available techniques to consume and recycle natural resources and nutrients efficiently. Biodiversity forms the basis for a sustainable bioeconomy.

One example of a research project exploring opportunities of bioeconomy is UPM's Sustainable Fibre Materials programme, which examines new ways to utilise fibre-based, value-added products and materials. The aim is to find sustainable and safe solutions that replace fossil alternatives and are environmentally sound and versatile. The starting point for the development work is UPM's ecodesign thinking, covering the impacts of the entire lifecycle. Special attention is paid to the biodegradability of products. Business Finland supports this programme.

Fibre-based materials are being developed for growing end-uses such as tissue, hygiene, nonwovens, flexible packaging, labels and biocomposites. New solutions will be developed in collaboration with UPM's businesses, research organisations and customers.

Extensive partner network

UPM's extensive partner network comprises universities, research institutes, suppliers and start-up companies. Collaboration speeds up the development and launch of new solutions, particularly for new businesses.

UPM is involved in the European Joint Undertaking on Bio-based Industries, BBI. The partnership programme focuses on the development of bioeconomy, bio-based products and their production, as well as on strengthening their competitiveness in Europe. The members of the programme represent several industries.

UPM is a shareholder in the Finnish CLIC Innovation company whose research programmes focus on bioeconomy and cleantech research, as well as energy and environmental research, thus supporting UPM's own R&D efforts.

R&D's role in different businesses

BUSINESS AREA	DESCRIPTION
UPM Biorefining UPM Pulp	In 2017, the focus was on operational efficiency. UPM Pulp focused especially on integrating the information on wood available for pulp mills. In mill-process-related development work, the emphasis was on consistent quality of the end product and the cost efficiency and capacity utilisationof the mills. The main focus of the research programme for eucalyptus wood in Uruguay was on plantation development and the need for both current and new genetic material. Programmes relating to solid waste treatment were completed with industrial consortia. Work has begun to utilise the research results for business development opportunities both in Finland and Uruguay. UPM's R&D experts developed UPM Pulp's technical customer service process and produced new added-value services for selected Pulp customers.
UPM Biofuels	Renewable UPM BioVerno diesel and naphtha were successfully distributed to the Nordic market throughout the year. In January, the Bioeconomy Panel of the Nordic Council of Ministers chose UPM BioVerno diesel among 25 unique example cases of bioeconomy. In May, the world's first RSB (Roundtable on Sustainable Biomaterials) certificate for wood-based fuels was awarded to UPM Biofuels. In June, UPM launched BioSata, an initiative to make Helsinki's regional traffic cleaner, with buses and the majority of the city's machinery and trucks switching to waste- and residue-based biofuels. As well as HSL (Helsinki Regional Transport Authority), Stara and UPM Biofuels, the Ministry of Economic Affairs and Employment, the Finnish Petroleum and Biofuels Association, the VTT Technical Research Centre of Finland and several energy companies operating in Finland are also involved in the project. The initiative is a part of the Smart & Clean project, which has the objective of making the Helsinki region the world's most attractive area for emission-free transportation. In June, UPM Biofuels announced that it is testing a new feedstock concept by growing Brassica Carinata in winter in South America, outside of its main cultivation period. The Carinata crop produces non-edible oil suitable for biofuels' feedstock and protein for animal feed. The winter cultivation concept is a part of the plan for the future of biofuels. UPM Biofuels won the Bioenergy Industry Leadership award at the Platts Global Energy Awards in December 2017.
UPM Energy	The focus was on improving the cost competitiveness and environmental performance of hydro and biomass-based energy production assets and developing competencies and business operations related to the optimisation of industrial power consumption and demand-side management. UPM Energy participated in several research programmes and undertook development work with the aim of improving UPM's operations relating to energy generation and consumption in a changing energy market.
UPM Raflatac	Research centres in four locations (Finland, Poland, China, USA) support the product development of paper, film and special products in the global self-adhesive labelling business operations. Cost efficiency and product customisation requirements for various end-use segments are taken into account during customer-orientated development. Sustainable alternatives and product safety have increased their role alongside these requirements. Continuous quality development still remains an essential part of product and process development.
UPM Specialty Papers	UPM Specialty Papers focused its research and development on supporting growing businesses, growth initiatives, responsibility and operational efficiency. The China More with Biofore research programme has progressed well and new approaches have been devised to further improve the environmental performance of the UPM Changshu mill. UPM research centres in Lappeenranta, Finland and Changshu, China support local production and global business operations.
UPM Paper ENA	Research and development in UPM Paper ENA focuses on supporting profitable operations and a competitive product portfolio with the state-of-the-art competencies of a professional R&D organisation. Agile R&D operations in co-operation with business stakeholders; quick field tests and application of the results; benchmark analysis; effective troubleshooting; asking the right questions and challenging the old ways are key factors in successful R&D support for printing papers. UPM research centres in Lappeenranta, Finland and Augsburg, Germany support global production and business operations.
UPM Plywood	The key focus areas for research and development include providing superior technical expertise and support for customers, creating competitive products within selected end-use areas, developing processes within their own production environment and supporting the commercialisation of newly developed products and applications. WISA® BioBond gluing technology, based on UPM's own lignin technology, was introduced. In this new technology, 50% of the fossil-based raw material (phenol) is replaced with lignin, a residue of the pulping process. A new fire-retardant product, WISA-SpruceFR, for end use in construction was developed and introduced to the market. The piloting of WISA® Bonded Floor technology was continued with selected customers. New products were developed for applications in concreting and transportation end use to complement the current portfolio.

Board of Director's proposal for the distribution of profits

The Board of Directors proposes to the Annual General Meeting of UPM-Kymmene Corporation to be held on 5 April 2018 that a dividend of EUR 1.15 per share be paid based on the balance sheet to be adopted for the financial year ending 31 December 2017 and that the remaining portion of the distributable funds be retained in the Company's unrestricted shareholders' equity.

The dividend will be paid to a shareholder who is registered in the Company's shareholders' register held by Euroclear Finland Ltd on the dividend record date of 9 April 2018. The Board of Directors proposes that the dividend be paid on 19 April 2018.

On the date of the dividend proposal, 31 January 2018, the Company's registered number of shares is 533,735,699. The aforementioned number of shares includes 411,653 treasury shares which are not entitled to dividend. As a result, the proposed dividend would total EUR 613.3 million.

On 31 December 2017, the distributable funds of the parent company were EUR 3,739,614,044.37 including EUR 859,161,250.56 profit for the period. No material changes have taken place in respect of the Company's financial position after the balance sheet date. In the opinion of the Board of Directors, the proposed distribution of profits does not risk the solvency of the Company.

Signatures of the annual accounts and the report of the Board of Directors for the year 2017

Helsinki, 31 January 2018

Björn Wahlroos Chairman	Berndt Brunow	Henrik Ehrnrooth
Piia-Noora Kauppi	Wendy E. Lane	Jussi Pesonen President and CEO
Ari Puheloinen	Veli-Matti Reinikkala	Suzanne Thoma
Kim Wahl		

Consolidated financial statements, IFRS

Consolidated income statement

EURm	NOTE	2017	2016
Sales	2.1, 2.2	10,010	9,812
Other operating income	2.3	83	140
Costs and expenses	2.3	–8,492	–8,365
Change in fair value of forest assets and wood harvested	4.2	103	88
Share of results of associates and joint ventures		5	5
Depreciation, amortisation and impairment charges	2.3, 4.1, 4.4	–450	–545
Operating profit		1,259	1,135
Gains on sale of energy shareholdings, net	4.3	–3	1
Exchange rate and fair value gains and losses	5.4	–12	–7
Interest and other finance costs	5.4	–57	–49
Profit before tax		1,186	1,080
Income taxes	7.1	–212	–200
Profit for the period		974	880
Attributable to:			
Owners of the parent company		973	879
Non-controlling interests		1	1
		974	880
Earnings per share for profit attributable to owners of the parent company			
Basic earnings per share, EUR	2.4	1.82	1.65
Diluted earnings per share, EUR	2.4	1.82	1.65

Consolidated statement of comprehensive income

EURm	NOTE	2017	2016
Profit for the period		974	880
Other comprehensive income for the period, net of tax			
Items that will not be reclassified to the income statement:			
Actuarial gains and losses on defined benefit plans		66	–97
Items that may be reclassified to the income statement:			
Translation differences		–270	–14
Net investment hedge		20	–1
Cash flow hedges		122	73
Gains and losses on energy shareholdings		24	–144
		–102	–87
Other comprehensive income for the period, net of tax	7.2	–37	–184
Total comprehensive income for the period		937	696
Attributable to:			
Owners of the parent company		937	695
Non-controlling interests		1	1
		937	696

The notes are integral part of these consolidated financial statements

Consolidated balance sheet

EURm	NOTE	2017	2016
ASSETS			
Goodwill	4.4	231	245
Other intangible assets	4.4	294	301
Property, plant and equipment	4.1	4,281	4,657
Forest assets	4.2	1,600	1,734
Energy shareholdings	4.3	1,974	1,932
Other non-current financial assets	5.3	192	255
Deferred tax assets	7.2	423	446
Net retirement benefit assets	3.4	84	71
Investments in associates and joint ventures		29	29
Other non-current assets		37	47
Non-current assets		9,144	9,715
Inventories	4.6	1,311	1,346
Trade and other receivables	4.6, 5.3	1,783	1,726
Other current financial assets	5.3	92	109
Income tax receivables		20	14
Cash and cash equivalents	5.1	716	992
Current assets		3,922	4,187
Assets classified as held for sale		1	8
Assets		13,067	13,911

EURm	NOTE	2017	2016
EQUITY AND LIABILITIES			
Share capital	5.5	890	890
Treasury shares		−2	−2
Translation reserve		184	433
Other reserves	5.5	1,564	1,416
Reserve for invested non-restricted equity	5.5	1,273	1,273
Retained earnings		4,752	4,225
Equity attributable to owners of the parent company		8,660	8,234
Non-controlling interests		4	3
Equity		8,663	8,237
Deferred tax liabilities	7.2	458	457
Net retirement benefit liabilities	3.4	736	817
Provisions	4.5	177	145
Non-current debt	5.2, 5.3	789	1,835
Other non-current financial liabilities	5.3	94	110
Non-current liabilities		2,254	3,364
Current debt	5.2, 5.3	324	584
Trade and other payables	4.6, 5.3	1,765	1,594
Other current financial liabilities	5.3	34	116
Income tax payables		26	16
Current liabilities		2,150	2,309
Liabilities		4,404	5,673
Equity and liabilities		13,067	13,911

The notes are integral part of these consolidated financial statements

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 2017	890	−2	433	1,416	1,273	4,225	8,234	3	8,237
Profit for the period	–	–	–		–	973	973	1	974
Translation differences	–	–	−269	–	–	–	−269	–	−270
Cash flow hedges – reclassified to income statement, net of tax	–	–	–	28	–	–	28	–	28
Cash flow hedges – changes in fair value, net of tax	–	–	–	95	–	–	95	–	95
Net investment hedge, net of tax	–	–	20	–	–	–	20	–	20
Energy shareholdings – changes in fair value, net of tax	–	–	–	24	–	–	24	–	24
Actuarial gains and losses on defined benefit plans, net of tax	–	–	–	–	–	66	66	–	66
Total comprehensive income for the period	–	–	−249	147	–	1,039	937	–	937
Share-based payments, net of tax	–	–	–	1	–	−5	−4	–	−4
Dividend distribution	–	–	–	–	–	−507	−507	–	−507
Total transactions with owners for the period	–	–	–	1	–	−512	−511	–	−511
Total equity at 31 December 2017	890	−2	184	1,564	1,273	4,752	8,660	4	8,663
Value, at 1 January 2016	890	−2	449	1,486	1,273	3,846	7,942	2	7,944
Profit for the period	–	–	–	–	–	879	879	1	880
Translation differences	–	–	−14	–	–	–	−14	–	−14
Cash flow hedges – reclassified to income statement, net of tax	–	–	–	55	–	–	55	–	55
Cash flow hedges – changes in fair value, net of tax	–	–	–	18	–	–	18	–	18
Net investment hedge, net of tax	–	–	−1	–	–	–	−1	–	−1
Energy shareholdings – changes in fair value, net of tax	–	–	–	−144	–	–	−144	–	−144
Actuarial gains and losses on defined benefit plans, net of tax	–	–	–	–	–	−97	−97	–	−97
Total comprehensive income for the period	–	–	−16	−72	–	782	695	1	696
Share-based payments, net of tax	–	–	–	1	–	−3	−2	–	−2
Dividend distribution	–	–	–	–	–	−400	−400	–	−400
Total transactions with owners for the period	–	–	–	1	–	−403	−402	–	−402
Total equity at 31 December 2016	890	−2	433	1,416	1,273	4,225	8,234	3	8,237

» Refer Note 5.5 Share capital and reserves, for further information.

Consolidated cash flow statement

EURm	2017	2016
Cash flows from operating activities		
Profit for the period	974	880
Adjustments [1]	779	778
Interest received	2	6
Interest paid	–32	–40
Dividends received	10	4
Other financial items, net	–51	8
Income taxes paid	–216	–145
Change in working capital [2]	91	195
Operating cash flow	1,558	1,686
Cash flows from investing activities		
Capital expenditure	–305	–351
Acquisition of businesses and subsidiaries, net of cash acquired	–1	–
Acquisition of energy shareholdings	–25	–
Proceeds from sale of property, plant and equipment and intangible assets	106	93
Proceeds from disposal of shares in associates and joint ventures	3	–
Proceeds from disposal of energy shareholdings	1	6
Net cash flows from net investment hedges	–3	–8
Change in other non-current assets	3	–2
Investing cash flow	–222	–262
Cash flows from financing activities		
Proceeds from non-current debt	1	1
Payments of non-current debt	–964	–540
Change in current liabilities	–21	–77
Net cash flows from derivatives	–97	–22
Dividends paid	–507	–400
Other financing cash flow	–17	–19
Financing cash flow	–1,604	–1,057
Change in cash and cash equivalents	–268	367
Cash and cash equivalents at beginning of period	992	626
Exchange rate effect on cash and cash equivalents	–7	–1
Change in cash and cash equivalents	–268	367
Cash and cash equivalents at end of period	716	992

[1] Adjustments

EURm	2017	2016
Change in fair value of forest assets and wood harvested	–103	–88
Share of results of associates and joint ventures	–5	–5
Depreciation, amortisation and impairment charges	450	545
Capital gains and losses on sale of non-current assets	–53	–55
Financial income and expenses	70	56
Income taxes	212	200
Utilised provisions	–45	–47
Non-cash changes in provisions	37	44
Other adjustments	216	128
Total	779	778

[2] Change in working capital

EURm	2017	2016
Inventories	–26	41
Receivables included in working capital	–68	22
Liabilities included in working capital	184	132
Total	91	195

Notes to the consolidated financial statements

The notes to the consolidated financial statements are grouped into sections based on their nature. The notes contain the relevant financial information as well as a description of accounting policy and key estimates and judgements applied for the topics of the individual notes. All amounts are shown in millions of euros unless otherwise stated.

§ Items marked with this symbol describe the accounting principle applied by UPM to the specific financial statement area.

Items marked with this symbol indicate that the accounting area involves estimates and judgement which are described separately.

! Risks related disclosures, whether they are financial, actuarial, credit or counterparty in nature, can be found in sections marked with this symbol.

1. Basis for reporting

1.1 Corporate information

UPM-Kymmene Corporation ("the parent company" or "the company") together with its consolidated subsidiaries ("UPM" or "thegroup") is a global forest-based bioindustry group. UPM large product range covers pulp, graphic and specialty papers, self-adhesive labels, wood-based renewable diesel, electricity as well as plywood and timber products.

UPM-Kymmene Corporation is a Finnish limited liability company, domiciled in Helsinki in the Republic of Finland. The address of the company's registered office is Alvar Aallon katu 1, 00100 Helsinki, where a copy of the consolidated financial statements can be obtained.

The parent company's shares are publicly traded on the Nasdaq Helsinki Main Market.

These group consolidated financial statements were authorised for issue by the Board of Directors on 31 January 2018. According to the Finnish Companies Act, the General Meeting of Shareholders is entitled to decide on the adoption of the company's financial statements.

1.2 Basis of preparation

UPM's consolidated financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS as adopted by the EU) and IFRIC Interpretations.

The consolidated financial statements have been prepared under the historical cost convention, except for forest assets, energy shareholdings and certain other financial assets and financial liabilities, defined benefit plan assets and obligations and share-based payment arrangements which are measured at fair value.

The consolidated financial statements are presented in millions of euros, which is the functional and presentation currency of the parent company. Items included in the financial statements of each group subsidiary are measured using the currency of the primary economic environment in which the subsidiary operates ("the functional currency").

The amounts within parentheses refer to the preceding year, 2016.

Figures presented in these financial statements are rounded and therefore the sum of individual figures might deviate from the presented total figure.

§ *Accounting policies*

The accounting policies applied to the consolidated financial statements as a whole are described in this section, while the remaining accounting policies are described in the notes to which they relate as UPM aims to provide enhanced understanding of each financial statement area. Further, to provide a better understanding, the accounting choices made within the framework of the prevailing IFRS are described together with the policy.

Key estimates and judgements

In the process of applying the group's accounting policies, management has made a number of judgements and applied estimates of future events that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Although these estimates are based on management's best knowledge, actual results and timing may ultimately differ from previously made estimates.

Key estimates and judgement which are material to the reported results and financial position are presented in the following notes:

KEY ESTIMATES AND JUDGEMENTS	NOTE
Valuation of forest assets	4.2 Forest assets
Fair value determination of energy shareholdings	4.3 Energy shareholdings
Impairment of property, plant and equipment	4.1 Property, plant and equipment
Impairment of goodwill and other intangible assets	4.4 Goodwill and other intangible assets
Pension and other post-employment benefits	3.4 Retirement benefit obligations
Income taxes	7. Income tax
Environmental provisions	4.5 Provisions
Legal contingencies	9.2 Litigation

Financial risks

UPM is exposed to a variety of financial risks as a result of its business activities including currency risk, interest rate risk, commodity price risk, credit risk, capital risk and liquidity risk. Risk management related to financial activities is carried out by UPM's central treasury department, Treasury and Risk Management, under policies approved by the Board of Directors. Financial risks are described in the relevant notes as described below.

FINANCIAL RISK	NOTE
Credit risk	4.6 Working capital
Liquidity and refinancing risk	5.1 Capital management
Interest rate risk	6.1 Financial risk management
Foreign exchange risk	6.1 Financial risk management
Electricity price risk	6.1 Financial risk management
Financial counterparty risk	6.2 Derivatives and hedge accounting

1.3 Consolidation principles

Subsidiaries

UPM's consolidated financial statements include the financial statements of the parent company, UPM-Kymmene Corporation, and subsidiaries controlled by UPM. All group entities apply consistently UPM's accounting policies. All intercompany transactions, receivables, liabilities and unrealised profits, as well as intragroup profit distributions, are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset.

Joint operations

UPM's share in joint operations is recognised in the consolidated balance sheet through recognition of the group's own assets and liabilities and revenues and expenses in the arrangement together with UPM's proportionate share in the joint assets, liabilities and joint income and expenses. The proportionate share of realised and unrealised gains and losses arising from intragroup transactions between UPM and its joint operations is eliminated.

Associates and joint ventures

Associates are entities over which the group has significant influence. Joint ventures are joint arrangements where the group has joint control with other parties and the parties have rights to the arrangement's net assets.

Interests in associates and joint ventures are accounted for using the equity method of accounting and are initially recognised at cost.

Associates and joint ventures follow the group accounting policies for consolidation purpose.

Non-controlling interests

The profit or loss attributable to owners of the parent company and non-controlling interests is presented on the face of the income statement. Non-controlling interests are presented in the consolidated balance sheet within equity, separately from equity attributable to owners of the parent company.

Transactions with non-controlling interests are treated as transactions with equity owners of the group. For purchases from non-controlling interests, the difference between consideration paid and the acquired share of the carrying value of the subsidiary's net assets is recorded in equity. Gains or losses of disposals to non-controlling interests are also recorded in equity, net of transaction costs.

1.4 Foreign currency translation

Foreign currency transactions are translated into the functional currency using the exchange rate prevailing at the date of transaction. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement, except when recognised in other comprehensive income as qualifying cash flow hedges and qualifying net investment hedges.

UPM records foreign exchange differences relating to ordinary business operations within the appropriate line items above operating profit and those relating to financial items are presented separately as a net amount in finance costs.

Income and expenses of subsidiaries that have a functional currency different from euro are translated into euros at quarterly average exchange rates. Assets and liabilities of subsidiaries are translated at the closing rate at the balance sheet date. All resulting translation differences are recognised as a separate component in other comprehensive income. On consolidation, exchange differences arising from the translation of net investment in foreign operations and other currency instruments designated as hedges of such investments, are recognised in other comprehensive income. When a foreign entity is partially disposed of, sold or liquidated, translation differences accrued in equity are recognised in the income statement as part of the gain or loss on sale/liquidation.

CONTENTS ACCOUNTS

1.5 New standards and amendments adopted

STANDARD	NATURE OF CHANGE	IMPACT	DATE OF ADOPTION
Amendment to IAS 7 Statement of Cash Flows	The amendment requires to explain changes in liabilities arising from financing activities.	The group has early adopted the amendments made to IAS 7 and revised its net debt disclosures to comply with new requirements.	1 January 2016
Recognition of Deferred Tax Assets for Unrealised Losses – Amendments to IAS 12	The amendment clarifies when a deferred tax asset should be recognised for unrealised losses of debt instruments measured at fair value.	The adoption of amendment did not have any impact on the group's financial statements.	1 January 2017

2. Business performance

Sales	Comparable EBIT	Comparable ROE
EUR **10,010m**	EUR **1,292m**	**11.9%**
(EUR 9,812m)	(EUR 1,143m)	(10.9%)

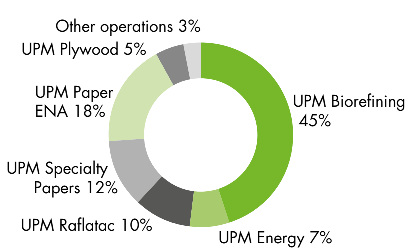
2.1 Business areas

UPM business portfolio consist of six competitive businesses with strong market positions. UPM reports financial information for the following business areas (segments): UPM Biorefining, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Paper ENA, UPM Plywood and Other operations. UPM has production plants in 12 countries. The group's most important markets are Europe, North America and Asia.

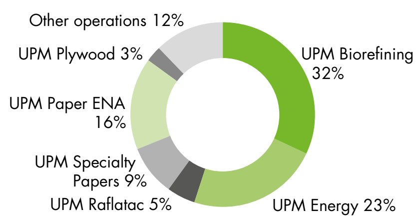
Accounting policies

UPM business areas are reported consistently with the internal reporting provided to UPM's President and CEO who is responsible for allocating resources and assessing performance of the business areas. Internal reporting is prepared under the same basis as the consolidated accounts, except for a joint operation, Madison Paper Industries (MPI) which is consolidated as a subsidiary in the UPM Paper ENA reporting. Costs, revenues, assets and liabilities are allocated to business areas on a consistent basis. The sales transactions between business areas are based on market prices, and they are eliminated on consolidation.

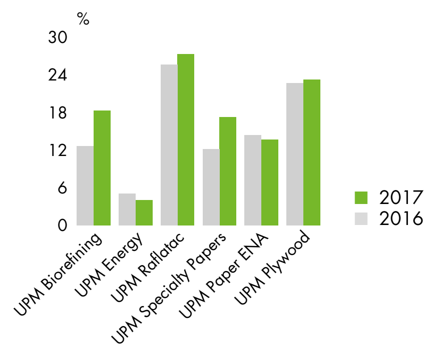
Comparable EBIT 2017
EUR 1,292 million



Capital employed 31 Dec 2017
EUR 9,777 million



Comparable ROCE



BUSINESS AREA	DESCRIPTION AND PRODUCTS
UPM Biorefining	UPM Biorefining consists of UPM Pulp, UPM Biofuels and UPM Timber business units. UPM has three pulp mills in Finland, one pulp mill and plantation operations in Uruguay, four saw mills in Finland and one biorefinery in Finland. UPM Pulp serves the global market with a comprehensive assortment of sustainably produced eucalyptus, birch and softwood pulp grades for a variety of tissue, specialty paper, board, printing and writing paper and other applications. UPM Biofuels produces innovative, advanced biofuels for transport. UPM Timber manufactures certified sawn timber from Nordic pine and spruce to joinery, packaging, distribution and construction industries.
UPM Energy	UPM Energy produces low emission electricity to the Nordic market. UPM Energy is the second largest electricity producer in Finland. UPM Energy operations include electricity generation, and operations in both physical electricity and financial portfolio management. UPM Energy assets consists of hydro power assets in Finland and shareholdings in energy companies.
UPM Raflatac	UPM Raflatac is one of the world's leading producers of self-adhesive label materials. UPM Raflatac supplies high-quality film and paper label stock for consumer product and industrial labelling.
UPM Paper ENA	UPM Paper ENA (Europe & North America) is the world's leading producer of graphic papers.
UPM Plywood	UPM Plywood manufactures high-quality plywood and veneer products mainly for construction and transport industries and the new thermo-formable wood material for the form pressing industry. Production facilities are located in Finland, Estonia and Russia.
UPM Specialty Papers	UPM Specialty Papers produces fine papers to Asian markets and label and packaging materials to global markets. Responsibly produced high performance papers are manufactured in China and Finland.
Other operations	Other operations include wood sourcing and forestry, UPM Biocomposites, UPM Biochemicals business units and group services. Wood sourcing operations source wood raw material for sustainable and recyclable UPM products. UPM Biocomposites combines cellulose fibres and polymers into new high-performance products and materials. UPM Biochemicals wood-based biochemicals offer truly sustainable, competitive and high-quality solutions for various industries and applications.

Key performance indicators and financial targets

UPM aims to grow its comparable EBIT over the long term. The group has a portfolio of five businesses that operate on growing markets and one business that faces declining demand. All of UPM businesses are competitive and have strong market positions. Financial target setting, follow up and allocation of resources in the group's performance management process is mainly based on the business area comparable EBIT and comparable ROCE.

UPM presents comparable performance measures to reflect the underlying business performance and to enhance comparability from period to period. However the comparable performance measures used by management should not be considered in isolation as a substitute for measures of performance in accordance with IFRS. Business area information including description of items affecting comparability is presented below.

Business area information for the year ended 31 December 2017

EURm, OR AS INDICATED	UPM BIOREFINING	UPM ENERGY	UPM RAFLATAC	UPM SPECIALTY PAPERS	UPM PAPER ENA	UPM PLYWOOD	OTHER OPERATIONS	ELIMINATIONS AND RECONCILIATIONS [2]	GROUP
External sales	1,958	120	1,495	1,111	4,592	463	274	–2	10,010
Internal sales	573	197	–	225	23	21	8	–1,046	–
Total sales	2,531	317	1,495	1,336	4,615	484	281	–1,048	10,010
Comparable EBIT	587	91	136	152	231	62	51	–18	1,292
Items affecting comparability in operating profit	–30	–	–	–	16	–	–	–19	–33
Operating profit	557	91	136	152	247	62	51	–38	1,259
Finance costs, net									–73
Income taxes									–212
Profit for the period									974
Operating assets [1]	3,358	2,316	686	1,104	2,149	301	1,544	–291	11,167
Deferred tax assets									423
Other non-operating assets									141
Other financial assets									1,337
Total assets									13,067
Operating liabilities [1]	247	22	177	241	577	39	163	–260	1,206
Deferred tax liabilities									458
Other liabilities									939
Other financial liabilities									1,800
Total liabilities									4,404
Other items									
Change in fair value of forest assets and wood harvested	33	–	–	–	–	–	69	–	103
Share of results of associates and joint ventures	2	–	–	–	1	–	2	–	5
Depreciation and amortisation	–163	–9	–32	–80	–133	–23	–14	–	–453
Impairment charges	1	–	–	–	3	–	–1	–	3
Capital employed, 31 December	3,111	2,293	509	863	1,572	262	1,381	–214	9,777
Average capital employed	3,225	2,267	502	885	1,702	267	1,465	–95	10,217
Capital expenditure	135	27	47	28	51	29	11	–	329
Capital expenditure, excluding acquisitions and shares	135	2	46	28	51	29	11	–	303
Comparable ROCE, %	18.2	4.0	27.2	17.2	13.6	23.1	3.5	–	12.8
Personnel, 31 December	2,628	60	3,186	1,949	8,252	2,454	581	–	19,111

[1] Business area's operating assets include goodwill, other intangible assets, property, plant and equipment, forest assets, energy shareholdings, investments in associates and joint-ventures, inventories and trade receivables. Operating liabilities include trade payables and advances received.

[2] Eliminations and reconciliations include the elimination of internal sales and internal inventory margin and the consolidation of MPI as a joint operation. In addition the changes in fair value of unrealised cash flow and commodity hedges that are not allocated to segments are included in reconciliations.

» Refer Note 10.2 Alternative performance measures, for definitions of key figures and reconciliation to measures presented in the consolidated income statement and balance sheet prepared in accordance with IFRS.

Business area information for the year ended 31 December 2016

EURm, OR AS INDICATED	UPM BIOREFINING	UPM ENERGY	UPM RAFLATAC	UPM SPECIALTY PAPERS	UPM PAPER ENA	UPM PLYWOOD	OTHER OPERATIONS	ELIMINATIONS AND RECONCILIATIONS 2)	GROUP
External sales	1,663	170	1,437	1,067	4,797	424	275	–22	9,812
Internal sales	542	187	–	206	21	20	11	–987	–
Total sales	2,206	357	1,437	1,273	4,818	444	285	–1,009	9,812
Comparable EBIT	406	116	133	123	280	58	14	12	1,143
Items affecting comparability in operating profit	–	–	–	–	–57	–	1	48	–7
Operating profit	406	116	134	123	223	58	15	60	1,135
Finance costs, net									–56
Income taxes									–200
Profit for the period									880
Operating assets 1)	3,586	2,283	666	1,121	2,287	304	1,691	–326	11,612
Deferred tax assets									446
Other non-operating assets									132
Other financial assets									1,721
Total assets									13,911
Operating liabilities 1)	245	34	165	137	505	43	179	–295	1,013
Deferred tax liabilities									457
Other liabilities									978
Other financial liabilities									3,226
Total liabilities									5,673
Other items									
Change in fair value of forest assets and wood harvested	29	–	–	–	–	–	59	–	88
Share of results of associates and joint ventures	2	–1	–	–	2	–	3	–	5
Depreciation and amortisation	–171	–9	–33	–91	–164	–22	–13	1	–503
Impairment charges	–1	–	–	–	–49	–	–	10	–41
Capital employed, 31 December	3,341	2,249	501	984	1,782	261	1,512	27	10,657
Average capital employed	3,231	2,340	524	1,012	1,964	259	1,541	–36	10,833
Capital expenditure	188	1	19	15	49	45	9	–1	325
Capital expenditure, excluding acquisitions and shares	188	1	19	15	49	45	9	–1	325
Comparable ROCE, %	12.6	5.0	25.5	12.1	14.3	22.6	0.9	–	10.6
Personnel, 31 December	2,630	71	3,062	1,984	8,664	2,469	442	–12	19,310

1) Business area's operating assets include goodwill, other intangible assets, property, plant and equipment, forest assets, energy shareholdings, investments in associates and joint-ventures, inventories and trade receivables. Operating liabilities include trade payables and advances received.

2) Eliminations and reconciliations include the elimination of internal sales and internal inventory margin and the consolidation of MPI as a joint operation. In addition the changes in fair value of unrealised cash flow and commodity hedges that are not allocated to segments are included in reconciliations.

» Refer Note 10.2 Alternative performance measures, for definitions of key figures and reconciliation to measures presented in the consolidated income statement and balance sheet prepared in accordance with IFRS.

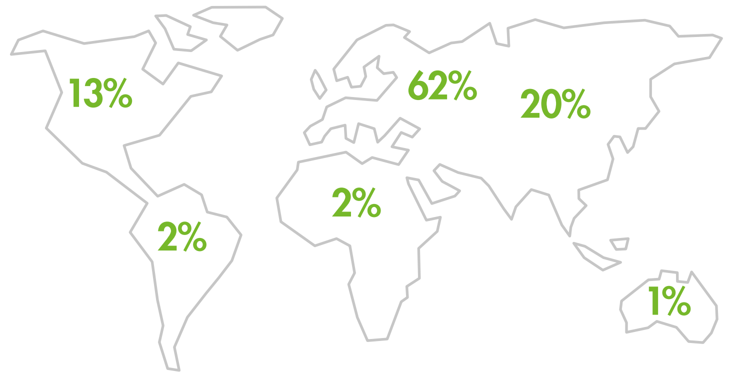
Items affecting comparability

EURm	2017	2016
In operating profit:		
Impairment charges	–3	–35
Restructuring charges	–67	–48
Change in fair value of unrealised cash flow and commodity hedges	2	27
Capital gains and losses on sale of non-current assets	35	49
Total	–33	–7
In finance costs:		
Gains and losses on sale of associates and joint ventures	1	–2
Total	1	–2
Total in profit before tax	–31	–9
In income taxes:		
Taxes related to items affecting comparability	7	7
Changes in tax rates	–5	4
Total	2	11
Total in profit for the period	–30	1

In 2017, items affecting comparability in operating profit include impairment charges of EUR 4 million relating to closure of Blandin paper machine 5 and reversal of impairment of EUR 1 million relating to prior paper machine closures. Restructuring charges reported as items affecting comparability include EUR 30 million related to the reorganisation of pension schemes in UPM Biorefining, EUR 13 million relating to closure of Blandin paper machine 5, EUR 24 million relating to restructuring charges of optimization of operations in UPM Paper ENA. Capital gains affecting the comparability comprise of a gain of EUR 33 million relating to sale of hydropower facilities in Austria and the United States and EUR 2 million relating to sale of other assets.

In 2016, items affecting in comparability in operating profit include impairment charges of EUR 11 million relating to Madison mill closure, EUR 23 million relating to planned closure of Steyrermühl paper machine 3 and EUR 1 million relating to planned closure of Augsburg paper machine 2. Restructuring charges reported as items affecting comparability include EUR 13 million relating to Madison mill closure, EUR 22 million relating to planned closure of Steyrermühl paper machine 3, EUR 18 million relating to planned closure of Augsburg paper machine 2 and income of EUR 5 million relating to reversals of restructuring provisions of prior capacity closures. Capital gains affecting the comparability comprise of a gain of EUR 47 million relating to sale of Schwedt mill assets and EUR 2 million relating to sale of other assets.

Sales by destination



Total assets and capital expenditure by country

	Assets		Capital expenditure	
EURm	**2017**	**2016**	**2017**	**2016**
Finland	8,108	8,566	183	157
Germany	946	1,008	25	18
United States	361	437	1	3
United Kingdom	161	185	4	8
China	799	879	16	13
France	68	71	1	3
Uruguay	1,766	2,010	19	84
Other EU countries	338	325	42	33
Other European countries	116	91	9	5
Rest of world	404	340	2	1
Total	13,067	13,911	303	325

Sales by country

EURm	2017	2016
Finland	825	886
Germany	1,650	1,699
United States	1,160	1,217
United Kingdom	645	715
China	1,079	860
France	411	434
Uruguay	55	48
Other EU countries	2,235	2,099
Other European countries	434	383
Rest of world	1,516	1,472
Total	10,010	9,812

2.2 Sales

UPM generates revenue mainly from the sale of several types of products.

UPM sells a proportion of its products to several major customers. The largest customer in terms of sales represented approximately 3% of UPM's sales in 2017 and 2016, and the ten largest customers represented approximately 15% (16%) of such sales.

» Refer Note 2.1 Business areas for information on UPM products.

Sales by business area

EURm	2017	2016	CHANGE
UPM Biorefining	2,531	2,206	15%
UPM Energy	317	357	–11%
UPM Raflatac	1,495	1,437	4%
UPM Specialty Papers	1,336	1,273	5%
UPM Paper ENA	4,615	4,818	–4%
UPM Plywood	484	444	9%
Other operations	281	285	–1%
Eliminations	–1,048	–1,009	–
Total	10,010	9,812	2%

Effect of a 10% change in prices on operating profit for the year

EURm	2017	2016
Papers in UPM Paper ENA	452	471
Fine and specialty papers in UPM Specialty Papers	110	106
Label materials in UPM Raflatac	149	144
Plywood	44	41
Sawn timber	31	30
Chemical pulp (net effect)	52	33

The biggest factor affecting UPM's financial results is the sales price of paper. A change in the volume delivered has less than half of the effect of the same percentage change in sale prices.

Accounting policies

Revenue from UPM's product sales is recognised when the customer takes title and assumes the risks and rewards of ownership. The timing of revenue recognition is largely dependent on delivery terms. Group terms of delivery are based on Incoterms 2010, the official rules for interpretation of trade terms issued by the International Chamber of Commerce. Revenue is recorded when the product is delivered to the destination point for terms designated Delivered Duty Paid ("DDP") or Delivered at Place ("DAP"). For sales transactions designated Free on Carrier ("FCA"), Carriage paid to ("CPT") or Carriage and Insurance Paid to ("CIP"), revenue is recorded at the time of shipment.

UPM sells energy to NordPool electricity market. Revenue is recognised when electricity is transmissed.

UPM provides forest expertise and contracting services to woodland and forestry owners. Revenues from services are recorded when the service has been performed.

Sales are recognised net of indirect sales taxes, discounts, rebates and cash flow hedging results of sales in foreign currency as well as hedges of energy sales.

2.3 Operating expenses and other operating income

Operating expenses

Operating expenses excluding forest assets fair value change, wood harvested and share of results of associates and joint ventures are presented below.

EURm	2017	2016
Costs and expenses		
Raw materials, consumables and goods	5,471	5,376
Employee costs [1]	1,265	1,246
Other operating costs and expenses [2]	869	884
Delivery costs and other external charges	888	859
Total	8,492	8,365

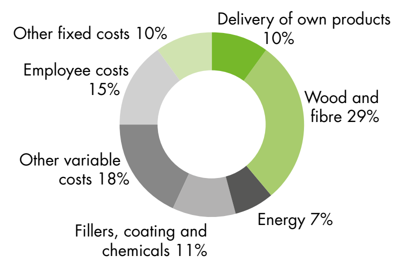
[1] *» Refer Note 3. Employee rewards, for further information.*

[2] Distribution of other operating costs and expenses

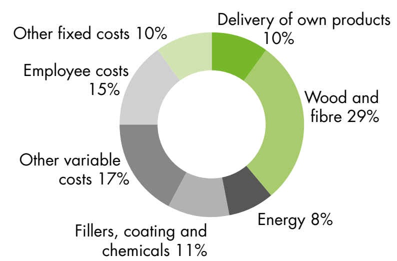
EURm	2017	2016
Rents and lease expenses	42	48
Emission expenses	4	9
Losses on sale of non-current assets	2	3
Credit losses	–	10
Maintenance and other operating expenses [1]	820	815
Total	869	884

[1] Other operating expenses include, among others, energy as well as expenses related to services and group's administration.

Cost structure 2017



Cost structure 2016



Auditor's fees

EURm	2017	2016
Audit fee	2.3	2.3
Audit related services	0.1	0.1
Tax services	0.3	0.7
Other services	0.5	0.5
Total	3.2	3.6

In 2017, auditor's fees include EUR 0.0 million related to tax services and EUR 0.3 million related to other services paid to PwC Oy.

Research and development costs

The research and development costs included in operating expenses were EUR 51 million (40 million) in 2017. The focus was on new technologies and developing businesses.

Government grants

In 2017, government grants recognised as deduction of operating expenses totalled to EUR 6 million (8 million) of which EUR 5 million (6 million) relates to Finland, EUR 1 million (2 million) to UK and China. In addition, the group received emission rights from governments amounting to EUR 14 million (16 million) of which EUR 7 million (8 million) relates to Finland, EUR 5 million (6 million) to Germany, EUR 1 million (1 million) to Austria and EUR 1 million (1 million) to UK.

Other operating income

EURm	2017	2016
Gains on sale of non-current assets	55	59
Rental income	14	16
Emission rights received	14	16
Derivatives, non-qualifying hedges	14	28
Exchange rate gains and losses	–30	6
Other	16	16
Total	83	140

In 2017, gains on sale of non-current assets includes EUR 33 million income relating to sale of hydropower assets in Austria and the United States and EUR 16 million income relating to sale of land assets in Finland. In 2016, gains on sale of non-current assets includes EUR 47 million related to sale of Schwedt mill assets.

Emission rights

The group has recognised in Other operating income of EUR 14 million (16 million) income and under Other operating costs and expenses of EUR 4 million (9 million) expenses relating to CO_2 emissions. The liability to cover the obligation to return emission rights amounted to EUR 9 million (9 million) and is recognised in provisions. The emission rights recognised in intangible assets are specified below.

EURm	2017	2016
Carrying value, at 1 January	45	52
Emission rights received and purchased	14	14
Deliveries and disposals	–22	–14
Impairment	6	–7
Translation differences	–	–1
Carrying value, at 31 December	44	45
Accumulated costs	45	52
Accumulated impairments	–1	–7
Carrying value, at 31 December	44	45

Accounting policies

Research and development costs
Research and development costs are expensed as incurred, except for certain development costs, which are capitalised as they generate future economic benefits, and UPM can the measure the cost reliably. Capitalised development costs are amortised on a systematic basis over their expected useful lives, usually not exceeding five years.

Government grants
Government grants are recognised at fair value where there is a reasonable assurance that the grant will be received and the group will comply with the attached conditions. Government grants relating to the purchase of property, plant and equipment are deducted from the acquisition cost of the asset and accordingly directly reduce the annual depreciation of the underlying asset. Other government grants are recognised in the income statement in the period necessary to match them with the costs they are intended to compensate.

Other operating income
Other operating income mainly includes gains on the disposal of non-current assets and rental income. Further, other operating income includes foreign exchange gains and losses in respect of UPM's normal business activities. Gains and losses on derivatives not qualifying hedge accounting are also recognised in other operating income.

Emission rights
The group participates in the European Emissions Trading Scheme aimed at reducing greenhouse gas emissions. Emission rights received from governments free of charge to emit a fixed tonnage of carbon dioxide in a fixed period of time give rise to an intangible asset for the emission rights, a government grant and a liability for the obligation to deliver emission rights equal to the emissions that have been made during the compliance period. Emission rights are initially recognised as intangible assets based on market value at the date of initial recognition. Emission rights are not amortised. If the market price of emissions rights at the balance sheet date is less than the recognised costs, any surplus emission rights that are not required to cover actual and estimated emissions during the financial year, are impaired to the market price.

Government grants are recognised as deferred income in the balance sheet at the same time as emission rights and are recognised in other operating income in the income statement, systematically, over the compliance period to which the corresponding emission rights relate.

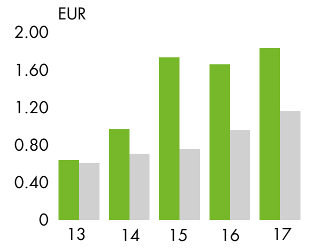
The liability to deliver emission rights is recognised based on actual emissions. The emissions realised are expensed under other operating costs and expenses in the income statement and presented as a provision in the balance sheet. The liability is settled using emission rights on hand, measured at the carrying amount of those emission rights. Emission rights and associated provisions are derecognised when disposed. Any profit or loss representing the costs of purchasing additional rights to cover excess emissions, the sale of unused rights in the case realised emission are under emission rights received free of charge or the impairment of unused emission rights.

2.4 Earnings per share and dividend

According to UPM dividend policy, the company aims to pay an attractive dividend amounting to 30-40% of the group annual operating cash flow per share.

The dividend paid in 2017 were EUR 507 million (EUR 0.95 per share) which is 30% of the operating cash flow per share and in 2016 EUR 400 million (EUR 0.75 per share). The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 613.3 million, EUR 1.15 per share, will be paid in respect of 2017. The proposed dividend represents 39% of UPM's operating cash flow per share for the year 2017.

Earnings and dividend per share



Earnings per share
Dividend per share (2017: proposal)

Earnings per share

	2017	2016
Profit attributable to owners of the parent company, EURm	973	879
Weighted average no. of shares (1,000)	533,415	533,505
Basic earnings per share, EUR	1.82	1.65
Diluted earnings per share, EUR	1.82	1.65

Accounting policies

Earnings per share
Earnings per share (EPS) is the amount of profit for the period attributable to each ordinary share. The basic earnings per share are computed using the weighted average number of shares outstanding during the period. Diluted earnings per share are computed using the weighted average number of shares outstanding during the period plus the dilutive effect of share options. The group did not have share-option schemes at the end of 2017 and 2016.

Dividend
Dividend distribution to the owners of the parent company is recognised as a liability in the group's consolidated financial statements in the period in which the dividends are approved by the parent company's shareholders.

3. Employee rewards

3.1 Employee costs

EURm	2017	2016
Salaries and fees	965	969
Share-based payments	23	24
Pension and other post-employment benefits, defined benefit plans	57	21
Pension costs, defined contribution plans	107	107
Other indirect employee costs [1]	113	124
Total	1,265	1,246

[1] Other indirect employee expenses primarily include other statutory social expenses, excluding pension expenses.

3.2 Key management personnel

The Annual General Meeting 2017 decided to raise the annual Board fees, which had remained the same since 2007, and also adopted annual committee fees, which had not been paid earlier. The Chairman of the Board of Directors receives an annual base fee of EUR 190,000, the Deputy Chairman of the Board EUR 135,000 and other members of the Board EUR 110,000. The annual base fee is paid in company shares and cash so that 40% of the fee is paid in the company shares to be purchased on the Board members' behalf, and the rest in cash. The company pays any costs and transfer tax related to the purchase of the company shares. The annual committee fees are paid in cash. No annual fees are paid to the President and CEO for his role as a member of the Board.

In 2017, 3,067 (4,235) company shares were paid to the Chairman, 2,179 (2,904) to the Deputy Chairman, 1,776 (2,904) to the Chairman of the Audit Committee and 1,776 (2,299) to other members of the Board.

Shareholdings (no. of shares) and fees of the Board of Directors

	Shareholdings 31 December		Annual base fee (EUR 1,000)		Annual committee fee [1] (EUR 1,000)	
	2017	2016	2017	2016	2017	2016
Board members						
Björn Wahlroos, Chairman	259,744	256,677	190	175	20	–
Berndt Brunow, Deputy Chairman	308,661	306,482	135	120	10	–
Henrik Ehrnrooth	6,351	4,575	110	95	10	–
Piia-Noora Kauppi	16,236	14,460	110	120	35	–
Wendy E. Lane	37,000	35,224	110	95	15	–
Jussi Pesonen, President and CEO	353,491	304,064	–	–	–	–
Ari Puheloinen	8,376	6,600	110	95	10	–
Veli-Matti Reinikkala	41,172	38,396	110	95	20	–
Suzanne Thoma	6,351	4,575	110	95	10	–
Kim Wahl	18,150	16,374	110	95	15	–
Total	1,055,532	987,427	1,095	985	145	–

[1] Annual committee fee introduced in 2017.

Salaries and benefits of the President and CEO and the Group Executive Team

	President and CEO Jussi Pesonen		Other members of Group Executive Team [1]	
EUR 1,000	2017	2016	2017	2016
Salaries	1,049	1,049	3,934	3,564
Short-term incentives	1,119	888	2,088	1,779
Share rewards	2,656	3,098	8,174	6,269
Benefits	31	30	251	231
Total	4,854	5,065	14,446	11,843

[1] 11 members in 2017 and 2016.

In 2017, costs under the Finnish statutory pension scheme for the President and CEO amounted to EUR 413,000 (370,000) and payments under the voluntary pension plan were EUR 1,170,000 (1,000,000).

In 2017, costs under the Finnish and German statutory pension schemes for Group Executive Team (GET) members (excluding the President and CEO) amounted to EUR 899,000 (881,000) and payments under the voluntary pension plan were EUR 850,000 (818,000).

The remuneration of the President and CEO and other members of the Group Executive Team consists of the base salary and benefits, short-term incentives and long-term share-based incentives.

The short-term incentive plan for the President and CEO and other members of the Group Executive Team is linked to the achievement of the predetermined financial targets of the group or business area as well as individual targets. The incentives amount to a total maximum of 100% of annual base salary to the Business Area Executives and to a total maximum of 70% of annual base salary to the other members of the Group Executive Team. For the President and CEO the maximum annual incentive amounts to 150% of the annual base salary.

The expenses recognised in income statement in respect of share-based payments for the Group Executive Team were EUR 7.8 million (9.2 million).

In accordance with the executive contract, the retirement age of the President and CEO Jussi Pesonen is 60. For the President and CEO, the target pension is 60% of the average indexed earnings from the last ten years of employment calculated according to the Finnish statutory pension scheme. The cost of lowering the retirement age to 60 is covered by supplementing the statutory pension with a voluntary defined benefit pension plan. Should the President and CEO leave the company before reaching the age of 60, an immediate vesting right corresponding to 100% of the earned pension (pro rata) will be applied. The expenses of the President and CEO's defined benefit pension plan in 2017 were EUR 0.6 million (0.5 million). The plan assets amounted to EUR 10.9 million (2.6 million) and the obligation amounted to EUR 10.4 million (1.8 million).

The retirement age of other members of the Group Executive Team is 63. Other Group Executive Team members are under defined contribution plans.

If notice of termination is given to the President and CEO, severance pay of 24 months' base salary will be paid in addition to the salary for the six-month notice period. Should the President and CEO give notice of termination to the company, no severance pay will be paid in addition to the salary for the notice period. For other members of the Group Executive Team, the period for severance pay is 12 months in addition to the six months' salary for the notice period, unless notice is given for reasons that are solely attributable to the executive. Should other member of the Group Executive Team give notice of termination to the company, no severance pay will be paid in addition to the salary for the notice period.

If there is a change of control in the company, the President and CEO may terminate his executive contract within three months and other members of the Group Executive Team within one month from the date of the event that triggered the change of control and shall receive compensation equivalent to 24 months' base salary.

3.3 Share-based payments

UPM offers rewards and recognition with an emphasis on high performance. All UPM's employees belong to a unified annual Short Term Incentive (STI) scheme. In addition, UPM has two long-term incentive plans: the Performance Share Plan (PSP) for senior executives and the Deferred Bonus Plan (DBP) for other key employees.

Performance Share Plan

The Performance Share Plan (PSP) is targeted at Group Executive Team (GET) members and other selected members of the management. Under the ongoing plans the UPM shares are awarded based on the total shareholder return during a three-year earning period. The earned shares are delivered after the earning period has ended. Total shareholder return takes into account share price appreciation and paid dividends.

PERFORMANCE SHARE PLANS	PSP 2014-2016	PSP 2015-2017	PSP 2016-2018	PSP 2017-2019
No. of participants at 31 December 2017	24	24	24	26
Actual achievement	100%	100 %	–	–
Max no. of shares to be delivered 1)				
to the President and CEO	116,785	107,196	112,500	92,500
to other members of GET	352,689	325,876	360,000	308,500
to other key individuals	280,284	252,980	263,000	240,000
Total max no. of shares to be delivered	749,758	686,052	735,500	641,000
Share delivery (year)	2017	2018	2019	2020
Earning criteria (weighting)	Total shareholder return (100%)	Total shareholder return (100%)	Total shareholder return (100%)	Total shareholder return (100%)

1) For PSP 2014–2016 and PSP 2015–2017, the gross number of shares actually earned.

Deferred Bonus Plan

The Deferred Bonus Plan (DBP) is targeted at other selected key employees of the group and it consists of annually commencing plans. Each plan consists of a one-year earning period and a two-year restriction period. UPM shares are awarded based on achievement of group or group and business area EBITDA targets. Prior to share delivery, the share rewards earned are adjusted with dividends and other capital distributions, if any, paid to all shareholders during the restriction period.

DEFERRED BONUS PLANS	DBP 2014	DBP 2015	DBP 2016	DBP 2017
No. of participants (at grant)	395	350	340	360
No. of participants (at 31 December 2017)	367	321	323	350
Max no. of shares to be delivered (at grant)	950,000	800,000	770,000	525,000
Estimated no. of shares to be delivered at 31 December 2017 1)	317,125	382,497	363,851	334,986
Share delivery (year)	2017	2018	2019	2020
Earning criteria	Group/Business area EBITDA	Group/Business area EBITDA	Group/Business area EBITDA	Group/Business area EBITDA

1) For DBP 2014 and DBP 2015, the gross number of shares actually earned.

The indicated actuals and estimates of the share rewards under the Performance Share Plan and the Deferred Bonus Plan represent the gross amount of the rewards of which the applicable taxes will be deducted before the shares are delivered to the participants. The amount of estimated payroll tax accruals accounted for as share-based payment liabilities at 31 December 2017 were EUR 26.2 million (22.7 million).

§ Accounting policies

The group's long-term share incentive plans are recognised as equity-settled or cash-settled share-based payment transactions depending on the settlement. Shares are valued using the market rate on the grant date. The settlement is a combination of shares and cash. The group may obtain the necessary shares by using its treasury shares or may purchase shares from the market. PSP and DBP share deliveries are executed by using already existing shares and the plans, therefore, have no dilutive effect.

3.4 Retirement benefit obligations

The group operates various pension schemes in accordance with local conditions and practices in the countries of operations. Retirement benefits are employee benefits that are payable usually after the termination of employment, such as pensions and post-employment medical care. The pension plans are generally funded through payments to insurance companies or to trustee-administered funds or foundations and classified as defined contribution plans or defined benefit plans.

Defined benefit assets and liabilities recognised in the balance sheet are presented below:

	2017					2016				
EURm	FINLAND	UK	GERMANY	OTHER COUNTRIES	TOTAL	FINLAND	UK	GERMANY	OTHER COUNTRIES	TOTAL
Present value of funded obligations	474	522	34	18	1,047	327	563	34	39	963
Fair value of plan assets	–557	–450	–3	–19	–1,028	–396	–426	–3	–33	–858
Deficit (+)/surplus (-)	–83	73	31	–1	19	–70	137	31	6	104
Present value of unfunded obligations	–	–	526	79	604	–	–	520	90	610
Net defined benefit liability (+)/ asset (-)	–83	73	557	77	623	–70	137	552	96	714
Net retirement benefit asset in the balance sheet	–83	–	–	–1	–84	–70	–	–	–1	–71
Net retirement benefit liability in the balance sheet 1)	–	73	557	78	707	–	137	552	95	784

1) Net retirement benefit liability in the balance sheet includes other long-term employee benefits of EUR 29 million (33 million) in 2017.

About 95% of the group's defined benefit arrangements exist in Finland, in the UK and in Germany. The group has defined benefit obligations also in Austria, Holland, France, Canada and in the US. Approximately a quarter of UPM´s employees are active members of defined benefit arrangement plans.

Finland

In Finland employers are obliged to insure their employees for statutory benefits, as determined in Employee's Pension Act (TyEL). TyEL provides the employee with insurance protection for old age, disability and death. The benefits can be insured with an insurance company or the employer can establish a fund or a foundation to manage the statutory benefits.

Approximately 82% (90%) of group´s Finnish employees are insured with an insurance company and these arrangements qualify as defined contribution plans. Approximately 18% (10%) of employees are insured with TyEL foundation (Kymin eläkesäätiö). The TyEL foundation is administered by the representatives of both the employer and the employees. The foundation has named an authorised representative to take care of its regular operations. The plan is supervised by Financial Supervisory Authority. The foundation is classified as a defined benefit plan for the benefits that must be funded nationally and is the most significant defined benefit pension plan in Finland for UPM.

In 2017, past service costs include EUR 30 million relating to the reorganisation of pension schemes in Finland.

UK

In the UK, the group operates a legacy defined benefit scheme providing benefits that are linked to the salary level near retirement age or an earlier date of leaving service. The scheme is closed both for new members and future accrual for old members. Part of the scheme is a defined contribution plan and is open to all current employees. The UK pension scheme operates under a single trust which is independent from the group.

Germany

In Germany employees within defined benefit arrangements are entitled to annual pensions on retirement based on their service and final salary. All significant defined benefit plans are closed for new employees.

Present value of obligation and fair value of plan assets

EURm	Pension and other post-employment benefits 2017: PRESENT VALUE OF OBLIGATION	FAIR VALUE OF PLAN ASSETS	NET DEFINED BENEFIT LIABILITY/ (ASSET)	Pension and other post-employment benefits 2016: PRESENT VALUE OF OBLIGATION	FAIR VALUE OF PLAN ASSETS	NET DEFINED BENEFIT LIABILITY/ (ASSET)
Carrying value, at 1 January	1,573	–858	714	1,470	–851	619
Current service cost	13	–	13	12	–	12
Past service cost	151	–121	30	–6	–	–6
Interest expense (+) income (–)	32	–18	14	37	–22	15
Total included in employee costs (Note 3.1)	195	–138	57	43	–22	21
Actuarial gains and losses arising from changes in demographic assumptions	–14	–	–14	–1	–	–1
Actuarial gains and losses arising from changes in financial assumptions	26	–	26	169	–	169
Actuarial gains and losses arising from experience adjustments	–8	–	–8	19	–	19
Return on plan assets, excluding amounts included in interest expense (+) income (–)	–	–83	–83	–	–67	–67
Total remeasurement gains (–) and losses (+) included in other comprehensive income	4	–83	–78	187	–67	120
Benefits paid	–75	75	–	–56	56	–
Settlements paid	–21	21	–	–	–	–
Contributions by the employer	–	–61	–61	–	–33	–33
Translation differences	–25	17	–8	–71	59	–12
Carrying value, at 31 December	1,651	–1,028	623	1,573	–858	714

Actuarial risks

Defined benefit plans typically expose the group to the following actuarial risks:

Investment risk (asset volatility)

The group is exposed to changes of assets' values especially in the investments of the foundations and schemes in Finland and in the UK. The asset values of these arrangements constitute 98% of total asset values in defined benefit plans within group.

Interest risk

Discount rates used in calculations are based on high-quality corporate bond yield curves in currency in which the benefits are paid. A decrease in the discount rate would increase the plan liabilities. The maturities of yields are reflecting the durations of the underlying obligations. The weighted average duration of group's defined benefit obligation is 16 years (17 years) at the end of 2017.

Inflation risk

In the Finnish plan, the inflation risk is not significant as changes in the inflation assumption are mainly covered by the TyEL pooling system. In the UK, the pensions in payment are tied to Retail Price Index whilst being tied to Consumer Price Index during deferment. An increase of 0.5% in indexes will increase the liabilities by some EUR 35 million. In Germany the pensions have to be adjusted in accordance with the Consumer Price Index.

Salary risk

The present value of the net retirement benefit assets and liabilities is calculated by reference to the expected future salaries of plan participants. An increase in the salary of the plan participants would increase the plan liabilities. In Finland, the salary risk is minor as well as in the UK, where the changes in salary levels have no impact on the funding position as all defined benefit arrangements in the UK are closed to future accrual. In Germany, an increase of 0.5% in expected future salaries would increase the obligation by EUR 18 million.

Life expectancy

Adjustments in mortality assumption have an impact on group's defined benefit obligation. An increase in life expectancy by one year will increase the obligation in Finland by EUR 18 million, in the UK by EUR 16 million and in Germany by EUR 25 million.

Key estimates and judgements

Several actuarial assumptions are used in calculating the expense and liability related to the defined benefit plans. Statistical information used may differ materially from actual results due to, among others, changing market and economic conditions, or changes in service period of plan participants. Significant differences in actual experience or significant changes in assumptions may affect the future amounts of the defined benefit obligation and future expense.

Actuarial assumptions

The weighted average principal assumptions used in the valuations of the defined benefit obligations are detailed below.

	FINLAND 2017	FINLAND 2016	UK 2017	UK 2016	GERMANY 2017	GERMANY 2016	OTHER COUNTRIES 2017	OTHER COUNTRIES 2016
Discount rate %	1.55	1.60	2.50	2.60	1.65	1.77	1.83	2.52
Inflation rate %	1.80	1.64	3.40	3.35	1.70	1.70	1.91	1.88
Rate of salary increase %	1.80	1.64	n/a	n/a	2.50	2.50	2.55	2.55
Rate of pension increase %	0.67	0.88	3.25	3.20	1.70	1.70	0.95	0.98
Expected average remaining working years of participants	13.1	11.8	16.3	13.6	9.8	10.6	9.0	10.5

Sensitivity analysis of defined benefit obligations

The sensitivity analysis shows the effect of the change in assumption. The analysis assume that all other assumptions remain unchanged. The projected unit credit method has been applied when calculating the obligation as well as these sensitivities.

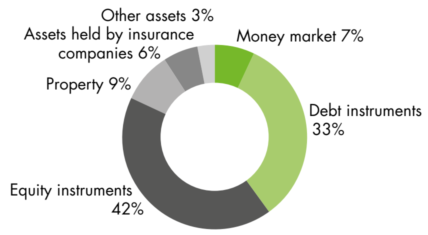
Plan assets by categories at 31 December

EURm	2017 Quoted	2017 Unquoted	2016 Quoted	2016 Unquoted
Money market	67	–	11	–
Debt instruments	338	7	267	–
Equity instruments	439	–	411	–
Property	48	41	36	33
Assets held by insurance companies	–	57	–	64
Other assets	–	30	–	35
Total	892	136	726	132

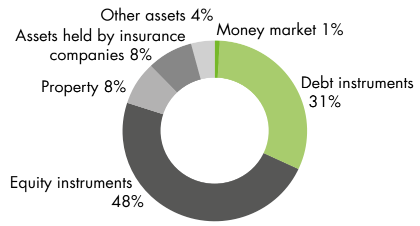
Plan assets include the company's ordinary shares with a fair value of EUR 1 million (1 million).

In 2018 contributions of EUR 40 million are expected to be paid to group's defined benefit plans. In 2017 contributions of EUR 61 million were paid to group's defined benefit plans.

Plan assets by categories 2017



Plan assets by categories 2016



EURm	0.5% INCREASE 2017	0.5% INCREASE 2016	0.5% DECREASE 2017	0.5% DECREASE 2016
Discount rate %	–131	–125	150	144
Rate of salary increase %	21	18	–19	–17
Rate of pension increase %	74	77	–71	–75
Life expectancy + 1 year	60	53	n/a	n/a

A negative change indicates a decrease in the defined benefit obligation.
A positive change indicates an increase in the defined benefit obligation.

Accounting policies

Defined benefit pension plans
Plan benefits depend on salary and length of service. The defined benefit obligations are calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid and that have terms to maturity approximating the term of the related pension liability. The liability recognised in the balance sheet in respect of defined benefit pension plans is the present value of the defined benefit obligation at the balance sheet date less the fair value of plan assets. The cost of providing pensions is charged to the income statement as employee costs so as to spread the cost over the service lives of employees. Changes in actuarial assumptions and actuarial gains and losses arising from experience adjustments are charged or credited in other comprehensive income in the period in which they arise. Past service costs and gains or losses on settlement are recognised immediately in income when they occur.

Defined contribution plans
For defined contribution plans, contributions are paid to pension insurance companies. Once the contributions have been paid, there are no further payment obligations. Contributions to defined contribution plans are charged to the income statement in the period to which the contributions relate.

Other post-employment obligations
Some group companies provide post-employment medical and other benefits to their retirees. The entitlement to healthcare benefits is usually conditional on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment, using an accounting methodology similar to that for defined benefit pension plans. Valuations of these obligations are carried out by independent qualified actuaries.

4. Capital employed

UPM's capital employed primarily relates to its production facilities and both forest and energy assets. UPM aims to capture growth opportunities in its existing business portfolio and invest in projects with attractive and sustainable returns.

Capital employed

EURm	2017	2016
Property, plant and equipment	4,281	4,657
Forest assets	1,600	1,734
Energy shareholdings	1,974	1,932
Goodwill and other intangible assets	525	545
Operating working capital	1,552	1,694
Provisions	–177	–145
Net retirement benefit assets and liabilities	–652	–746
Cash and cash equivalents	716	992
Other assets and liabilities	–7	–3
Net deferred tax assets and liabilities	–36	–11
Assets classified as held for sale	1	8
Total	9,777	10,657

4.1 Property, plant and equipment

EURm	LAND AND WATER AREAS	BUILDINGS	MACHINERY AND EQUIPMENT	OTHER TANGIBLE ASSETS	CONSTRUCTION IN PROGRESS	TOTAL
2017						
Accumulated costs	759	3,577	14,150	883	88	19,456
Accumulated depreciation and impairments	–35	–2,532	–11,855	–753	–	–15,176
Carrying value, at 31 December	724	1,044	2,295	130	88	4,281
Carrying value, at 1 January	801	1,131	2,502	133	89	4,657
Additions	4	8	13	3	261	289
Disposals	–16	–2	–5	–	–	–24
Depreciations	–	–80	–337	–18	–	–434
Impairment	–1	2	–4	–1	–	–3
Reclassifications	1	26	214	19	–261	–2
Translation differences	–65	–41	–88	–6	–2	–202
Carrying value, at 31 December	724	1,044	2,295	130	88	4,281
2016						
Accumulated costs	836	3,638	14,326	881	89	19,770
Accumulated depreciation and impairments	–34	–2,506	–11,824	–748	–	–15,113
Carrying value, at 31 December	801	1,131	2,502	133	89	4,657
Carrying value, at 1 January	724	1,213	2,744	134	80	4,895
Additions	76	4	13	4	222	319
Disposals	–17	–11	–8	–1	–	–36
Depreciations	–	–84	–377	–18	–	–478
Impairment	–	–12	–21	1	–	–32
Reclassifications	4	24	168	13	–214	–4
Translation differences	14	–4	–17	–	–	–6
Carrying value, at 31 December	801	1,131	2,502	133	89	4,657

Capitalised borrowing costs
In 2017, the borrowing costs capitalised as part of non-current assets amounted to EUR 1 million (1 million). Amortisation of capitalised borrowing costs was EUR 2 million (4 million) and the average interest rate used 2.40% (1.56%), which represents the average costs to finance the projects.

Capital expenditure
Capital expenditure, excluding acquisitions and shares, amounted to EUR 303 million (325 million) in 2017.

Following UPM Plywood business area growth investments in Finland and Estonia over the past few years, UPM announced in October 2017 it will expand its Chudovo plywood mill in Russia by investing EUR 50 million. The project is estimated to be completed by the end of 2019. In June 2017, UPM announced it will further improve the efficiency and competiveness of the UPM Kaukas pulp mill with EUR 30 million investment. Completion of the investment is scheduled for the spring 2018.

In 2016, UPM's major capital expenditures related to growth investments. The expansion of the Otepää plywood mill in Estonia and modernising UPM Kaukas pulp mill in Finland were finalised in 2016. In July 2016, UPM announced it will invest EUR 98 million in UPM Kymi pulp mill in Finland to further strengthen its position as a supplier of bleached chemical pulp for growing consumer and industrial end-use segments. The investment was completed in 2017. In October 2016, UPM announced a EUR 35 million investment in UPM Raflatac factory in Poland to meet the increasing label stock demand in Europe. The investment was completed in 2017.

Major capital commitments at 31 December

EURm	2017	2016
Capacity increase / Chudovo plywood mill	42	–
Debottlenecking / Kaukas pulp mill	21	–
Capacity increase / Kymi pulp mill	–	80
Capacity increase / Raflatac Poland	–	33

Impairment losses
In December 2017, UPM closed permanently paper machine 5 at UPM Blandin in Minnesota, USA, in response to overcapacities in the North American paper market. With the closure of the mill, UPM recognised impairment charges of EUR 4 million in UPM Paper ENA business area.

In March 2016, UPM announced the closure of Madison Paper Industries paper mill in the US. Madison Paper Industries is a joint operation between UPM-Kymmene Inc. and Northern SC Paper Corp., a subsidiary of the New York Times Company. With the closure of the mill, UPM recognised impairment charges of EUR 9 million (EUR 20 million in UPM Paper ENA business area and the corresponding adjustment of EUR 11 million in eliminations and reconciliations) on property, plant and equipment. Hydropower assets located at the mill site were classified as assets held for sale at the end of 2016 and the sale was completed in 2017.

In November 2016, UPM announced the plan to close of SC paper machine 3 at UPM Steyrermühl mill in Austria and SC paper machine 2 at UPM Augsburg mill in Germany. The impairment charges recognised amounted to EUR 23 million and EUR 1 million, respectively, and affected UPM Paper ENA business area.

Accounting policies

Property, plant and equipment
Property, plant and equipment is stated at historical cost. Costs of assets of acquired in business combinations are determined at fair value at the acquisition date. Depreciation is calculated on a straight-line basis and the carrying value is adjusted for impairment charges, if any. The carrying value of property, plant and equipment on the balance sheet represents the cost less accumulated depreciation and any impairment charges.

Borrowing costs incurred for the construction of any qualifying assets are capitalised during the period of time required to complete and prepare the asset for its intended use. Other borrowing costs are expensed.

Major renovations are capitalised and depreciated over the useful lives of the related asset. Ordinary expenses for repairs and maintenance are expensed as incurred.

Gains and losses on disposals are determined by comparing the disposal proceeds with the carrying amount and are included in other operating income and other operating expenses, respectively.

ASSESSED USEFUL LIVES	NUMBER OF YEARS
Land, not subject to depreciation	–
Buildings	20–50
Power plants	20–30
Heavy machinery	15–20
Light machinery	10–15
Equipment	5

Impairment testing
Carrying values of individual items included in property, plant and equipment are reviewed at each closing date to determine whether there is any indication of impairment. The carrying value is written down immediately to the asset's recoverable amount if the carrying value exceeds the estimated recoverable amount. Assets that have an indefinite useful life are not subject to amortisation and are tested annually for impairment. The recoverable amount is determined as the higher of an asset's fair value less costs to sell and its value in use. Value in use is determined by discounting future cash flows expected to be generated by the asset. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units).

Non-financial assets, other than goodwill, that have suffered impairment are reviewed for possible reversal of the impairment at each reporting date. Where an impairment loss is subsequently reversed, the carrying amount of the asset is increased to the revised estimate of its recoverable amount, but the increased carrying amount will not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior years.

Key estimates and judgements

The estimations of useful lives, residual value as well as depreciation and amortisation methods require significant management judgement and are reviewed annually. Management makes estimates on the future cash flows expected to result from the use of the asset and its eventual disposal. While management believes that estimates of future cash flows are reasonable, different assumptions regarding such cash flows could materially affect valuations.

The long useful lives of assets, changes in estimated future sales prices of products, changes in product costs and changes in the discount rates used could lead to significant impairment charges.

Estimates are also made in an acquisition when determining the fair values and remaining useful lives of acquired intangible and tangible assets.

4.2 Forest assets

UPM is both a major forest owner and a purchaser of wood. Wood is a renewable material and the most important raw material for UPM's businesses. At the end of 2017, UPM owned 570,000 hectares of forest in Finland and 75,000 hectares of forest in the United States. The company additionally has 255,000 hectares of forest plantations in Uruguay. The value of forest assets, i.e. standing trees, amounted to EUR 1,600 million (1,734 million) at the end of 2017. In 2017, UPM sourced 27.4 (27.8) million cubic meters of wood from around the world.

Forest assets

EURm	2017	2016
Carrying value, at 1 January	1,734	1,738
Additions	3	26
Disposals	–97	–72
Wood harvested	–117	–106
Net change in fair value	137	133
Reclassifications	–	–1
Translation differences	–59	15
Carrying value, at 31 December	1,600	1,734

Change in fair value, change due to harvesting and gains or losses on sale of forest assets are recognised in the income statement as a net amount totalling to EUR 103 million (88 million) in 2017.

Accounting policies

The group divides all its forest assets for accounting purposes into growing forests, which are recognised as forest assets at fair value less costs to sell, and land, which is stated at cost. Any changes in the fair value of the growing forests are recognised in the operating profit in the income statement. The fair value is calculated on the basis of discounted future expected cash flows as there is a lack of a liquid market. Young saplings are valued at cost. The fair value of forest assets is a level 3 measure in terms of the fair value measurement hierarchy.

Key estimates and judgements

Fair valuation
The valuation process of forest assets is complex and requires management estimates and judgment on assumptions that have a significant impact on the valuation of the group's forest assets.

Main factors used in the fair valuation of forest assets are estimates for growth and wood harvested, stumpage prices and discount rates. Stumpage price forecasts are based on the current prices adjusted by the management's estimates for the full remaining productive lives of the trees, up to 100 years for forests in Finland and in the US and up to 10 years for plantations in Uruguay. The cash flows are adjusted by selling costs and risks related to the future growth. Felling revenues and maintenance costs are estimated on the basis of actual costs and prices, taking into account the group's projection of future price and costs development. In addition, calculations take into account environmental restrictions.

The pre-tax discount rate used to determine the fair value of the Finnish forests in 2017 was 7.0% (7.0%) and for Uruguayan plantations 9.5% (10.0%). A decrease (increase) of one percentage point in discount rate would increase (decrease) the fair value of forest assets by approximately EUR 220 million (240 million).

4.3 Energy shareholdings

UPM is both a significant purchaser and producer of energy. The majority of electrical and thermal energy is consumed at the group's pulp and paper production. The production is mainly carried out by energy companies in which UPM has energy shareholdings. Energy shareholdings are unlisted equity investments. UPM does not have control or joint control of or significant influence in the said energy companies.

The value of energy shareholdings amounted to EUR 1,974 million (1,932 million) at the end of 2017. These energy companies supply energy or both energy and heat to their shareholders on a cost-price principle (Mankala-principle) which is widely applied in the Finnish energy industry. Under the Mankala-principle energy 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.

	Number of shares	Group holding %	Carrying value, EURm	
			2017	2016
Pohjolan Voima Oy, A series	8,176,191	61.24	343	315
Pohjolan Voima Oy, B series	4,140,132	58.11	1,063	1,036
Pohjolan Voima Oy, B2 series	2,869,819	51.22	181	179
Kemijoki Oy	179,189	7.33	276	297
Länsi-Suomen Voima Oy	10,220	51.10	102	92
Other	–	–	9	13
Carrying value, at 31 December			1,974	1,932

PVO's share capital is divided into different series of shares. The B and B2 series relate to PVO's shareholdings in Teollisuuden Voima Oyj (TVO). UPM has no direct shareholdings in TVO. TVO operates two nuclear power plants (Olkiluoto 1 and Olkiluoto 2) and constructs one new nuclear power plant in Olkiluoto (Olkiluoto 3), Finland. The operation of a nuclear power plant is governed by international, European Union and local nuclear regulatory regimes. Pursuant to the Finnish Nuclear Liability Act, the operator of a nuclear facility has a strict third-party liability in relation to nuclear accidents. Shareholders of power companies that own and operate nuclear power plants are not subject to the liability under the Nuclear Liability Act. In Finland, the future costs of conditioning, storage and final disposal of spent fuel, management of low and intermediate level radioactive waste as well as nuclear power plant decommissioning are provided for by a state established fund (the Finnish State Nuclear Waste Management Fund). The contributions to the Fund are intended to be sufficient to cover estimated future costs. These contributions have been taken into consideration in the fair value of the related energy shareholdings.

Energy shareholdings

EURm	2017	2016
Carrying value, at 1 January	1,932	2,085
Additions	25	–
Impairment charges	–3	1
Disposals	–	–6
Changes in fair value recognised in other comprehensive income	20	–148
Carrying value, at 31 December	1,974	1,932

Accounting policies

Purchases of energy shareholdings are recognised on the settlement date initially at cost, including transaction costs, and subsequently measured at fair value through other comprehensive income, net of tax if applicable. When the investments are sold or impaired, the accumulated fair value adjustments in equity are recognised through the income statement. Significant or prolonged decline in the fair value of the security below its cost is considered when determining whether the investments are impaired. Any impairment losses recognised for these investments are not subsequently reversed.

The fair value of energy shareholdings is a level 3 measure in terms of the fair value measurement hierarchy.

Key estimates and judgements

Fair valuation and sensitivity

Valuation of energy shareholdings requires management's assumptions and estimates of a number of factors that may differ from the actual outcome which could lead to significant adjustment to the carrying amount of the asset. Fair value is determined on a discounted cash flow basis and the main factors impacting the future cash flows include future electricity prices, price trends and discount rates.

The electricity price estimate is based on a 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 EUR 340 million. The discount rate of 5.59% used in the valuation model is determined using the weighted average cost of capital method. A change of 0.5% in the discount rate would change the estimated fair value of the assets by approximately EUR 300 million.

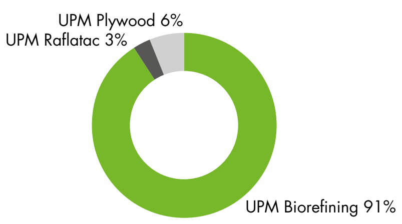
Other uncertainties and risk factors relate to start-up schedule of the fixed price turn-key Olkiluoto 3 EPR nuclear power plant project and the on-going arbitration proceedings between the plant supplier AREVA-Siemens Consortium and the plant owner Teollisuuden Voima Oyj (TVO). UPM's indirect share of the capacity of Olkiluoto 3 EPR is approximately 31%, through its PVO B2 shares. The possible outcome of the arbitration proceedings has not been taken into account in the valuation. Changes in regulatory environment or taxation could also have an impact on the energy shareholdings' value.

» Refer Note 9.2 Litigation, for further information.

4.4 Goodwill and other intangible assets

The group's goodwill mainly relates to pulp operations in Finland and Uruguay belonging to UPM Biorefining business area.

Goodwill by business area 2017



Goodwill by business area

EURm	2017	2016
UPM Biorefining	210	223
UPM Raflatac	7	7
UPM Plywood	13	13
Other operations	1	1
Total	231	245

Goodwill

EURm	2017	2016
Carrying value, at 1 January	245	241
Translation differences	–13	3
Carrying value, at 31 December	231	245

Other intangible assets

EURm	INTANGIBLE RIGHTS	SOFTWARE AND OTHER INTANGIBLE ASSETS	TOTAL
2017			
Accumulated costs	516	622	1,137
Accumulated amortisation and impairments	–299	–588	–887
Carrying value, at 31 December	217	33	250
Carrying value, at 1 January	218	38	256
Additions	4	9	13
Amortisation	–4	–14	–18
Reclassifications	1	–	1
Translation differences	–1	–	–1
Carrying value, at 31 December	217	33	250
Emission rights, carrying value [1]			44
Carrying value including emission rights, at 31 December			294
2016			
Accumulated costs	523	665	1,189
Accumulated amortisation and impairments	–306	–628	–933
Carrying value, at 31 December	218	38	256
Carrying value, at 1 January	224	53	277
Additions	5	7	12
Disposals	–	–1	–1
Amortisation	–6	–19	–25
Impairment	–	–2	–2
Reclassifications	–4	–	–3
Translation differences	–1	–	–1
Carrying value, at 31 December	218	38	256
Emission rights, carrying value [1]			45
Carrying value including emission rights, at 31 December			301

[1] *» Refer Note 2.3 Operating expenses and other operating income, for further information on emission rights.*

Impairment testing

Impairment tests for goodwill and water rights with indefinite life were carried out in the fourth quarter 2017. The values of water rights were tested based on expected future cash flows of each separate hydropower plant. Water rights of hydropower plants belonging to UPM Energy and reported in intangible rights amounted EUR 189 million at the end of 2017 and 2016.

Goodwill impairment tests were carried out for pulp operations in Finland and Uruguay, belonging to UPM Biorefining business area, UPM Raflatac business area and UPM Plywood business area.

The 2017 impairment tests did not result in a recognition of any impairment.

The basis for valuation and key assumptions used in goodwill impairment testing are summarised in below table.

CASH GENERATING UNIT	BASIS OF VALUATION	PERIOD OF FORECAST	PRE-TAX DISCOUNT RATE	KEY ASSUMPTIONS
Pulp operations Finland	Value in use	10 years + terminal value	8.57% (2016: 10.92%)	Pulp price, wood costs
Pulp operations Uruguay	Value in use	10 years + terminal value	9.36% (2016: 10.38%)	Pulp price, wood costs
UPM Raflatac	Value in use	10 years + terminal value	8.19% (2016: 9.94%)	Product prices, cost development
UPM Plywood	Value in use	10 years + terminal value	10.85% (2016: 10.35%)	Product prices, cost development

Sensitivity analyses

The sensitivity analyses of goodwill impairment tests indicate that no reasonable change in key assumptions would result in recognition of impairment loss against goodwill. In pulp operations the recoverable amount is most sensitive to pulp sales prices and the cost of wood raw material.

As at 31 December 2017, for pulp operations Finland, a decrease of more than 19.6% in pulp prices would result in recognition of impairment loss against goodwill. The group believes that no reasonable change in wood cost would cause the aggregate carrying amount to exceed the recoverable amount. For pulp operations Uruguay, a decrease of more than 6.4% in pulp prices or an increase of more than 18.5% in wood cost would result in recognition of impairment loss against goodwill. A decrease of more than 8.1% in pulp prices or an increase of more than 23.7% inwood cost would result in a write-down of the entire goodwill.

Key estimates and judgements

The group's assessment of the carrying value of goodwill and indefinite life assets requires significant judgement.

While management believes that estimates of future cash flows are reasonable, different assumptions are subject to change as a result of changing economic and operational conditions. Actual cash flows could therefore vary from estimated discounted future cash flows and could result in changes in the recognition of impairment charges in future periods.

Future cash flows

The review of recoverable amount for goodwill and indefinite life assets is based on a calculation of value in use, using management projections of future cash flows. The most important assessments and assumptions needed in calculations are forecasts for future growth rates for the business in question, product prices, cost development and the discount rates applied. The group is using ten-year forecasts in calculations as the nature of the group's business is long-term, due to its capital intensity, and is exposed to cyclical changes. In estimates of product prices and cost development, forecasts prepared by management for the next three years and estimates made for the following seven years are taken into consideration. In addition, consideration is given to the investment decisions made by the group as well as the profitability programmes that the group has implemented and the views of knowledgeable industry experts on the long-term development of demand and prices. In the projection of cash flows UPM uses EBITDA adjusted with cash flows not captured within EBITDA, including working capital movements and capital expenditures.

Discount rate

The discount rate is estimated using the weighted average cost of capital (WACC) on the calculation date adjusted for risks specific to the business in question. The adjusted after-tax discount rate is translated to a pre-tax rate for each cash generating unit (CGU) based on the specific tax rate applicable to where the CGU operates.

Accounting policies

Goodwill

Goodwill arises in connection with business combinations where the consideration transferred exceeds the fair value of the acquired net assets. Goodwill is recognised at cost less accumulated impairment and is an intangible asset with an indefinite useful life. Goodwill is allocated to the cash generating units that are expected to benefit from the synergies from the business combination.

Intangible rights

Intangible rights include water rights of hydropower plants, patents, licences, intellectual property and similar rights. Water rights are deemed to have an indefinite useful life as the company has a contractual right to exploit water resources in the energy production of power plants.

The values of water rights are tested annually for impairment based on expected future cash flows of each separate hydropower plant. Other intangible rights are recognised at cost less accumulated amortisation and impairment. Amortisation is calculated using the straight-line method over their estimated useful lives ranging from 5 to 10 years.

Software and other intangible assets

Research expenditure is recognised as an expense as incurred. Costs incurred in acquiring software that will contribute to future period financial benefit are capitalised to software and systems. Other intangible assets are recognised at cost less accumulated amortisation and impairment. Amortisation is calculated using the straight-line method over their estimated useful lives ranging from 3 to 5 years.

Impairment testing

Goodwill and other intangible assets that are deemed to have an indefinite life are tested at least annually for impairment. For goodwill impairment testing purposes the group identifies its cash-generating units (CGUs), which is the smallest identifiable group of assets that generate cash inflows largely independent of the cash inflows of other assets or other groups of assets. Each CGU is no larger than a business area. The carrying amount for the CGU includes goodwill, non-current assets and working capital. If the balance sheet carrying amount of the CGU unit exceeds its recoverable amount, an impairment loss is recognised. Impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to other assets of the unit. An impairment loss recognised for goodwill is not reversed in a subsequent period.

Other intangible assets with indefinite useful lives are impaired if the recoverable amount of the asset is less than the carrying amount. The carrying amount of the asset is then reduced to the recoverable amount which is the higher of the asset's net selling price and its value in use.

4.5 Provisions

EURm	RESTRUCTURING	TERMINATION	ENVIRONMENTAL	EMISSIONS	OTHER	TOTAL
2017						
Provisions at 1 January	45	54	21	9	16	145
Provisions made during the year	5	42	2	8	42	99
Provisions utilised during the year	–7	–35	–1	–8	–1	–53
Unused provisions reversed	–1	–8	–1	–1	–3	–14
Reclassifications	1	–1	–	–	–	–
Translation differences	–	–	–	–	–	–1
Provisions at 31 December	42	52	20	9	53	177
Non-current						117
Current						60
Total						177
2016						
Provisions at 1 January	47	51	24	14	18	154
Provisions made during the year	16	36	5	9	4	70
Provisions utilised during the year	–12	–30	–1	–10	–4	–58
Unused provisions reversed	–5	–3	–7	–3	–2	–20
Provisions at 31 December	45	54	21	9	16	145
Non-current						90
Current						56
Total						145

UPM has undergone several restructurings in recent years including mill closures and profit improvement programs. Restructuring provisions recognised include various restructuring activities including dismantling costs. Termination provisions include severance payments, unemployment compensations or other arrangements for employees leaving the company. In Finland termination provisions include also unemployment arrangements and disability pensions. Unemployment provisions in Finland are recognised 2–3 years before the granting and settlement of the compensation.

At 31 December 2017 and 2016, restructuring provisions and termination provisions relate mainly to capacity closures and optimisation of operations in UPM Paper ENA business area. In 2017, UPM has closed paper machine 5 at UPM Blandin mill in the United States, optimised operations at UPM Nordland Papier and UPM NorService units in Germany and in other European countries. The total termination and restructuring provisions made amounted to EUR 40 million in 2017.

In 2016, UPM has closed Madison paper mill in the US and announced plans to close Paper machine 3 at UPM Steyrermühl mill in Austria and paper machine 2 at UPM Augsburg mill in Germany were closed in 2017. Total provisions made relating to these closures amounted to EUR 53 million in 2016.

The group recognises provisions for normal environmental remediation costs expected to be incurred in a future period upon a removal of non-current assets and restoring industrial landfills where a legal or constructive obligation exists.

Other provisions are mainly attributable to onerous contracts and will be incurred over a period longer than one year.

Provisions for emissions include liability to cover the obligation to return emission rights. The group possesses emission rights amounting to EUR 44 million (45 million) as intangible assets.

» Refer Note 2.3 Operating expenses and other operating income, for further information on emission rights.

Accounting policies

A provision is recognised when a present legal or constructive obligation exists as a result of a past event and it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are split between amounts expected to be settled within 12 months of the balance sheet date (current) and amounts expected to be settled later (non-current).

Restructuring and termination provisions

A restructuring provisions is recognised when a detailed plan for the implementation of the measures is complete and when the plan has been communicated to those who are affected. Employee termination provisions are recognised when the group has communicated the plan to the employees.

Environmental provisions

Environmental expenditures that relate to an existing condition caused by past operations that do not contribute to future earnings are expensed. The recognition of environmental provisions is based on current interpretations of environmental laws and regulations. Such provisions are recognised when the group has an obligation to dismantle and remove a facility or an item of plant and to restore the site on which it is located. The amount recognised is the present value of the estimated future expenditure determined in accordance with local conditions and requirements. A corresponding item of property, plant and equipment of an amount equivalent to the provision is also recognised and subsequently depreciated as part of the asset. Provisions do not include any third-party recoveries.

Emission provisions

Emission obligations are recognised in provisions based on realised emissions. The provision is measured at the carrying amounts of the corresponding emission rights held, which are recognised as intangible assets. In case of deficit in emission rights, the shortage is valued at the market value at the balance sheet date.

Key estimates and judgements

Environmental provisions

The estimates used in determining the provisions are based on the expenses incurred for similar activities in the current reporting period taking into account the effect of inflation, cost-base development and discounting. Because actual outflows can differ from estimates due to changes in laws, regulations, public expectations, technology, prices and conditions, and can take place many years in the future, the carrying amounts of provisions are regularly reviewed and adjusted to take into account of any such changes. The discount rate applied is reviewed annually.

The group aims to operate in compliance with regulations related to the treatment of waste water, air emissions and landfill sites. However, expected events during production processes and waste treatment could cause material losses and additional costs in the group's operations.

Legal contingencies

Management judgement is required in measurement and recognition of provisions related to pending litigation. Provisions are recorded when the group has a present legal or constructive obligation as a result of past event, an unfavourable outcome is probable and the amount of loss can be reasonably estimated. Due to inherent uncertain nature of litigation, the actual losses may differ significantly from the originally estimated provision.

» Refer Note 9.2 Litigation for details of legal contingencies.

4.6 Working capital

The group defines operating working capital as inventories, trade receivables and trade payables which are presented separately below. UPM is focusing on working capital efficiency and targeting a sustainable and permanent reduction in operating working capital.

Operating working capital

EURm	2017	2016
Inventories	1,311	1,346
Trade receivables	1,447	1,360
Trade payables	–1,167	–994
Advances received	–39	–19
Total	1,552	1,694

Inventories

EURm	2017	2016
Raw materials and consumables	617	625
Work in progress	58	54
Finished products and goods	617	645
Advance payments	19	23
Total	1,311	1,346

Trade and other payables

EURm	2017	2016
Accrued expenses and deferred income		
Personnel expenses	209	212
Interest expenses	9	30
Indirect taxes	4	5
Customer rebates and other items	197	205
Total accrued expenses and deferred income	419	451
Advances received	39	19
Trade payables	1,167	994
Other current liabilities	141	130
Total	1,765	1,594

Operational credit risk

Operational credit risk is defined as the risk where UPM is not able to collect the payments for its receivables. The group has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis. Outstanding trade receivables, days of sales outstanding (DSO) and overdue trade receivables are followed on monthly basis. Potential concentrations of credit risk with respect to trade and other receivables are limited due to the large number and the geographic dispersion of customers. Customer credit limits are established and monitored, and ongoing evaluations of their financial condition is performed. Most of the receivables are covered by trade credit insurances. In certain market areas, including Asia and Northern Africa, measures to reduce credit risks include letters of credit, prepayments and bank guarantees. Maximum exposure to credit risk, without taking into account any credit enhancements, is the carrying amount of trade and other receivables.

UPM does not have significant concentration of customer credit risk. The ten largest customers accounted for approximately 19% (18%) of the trade receivables as at 31 December 2017 – i.e., approximately EUR 274 million (239 million).

In 2017, trade receivables amounting to EUR 0 million (10 million) were impaired and the loss was recorded under other costs and expenses. Impairment is recognised when there is objective evidence that the group is not able to collect the amounts due. There are no indications that the debtors will not meet their payment obligations with regard to trade receivables that are not overdue or impaired at 31 December 2017.

Trade and other receivables

EURm	2017	2016
Trade receivables		
Undue	1,254	1,211
Past due up to 30 days	147	114
Past due 31–90 days	32	17
Past due over 90 days	13	18
Total trade receivables	1,447	1,360
Prepayments and accrued income		
Personnel expenses	5	5
Interest income	1	1
Energy and other excise taxes	53	60
Other items	64	69
Total prepayments and accrued income	123	134
Other receivables		
VAT and other indirect taxes receivable	166	170
Other	47	62
Total other receivables	213	231
Total	1,783	1,726

Accounting policies

Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined by the method most appropriate to the particular nature of inventory, the first-in, first-out (FIFO) or weighted average cost. The cost of finished goods and work in progress comprises raw materials, direct labour, other direct costs and related production overheads (based on normal operating capacity) but excludes borrowing costs. Net realisable value is the estimated selling price in the ordinary course of business, less the costs of completion and selling expenses. If the net realisable value is lower than cost, a valuation allowance is established for inventory obsolescence.

Trade receivables

Trade receivables arising from selling goods and services in the normal course of business are recognised initially at fair value and subsequently measured at amortised cost, less a provision for impairment. Provision for impairment is charged to the income statement when there is objective evidence that the group will not be able to collect all amounts due according to the original terms of receivables. In determining the recoverability of trade receivables the group considers any change to the credit quality of trade receivables. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy, or default or delinquency in payments more than 90 days overdue are considered indicators that the trade receivable may be irrecoverable. Subsequent recoveries of amounts previously written off are credited to the income statement. The carrying amount of trade receivables approximates to their fair value due to the short-term nature of the receivables.

Trade payables

Trade payables arise from purchase of inventories, fixed assets and goods and services in the ordinary course of business from UPM's suppliers. Trade and other payables are classified as current liabilities if they are due to be settled within the normal operating cycle of the business or within 12 months from the balance sheet date. Trade payables are recognised initially at fair value and subsequently at amortised cost using the effective interest method. The carrying amount of trade payables approximates to their fair value due to the short-term nature of the payables.

5. Capital structure

UPM has a strong cash flow and industry-leading balance sheet that mitigates risks and enables value-enhancing strategic actions.

Net debt
EUR **174m**
(EUR 1,131m)

Free cash flow
EUR **1,336m**
(EUR 1,424m)

5.1 Capital management

UPM's objective for managing capital comprising of net debt and total equity is to ensure maintenance of flexible capital structure to enable the ability to operate in capital markets and maintain optimal returns to shareholders. The group manages its financing activities, debt portfolio and financial resources via various policies that are designed to ensure optimum financing arrangements minimising simultaneously financial expenses and refinancing risk and optimising liquidity. Borrowing activities are centralised to the parent to the extent possible and cash resources are distributed within the group by the central treasury department.

UPM targets a net debt to EBITDA ratio of approximately 2 times or less.

Liquidity and refinancing risk

UPM seeks to maintain adequate liquidity under all circumstances by means of efficient cash management and restricting financial investments to investment types that can readily be converted into cash. Adequate liquidity is maintained by keeping sufficient amount of unused committed credit lines or cash as a reserve.

Refinancing risks are minimised by ensuring a balanced loan portfolio maturing schedule and sufficiently long maturities. The average loan maturity at 31 December 2017 was 6.9 years (5.3 years).

UPM has some financial agreements which have gearing as a financial covenant whereby it should not exceed 110%.

UPM's capital

EURm	2017	2016
Equity attributable to owners of the parent company	8,660	8,234
Non-controlling interest	4	3
Total equity	8,663	8,237
Non-current debt	789	1,835
Current debt	324	585
Total debt	1,114	2,419
Total capitalisation	9,777	10,657
Total debt	1,114	2,419
Less: Interest-bearing financial assets	–940	–1,289
Net debt	174	1,131
Gearing ratio, % [1]	2	14
Net debt to EBITDA [1]	0.11	0.73

[1] *Refer Note 10.2 Alternative performance measures.*

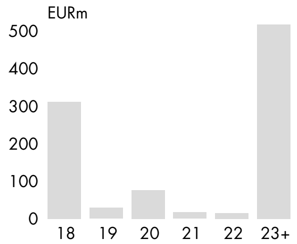
Liquidity and refinancing

EURm	2017	2016
Cash at bank	666	590
Cash equivalents	50	402
Committed credit lines	657	656
of which used	–6	–5
Loan commitments	–46	–
Used uncommitted credit lines	–5	–26
Long-term loan repayment cash flow	–306	–477
Liquidity	1,010	1,140

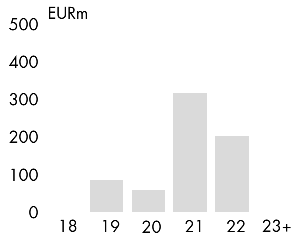
Cash and cash equivalents comprise cash in hand, deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less. Bank overdrafts are included in used uncommitted credit lines and presented within current debt in the balance sheet.

The most important financial programs in use are committed bilateral revolving credit lines.

Repayments of debt at the end of 2017



Committed credit lines' maturities (EUR 657million) at the end of 2017



Maturity table of debt at the end of 2017

EURm	2018	2019	2020	2021	2022	2023+	TOTAL
Bonds	208	–	–	–	–	313	521
Loans from financial institutions	14	18	26	10	8	13	91
Pension loans	74	–	–	–	–	–	74
Finance leases	7	7	49	5	5	31	105
Other loans	2	4	1	1	1	158	165
Current loans	5	–	–	–	–	–	5
Principal payments	310	29	76	17	15	515	961
Interest payments	39	35	31	31	31	162	329

The difference between the above nominal values and carrying value of total debt arise from fair value adjustments increasing carrying value by EUR 151 million and other non-cash adjustments decreasing carrying value by EUR 11 million.

Maturity table of debt at the end of 2016

EURm	2017	2018	2019	2020	2021	2022+	TOTAL
Bonds	292	237	–	–	–	356	885
Loans from financial institutions	21	305	320	16	10	14	685
Pension loans	74	74	–	–	–	–	148
Finance leases	88	7	8	49	5	37	195
Other loans	1	4	1	1	–	173	180
Current loans	26	–	–	–	–	–	26
Principal payments	502	628	328	65	15	581	2,118
Interest payments	88	50	41	36	35	218	468

The difference between the above nominal values and carrying value of total debt arise from fair value adjustments increasing carrying value by EUR 202 million and other non-cash adjustments decreasing carrying value by EUR 18 million.

Maturity table of derivatives and guarantees at the end of 2017

EURm	2018	2019	2020	2021	2022	2023+	TOTAL
Net settled interest rate swaps							
Net inflow	21	12	11	11	11	53	119
Net outflow	–	–2	–	–	–	–	–2
Gross settled derivatives							
Gross currency swaps							
Total inflow	89	8	7	7	7	198	315
Total outflow	–78	–1	–2	–2	–3	–192	–278
Forward foreign exchange contracts							
Total inflow	356	–	–	–	–	–	356
Total outflow	–356	–	–	–	–	–	–356
Guarantees	2	–	–	–	–	–	2

Maturity table of derivatives and guarantees at the end of 2016

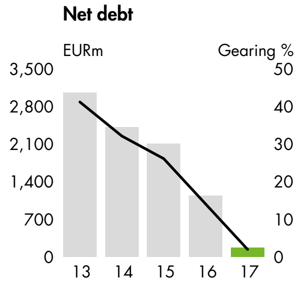
EURm	2017	2018	2019	2020	2021	2022+	TOTAL
Net settled interest rate swaps							
Net inflow	52	23	14	13	12	66	180
Net outflow	–8	–7	–8	–6	–5	–4	–38
Gross settled derivatives							
Gross currency swaps							
Total inflow	302	101	9	7	7	226	652
Total outflow	–371	–78	–1	–2	–2	–193	–647
Forward foreign exchange contracts							
Total inflow	369	–	–	–	–	–	369
Total outflow	–368	–	–	–	–	–	–368
Guarantees	2	–	–	–	–	–	2

5.2 Net debt

Net debt is defined as the total of current and non-current debt less cash and cash equivalents and interest-bearing current and non-current financial assets. Net debt totalled EUR 174 million at the end of 2017 (1,131 million). Following the strong cash flow during 2017, the group was able to reduce net debt by EUR 957 million.

Net debt

EURm	2017	2016
Bonds	405	717
Loans from financial institutions	78	664
Pension loans	–	77
Finance leases	97	106
Derivatives	–	34
Other loans	209	236
Non-current debt	789	1,835
Repayments of non-current debt	306	477
Derivatives	13	82
Other liabilities	5	26
Current debt	324	585
Total debt	1,114	2,419
Loan receivables	7	11
Derivatives	148	216
Other receivables	34	32
Non-current interest-bearing assets	189	259
Loan receivables	5	6
Derivatives	8	12
Other receivables	21	19
Cash and cash equivalents	716	992
Current interest-bearing assets	751	1,030
Total interest-bearing assets	940	1,289
Net debt	174	1,131



Accounting policies

Debt

Debt comprising of bonds, bank and pension loans and other loans is recognised initially at fair value, net of transaction costs and subsequently measured at amortised cost using the effective interest method. Any difference between proceeds (net of transaction costs) and the redemption value is recognised in the income statement over the estimated life of the borrowing. UPM classifies debt as non-current unless due for settlement within a year. Most of the debt is hedged in a fair value hedge relationship as described in *» Note 6.1* Financial risk management.

Change in net debt 2017

Reported in financing activities in cash flow statement

EURm	Non-current loans incl. repayments	Finance leases	Current loans	Net derivatives	Other financial assets	Cash and cash equivalents	Net debt
Carrying value, at 1 January	–2,082	–195	–26	112	68	992	–1,131
Change in net debt, cash:							
Proceeds from non-current debt	–1	–	–	–	–	–	–1
Payments of non-current debt	957	7	–	–	–	–	964
Change in current liabilities	–	–	21	–	–	–	21
Net cash flows from derivatives	–	–	–	97	–	–	97
Change in other financial assets in operating cash flow	–	–	–	–	2	–	2
Change in other financial assets in investing cash flow	–	–	–	–	–5	–	–5
Change in cash and cash equivalents	–	–	–	–	–	–268	–268
	956	7	21	97	–3	–268	810
Change in net debt, non-cash:							
Fair value gains and losses	50	–	–	–66	–	–	–16
Exchange gains and losses	90	2	–	–	–1	–7	84
Effective interest rate adjustment	–5	–	–	–	–	–	–5
Other non-cash changes	–	81	–	–	3	–	84
	135	83	–	–66	2	–7	148
Carrying value, at 31 December	–991	–105	–5	143	68	716	–174

Change in net debt 2016

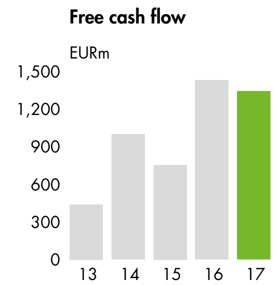
Reported in financing activities in cash flow statement

EURm	Non-current loans incl. repayments	Finance leases	Current loans	Net derivatives	Other financial assets	Cash and cash equivalents	Net debt
Carrying value, at 1 January	–2,672	–198	–104	195	53	626	–2,100
Change in net debt, cash:							
Proceeds from non-current debt	–1	–	–	–	–	–	–1
Payments of non-current debt	533	7	–	–	–	–	540
Change in current liabilities	–	–	77	–	–	–	77
Net cash flows from derivatives	–	–	–	22	–	–	22
Change in other financial assets in operating cash flow	–	–	–	–	13	–	13
Change in other financial assets in investing cash flow	–	–	–	–	2	–	2
Change in cash and cash equivalents					–	367	367
	532	7	77	22	15	367	1,020
Change in net debt, non-cash:							
Fair value gains and losses	55	–	–	–105	–	–	–50
Exchange gains and losses	11	–	1	–	–	–1	11
Effective interest rate adjustment	–8	–	–	–	–	–	–8
Other non-cash changes	–	–4	–	–	–	–	–4
	58	–4	1	–105	–	–1	–51
Carrying value, at 31 December	–2,082	–195	–26	112	68	992	–1,131

Free cash flow

Free cash flow is primarily a liquidity measure. It is an important indicator of UPM's overall operational performance as it reflects the cash generated from operations after investing activities. UPM's free cash flow has enabled payment of dividends as well as repayments of debt reducing net debt significantly.

EURm	2017	2016
Operating cash flow	1,558	1,686
Investing cash flow	–222	–262
Free cash flow	1,336	1,424
Dividends paid	–507	–400
Other financing cash flow	–17	–19
Change in other financial assets in operating cash flow	2	13
Change in other financial assets in investing cash flow	–5	2
Change in net debt, cash	810	1,020
Change in net debt, non-cash	148	–51
Decrease in net debt	957	969
Opening net debt	–1,131	–2,100
Closing net debt	–174	–1,131



Bonds

Fixed rate period	Interest rate, %	Currency	Nominal value issued, million	Carrying value 2017 EURm	Carrying value 2016 EURm
1997–2027	7.450	USD	375	405	471
2002–2017	6.625	GBP	250	–	293
2003–2018	5.500	USD	250	208	246
Value, at 31 December				613	1,010
Current portion				208	292
Non-current portion				405	718

Leases

UPM has three finance lease agreements regarding power plant machinery outstanding at the end of 2017. The group uses the energy generated by these plants for its own production. The group also has a finance lease arrangement over the usage of a waste water treatment plant. In addition, the group leases certain production assets and buildings under long term lease arrangements.

Leased assets included in property, plant and equipment

EURm	2017	2016
Accumulated costs	152	154
Accumulated depreciation	–58	–59
Carrying value, at 31 December	94	95

The group also leases office, manufacturing and warehouse space through various non-cancellable operating leases. Certain contracts contain renewal options for various periods of time.

Future minimum lease payments

	Finance leases		Operating leases	
EURm	2017	2016	2017	2016
Within 1 year	8	94	77	74
Between 1 and 5 years	69	73	203	189
Later than 5 years	32	40	183	185
Total	110	207	463	448
Of which interest	–6	–12	–	–
Present value of future minimum lease payments	105	195	–	–

Accounting policies

Leases

Leases of property, plant and equipment where the group, as a lessee, has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are recognised as assets and liabilities in the balance sheet at the commencement of lease term at the lower of the fair value of the leased property and the present value of the minimum lease payments.

Each lease payment is allocated between the liability and finance charges. The corresponding rental obligations, net of finance charges, are included in other non-current debt. The interest element of the finance cost is charged to the income statement over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. Property, plant and equipment acquired under finance leases are depreciated over the shorter of the asset's useful life and the lease term.

Leases where the lessor retains substantially all the risks and rewards of ownership are classified as operating leases. Payments made as a lessee under operating leases are charged to the income statement on a straight-line basis over the period of the lease.

5.3 Financial assets and liabilities by category

Financial assets and liabilities recognised in the balance sheet include cash and cash equivalents, loans and other financial receivables, investments in securities, trade receivables, trade payables, loans and derivatives.

Classification of financial assets into different measurement categories depends on the purpose for which the financial assets were initially acquired and is determined at the acquisition date. Financial assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Financial assets and liabilities by category at the end of 2017

EURm	FAIR VALUE THROUGH PROFIT AND LOSS	AVAILABLE-FOR-SALE FINANCIAL ASSETS	LOANS AND RECEIVABLES	DERIVATIVES USED FOR HEDGING	FINANCIAL LIABILITIES AT AMORTISED COST	TOTAL
Energy shareholdings	–	1,974	–	–	–	1,974
Other non-current financial assets:						
Loans and receivables	–	–	16	–	–	16
Derivatives	2	–	–	175	–	176
						192
Trade and other receivables	–	–	1,783	–	–	1,783
Other current financial assets:						
Loans and receivables	–	–	5	–	–	5
Derivatives	21	–	–	66	–	87
						92
Total financial assets	23	1,974	1,803	240	–	4,041
Non-current debt:						
Loans	–	–	–	–	789	789
Derivatives	–	–	–	–	–	–
						789
Other non-current financial liabilities:						
Other liabilities [1]	–	–	–	–	85	85
Derivatives	8	–	–	1	–	9
						94
Current debt:						
Loans	–	–	–	–	311	311
Derivatives	13	–	–	–	–	13
						324
Trade and other payables	–	–	–	–	1,765	1,765
Other current financial liabilities:						
Derivatives	15	–	–	19	–	34
						34
Total financial liabilities	36	–	–	20	2,951	3,006

Financial assets and liabilities by category at the end of 2016

EURm	FAIR VALUE THROUGH PROFIT AND LOSS	AVAILABLE-FOR-SALE FINANCIAL ASSETS	LOANS AND RECEIVABLES	DERIVATIVES USED FOR HEDGING	FINANCIAL LIABILITIES AT AMORTISED COST	TOTAL
Energy shareholdings	–	1,932	–	–	–	1,932
Other non-current financial assets:						
Loans and receivables	–	–	19	–	–	19
Derivatives	18	–	–	218	–	236
						255
Trade and other receivables	–	–	1,726	–	–	1,726
Other current financial assets:						
Loans and receivables	–	–	6	–	–	6
Derivatives	47	–	–	56	–	103
						109
Total financial assets	65	1,932	1,751	274	–	4,022
Non-current debt:						
Loans	–	–	–	–	1,800	1,800
Derivatives	–	–	–	34	–	34
						1,835
Other non-current financial liabilities:						
Other liabilities [1]	–	–	–	–	94	94
Derivatives	10	–	–	6	–	16
						110
Current debt:						
Loans	–	–	–	–	502	502
Derivatives	82	–	–	–	–	82
						584
Trade and other payables	–	–	–	–	1,594	1,594
Other current financial liabilities:						
Derivatives	20	–	–	96	–	116
						116
Total financial liabilities	112	–	–	136	3,990	4,238

[1] Consists mainly of non-current advances received and a put liability that is not estimated to mature within 12 months.

The carrying amounts of financial assets and financial liabilities except for non-current loans approximate their fair value. The fair value of non-current loans amounted to EUR 801 million (1,804 million) at the end of 2017. For quoted bonds, the fair values are based on the quoted market value as of 31 December. At the end of 2017, all bonds were quoted. For other non-current borrowings fair values are estimated using the expected contractual future payments discounted at market interest rates and are categorised within level 2 of the fair value hierarchy.

» Refer Note 5.2 Net debt, for further information on net debt and bonds.

Fair value measurement hierarchy for financial assets and liabilities

EURm	2017				2016			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets								
Derivatives, non-qualifying hedges	4	19	–	23	2	63	–	65
Derivatives used for hedging	42	198	–	240	32	241	–	273
Energy shareholdings	–	–	1,974	1,974	–	–	1,932	1,932
Total	46	217	1,974	2,237	34	304	1,932	2,270
Financial liabilities								
Derivatives, non-qualifying hedges	17	19	–	36	19	93	–	112
Derivatives used for hedging	12	8	–	20	42	94	–	136
Total	29	27	–	56	61	187	–	248

There have been no transfers between levels in 2017 and 2016.

Accounting policies

Fair value through profit or loss
This category includes derivatives that don't qualify hedge accounting. They are measured at fair value and any gains or losses from subsequent measurement are recognised in the income statement.

Available-for-sale financial assets
This category includes mainly UPM's energy shareholdings. These assets are measured at fair value through other comprehensive income.

Loans and receivables
This category comprises loan receivables with fixed or determinable payments that are not quoted in an active market, as well as trade and other receivables. They are included in non-current assets unless they mature within 12 months of the balance sheet date. Loan receivables that have a fixed maturity are measured at amortised cost using the effective interest method. Loan receivables without fixed maturity date are measured at amortised cost. Loan receivables are impaired if the carrying amount is greater than the estimated recoverable amount.

Derivatives used for hedging
All derivatives are initially and continuously recognised at fair value in the balance sheet. Gains and losses on remeasurement of derivatives used for hedging purposes are recognised in accordance with the accounting principles described in *» Note 6.2 Derivatives and hedge accounting.*

Financial liabilities measured at amortised cost
This category includes debt, trade payables and other financial liabilities. *» Refer Note 5.2 Net debt, for further information.*

The different levels of fair value hierarchy used in fair value estimation are defined as follows:

Fair values under level 1
Quoted prices (unadjusted) traded in active markets for identical assets or liabilities. Derivatives include futures and commodity forwards traded in exchange.

Fair values under level 2
Observable inputs are used as basis for fair value calculations either directly (prices) or indirectly (derived from prices). If all significant inputs required to fair value an instrument are observable, the instrument is included in level 2. Derivatives, level 2 include OTC derivatives like forward foreign exchange contracts, foreign currency options, interest and currency swaps and commodity swaps.

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.

An embedded derivative that is by nature a foreign currency forward contract is valuated at market forward exchange rates and is included in level 2. Embedded derivatives are monitored by the group and the fair value changes are reported in other operating income in the income statement.

Fair values under level 3
Financial assets or liabilities of which fair values are not based on observable market data (that is, unobservable inputs) are classified under level 3. This category include UPM's energy shareholdings and forest assets. Fair valuations are performed at least quarterly by respective business areas or functions. Fair valuations are reviewed by the group finance management and overseen by the Audit Committee.

» Refer Note 4.3 Energy shareholdings and Note 4.2 Forest assets.

5.4 Financial income and expenses

EURm	2017	2016
Exchange rate and fair value gains and losses		
Derivatives, non-qualifying hedges	–46	–47
Fair value gains and losses on derivatives designated as fair value hedges	–54	–64
Fair value adjustment of debt attributable to interest rate risk	50	55
Exchange gains and losses on financial liabilities measured at amortised costs	89	13
Exchange gains and losses on loans and receivables	–51	36
	–12	–7
Interest and other finance costs, net		
Interest expense on financial liabilities measured at amortised cost	–76	–111
Interest income on derivatives	35	60
Interest income on loans and receivables	2	4
Dividend income from energy shareholdings	8	2
Losses on sale of associates and joint ventures	–1	–4
Other financial expenses, net	–26	–
	–57	–49
Total	–70	–56

Net gains and losses on derivatives included in the operating profit

EURm	2017	2016
Cash flow hedges reclassified from hedging reserve	–1	–38
Cash flow hedges recognised directly in operating profit	6	–4
Non-qualifying hedges	14	28
Total	18	–14

Foreign exchange gains and losses in the income statement excluding non-qualifying hedges

EURm	2017	2016
Sales	26	9
Other operating income	–30	6
Financial income and expenses	–8	3
Total	–12	17

5.5 Share capital and reserves

The company has one series of shares and each share carries one vote. There are no specific terms related to the shares except for the redemption clause as discussed under *» Shares* section in the Report of the Board of Directors. At 31 December 2017, the number of the company's shares was 533,735,699. The shares do not have any nominal counter value. The shares are included within the book entry system for securities.

Share capital

	2017	2016
Number of shares (1,000)	533,736	533,736
Share capital, EURm	890	890

Treasury shares
At 31 December 2017, the company held 411,653 (230,737) of its own shares, 0.08% (0.04%) of the total number of shares.

Reserves

EURm	2017	2016
Fair value reserve	1,462	1,438
Hedging reserves	91	–31
Share-based payments reserve	10	9
Total other reserves	1,564	1,416
Reserve for invested non-restricted equity	1,273	1,273
Translation reserve	184	433
Total reserves	3,021	3,122

Reserve for invested non-restricted equity
Reserve for invested non-restricted equity includes, under the Companies' Act, the exercise value of shareholders' investments in the company unless otherwise decided by the company.

Translation reserve
This reserve includes the foreign currency differences arising from the translation of foreign operations, and the effective result of transactions that hedge the group's net investments in foreign operations.

Hedging reserve
This reserve comprises the cumulative net change in the fair value of the effective portion of cash flow hedging instruments related to hedged transactions that have not yet occurred. Amounts are recognised in profit or loss when the associated hedged transactions affect profit or loss or as part of the acquisition cost of property, plant and equipment.

Fair value reserve
This reserve represents the cumulative net change in the fair value of investments in equity securities comprising mainly of the fair value change of the energy shareholdings. Amounts are recognised in profit or loss if the asset is sold or impaired.

Share-based payments reserve
The share-based payments reserve is used to recognise the fair value of the share incentive plans, Performance Share Plan and Deferred Bonus Plan, over their vesting period.

Accounting policies

Transaction costs directly relating to the issue of new shares are recognised, net of tax, in equity as a reduction in the proceeds. Where any group company purchases the parent company's shares (treasury shares), the consideration paid, including any directly attributable incremental costs (net of tax), is deducted from equity attributable to the owners of the parent company until the shares are cancelled or reissued. Where such shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction costs and the related income tax effects, is included in equity attributable to the owners of the parent company.

6. Risk management

6.1 Financial risk management

The objective of financial risk management is to protect the group from unfavourable changes in financial markets and thus help to secure profitability. The objectives and limits for financing activities are defined in the Group Treasury Policy approved by the Board of Directors. In financial risk management various financial instruments are used within the limits specified in the Group Treasury Policy. Only such instruments whose market value and risk profile can be continuously and reliably monitored are used for this purpose.

Financing services are provided to the group entities and financial risk management carried out by the central treasury department, Treasury and Risk Management. The centralisation of treasury functions enables efficient financial risk management, cost-efficiency and efficient cash management.

Foreign exchange risk

The group is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to USD, GBP and JPY. Foreign exchange risk arises from contracted and expected commercial future payment flows (transaction exposure), from changes in value of recognised assets and liabilities denominated in foreign currency and from changes in the value of assets and liabilities in foreign subsidiaries (translation exposure). The objective of foreign exchange risk management is to limit the uncertainty created by changes in foreign exchange rates on the future value of cash flows and earnings as well as in the group's balance sheet by hedging foreign exchange risk in forecast cash flows and balance sheet exposures. Changing exchange rates can also have indirect effects, such as change in relative competitiveness between currency regions.

Transaction exposure

The group hedges transaction exposure related to highly probable future commercial foreign currency cash flows on a rolling basis over the next 12-month period based on forecasts by the respective business areas. The group's policy is to hedge an average of 50% of its estimated net risk currency cash flow. Some highly probable cash flows have been hedged for longer than 12 months ahead while deviating from the risk neutral hedging level at the same time. At 31 December 2017, 50% (50%) of the forecast 12-month currency flow was hedged.

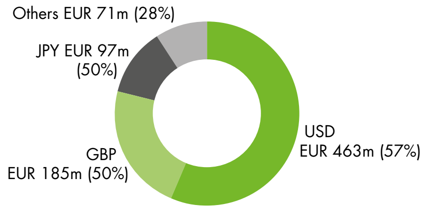
External forwards are designated at group level as hedges of foreign exchange risk of specific future foreign currency sales. Cash flow hedge accounting is applied when possible. If hedge accounting is not possible, fair value changes of the hedging instrument are recognised through profit and loss immediately.

At the end of 2017, UPM's estimated net risk currency flow for the next 12 months was EUR 1,626 million (1,730 million).

12 months net risk currency flow

EURm	2017	2016
USD	808	1,060
GBP	369	370
JPY	196	210
Others	253	90
Total	1,626	1,730

Nominal values of hedging instruments and corresponding hedging ratios, based on 12 months forecasts



Translation exposure

The group has several currency denominated assets and liabilities on its balance sheet such as foreign currency bonds, loans and deposits, group internal loans and cash in other currencies than functional currencies. The aim is to fully hedge this balance sheet exposure fully. The group might, however, within the limits set in the group Treasury Policy have unhedged balance sheet exposures. At 31 December 2017 unhedged balance sheet exposures in net of interest-bearing assets and liabilities amounted to EUR 10 million (15 million). Hedge accounting is not applied and all fair value changes of hedging instruments are recognised through profit and loss immediately.

The group has also accounts receivable and payable balances denominated in foreign currencies. The aim is to hedge the exposure in main currencies. The nominal values of the hedging instruments in net of accounts payable and receivable hedging were EUR 426 million (555 million). Hedge accounting is not applied and all fair value changes of hedging instruments are recognised through profit and loss immediately.

The group has net investments in foreign subsidiaries that are subject to foreign currency translation differences. The exchange rate differences arising from translation of foreign subsidiaries are accumulated as a separate component of equity in the translation reserve relate mainly to USD, CNY and GBP. Currency exposure arising from the net investment in foreign subsidiaries is generally not hedged. However, at 31 December 2017, part of the foreign exchange risk associated with the net investment in Uruguay and China were hedged and net investment hedge accounting has been applied.

Foreign exchange risk sensitivity

The following table illustrates the effect to profit before tax due to recognised balance sheet items in foreign currency and the effect to equity arising mainly from foreign currency forwards used to hedge foreign currency flows.

	Profit before tax		Equity	
EURm	2017	2016	2017	2016
EUR strengthens by 10%				
USD	–2	6	48	52
GBP	–	–1	19	19
JPY	1	–2	10	10
EUR weakens by 10%				
USD	2	–6	–48	–52
GBP	–	1	–19	–19
JPY	–1	2	–10	–10

The following assumptions were made when calculating the sensitivity to changes in the foreign exchange risk:

- Major part of non-derivative financial instruments (such as cash and cash equivalents, trade receivables, debt and trade payables) are either directly denominated in the functional currency or are transferred to the functional currency through the use of derivatives i.e. the balance sheet position is close to zero. Exchange rate fluctuations have therefore minor or no effects on profit or loss.
- The position includes foreign currency forward contracts that are part of the effective cash flow hedge having an effect on equity.
- The position includes also foreign currency forward contracts that are not part of the effective cash flow hedge having an effect on profit.
- The position excludes foreign currency denominated future cash flows and effects of translation exposure and related hedges.

Interest rate risk

The interest-bearing liabilities and assets expose the group to interest rate risk, namely repricing and fair value interest rate risk caused by interest rate movements. According to the Group Treasury Policy the interest rate exposure is defined as the difference in interest rate sensitivity between assets and liabilities compared to a benchmark portfolio with a 6-month duration. The total interest rate exposure is a net debt portfolio which includes all interest bearing assets and liabilities and derivatives that are used to hedge the aforementioned balance sheet items. The policy sets risk limits and allowed deviation from target net debt duration level. The group uses interest rate derivatives to change the duration of the net debt. At 31 December 2017 the average duration was 0.6 years (3.1 years).

The table below shows the nominal value of interest rate position exposed to interest rate risk in each significant currency. The position includes all cash balances, interest bearing liabilities and assets and currency derivatives used to hedge these items. The positive/negative position indicates a net liability/asset position by currency and that the group is exposed to repricing and/or fair value interest risk by interest rate movements in that currency.

Nominal values of the group's net debt by currency including derivatives

EURbn	2017	2016
EUR	0.1	0.9
USD	0.2	0.4
GBP	–0.1	–0.1
Others	–	–0.1
Total	0.2	1.1

Most of the long-term loans and the related interest rate derivatives meet hedge accounting requirements; both fair value and cash flow hedge accounting is applied.

Interest rate risk sensitivity

The following table illustrates the effect to profit before tax mainly as a result of higher/lower interest expense on floating rate debt and the effect to equity as a result of a decrease/increase in the fair value of derivatives designated as cash flow hedges of floating rate debt.

	Profit before tax		Equity	
EURm	2017	2016	2017	2016
Interest rate of net debt 100 basis points higher	–3	–7	–	–37
Interest rate of net debt 100 basis points lower	3	7	–	37

The following assumptions were made when calculating the sensitivity to changes in interest rates:

- The variation of interest rate is assumed to be 100 basis points parallel shift in applicable interest rate curves.
- In the case of fair value hedges designated for hedging interest rate risk, the changes in the fair values of the hedged items and the hedging instruments attributable to the interest rate movements balance out almost completely in the income statement in the same period. However, the possible ineffectiveness has an effect on the profit of the year.
- Fixed rate debt that is measured at amortised cost and is not designated to fair value hedge relationship is not subject to interest rate risk sensitivity.
- In case of variable to fixed interest rate swaps which are included in cash flow hedge accounting, fair value changes of hedging swaps are booked to equity.
- Floating rate debt that are measured at amortised cost and not designated as hedged items are included in interest rate sensitivity analysis.
- Changes in the market interest rate of interest rate derivatives (interest rate futures, swaps and cross currency swaps) that are not designated as hedging instruments in hedge accounting affect the financial income or expenses (net gains or losses from remeasurement of the financial assets and liabilities to fair value) and are therefore included in the income-related sensitivity analysis.

Electricity price risk

UPM is hedging both sales of power production and power purchases consumed at daily business. The group's sensitivity to electricity market price is dependent on the electricity production and consumption levels and the hedging levels.

In the Nordic and Central European market areas the operative risk management is done by entering into electricity derivatives contracts. In addition to hedging, the group is also trading electricity forwards and futures. As well as hedging, proprietary trading risks are monitored on a daily basis. Value-At-Risk levels are set to limit the maximum risk at any given time. Cumulative maximum loss is limited by stop-loss limits.

Electricity derivatives price sensitivity

Sensitivity analysis for financial electricity derivatives is based on position at the end of financial year. Sensitivities change over time as the overall hedging and trading positions change. Underlying physical positions are not included in the sensitivity analysis. Sensitivity analysis is calculated separately for the hedge accounted and non-hedge accounted volumes. In the analysis it is assumed that forward quotation in Nasdaq Commodities and EEX would change EUR 5/MWh throughout the period UPM has derivatives. EUR 5/MWh price sensitivity is estimated from historical market price movements in Nasdaq and EEX markets.

EURm	EFFECT	2017	2016
+/– EUR 5/MWh in electricity forward quotations			
Effect on profit before tax	+/–	35.9	45.1
Effect on equity	+/–	49.6	36.7

6.2 Derivatives and hedge accounting

The group uses financial derivatives to manage currency, interest rate and commodity price risks.

» Refer Note 6.1 *Financial risk management.*

Accounting policies

All derivatives are initially and continuously recognised at fair value in the balance sheet. The fair value gain or loss is recognised through the income statement or other comprehensive income depending on whether the derivative is designated as a hedging instrument, and on the nature of the item being hedged. Certain derivatives are designated at inception either hedges of the fair value of a recognised assets or liabilities or a firm commitment (fair value hedge), hedges of highly probable forecasted transactions or cash flow variability in functional currency (cash flow hedge), or hedges of net investments in foreign subsidiaries with other than the EUR as their functional currency (net investment hedge). Derivative fair values on the balance sheet are classified as non-current when the remaining maturity is more than 12 months and as current when the remaining maturity is less than 12 months.

For hedge accounting purposes, UPM documents the relationship between the hedging instruments and hedged items, as well as the risk management objective and strategy for undertaking various hedge transactions at the inception date. This process includes linking all derivatives designated as hedges to specific assets and liabilities or to specific firm commitments or forecast transactions. The group also documents its assessment, both at the hedge inception and on an on-going basis, as to whether the hedge is highly effective in offsetting changes in fair values or cash flows of the hedged items.

Certain derivatives, while considered to be economical hedges for UPM's financial risk management purposes, do not qualify for hedge accounting. Such derivatives are recognised at fair value through the income statement in other operating income or under financial items.

Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognised in other comprehensive income. Amounts deferred in equity are transferred to the income statement and classified as income or expense in the same period as that in which the hedged item affects the income statement (for example, when the forecast external sale to the group that is hedged takes place). The period when the hedging reserve is released to sales after each derivative has matured is approximately one month. The gain or loss relating to the effective portion of interest rate swaps hedging variable rate borrowings is recognised in the income statement within finance costs. When the forecasted transaction that is hedged results in the recognition of a fixed asset, gains and losses previously deferred in equity are transferred from equity and included in the initial measurement of the acquisition cost and depreciated over the useful lives of the assets.

When a hedging instrument expires or is sold, or when a hedge no longer meets hedge accounting criteria, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the committed or forecasted transaction is ultimately recognised in the income statement. However, if a forecasted transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately recognised to the income statement.

Hedges of net investments in foreign subsidiaries

The fair value changes of forward exchange contracts used in hedging net investments that reflect the change in spot exchange rates are recognised in other comprehensive income within translation reserve. Any gain or loss relating to the interest portion of forward exchange contracts is recognised immediately in the income statement under financial items. Gains and losses accumulated in equity are included in the income statement when the foreign operation is partially disposed of or sold.

Fair value hedges

The group applies fair value hedge accounting for hedging fixed interest risk on debt. Changes in the fair value of derivatives that are designated and qualify as fair value hedges and that are highly effective both prospectively and retrospectively are recorded in the income statement under financial items, along with any changes in the fair value of the hedged asset or liabilities that are attributable to the hedged risk. The carrying amounts of hedged items and the fair values of hedging instruments are included in interest-bearing assets or liabilities. Derivatives that are designated and qualify as fair value hedges mature at the same time as hedged items. If the hedge no longer meets the criteria for hedge accounting, the adjustment to the carrying amount of a hedged item for which the effective interest method is used is amortised to profit or loss over the expected period to maturity.

Financial counterparty risk

The financial instruments the group has agreed with banks and financial institutions contain an element of risk of the counterparties being unability to meet their obligations. According to the Group Treasury Policy derivative instruments and investments of cash funds may be made only with counterparties meeting certain creditworthiness criteria. The group minimises counterparty risk also by using a number of major banks and financial institutions. Creditworthiness of counterparties is constantly monitored by Treasury and Risk Management.

Net fair values of derivatives

EURm	Positive fair values 2017	Negative fair values 2017	Net fair values 2017	Positive fair values 2016	Negative fair values 2016	Net fair values 2016
Foreign exchange risk						
Forward foreign exchange contracts						
Cash flow hedges	39	–6	33	35	–41	–6
Net investment hedge	11	–2	9	4	–19	–15
Non-qualifying hedges	6	–7	–1	10	–14	–4
Currency options						
Non-qualifying hedges	–	–	–	–	–	–
Cross currency swaps						
Non-qualifying hedges	6	–10	–4	23	–77	–54
Derivatives hedging foreign exchange risk	62	–24	37	72	–151	–79
Interest rate risk						
Interest rate swaps						
Cash flow hedges	–	–	–	–	–34	–34
Fair value hedges	101	–	101	138	–	138
Non-qualifying hedges	7	–1	5	27	–2	25
Cross currency swaps						
Cash flow hedges	–	–	–	–	–	–
Fair value hedges	47	–	47	64	–	64
Non-qualifying hedges	–	–	–	1	–	1
Derivatives hedging interest risk	155	–1	154	230	–36	194
Commodity risk						
Commodity contracts						
Cash flow hedges	42	–12	30	32	–42	–10
Non-qualifying hedges	4	–18	–14	5	–19	–14
Derivatives hedging commodity risk	46	–30	16	37	–61	–24
Total	263	–56	207	339	–248	91

No derivatives are subject to offsetting in the group's financial statements. All derivatives are under ISDA or similar master netting agreement.

Notional amounts of derivatives

EURm	2017	2016
Interest rate forward contracts	1,223	1,480
Interest rate swaps	1,056	2,019
Forward foreign exchange contracts	2,298	2,645
Currency options	48	36
Cross currency swaps	239	557
Commodity contracts	436	429

Cash collaterals pledged for derivative contracts totalled EUR 21 million of which EUR 20 million relate to commodity contracts and EUR 1 million to interest rate forward contracts.

Net fair values of derivatives calculated by counterparty

EURm	POSITIVE FAIR VALUES	NEGATIVE FAIR VALUES	NET FAIR VALUES
2017	210	–3	207
2016	238	–148	90

7. Income tax

7.1 Tax on profit for the year

Income tax

In 2017, tax on profit for the year amounted to EUR 212 million (200 million). The effective tax rate was 17.9% (18.5%). In 2017 and 2016, the effective tax rate was affected by the income not subject to tax from subsidiaries operating in tax free zone.

In 2017, accrued and paid withholding taxes relating to dividend payments of subsidiaries amounted to EUR 19 million (EUR 9 million). Changes in the United States tax legislation resulted in recognition of EUR 5 million tax expense relating to reassessment of deferred tax assets and liabilities. Change of recoverability of deferred tax assets includes EUR 8 million tax income related to reassessment of deferred tax assets on capital losses in the United States.

Income tax

EURm	2017	2016
Current tax expense	224	172
Change in deferred taxes	–11	28
Total	212	200

Tax rate reconciliation

EURm	2017	2016
Profit before tax	1,186	1,080
Computed tax at Finnish statutory rate 20%	237	216
Difference between Finnish and foreign rates	18	21
Non-deductible expenses and tax-exempt income	–50	–32
Withholding taxes	19	9
Tax loss with no tax benefit	5	8
Results of associates	–1	–1
Change in tax legislation	5	–4
Change in recoverability of deferred tax assets	–15	–1
Utilisation of previously unrecognised tax losses	–7	–11
Other items	1	–5
Total income taxes	212	200
Effective tax rate, %	17.9%	18.5%

Accounting policies

The group's income tax expense comprises current tax and deferred tax. Current tax is calculated on the taxable result for the period based on the tax rules prevailing in the countries where the group operates and includes tax adjustments for previous periods and withholding taxes deducted at source on intra-group transactions. Tax expense is recognised in the income statement, unless it relates to items that have been recognised in equity or as part of other comprehensive income. In these instances, the related tax expense is also recognised in equity or other comprehensive income, respectively.

Key estimates and judgements

The group is subject to income taxes in numerous jurisdictions and the calculation of the group's tax expense and income tax liabilities involves a degree of estimation and judgement. Tax balances reflect a current understanding and interpretation of existing tax laws. Management periodically evaluates positions taken in tax returns with respect of situations in which applicable tax regulation is subject to interpretation and adjusts income tax liabilities where appropriate.

7.2 Deferred tax

EURm	2017	2016
Deferred tax assets		
Intangible assets and property, plant and equipment	90	107
Inventories	41	42
Retirement benefit liabilities and provisions	135	145
Other temporary differences	19	23
Tax losses and tax credits carried forward	222	226
Offset against liabilities	–84	–97
Total	423	446
Deferred tax liabilities		
Intangible assets and property, plant and equipment	–186	–206
Forest assets	–244	–261
Retirement benefit assets	–16	–14
Other temporary differences	–95	–73
Offset against assets	84	97
Total	–458	–457
Net deferred tax assets (liabilities)	–36	–11

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes relate to the same fiscal authority.

Movements in deferred tax assets and liabilities

EURm	2017	2016
Carrying value, at 1 January	–11	10
Charged to income statement	11	–28
Charged to other comprehensive income	–44	9
Exchange rate adjustments	8	–2
Net deferred tax assets (liabilities)	–36	–11

Tax charge to other comprehensive income

EURm	2017			2016		
	Before tax	Tax	After tax	Before tax	Tax	After tax
Actuarial gains and losses on defined benefit plans	78	–13	66	–120	23	–97
Energy shareholdings	20	4	24	–148	3	–144
Translation differences	–270	–	–270	–14	–	–14
Cash flow hedges	153	–31	122	91	–18	73
Net investment hedges	26	–5	20	–1	–	–1
Total	7	–44	–37	–193	9	–184

Key estimates and judgements

Recognised deferred tax assets

The recognition of deferred tax assets requires management judgement as to whether it is probable that such balances will be utilised and/or reversed in the foreseeable future. At 31 December 2017, net operating loss carry-forwards for which the group has recognised a deferred tax asset amounted to EUR 758 million (744 million), of which EUR 632 million (622 million) was attributable to German subsidiaries. In Germany net operating loss carry-forwards do not expire. In other countries net operating loss carry-forwards expire at various dates and in varying amounts. Based on profit forecasts, it is probable that there will be sufficient future taxable profits available against which the tax losses can be utilised.

The assumptions regarding future realisation of tax benefits, and therefore the recognition of deferred tax assets, may change due to future operating performance of the group, as well as other factors, some of which are outside of the control of the group.

Unrecognised deferred tax assets and liabilities

The net operating loss carry-forwards for which no deferred tax is recognised due to uncertainty of their utilisation amounted to EUR 821 million (842 million) in 2017. These net operating loss carry-forwards are mainly attributable to certain German and French subsidiaries. In addition, the group has not recognised deferred tax assets on loss carry-forwards amounting to EUR 426 (450 million) which relate to closed Miramichi paper mill in Canada.

The group has not recognised deferred tax liability in respect of undistributed earnings of non-Finnish subsidiaries to the extent that it is probable that the temporary differences will not reverse in the foreseeable future.

In addition, the group has not recognised deferred tax liability for the undistributed earnings of Finnish subsidiaries and associates as such earnings can be distributed without any tax consequences.

Accounting policies

Deferred tax is calculated based on temporary differences between the carrying amounts and the taxable values of assets and liabilities and for tax loss carry-forwards to the extent that it is probable that these can be utilised against future taxable profits.

Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the balance sheet date and are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled.

Deferred income tax is provided on temporary differences arising on investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference is controlled by the group and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets and liabilities are recognised net where there is a legal right to set-off and an intention to settle on a net basis.

8. Group structure

8.1 Business acquisitions and disposals

In 2017, UPM made a minor business acquisition by acquiring the assets of Southwest Label Stock in the United States. In 2016, no business acquisitions were made.

In 2017 and 2016 no business disposals were made.

Accounting policies

UPM consolidates acquired entities at the acquisition date which is when it gains control using the acquisition method. Consideration transferred is determined as the fair value of the assets transferred, the liabilities incurred and equity instruments issued including the fair value of a contingent consideration. Acquisition related transaction costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed are measured initially at their fair values at the acquisition date. The group measures any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

The excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets of the subsidiary acquired is recorded as goodwill.

8.2 Principal subsidiaries and joint operations

SUBSIDIARIES	COUNTRY OF INCORPORATION	HOLDING % 2017	HOLDING % 2016
Blandin Paper Company	US	100.00	100.00
Forestal Oriental S.A.	UY	100.00	100.00
Gebrüder Lang GmbH Papierfabrik	DE	100.00	100.00
LLC UPM Ukraine	UA	100.00	100.00
MD Papier GmbH	DE	100.00	100.00
Nordland Papier GmbH	DE	100.00	100.00
NorService GmbH	DE	100.00	100.00
nortrans Speditionsgesellschaft mbH	DE	100.00	100.00
OOO UPM-Kymmene	RU	100.00	100.00
OOO UPM-Kymmene Chudovo	RU	100.00	100.00
PT UPM Raflatac Indonesia	ID	100.00	100.00
Rhein Papier GmbH	DE	100.00	100.00
Steyrermühl Sägewerksgesellschaft m.b.H. Nfg KG	AT	100.00	100.00
UPM (China) Co., Ltd	CN	100.00	100.00
UPM (Vietnam) Ltd	VN	100.00	100.00
UPM AS	EE	100.00	100.00
UPM Asia Pacific Pte. Ltd	SG	100.00	100.00
UPM Energy Oy	FI	100.00	100.00
UPM France S.A.S.	FR	100.00	100.00
UPM GmbH	DE	100.00	100.00
UPM Manufatura e Comércio de Produtos Florestais Ltda	BR	100.00	100.00
UPM NV	BE	99.60	99.60
UPM Paper ENA Oy	FI	100.00	100.00
UPM Plywood Oy [1]	FI	100.00	100.00
UPM Pulp Sales Oy	FI	100.00	100.00
UPM Raflatac (China) Co., Ltd	CN	100.00	100.00
UPM Raflatac (S) Pte Ltd	SG	100.00	100.00
UPM Raflatac Co., Ltd	TH	100.00	100.00
UPM Raflatac Iberica S.A.	ES	100.00	100.00
UPM Raflatac Inc.	US	100.00	100.00
UPM Raflatac Mexico S.A. de C.V.	MX	100.00	100.00
UPM Raflatac NZ Limited	NZ	100.00	100.00
UPM Raflatac Oy	FI	100.00	100.00
UPM Raflatac Pty Ltd	AU	100.00	100.00
UPM Raflatac s.r.l.	AR	100.00	100.00
UPM Raflatac SAS	FR	100.00	100.00
UPM Raflatac Sdn. Bhd.	MY	100.00	100.00
UPM Raflatac South Africa (Pty) Ltd	ZA	100.00	100.00
UPM Raflatac Sp.z.o.o.	PL	100.00	100.00
UPM S.A.	UY	91.00	91.00
UPM Sales GmbH	DE	100.00	100.00
UPM Sales Oy	FI	100.00	100.00
UPM Silvesta Oy	FI	100.00	100.00
UPM Specialty Papers Oy [1]	FI	100.00	100.00
UPM Sähkönsiirto Oy	FI	100.00	100.00
UPM Wood Materials SAS	FR	100.00	100.00
UPM Kymmene (Korea) Ltd	KR	100.00	100.00
UPM-Kymmene (UK) Ltd	GB	100.00	100.00
UPM-Kymmene AB	SE	100.00	100.00
UPM-Kymmene Austria GmbH	AT	100.00	100.00
UPM-Kymmene B.V.	NL	100.00	100.00
UPM-Kymmene Beteiligungs GmbH	DE	100.00	100.00
UPM-Kymmene Inc.	US	100.00	100.00
UPM-Kymmene India Private Limited	IN	100.00	100.00
UPM-Kymmene Japan K.K.	JP	100.00	100.00
UPM-Kymmene Kagit Urunleri Sanayi ve Ticaret Ltd. Sti.	TR	99.99	99.99
UPM-Kymmene Otepää AS	EE	100.00	100.00
UPM-Kymmene Pty Limited	AU	100.00	100.00
UPM-Kymmene S.A.	ES	100.00	100.00
UPM-Kymmene Seven Seas Oy	FI	100.00	100.00
UPM-Kymmene S.r.l.	IT	100.00	100.00
Werla Insurance Company Ltd	MT	100.00	100.00

[1] UPM-Kymmene Wood Oy's legal company name has changed to UPM Plywood Oy and UPM Paper Asia Oy's legal company name has changed to UPM Specialty Papers Oy as of 1 February 2017.

The table includes subsidiaries with sales exceeding EUR 2 million in 2017.

JOINT OPERATIONS	COUNTRY OF INCORPORATION	HOLDING % 2017	HOLDING % 2016
Oy Alholmens Kraft Ab (Pohjolan Voima Oy, G series)	FI	27.88	27.88
EEVG Entsorgungs- und Energieverwertungs-gesellschaft m.b.H.	AT	50.00	50.00
Järvi-Suomen Voima Oy	FI	50.00	50.00
Kainuun Voima Oy	FI	50.00	50.00
Kaukaan Voima Oy (Pohjolan Voima Oy, G9 series)	FI	54.00	54.00
Kymin Voima Oy (Pohjolan Voima Oy, G2 series)	FI	76.00	76.00
Madison Paper Industries	US	50.00	50.00
Rauman Biovoima Oy (Pohjolan Voima Oy, G4 series)	FI	71.95	71.95

8.3 Related party transactions

The Board of Directors and the Group Executive Team

There have not been any material transactions between UPM and its members of the Board of Directors or the Group Executive Team (key management personnel) or persons closely associated with these members or organisations in which these individuals have control or significant influence. There are no loans granted to any members of the Board of Directors or the Group Executive Team at 31 December 2017 and 2016.

For information concerning shares held by members of the Board of Directors and members of the Group Executive Team, as well as remuneration to members of the Board of Directors and the Group Executive Team are disclosed in » Note 3.2. Key management personnel.

Associates and joint ventures

In Finland, the group organises its producer's responsibility of recovered paper collection through Paperinkeräys Oy. Austria Papier Recycling GmbH purchases recovered paper in Austria and L.C.I s.r.l. in Italy. ASD Altpapier Sortierung Dachau GmbH is a German recovered paper sorting company. The purchases from those four companies represented approximately 81% (79%) of total recovered paper purchase amount from associates and joint ventures.

Transactions with associates and joint ventures are presented in the table below. The group has no individually material associates or joint ventures.

EURm	2017	2016
Dividends received	2	3
Purchases of raw materials and services	94	90
Loan receivables	6	9
Trade and other receivables	1	1
Trade and other payables	8	3

Subsidiaries and joint operations

» Refer Note 8.2 Principal subsidiaries and joint operations.

Pension Funds

In Finland, group has the pension foundation, Kymin Eläkesäätiö, which is a separate legal entity. Pensions for about 18% (10%) of the group's Finnish employees are arranged through the foundation. In 2017, the contributions paid by UPM to the Foundation amounted to EUR 14 million (10 million). The Foundation manages and invests the contributions paid to the plan. The fair value of the Foundation's assets at 31 December 2017 was EUR 504 million (347 million), of which 45% was in the form of equity instruments, 38% in the form of debt instruments and 17% was invested in property and money market.

In the UK, the single UPM Pension Scheme operates under a Trust which is independent from the group. The Trust consists of various defined benefit sections, all of which are closed to future accrual and one common defined contribution section which is open to all UPM employees in the UK. The group made contributions of EUR 25 million (5 million) to the defined benefit sections of the Scheme in 2017. The fair value of the UK defined benefit fund assets at 31 December 2017 was EUR 450 million (426 million), of which 46% was invested in equity instruments, 33% in debt instruments, 14% in property and money market and 7% in other investments.

8.4 Assets held for sale

Assets classified as held for sale at the end of 2017 amounting to EUR 1 million include hydro power assets located in Schongau and Ettringen mill sites in Germany. Assets classified as held for sale at the end of 2016 relate to hydro power assets located at the mill site in Madison Paper Industries in the United States amounting to EUR 8 million.

§ *Accounting policies*

Non-current assets (or disposal groups) are classified as assets held for sale and stated at the lower of carrying amount and fair value less costs to sell, if UPM will recover their carrying amount through a sale transaction which is considered highly probable. Non-current assets classified as held for sale, or included within a disposal group that is classified as held for sale, are not depreciated after the classification.

9. Unrecognised items

9.1 Commitments and contingencies

In the normal course of business, UPM enters into various agreements providing financial or performance assurance to third parties. The maximum amounts of future payments for which UPM is liable is disclosed in the table below under "Other commitments". Property under mortgages given as collateral for own commitments include property, plant and equipment, industrial estates and forest land.

EURm	2017	2016
On own behalf		
Mortgages	76	151
On behalf of others		
Guarantees	2	2
Other own commitments		
Operating leases, due within 12 months	77	74
Operating leases, due after 12 months	386	374
Other commitments	95	154
Total	636	755

9.2 Litigation

Group companies

In 2011, Metsähallitus (a Finnish state enterprise, which administers state-owned land) filed a claim for damages against UPM and two other Finnish forest companies. The claim relates to the decision of December 2009 in which the Finnish Market Court held that the defendants had breached competition rules in the Finnish roundwood market. In addition to Metsähallitus, private forest owners, and companies, as well as municipalities and parishes, have filed claims relating to the Market Court decision. The capital amount of all of the claims totals currently EUR 132.8 million in the aggregate jointly and severally against UPM and two other companies; alternatively and individually against UPM, this represents EUR 20.9 million in the aggregate. In addition to the claims on capital amounts, the claimants are also requesting compensation relating to value added tax and interests. In June 2016, the District Court passed a judgment rejecting the damages claim of Metsähallitus against UPM, and the other two Finnish forest companies. The District Court ordered Metsähallitus to pay UPM compensation for legal expenses. Metsähallitus has appealed the District Court judgment to the Court of Appeal. The capital amount of Metsähallitus' claim is currently in total EUR 124.9 million, of which EUR 17.6 million is based on agreements between Metsähallitus and UPM. In October 2017, the District Court passed judgments rejecting the damages claims by the municipalities and parishes. Claimants have a right to appeal the judgments to the Court of Appeal. UPM considers all the claims unfounded in their entirety. No provision has been made in UPM's accounts for any of these claims. By end of 2017, the District Court passed judgements in the private forest owners' claims (total number 486) rejecting all the claims.

In 2012, UPM commenced arbitration proceedings against Metsäliitto Cooperative and Metsä Board Corporation due to their breaches of UPM's tag-along right under the shareholders' agreement concerning Metsä Fibre Oy in connection with the sale of shares in Metsä Fibre to Itochu Corporation. UPM claimed jointly from Metsäliitto and Metsä Board a capital amount of EUR 58.5 million. Metsäliitto and Metsä Board had sold a 24.9% holding in Metsä Fibre to Itochu Corporation for EUR 472 million. In connection with the transaction with Itochu, Metsäliitto had exercised a call option to purchase UPM's remaining 11% shareholding in Metsä Fibre for EUR 150 million. The arbitral tribunal rendered its final decision (arbitral award) in February 2014 and ordered Metsäliitto and Metsä Board to pay UPM the capital amount of EUR 58.5 million and penalty interest and compensate UPM for its legal fees. As a result, UPM recorded an income of EUR 67 million as item affecting comparability in Q1 2014. In May 2014 Metsäliitto and Metsä Board commenced litigation proceedings in the Helsinki District Court challenging the arbitral award and requesting the District Court to set aside the arbitral award or to declare it null and void. In June 2015 the District Court rejected the actions by Metsäliitto and Metsä Board and following an appeal the Helsinki Court of Appeal rejected the actions by Metsäliitto and Metsä Board in October 2016. Metsäliitto and Metsä Board have filed a request for leave of appeal with the Supreme Court.

Other shareholdings

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 Oy. Pohjolan Voima Oy is a majority shareholder of Teollisuuden Voima Oyj (TVO), holding 58.5% of its shares. UPM's indirect share of OL3 is approximately 31%. Originally the commercial electricity production of the OL3 plant unit was scheduled to start in April 2009. The completion of the project, however, has been delayed. In September 2014 TVO announced that it had received additional information about the schedule for the OL3 project from the supplier, a consortium formed by AREVA GmbH, AREVA NP SAS and Siemens AG (Supplier), which is constructing OL3 as a fixed-price turnkey project. According to this information, the start of regular electricity production of the plant unit was to take place in late 2018. According to TVO, in October 2017 TVO received information on the Supplier's schedule re-baseline review for OL3 project completion. According to the information the start of regular electricity production at OL3 will take place in May 2019.

In December 2008 the Supplier initiated the International Chamber of Commerce (ICC) arbitration proceedings (ICC Arbitration) and submitted a claim concerning the delay and ensuing costs incurred at the OL3 project. According to TVO, the Supplier's monetary claim, as updated in April 2017 is in total approximately EUR 3.59 billion. The sum is based on the Supplier's updated analysis of events occurred through September 2014, with certain claims quantified to December 31, 2014. The sum includes penalty interest (calculated to June 30, 2017) and payments allegedly delayed by TVO under the plant contract amounting to a combined total of approximately EUR 1.58 billion, as well as approximately EUR 132 million in alleged loss of profit.

According to TVO, the quantification estimate of its costs and losses related to its claim against the Supplier in the ICC Arbitration is approximately EUR 2.6 billion until the end of 2018, which was the estimated start of regular electricity production of OL3 according to the schedule submitted by the Supplier in 2014. TVO´s current estimate was submitted to the ICC Tribunal in July 2015.

TVO announced in November 2017 that it had received a final and binding partial award in the ongoing ICC Arbitration. In this partial award the ICC Tribunal has addressed the execution of the construction works and the overall project management of the OL3 project. This comprises many facts and matters that TVO relies upon in its claims against the Supplier, as well as certain matters that the Supplier relies upon in its claims against TVO. The partial award finally resolves many of the facts and matters concerning the execution of the construction works in favour of TVO and notably defers many of the issues raised by TVO including the Supplier's project management for determination in a subsequent award.

According to TVO, this is the third significant final and binding award issued by the ICC tribunal. In July 2017 TVO announced it had received a final and binding award in the ongoing ICC arbitration where the ICC Tribunal has addressed the preparation, review, submittal, and approval of design and licensing documents on the OL3 project. This comprises the key facts and matters that the Supplier relies upon in its main claim against TVO, as well as certain matters that TVO relies upon in its claims against the Supplier. In doing so, the partial award has finally resolved the great majority of these facts and matters in favor of TVO. Conversely, it has also rejected the great majority of the Supplier's contentions in this regard. Although the partial award does not take a position on the claimed monetary amounts, it has conclusively rejected the analytical method used by the Supplier to support its principal monetary claims against TVO. A previous partial award, which addressed the early period of the project in relation to the time schedule, licensing and licensability, and system design, likewise favorable to TVO, was granted in November 2016. The arbitration proceeding is still going on and it now proceeds towards the final award where the Tribunal will declare the liabilities of the parties to pay compensation.

TVO considers its claims to be well-founded and has considered and found the claims of the Supplier to be without merit. According to TVO the three significant partial awards confirm this position, and following receipt of the third partial award, TVO remains of the view that the balance of the claims is in TVO's favour.

According to TVO, Areva Group announced in 2016 a restructuring of its business. The restructuring involves a transfer of the operations of Areva NP to a new company (Merger), called New NP, the majority owner of which is going to be EDF. According to TVO, the OL3 project and the means required to complete it, as well as certain other liabilities will remain within Areva NP, within the scope of Areva SA. In January 2018 Framatome released that on 31 December 2017 Areva NP sold the shares of New NP to EDF, a new majority shareholder with 75.5% of the capital, and to Mitsubishi Heavy Industries (MHI) and Assystem, with respectively 19.5% and 5% of the shares of New NP, which was renamed Framatome.

In January 2017, the EU Commission made a decision on the state aid, and in May, 2017, the EU Commission accepted the Merger. According to TVO, in September 2017 TVO filed an appeal to the General Court of the EU against the EU Commission decision on the French state aid to Areva Group. TVO requires that the restructuring of the French nuclear industry will not compromise the completion of the OL3 project within the Supplier's current schedule and that all liabilities of the plant contract are honored.

According to TVO, TVO summoned Areva in an urgent interim proceeding before a French court in order to obtain information about the restructuring of French nuclear industry and the potential consequences on the performance of the OL3 contract. According to TVO, the discussions between the parties enabled TVO to withdraw from this action in May 2017 and that the continuation of discussions is expected to favor completion of the OL3 project and the start-up of the plant.

The Supplier consortium companies are jointly and severally liable for the plant contract obligations. No receivables or provisions have been recorded by TVO on the basis of claims presented in the arbitration proceedings.

9.3 Events after the balance sheet date

The group's management is not aware of any significant events occurring after 31 December 2017.

10. Other notes

10.1 New standards and amendments – forthcoming requirements

UPM will adopt two new IFRS standards in 2018, IFRS 15 Revenue from contracts with customers and IFRS 9 Financial instruments as well as the amendment to IFRS 2 Share-based payments. IFRS 16 Leases will be adopted in 2019. Description of effects of implementation is presented below.

IFRS 15 Revenue from contracts with customers

IFRS 15 Revenue from contracts with customers specifies how and when revenue is recognised as well as requires more informative and relevant disclosures. The standard supersedes IAS 18 Revenue, IAS 11 Construction contracts and a number of revenue related interpretations.

Implementation process
The group has finalised the IFRS 15 implementation project and related documentation. The adoption of the standard has only a minor impact on revenue recognition as described below and the group is able to utilise existing processes with small changes.

The group has made an assessment on how the new standard affects the amount and timing of sales revenue by using the five-step model introduced in the standard. Specific surveys have been developed and customer contracts reviewed in order to identify and gather information on separate performance obligations within the contracts, services provided to the customers, discounts and rebates affecting variable consideration, contract modifications, satisfaction of performance obligation by assessing when customer obtains control of the goods or services that is defining revenue recognition over time or at a point in time. The assessment has included in-depth review of disaggregated data of the UPM revenue streams, including analyses of revenues broken down by product and service by Business Area.

UPM generates revenue mainly from the sale of goods i.e. several types of products. Performance obligations are clearly identified in the customer contracts and orders. Approximately 59% of UPM revenue comes from sales of graphic and specialty papers to publishers, retailers, printing houses, merchants and distributors, converters and label stock manufacturers. Approximately 15% of revenue comes from sales of self-adhesive label materials to label printers and brand owners and approximately 12% comes from sales of pulp products to tissue, board, speciality and graphic paper producers. The rest of revenue comprises mainly of sales of energy, biofuels, sawn timber and plywood products. Sales of energy to NordPool electricity market continues to be recognised over time and there are no changes identified compared to the current recognition principles.

The results of surveys and contract reviews indicated that the contractual terms and conditions with customers are largely standardised and revenue streams are relatively straightforward. The changes that have an impact on UPM's financial statements are described below.

Delivery terms
According to the new requirements, revenue is recognised when the customer obtains control of the good or service. In UPM's customer contracts the change of control is often defined in terms that are based on Incoterms 2010 so the timing of revenue recognition is largely dependent on delivering the goods at a point in time. According to assessment the new guidance is not changing the point at which UPM's revenue is recognised for the performance obligation to provide goods. Delivery costs related to paper and pulp products sales comprise approximately 79% of the groups' total delivery costs. Major part of the sales contracts are on delivery terms basis, whereby delivery is not a promised service to the customer, as the control of a good does not transfer to the customer before shipment. However, the group has some pulp and paper products sale over long distances using CIP and CPT delivery terms whereby UPM is responsible for organising the delivery. Approximately 9% of paper products and 24% of pulp products are sold over long distances using CIP and CPT delivery terms and in these cases, there are separate performance obligations for goods and delivery services. Consequently, the portion of revenue relating to goods has to be recognised when the goods pass the ship's rail and the part of delivery services over time when the service has been performed. Currently full revenue is recognised when the goods pass the ship's rail. According to analyses, the impact of accounting policy change is minor to UPM operating profit because under current practice the group recognises delivery costs at the same time with revenue. The change affects sales and delivery costs line items in income statement. However, the part of sales price allocated to the delivery services is a minor component of the total revenue and the delivery volumes over long distances are stable throughout the year. Analyses have also indicated that a performance obligation for delivery services does not involve an agency relationship.

Variable consideration
The group has determined the components of transaction price that are contingent on the outcome of future events and need to be estimated when recognising revenue.

UPM provides to its customers volume rebates that encourage the customer to take specific volumes in a given timescale. The amount of the rebates is a significant component of sales price in regard of sales of paper products and self-adhesive label materials. The group has reviewed the current principles of estimating and recognising rebates and concluded that the current accounting policy is in line with new guidance.

The group gives the customers the right for purchase price refund in case the products do not meet the quality as specified in the agreement. However, the customers have to raise the claim in a certain timeframe. According to the new guidance, the amount expected to be returned to the customer must be estimated and taken into account in the amount of sales revenue. In regard of sales of paper products, the group has not previously made an estimate of expected claims. Instead, the revenue has been adjusted when the group has processed and accepted the claims. The group is changing the accounting policy and estimates and updates the amount of claims at each reporting date.

Consignment stock agreements
According to new requirements, revenue is recognised when the customer obtains control of the good or service. Sales agreement assessment indicated that the group has some of pulp products sales agreements labelled as consignment stock agreements, that under new more specific requirements do not qualify as consignment stock agreements. Consequently, the revenue has to be recognised earlier than under current practice.

Sales of services
Revenue from services not related to sale of goods comprises only 0.4% of UPM total sales, and consists of freight services (free space on group's vessels sold as freight services), forest expertise and contracting services to woodland and forestry owners. The revenue of freight services is currently recognised when the vessel leaves. The group is changing the accounting policy to recognise revenue for freight services over time when the performance obligation is satisfied.

Presentation and disclosure
IFRS 15 significantly increases the volume of the revenue related disclosures. The group has prepared draft disclosures that reflect the standard's objective of presenting only useful information by aggregating or disaggregating disclosures.

Transition
The group adopts IFRS 15 using modified retrospective transition approach upon initial application 1 January 2018, applying the standard only to contracts that are not completed as of the date of initial application.

The adoption of IFRS 15 results in a recognition of contract liability amounting to EUR 4 million relating mainly to the customers' right for purchase price refund in case the products do not meet the quality as specified in the agreement. The cumulative effect of the adoption is shown as an adjustment to retained earnings in the period of the initial application, 1 January 2018 without restating comparative information.

IFRS 9 Financial instruments

IFRS 9 replaces IAS 39 and addresses the classification, measurement and recognition of financial assets and financial liabilities, introduces new rules for hedge accounting and a new impairment model for financial assets. The changes that have an impact on group's financial statements are described below.

Classification of financial assets
Energy shareholdings categorised as available-for-sale under IAS 39 represent investments that group intends to hold for the long term. The group classifies these investments at the date of initial application 1 January 2018 as measured at fair value through other comprehensive income (FVOCI). Under this new FVOCI category, fair value changes are recognised in fair value reserve in OCI while dividends are recognised in profit or loss. Gains or losses, including any gains or losses on sale, are never reclassified from equity to the income statement. Despite the fact that the election is to be adopted retrospectively, comparatives are not restated on initial application.

Impairment of financial assets
The group has developed a simplified expected credit loss model for trade receivables, whereby expected credit losses are recognised based on ageing categories of trade receivables. UPM has historically low levels of realised bad debts in trade receivables due to strict policies and use of trade credit insurance. The new expected loss model resulted in a decrease of bad debt provisions by EUR 1 million and is shown as an adjustment to retained earnings in the period of the initial application, 1 January 2018, without restating comparative information.

Cost of hedging
In cash flow hedge accounting, the group designates only the spot element in the foreign exchange forward contract to offset the changes in the spot foreign exchange prices. Under IAS 39, the changes in the fair value of the forward points are recognised directly in profit or loss. Under IFRS 9, when only designating the spot element in a cash flow hedge, the change in the fair value of the forward element may be recognised in OCI and accumulated in a separate component of equity. Group applies this in transaction related cash flow hedges. Forward element that is accumulated in OCI is recognised in profit or loss when the hedged transaction affects profit or loss. This change in accounting policy will reduce the group's profit and loss volatility, but the anticipated effect is relatively small. The change is implemented prospectively without restatement of comparatives.

Commodity hedges
Under IFRS 9, more group's risk management strategies qualify for hedge accounting. Energy price hedging benefits from the possibility to apply hedge accounting for one or several risk components separately or in aggregation. This change will reduce the group's profit and loss volatility as the fair value changes of unrealised derivatives are recognised in OCI hedging reserve instead of income statement and ineffectiveness may arise in rare cases only. Unrealised fair value changes of non-qualified cash flow hedges as well as ineffectiveness are recognised in income statement. UPM has updated its risk management strategies and hedging objectives as well as new disclosures based on each risk category. UPM applies the hedge accounting of IFRS 9 on a prospective basis for all hedging relationships without restating comparative information.

Amendment to IFRS 2 Share-based Payments

Amendment to IFRS 2 clarifies the accounting for equity-settled share-based payments with net settlement features for withholding tax obligations. UPM has share-based arrangements with net settlement features in several countries. Tax laws and regulations oblige UPM to withhold an amount for an employee's obligation in respect of taxes associated with share-based payments and to pay this amount to tax authorities in cash on behalf of employee. The obligation to settle in cash has resulted in such transactions being classified previously as cash-settled. According to new requirements, the group classifies the transactions with net settlement features as equity-settled in its entirety. The change will reduce profit and loss volatility and is implemented prospectively without restatement of comparatives in 2018.

IFRS 16 Leases

IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases. It will result in almost all leases being recognised on the balance sheet, as the distinction between operating and finance leases is removed. Under the new standard, an asset (the right to use the leased item) and a financial liability to pay rentals are recognised. The only exceptions are short-term and low-value leases.

The group has started the implementation phase in 2017 and will present more information on impact of the new standard and estimated cumulative effect on transition in 2018 interim financial statements. The group does not intend to adopt the standard before its effective date 1 January 2019.

10.2 Alternative performance measures

UPM presents certain performance measures of historical performance, financial position and cash flows, which in accordance with the "Alternative Performance Measures" guidance issued by the European Securities and Markets Authority (ESMA) are not accounting measures defined or specified in IFRS and are therefore considered as alternative performance measures. These alternative performance measures are described below:

ALTERNATIVE PERFORMANCE MEASURE	DEFINITION
Operating profit	Profit before income tax expense, finance expenses and finance income and net gains on sale of energy shareholdings as presented on the face of the IFRS income statement.
Comparable EBIT	Operating profit adjusted for items affecting comparability.
Comparable EBITDA	Operating profit before depreciation, amortisation and impairments, change in fair value of forest assets and wood harvested, share of results of associates and joint ventures and items affecting comparability.
Comparable profit before tax	Profit before income tax expense excluding items affecting comparability.
Comparable profit for the period	Profit for the period excluding items affecting comparability and their tax impact.
Comparable EPS, EUR	Earnings per share calculated in accordance with IFRS excluding items affecting comparability and their tax impact.
Net debt	Total of current and non-current debt less cash and cash equivalents and interest-bearing current and non-current financial assets.
Items affecting comparability	Certain non-operational or non-cash valuation transactions with significant income statement impact are considered as items affecting comparability, if they arise from asset impairments, restructuring measures, asset sales, fair value changes of forest assets resulting from changes in valuation parameters or estimates or changes in legislation or legal proceedings. In addition, the changes in fair value of unrealised cash flow and commodity hedges are classified as items affecting comparability. Numerical threshold for items to be considered as significant in UPM's business areas UPM Biorefining, UPM Specialty Papers and UPM Paper ENA is determined as one cent (EUR 0.01) after tax per share or more. In other business areas, the impact is considered to be significant if the item exceeds EUR 1 million before tax.
Free cash flow	Cash generated from operations after cash used for investing activities.
Return on equity (ROE), %	Profit for the period as a percentage of average equity.
Comparable ROE, %	Return on equity (ROE) excluding items affecting comparability.
Return on capital employed (ROCE), %	Profit before taxes, interest expenses and other financial expenses as a percentage of average capital employed.
Comparable ROCE, %	Return on capital employed (ROCE) excluding items affecting comparability.
Capital employed	Group total equity and total debt.
Business area's comparable ROCE, %	Business area's operating profit adjusted for items affecting comparability as a percentage of business area's average capital employed.
Business area's capital employed	Business area's operating assets less its operating liabilities. Operating assets include goodwill, other intangible assets, property, plant and equipment, forest assets, energy shareholdings, investments in associates and joint-ventures, inventories and trade receivables. Operating liabilities include trade payables and advances received.
Capital expenditure	Capitalised investments in property, plant and equipment, intangible assets including goodwill arising from business combinations, energy shareholdings and other shares, associates and joint ventures.
Capital expenditure excluding acquisitions and shares	Capital expenditure excluding investments in shares and participations.
Operating cash flow per share, EUR	Operating cash flow divided by adjusted average number of shares during the period excluding treasury shares.
Gearing ratio, %	Net debt as a percentage of total equity
Net debt to EBITDA	Net debt divided by EBITDA
Equity to assets ratio, %	Equity expressed as a percentage of total assets less advances received.

Reconciliation of key figures to IFRS

EURm, OR AS INDICATED	Q4/17	Q3/17	Q2/17	Q1/17	Q4/16	Q3/16	Q2/16	Q1/16	Q1-Q4/17	Q1-Q4/16
Items affecting comparability										
Impairment charges	–4	–	–	1	–24	–	1	–12	–3	–35
Restructuring charges	–61	–2	–2	–3	–31	–	–	–18	–67	–48
Change in fair value of unrealised cash flow and commodity hedges	–2	–6	1	9	2	3	–3	25	2	27
Capital gains and losses on sale of non-current assets	1	35	–	–	2	47	–	–	35	49
Total items affecting comparability in operating profit	–67	28	–1	7	–51	50	–2	–4	–33	–7
Total items affecting comparability in financial items	–	1	–	–	–	–2	–	–	1	–2
Changes in tax rates	–5	–	–	–	4	–	–	–	–5	4
Taxes relating to items affecting comparability	19	–10	–	–2	14	–14	–	6	7	7
Items affecting comparability in taxes	14	–10	–	–2	18	–14	–	6	2	11
Items affecting comparability, total	–53	19	–1	6	–33	34	–2	2	–30	1
Comparable EBITDA										
Operating profit	299	379	269	312	232	364	262	277	1,259	1,135
Depreciation, amortisation and impairment charges excluding items affecting comparability	112	104	112	119	120	118	134	138	447	510
Change in fair value of forest assets and wood harvested excluding items affecting comparability	–26	–29	–32	–16	–53	–7	–11	–16	–103	–88
Share of results of associates and joint ventures	–1	–1	–1	–2	–1	–2	–2	–	–5	–5
Items affecting comparability in operating profit	67	–28	1	–7	51	–50	2	4	33	7
Comparable EBITDA	451	425	349	405	349	423	385	403	1,631	1,560
% of sales	17.5	17.1	14.2	16.3	14.1	17.3	15.8	16.5	16.3	15.9
Comparable EBIT										
Operating profit	299	379	269	312	232	364	262	277	1,259	1,135
Items affecting comparability in operating profit	67	–28	1	–7	51	–50	2	4	33	7
Comparable EBIT	366	351	270	305	283	314	264	281	1,292	1,143
% of sales	14.2	14.1	11.0	12.3	11.4	12.8	10.8	11.5	12.9	11.6
Comparable profit before tax										
Profit before tax	273	357	258	299	231	336	250	263	1,186	1,080
Items affecting comparability in operating profit	67	–28	1	–7	51	–50	2	4	33	7
Items affecting comparability in financial items	–	–1	–	–	–	2	–	–	–1	2
Comparable profit before tax	340	328	258	291	282	288	252	267	1,218	1,089
Comparable ROCE, %										
Comparable profit before tax	340	328	258	291	282	288	252	267	1,218	1,089
Interest expenses and other financial expenses	55	13	10	10	17	13	15	10	89	55
	395	341	268	302	300	301	266	277	1,307	1,144
Capital employed, average	9,938	10,032	9,942	10,288	10,560	10,433	11,701	11,005	10,217	10,833
Comparable ROCE, %	15.9	13.6	10.8	11.7	11.4	11.5	10.0	10.1	12.8	10.6
Comparable profit for the period										
Profit for the period	244	286	205	240	187	268	198	227	974	880
Items affecting comparability, total	53	–19	1	–6	33	–34	2	–2	30	–1
Comparable profit for the period	297	267	205	234	220	234	200	225	1,004	879
Comparable EPS, EUR										
Comparable profit for the period	297	267	205	234	220	234	200	225	1,004	879
Profit attributable to non-controlling interest	–1	–	–	–	–	–	–1	–	–1	–1
	296	267	205	234	220	234	199	225	1,003	878
Average number of shares basic (1,000)	533,323	533,328	533,505	533,505	533,505	533,505	533,505	533,505	533,415	533,505
Comparable EPS, EUR	0.56	0.50	0.39	0.44	0.41	0.44	0.37	0.42	1.88	1.65
Comparable ROE, %										
Comparable profit for the period	297	267	205	234	220	234	200	225	1,004	879
Profit attributable to non-controlling interest	–1	–	–	–	–	–	–1	–	–1	–1
	296	267	205	234	220	234	199	225	1,003	878
Total equity, average	8,497	8,204	8,020	8,100	8,054	7,767	7,819	7,959	8,450	8,091
Comparable ROE, %	14.0	13.0	10.2	11.6	10.9	12.1	10.2	11.3	11.9	10.9

Quarterly key figures are unaudited

Parent company accounts

(Finnish Accounting Standards, FAS)

Income statement

EURm	NOTE	2017	2016
Sales	1	2,217	2,811
Change in inventories of finished goods and work in progress		5	–
Production for own use		4	3
Other operating income	2	208	152
Materials and services	3	–1,301	–1,901
Personnel expenses	4	–237	–343
Depreciation, amortisation and impairment charges	5	–118	–172
Other operating expenses	6	–164	–178
Operating profit		614	373
Financial income and expenses	7	354	6
Profit before closing entries and tax		968	379
Closing entries	8	–1	–42
Income taxes	9	–108	–81
Profit for the period		859	255

Balance sheet

EURm	NOTE	2017	2016
ASSETS			
Intangible assets	10	35	35
Tangible assets	11	1,726	1,766
Holdings in group companies	12	4,363	4,365
Holdings in participating interest companies	12	5	5
Other shares and holdings	12	4	4
Receivables from group companies	12	699	756
Receivables from participating interest companies	12	4	5
Other non-current receivables	12	7	7
Non-current assets		6,842	6,944
Inventories	13	143	174
Trade receivables	14	27	26
Receivables from group companies	14	1,016	1,400
Receivables from participating interest companies	14	8	12
Other current receivables	14	69	102
Cash and cash equivalents		589	908
Current assets		1,852	2,621
Assets		8,694	9,565

EURm	NOTE	2017	2016
EQUITY AND LIABILITIES			
Share capital	15	890	890
Revaluation reserve	15	165	206
Reserve for invested non-restricted equity	15	1,273	1,273
Retained earnings	15	1,608	1,860
Profit for the period		859	255
Equity		4,794	4,483
Accumulated depreciation difference		454	455
Provisions	16	65	170
Bonds	17	313	593
Loans from financial institutions	17	–	568
Pension loans	17	–	68
Payables to group companies	17	385	314
Other non-current liabilities	17	156	170
Non-current liabilities		853	1,713
Bonds	18	208	292
Loans from financial institutions	18	–	3
Pension loans	18	68	68
Trade payables	18	225	211
Payables to group companies	18	1,832	1,903
Payables to participating interest companies	18	–	1
Other current liabilities	18	193	266
Current liabilities		2,527	2,744
Liabilities		3,380	4,456
Equity and liabilities		8,694	9,565

Cash flow statement

EURm	2017	2016
Cash flow from operating activities		
Profit before closing entries and tax	968	379
Financial income and expenses	–354	–6
Adjustments to operating profit [1]	–137	42
Change in working capital [2]	455	–219
Interest received	33	24
Interest paid	–35	–52
Dividends received	328	81
Other financial items	–193	9
Income taxes paid	–67	–17
Operating cash flow	998	241
Cash flow from investing activities		
Investments in tangible and intangible assets	–141	–137
Proceeds from sale of intangible and tangible assets	172	130
Proceeds from disposal of shareholdings	1	4
Change in other non-current receivables	58	408
Investing cash flow	89	405
Cash flow from financing activities		
Proceeds from non-current liabilities	71	–
Payments of non-current liabilities	–926	–505
Change in current liabilities	–14	693
Dividends paid	–507	–400
Group contributions, net	–32	–2
Financing cash flow	–1,406	–214
Change in cash and cash equivalents	–320	431
Cash and cash equivalents at the beginning of period	908	477
Change in cash and cash equivalents	–320	431
Cash and cash equivalents at the end of period	589	908

1) Adjustments to operating profit

EURm	2017	2016
Depreciation, amortisation and impairment charges	118	172
Capital gains on sale of non-current assets, net	–186	–124
Change in provisions	–70	–7
Total	–137	42

2) Change in working capital

EURm	2017	2016
Inventories	31	21
Current receivables	413	–361
Current non-interest-bearing liabilities	11	121
Total	455	–219

Notes to the parent company financial statements

Accounting policies

The financial statements of the parent company are prepared in accordance with Finnish Accounting Standards, FAS. The main differences in accounting policies of the group and the parent company relate to the measurement of forest assets and financial derivatives and recognition of defined benefit obligations and deferred income taxes. The financial statements are presented in millions of euros and rounded and therefore the sum of individual figures might deviate from the presented total figure.

1. Sales

Sales by business area [1]

EURm	2017	2016
UPM Biorefining	1,725	1,560
UPM Energy	–	135
UPM Specialty Papers	–	240
UPM Paper ENA	–	668
Other operations and eliminations	492	208
Total	2,217	2,811

[1] Change in corporate structure in 2016.

Sales by destination

EURm	2017	2016
Finland	2,158	2,697
Other EU countries	30	27
Other countries	29	87
Total	2,217	2,811

2. Other operating income

EURm	2017	2016
Gains on sale of non-current assets	189	133
Rental income	12	15
Other	6	4
Total	208	152

3. Materials and services

EURm	2017	2016
Raw materials and consumables	1,263	1,888
Change in inventories	32	9
Delivery costs and other external charges	6	4
Total	1,301	1,901

4. Personnel expenses

Salaries, fees and other personnel expenses

EURm	2017	2016
Salaries and fees of the President and CEO, and members of the Board of Directors [1]	6	6
Other salaries and fees	190	273
Pension costs	32	47
Other indirect employee costs	8	17
Total	237	343

[1] *Refer Note 3.2 Key management personnel.*

Personnel [1]

	2017	2016
Total on average	2 944	4 277

[1] Change in corporate structure in 2016.

5. Depreciation, amortisation and impairment charges

EURm	2017	2016
Intangible rights	2	3
Other intangible assets	12	19
Land areas	1	–
Buildings	20	26
Machinery and equipment	79	119
Other tangible assets	5	6
Total	118	172

6. Other operating expenses

EURm	2017	2016
Rents and lease expenses	11	17
Losses on sale of non-current assets	–	4
Maintenance expenses	75	99
Other operating expenses [1]	77	58
Total	164	178

[1] The research and development costs in operating expenses were EUR 10 million (10 million) and auditor's fee EUR 0.8 million (0.8 million). In personnel expenses the research and development costs were 20 million (14 million).

7. Financial income and expenses

EURm	2017	2016
Income on non-current assets		
Dividend income from group companies	328	80
Dividend income from other companies	–	1
Interest income from group companies	3	3
	331	84
Other interest and financial income		
Other interest income from group companies	30	19
Other financial income from group companies	1	35
Other financial income from other companies	85	13
	116	68
Value adjustments	–3	–6
Interest and other financial expenses		
Interest expenses to group companies	–12	–22
Interest expenses to other companies	–22	–29
Other financial expenses to same group comp	–50	–
Other financial expenses to other companies	–7	–90
	–90	–141
Total	354	6

8. Closing entries

EURm	2017	2016
Change in accumulated depreciation difference	–1	11
Group contributions received	–	–1
Group contributions granted	1	32
Losses from mergers	–	1
Total	1	42

9. Income taxes

EURm	2017	2016
Tax expense for the period	108	82
Tax expense for the previous periods	–	–1
Total	108	81

Deferred tax assets and liabilities [1]

EURm	2017	2016
Deferred tax assets		
Provisions	13	34
Share-based payments	3	3
Total	16	37
Deferred tax liabilities		
Accumulated depreciation difference	–91	–91
Revaluations of the land areas	–65	–73
Total	–155	–164

[1] The parent company has not recognised deferred tax assets and liabilities in the balance sheet. Deferred tax assets and liabilities were calculated based on temporary differences between the carrying and taxable values of assets and liabilities.

10. Intangible assets

EURm	INTANGIBLE RIGHTS	OTHER INTANGIBLE ASSETS	ADVANCE PAYMENTS	TOTAL
2017				
Accumulated costs	14	247	8	269
Accumulated amortisation and impairments	–10	–225	–	–234
Carrying value, at 31 December	5	23	8	35
Carrying value, at 1 January	5	25	5	35
Additions	2	6	7	15
Disposals	–	–	–2	–2
Amortisation	–2	–12	–	–14
Reclassifications	–	3	–3	–
Carrying value, at 31 December	5	23	8	35
2016				
Accumulated costs	13	282	5	300
Accumulated amortisation and impairments	–8	–257	–	–265
Carrying value, at 31 December	5	25	5	35
Carrying value, at 1 January	5	178	4	187
Additions	6	4	3	13
Disposals	–3	–141	–	–144
Amortisation	–3	–17	–	–19
Impairment	–	–2	–	–2
Reclassifications	–	2	–2	–
Carrying value, at 31 December	5	25	5	35

11. Tangible assets

EURm	LAND AND WATER AREAS	BUILDINGS	MACHINERY AND EQUIPMENT	OTHER TANGIBLE ASSETS	ADVANCE PAYMENTS AND CONSTRUCTION IN PROGRESS	TOTAL
2017						
Accumulated costs	434	620	2,115	141	19	3,329
Accumulated depreciation and impairments	–	–364	–1,447	–115	–	–1,925
Revaluations	323	–	–	–	–	323
Carrying value, at 31 December	757	256	668	26	19	1,726
Carrying value, at 1 January	813	259	630	27	36	1,766
Additions	3	12	91	2	18	125
Disposals	–18	–	–	–	–	–18
Depreciations	–	–20	–79	–5	–	–104
Impairment	–1	–	–	–	–	–1
Reclassifications	–	6	26	3	–35	–
Changes in revaluations	–41	–	–	–	–	–41
Carrying value, at 31 December	757	256	668	26	19	1,726
2016						
Accumulated costs	449	604	2,026	138	36	3,254
Accumulated depreciation and impairments	–	–345	–1,396	–112	–	–1,852
Revaluations	364	–	–	–	–	364
Carrying value, at 31 December	813	259	630	27	36	1,766
Carrying value, at 1 January	891	443	868	37	23	2,262
Additions	8	25	117	2	61	213
Disposals	–29	–186	–270	–8	–7	–499
Depreciations	–	–27	–120	–6	–	–152
Impairment	–	–	1	–	–	1
Reclassifications	–	3	35	2	–41	–
Changes in revaluations	–57	–	–	–	–	–57
Carrying value, at 31 December	813	259	630	27	36	1,766

12. Other non-current assets

EURm	HOLDINGS IN GROUP COMPANIES	HOLDINGS IN PARTICIPATING INTEREST COMPANIES	OTHER SHARES AND HOLDINGS	RECEIVABLES FROM GROUP COMPANIES	RECEIVABLES FROM PARTICIPATING INTEREST COMPANIES	OTHER NON-CURRENT RECEIVABLES	TOTAL
2017							
Accumulated costs	5,780	5	4	699	4	7	6,498
Accumulated value adjustments	–1,417	–	–	–	–	–	–1,417
Carrying value, at 31 December	4,363	5	4	699	4	7	5,080
Carrying value, at 1 January	4,365	5	4	756	5	7	5,143
Additions	–	–	–	168	–	–	168
Disposals	–	–	–	–225	–2	–	–227
Value adjustments [1]	–3	–	–	–	–	–	–3
Carrying value, at 31 December	4,363	5	4	699	4	7	5,080
2016							
Accumulated costs	5,780	5	4	756	5	7	6,557
Accumulated value adjustments	–1,414	–	–	–	–	–	–1,414
Carrying value, at 31 December	4,365	5	4	756	5	7	5,143
Carrying value, at 1 January	3,984	93	614	723	6	7	5,427
Additions	829	1	–	503	–	–	1,333
Disposals	–442	–88	–446	–470	–1	–	–1,448
Changes in revaluations	–	–	–164	–	–	–	–163
Value adjustments [1]	–5	–	–1	–	–	–	–6
Carrying value, at 31 December	4,365	5	4	756	5	7	5,143

[1] Value adjustments are recognised under financial items.

13. Inventories

EURm	2017	2016
Raw materials and consumables	100	132
Finished products and goods	27	22
Advance payments	15	19
Carrying value, at 31 December	143	174

14. Current receivables

EURm	TOTAL	RECEIVABLES FROM GROUP COMPANIES	RECEIVABLES FROM PARTICIPATING INTEREST COMPANIES
2017			
Trade receivables	479	444	8
Loan receivables [1]	571	571	–
Prepayments and accrued income	48	1	–
Other current receivables	23	–	–
Carrying value, at 31 December	1,120	1,016	8
2016			
Trade receivables	437	400	11
Loan receivables [1]	994	994	–
Prepayments and accrued income	66	–	–
Other current receivables	42	5	–
Carrying value, at 31 December	1,539	1,400	12

[1] There were no loans granted to the company's President and CEO and members of the Board of Directors at 31 December 2017 and 2016.

EURm	2017	2016
Prepayments and accrued income		
Energy taxes	6	21
Personnel expenses	2	2
Interest income	13	33
Exchange gains and losses	22	7
Other items	5	4
Carrying value, at 31 December	48	66

15. Equity

EURm	SHARE CAPITAL	REVALUATION RESERVE	RESERVE FOR INVESTED NON-RESTRICTED EQUITY	RETAINED EARNINGS	TOTAL SHAREHOLDER'S EQUITY
2017					
Carrying value, at 1 January	890	206	1,273	2,115	4,483
Profit for period	–	–	–	859	859
Dividend distribution	–	–	–	–507	–507
Changes in revaluations	–	–41	–	–	–41
Carrying value, at 31 December	890	165	1,273	2,467	4,794
2016					
Carrying value, at 1 January	890	427	1,273	2,259	4,849
Profit for period	–	–	–	255	255
Dividend distribution	–	–	–	–400	–400
Changes in revaluations	–	–221	–	–	–221
Carrying value, at 31 December	890	206	1,273	2,115	4,483

EURm	2017	2016
Distributable funds		
Reserve for invested non-restricted equity	1,273	1,273
Retained earnings from previous years	1,608	1,860
Profit for the period	859	255
Total distributable funds at 31 December	3,740	3,388

16. Provisions

EURm	RESTRUCTURING	TERMINATION	ENVIRONMENTAL	OTHER [1]	TOTAL
2017					
Provisions at 1 January	3	5	9	153	170
Provisions utilised during the year	–	–1	–1	–104	–105
Carrying value, at 31 December	3	5	9	49	65
2016					
Provisions at 1 January	15	13	12	20	60
Provisions made during the year	–	1	–	154	155
Provisions utilised during the year	–2	–2	–	–3	–7
Unused provisions reversed	–	–	–	–1	–2
Changes due to restructurings	–10	–6	–2	–17	–35
Carrying value, at 31 December	3	5	9	153	170

[1] Other provisions are attributable to onerous contracts and fair value losses of financial derivatives. At the end of 2017 the fair value loss in other provisions of EUR 12 million (11 million) was attributable to one group internal cross currency swap with nominal value of EUR 104 million (104 million) and maturity in 2027 (2027). Changes in provisions are recognised in sales, materials, personnel or other operating expenses or financial expenses.

17. Non-current liabilities

EURm	2017	2016
Bonds	313	593
Loans from financial institutions	–	568
Pension loans	–	68
Payables to group companies	385	314
Other non-current liabilities	156	170
Carrying value, at 31 December	853	1,713

Maturity in 2023 or later (in 2022 or later)

EURm	2017	2016
Bonds	313	356
Other non-current liabilities	156	170
Total	468	526

Bonds

FIXED RATE PERIOD	INTEREST RATE, %	CURRENCY	NOMINAL VALUE ISSUED, MILLION	CARRYING VALUE, 2017 EURm	CARRYING VALUE, 2016 EURm
1997–2027	7.450	USD	375	313	356
2002–2017	6.625	GBP	250	–	292
2003–2018	5.500	USD	250	208	237
Carrying value, at 31 December				521	885
Current portion				208	292
Non-current portion				313	593

18. Current liabilities

EURm	TOTAL	PAYABLES TO GROUP COMPANIES	PAYABLES TO PARTICIPATING INTEREST COMPANIES
2017			
Bonds	208	–	–
Pension loans	68	–	–
Advances received	1	–	–
Trade payables	270	45	–
Accruals and deferred income	140	24	–
Other current liabilities	1,839	1,763	–
Carrying value, at 31 December	2,527	1,832	–
2016			
Bonds	292	–	–
Loans from financial institutions	3	–	–
Pension loans	68	–	–
Trade payables	252	40	1
Accruals and deferred income	233	16	–
Other current liabilities	1,896	1,847	–
Carrying value, at 31 December	2,744	1,903	1

EURm	2017	2016
Accruals and deferred income		
Personnel expenses	81	78
Interest expenses	10	32
Exchange gains and losses	42	120
Income taxes	5	1
Other items	2	1
Carrying value, at 31 December	140	233

19. Commitments

EURm	2017	2016
Mortgages [1]		
As security against own debt	69	138
As security against group companies' debt	7	13
Guarantees		
Guarantees for loans on behalf of Group companies	46	57
Other guarantees on behalf of Group companies	36	41
Other commitments		
Leasing commitments, due within 12 months	25	25
Leasing commitments, due after 12 months	67	65
Other commitments [2]	89	146
Total	339	485

1) Mortgages given relate mainly to mandatory security for borrowing from Finnish pension insurance companies.

2) Commodity contracts in other commitments were EUR 0 million (62 million).

Pension commitments of the President and CEO and the members of the Group Executive Team

» Refer Note 3.2 Key management personnel.

Related party transactions

» Refer Note 8.3 Related party transactions.

Derivatives

All financial derivative contracts of the group were made by the parent company. All contracts were made with external counterparties except for one cross currency swap used in managing foreign currency risk of the group internal assets. Hedge accounting was not applied. Derivatives were initially recognised at cost in the balance sheet. The fair value losses of financial derivatives were recognised through the income statement and presented as a provision in the balance sheet.

Financial risks, fair values and maturities of the group external derivatives are disclosed in » Note 6.1 Financial risk management and Note 6.2 Derivatives and hedge accounting and the group internal financial derivative in Note 16. Provisions of the parent company.

Auditor's report

(Translation from the Finnish Original)

To the Annual General Meeting of UPM-Kymmene Corporation

Report on the Audit of the Financial Statements

Opinion

In our opinion,

- the consolidated financial statements give a true and fair view of the group's financial performance and financial position in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of the financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report to the Audit Committee.

What we have audited

We have audited the financial statements of UPM-Kymmene Corporation (business identity code: 1041090-0) for the year ended 31 December, 2017. The financial statements comprise:

- the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies
- the parent company's balance sheet, income statement, statement of cash flows and notes.

Basis for opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, the non-audit services that we have provided to the parent company and to the group companies are in accordance with the applicable law and regulations in Finland and we have not provided non-audit services that are prohibited under Article 5(1) of Regulation (EU) No 537/2014. The non-audit services that we have provided are disclosed in note 2.3 to the Financial Statements.

Our audit approach

OVERVIEW	
Materiality	• Overall group materiality: EUR 54 million, which represents 5% of profit before tax.
Group scoping	• The group audit scope encompassed all significant group companies, as well as a number of smaller group companies in Europe, Asia, North America and South America covering the vast majority of revenue, assets and liabilities.
Key audit matters	• Valuation of forest assets • Valuation of energy shareholdings • Recoverability of deferred tax assets • Litigations

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial statements as a whole.

MATERIALITY	
Overall group materiality	EUR 54 million (54 million).
How we determined it	5% of profit before tax.
Rationale for the materiality benchmark applied	We chose profit before taxes as the benchmark because, in our view, it is the benchmark against which the performance of the group is commonly measured by users, and is a generally accepted benchmark. We chose 5% which is within the range of acceptable quantitative materiality thresholds in auditing standards.

How we tailored our group audit scope
We tailored the scope of our audit, taking into account the structure of the UPM group, the accounting processes and controls, and the industry in which the group operates.

We determined the type of work that needed to be performed at group companies by us, as the group engagement team, or by auditors from other PwC network firms operating under our instruction. Audits were performed in group companies which were considered significant either because of their individual financial significance or due to their specific nature, covering the majority of revenue, assets and liabilities of the group. Selected specified procedures as well as analytical procedures were performed to cover the remaining group companies.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

KEY AUDIT MATTER IN THE AUDIT OF THE GROUP	HOW OUR AUDIT ADDRESSED THE KEY AUDIT MATTER
Valuation of forest assets *» Refer Note 4.2 in the consolidated financial statements for the related disclosures.* The group owns about 0.9 million hectares of forests and plantations in Finland, the United States and Uruguay valued at EUR 1,600 million at 31 December 2017. Forest assets are measured at fair value less cost to sell. The fair value is calculated on the basis of discounted future expected cash flows as there is a lack of a liquid market. Young saplings are valued at cost. Main factors used in the valuation are estimates for growth and wood harvested, stumpage prices and discount rates. We focused on this area as the amounts are material, the valuation process is complex and judgmental and is based on assumptions that are affected by expected future market or economic conditions.	In testing the valuation of forest assets, in conjunction with our valuation specialists we: • Assessed the methodologies adopted by management for the valuation; • Tested the mathematical accuracy of the model used for valuation; • Assessed the discount rates applied in the valuation; • Assessed the other key valuation assumptions; and, • Validated key inputs and data used in valuation model such as stumpage price, trend price forecast, tree growth assumptions, consumer price index and inflation.
Valuation of energy shareholdings *» Refer Note 4.3 in the consolidated financial statements for the related disclosures.* The energy shareholdings amounted to EUR 1,974 million at 31 December 2017. The energy shareholdings are unlisted equity investments in energy companies and are valued at fair value through other comprehensive income, net of tax if applicable. The fair value is determined on a discounted cash flow basis. The main factors impacting the future cash flows include future electricity prices, price trends, discount rates and the start-up schedule of the nuclear power plant unit Olkiluoto 3. We focused on this area as the amounts are material, the valuation process is complex and judgmental and is based on assumptions that are affected by expected future market or economic conditions.	In testing the valuation of the energy shareholdings, in conjunction with our valuation specialists we: • Assessed the methodology adopted by management for the valuation; • Tested the mathematical accuracy of the model used for valuation; • Assessed the future electricity prices and price trends; • Assessed the discount rate applied in the valuation; • Validated the Olkiluoto 3 nuclear power plant unit start-up schedule against the most recent available information; • Validated key inputs and data used in valuation model such as production costs and volumes, UPM's ownership percentages, inflation, tax rate and net debt.
Recoverability of deferred tax assets *» Refer Note 7.2 in the consolidated financial statements for the related disclosures.* The group has recognised deferred tax assets of EUR 222 million on net operating loss carry-forwards, of which most relates to German subsidiaries. In Germany the net operating loss carry-forwards do not expire. We focused on this area because the recognition of deferred tax assets relies on the significant application of judgement by the management in respect of assessing the probability and sufficiency of future taxable profits.	We assessed whether historical profitability in German subsidiaries support the recognition of the deferred tax asset. Despite recent history of profits for the German tax group we also assessed whether the management's forecasts of future profitability support the recoverability of deferred tax assets.
Litigations *» Refer Note 9.2 in the consolidated financial statements for the related disclosures.* We focused on this area because the group is subject to challenge in respect of a number of legal matters, many of which are beyond its control. Consequently, management makes judgements about the incidence and quantum of such liabilities arising from litigation which are subject to the future outcome of legal processes. In particular the group has disclosed that it is participating in a project to construct a new nuclear power plant unit Olkiluoto 3 through its shareholdings in Pohjolan Voima Oy. The supplier AREVA-Siemens, which is constructing the power plant unit initiated arbitration proceedings in 2008 and submitted a claim concerning the delay of project and related costs.	We evaluated the group's assessment of the nature and status of litigations and claims and discussed them with group management including in-house counsel for significant cases. We examined the group's conclusions with respect to the disclosures made for significant cases, both considering the correspondence between the group and its external legal counsel and independently communicating with certain of those external legal counsel. As set out in the financial statements, the outcome of such cases is dependent on the future outcome of continuing legal processes and consequently the disclosures are subject to inherent uncertainty.

We have no key audit matters to report with respect to our audit of the parent company financial statements.

There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the consolidated financial statements or the parent company financial statements.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other reporting requirements

Appointment

We have been acting as auditors appointed by the annual general meeting since 30 April 1996. Our appointment represents a total period of uninterrupted engagement of 22 years. The Company arranged the latest audit tendering process in 2013. Authorised Public Accountant (KHT) Merja Lindh has acted as the responsible auditor since 8 April 2014, representing a total uninterrupted period of four years.

Other information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises information included in the report of the Board of Directors and in the Annual Report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion
- the information in the report of the Board of Directors is consistent with the information in the financial statements
- the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact. We have nothing to report in this regard.

Other Statements

We support the proposal that the financial statements are adopted. The proposal by the Board of Directors regarding the distribution of profits is in compliance with the Limited Liability Companies Act. We support that the members of the Board of Directors and the Managing Director of the parent company should be discharged from liability for the financial period audited by us.

Helsinki 15 February 2018

PricewaterhouseCoopers Oy
Authorised Public Accountants

Merja Lindh
Authorised Public Accountant (KHT)

Information on shares

Disclosures below form part of the Report of the Board of Directors.

Changes in number of shares

	2017	2016	2015	2014	2013
Number of shares 1 January	533,735,699	533,735,699	533,735,699	529,301,897	526,124,410
Options exercised	–	–	–	4,433,802	3,177,487
Number of shares at 31 December	533,735,699	533,735,699	533,735,699	533,735,699	529,301,897

Major shareholders at 31 December 2017

	NUMBER OF SHARES	HOLDING %
Ilmarinen Mutual Pension Insurance Company	7,039,000	1.32
The State Pension Fund	4,600,000	0.86
The Local Government Pensions Institution	4,121,749	0.77
ELO Mutual Pension Insurance Company	4,070,000	0.76
The Society of Swedish Literature in Finland	3,292,024	0.62
Varma Mutual Pension Insurance Company	3,074,488	0.58
OP-Suomi investment fund	2,523,797	0.47
Swiss National Bank	2,376,454	0.45
Kymin Osakeyhtiön 100-vuotissäätiö	1,696,230	0.32
The Social Insurance Institution of Finland	1,603,690	0.30
Nominees & registered foreign owners	376,066,407	70.46
Others	123,271,860	23.10
Total	533,735,699	100.00

Shareholders by category at 31 December, %

	2017	2016	2015	2014	2013
Companies	2.1	2.2	2.3	2.8	3.2
Financial institutions and insurance companies	2.4	3.1	3.4	4.3	4.1
Public bodies	5.1	5.8	6.0	8.0	7.8
Non-profit organisations	4.8	4.8	5.0	5.3	5.7
Households	15.1	15.3	15.8	17.2	18.7
Non-Finnish nationals	70.5	68.8	67.5	62.4	60.5
Total	100.0	100.0	100.0	100.0	100.0

Share distribution at 31 December 2017

SIZE OF SHAREHOLDINGS	NUMBER OF SHAREHOLDERS	% OF SHAREHOLDERS	NUMBER OF SHARES, MILLION	% OF SHARES
1 – 100	25,133	28.18	1.4	0.2
101 – 1,000	47,443	53.19	19.4	3.6
1,001 – 10,000	15,292	17.15	41.6	7.9
10,001 – 100,000	1,197	1.34	29.0	5.4
100,001 –	124	0.14	72.6	13.6
Total	89,189	100.00	163.9	30.7
Nominee-registered			369.8	69.3
Not registered as book entry units			–	0.0
Total			533.7	100.0

Under the provisions of the Securities Markets Act, changes in holdings must be disclosed when the holding reaches, exceeds or falls below 5, 10, 15, 20, 25, 30, 50 or 66.7 (2/3) per cent of the voting rights or the number of shares of the company. The stock exchange releases on notifications of changes in holdings pursuant to Chapter 9, Section 5 of the Securities Market Act are available in UPM website: ***www.upm.com/investors.***

Adjusted share related indicators

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Earnings per share (EPS), EUR	1.82	1.65	1.72	0.96	0.63	–2.14	0.88	1.08	0.33	–0.35
Comparable EPS, EUR	1.88	1.65	1.38	1.20	0.91	0.74	0.93	0.99	0.11	0.42
Equity per share, EUR	16.24	15.43	14.89	14.02	14.08	14.18	14.22	13.64	12.67	11.74
Dividend per share, EUR	[1] 1.15	0.95	0.75	0.70	0.60	0.60	0.60	0.55	0.45	0.40
Dividend to earnings ratio, %	63.2	57.6	43.6	72.9	95.2	neg.	68.2	50.9	136.4	neg.
Dividend to operating cash flow, %	39	30	34	30	43	30	30	29	19	33
Effective dividend yield, %	4.4	4.1	4.4	5.1	4.9	6.8	7.1	4.2	5.4	4.4
P/E ratio	14.2	14.1	10.0	14.2	19.5	neg.	9.7	12.2	25.2	neg.
Operating cash flow per share, EUR	2.92	3.16	2.22	2.33	1.39	1.98	1.99	1.89	2.42	1.21
Dividend distribution, EURm	[1] 613	507	400	373	317	317	315	286	234	208
Share price at 31 Dec., EUR	25.91	23.34	17.23	13.62	12.28	8.81	8.51	13.22	8.32	9.00
Lowest quotation, EUR	20.82	13.71	13.19	10.07	7.30	7.82	7.34	7.37	4.33	8.15
Highest quotation, EUR	26.69	23.41	19.26	13.99	13.02	10.98	15.73	13.57	9.78	13.87
Average quotation for the period, EUR	23.89	17.51	16.37	12.26	9.42	9.21	11.17	10.43	7.06	11.32
Market capitalisation, EURm	13,818	12,452	9,192	7,266	6,497	4,633	4,466	6,874	4,326	4,680
Shares traded, EURm [2]	8,460	6,749	7,469	6,233	5,308	5,534	8,835	8,243	5,691	10,549
Shares traded (1,000)	354,053	385,355	456,168	508,318	563,382	600,968	790,967	790,490	805,904	932,136
Shares traded, % of all shares	66.4	72.2	85.5	95.6	106.7	114.4	151.5	152.0	155.0	180.1
Number of shares, average (1,000)	533,415	533,505	533,505	531,574	527,818	525,434	521,965	519,970	519,955	517,545
Number of shares at the end of period (1,000)	533,736	533,736	533,736	533,736	529,302	526,124	524,973	519,970	519,970	519,970
of which treasury shares (1,000)	412	231	231	231	231	231	211	–	–	16

1) Proposal

2) Trading on the Nasdaq Helsinki Main Market. Treasury shares bought by the company are included in shares traded.

The definitions of share related indicators are described below:

SHARE RELATED INDICATORS	DEFINITION
Earnings per share (EPS), EUR	Profit for the period attributable to owners of the parent company divided by adjusted average number of shares during the period excluding treasury shares.
Comparable EPS, EUR	Earnings per share calculated in accordance with IFRS excluding items affecting comparability and their tax impact.
Equity per share, EUR	Equity attributable to the owners of the parent company in relation to the adjusted number of shares at the end of period.
Dividend per share, EUR	Dividend distribution divided by adjusted number of shares at the end of period.
Dividend to earnings ratio, %	Dividend per share as a percentage of earnings per share.
Dividend to operating cash flow, %	Dividend per share as a percentage of operating cash flow per share.
Effective dividend yield, %	Adjusted dividend per share as a percentage of adjusted share price at 31.12.
P/E ratio	Adjusted share price in relation to the earnings per share.
Operating cash flow per share, EUR	Operating cash flow divided by adjusted average number of shares during the period excluding treasury shares.
Market capitalisation, EURm	Total number of shares (excluding those held as treasury shares) multiplied by the share price at the end of period.
Adjusted share price at the end of period	Share price at the end of period in relation to share issue coefficient.
Adjusted average share price	Total value of shares traded in relation to adjusted number of shares traded during the period.

Financial information 2008–2017

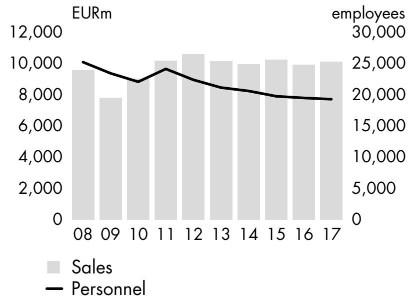
EURm, OR AS INDICATED	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Income statement										
Sales	10,010	9,812	10,138	9,868	10,054	10,492	10,068	8,924	7,719	9,461
Comparable EBITDA [1]	1,631	1,560	1,350	1,306	1,161	1,325	1,383	1,343	1,062	1,206
% of sales	16.3	15.9	13.3	13.2	11.5	12.6	13.7	15.0	13.8	12.7
Operating profit	1,259	1,135	1,142	674	548	1,318	459	755	135	24
% of sales	12.6	11.6	11.3	6.8	5.5	–12.6	4.6	8.5	1.7	0.3
Comparable EBIT	1,292	1,143	916	866	683	556	682	731	270	513
% of sales	12.9	11.6	9.0	8.8	6.8	5.3	6.8	8.2	3.5	5.4
Profit before tax	1,186	1,080	1,075	667	475	–1,271	417	635	187	–201
% of sales	11.9	11.0	10.6	6.8	4.7	–12.1	4.1	7.1	2.4	–2.1
Comparable profit before tax	1,218	1,089	849	793	610	471	573	611	107	282
% of sales	12.2	11.1	8.4	8.0	6.1	4.5	5.7	6.8	1.4	3.0
Profit for the period	974	880	916	512	335	–1,122	457	561	169	–180
% of sales	9.7	9.0	9.0	5.2	3.3	–10.7	4.5	6.3	2.2	–1.9
Comparable profit for the period	1,004	879	734	638	479	390	487	516	58	218
% of sales	10.0	9.0	7.2	6.5	4.8	3.7	4.8	5.8	0.8	2.3
Balance sheet										
Non-current assets	9,144	9,715	10,259	10,269	10,487	11,066	11,412	10,557	10,581	10,375
Inventories	1,311	1,346	1,376	1,356	1,327	1,388	1,429	1,299	1,112	1,354
Other current assets	2,612	2,850	2,558	2,570	2,785	2,489	2,548	1,956	1,912	2,052
Total assets	13,067	13,911	14,193	14,195	14,599	14,943	15,389	13,812	13,605	13,781
Total equity	8,663	8,237	7,944	7,480	7,455	7,461	7,477	7,109	6,602	6,120
Non-current liabilities	2,254	3,364	4,328	4,717	5,019	5,430	5,320	4,922	5,432	5,816
Current liabilities	2,150	2,309	1,921	1,998	2,125	2,052	2,588	1,781	1,571	1,828
Total equity and liabilities	13,067	13,911	14,193	14,195	14,599	14,943	15,389	13,812	13,605	13,781
Capital employed at year end	9,777	10,657	11,010	10,944	11,583	11,603	12,110	11,087	11,066	11,193
Capital expenditure	329	325	520	411	362	357	1,179	257	913	551
% of sales	3.3	3.3	5.1	4.2	3.6	3.4	11.7	2.9	11.8	5.8
Capital expenditure excluding acquisitions and shares	303	325	486	375	329	347	340	252	229	532
% of sales	3.0	3.3	4.8	3.8	3.3	3.3	3.4	2.8	3.0	5.6
Cash flow and net debt										
Operating cash flow	1,558	1,686	1,185	1,241	735	1,040	1,041	982	1,259	628
Free cash flow	1,336	1,424	750	994	438	968	910	787	1,045	96
Net debt	174	1,131	2,100	2,401	3,040	3,210	3,592	3,286	3,730	4,321
Key figures										
Return on capital employed (ROCE), %	12.5	10.5	10.3	6.5	4.8	neg.	4.4	6.6	3.2	0.2
Comparable ROCE, %	12.8	10.6	8.3	7.6	6.0	4.2	5.2	6.4	2.5	4.6
Return on equity (ROE), %	11.5	10.9	11.9	6.9	4.5	neg.	6.3	8.2	2.8	neg.
Comparable ROE, %	11.9	10.9	9.5	8.5	6.4	4.2	6.7	7.5	1.0	3.4
Gearing ratio, %	2	14	26	32	41	43	48	46	56	71
Net debt to EBITDA	0.11	0.73	1.56	1.84	2.62	2.42	2.60	2.45	3.51	3.58
Equity to assets ratio, %	66.6	59.4	56.1	52.7	51.1	50.0	48.6	51.5	48.6	44.5
Personnel										
Personnel at year end	19,111	19,310	19,578	20,414	20,950	22,180	23,909	21,869	23,213	24,983
Deliveries										
Pulp (1,000 t)	3,595	3,419	3,224	3,287	3,163	3,128	2,992	2,919	1,759	1,982
Electricity (GWh)	8,127	8,782	8,966	8,721	8,925	9,486	8,911	9,426	8,865	10,167
Papers, total (1,000 t)	9,430	9,613	9,771	10,028	10,288	10,871	10,615	9,914	9,021	10,641
Plywood (1,000 m^3)	811	764	740	731	737	679	656	638	567	806
Sawn timber (1,000 m^3)	1,728	1,751	1,731	1,609	1,661	1,696	1,683	1,729	1,497	2,132

1) EBITDA 2008–2011 includes change in fair value of unrealised cash flow and commodity hedges.

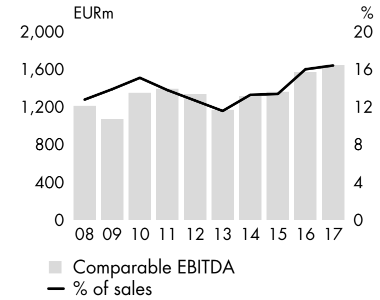
» Refer Note 10.2 *Alternative performance measures, for definitions of key figures.*

Financial information 2008–2017

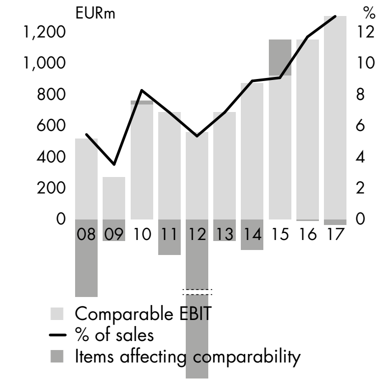
Sales and personnel



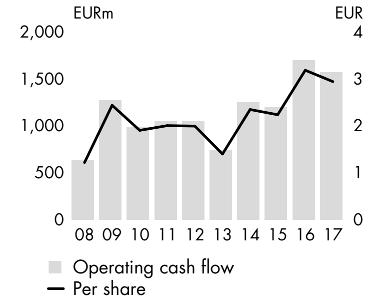
Comparable EBITDA



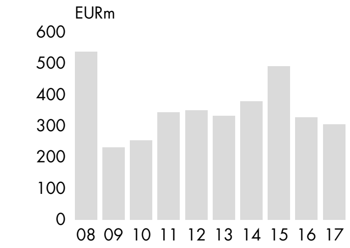
Operating profit



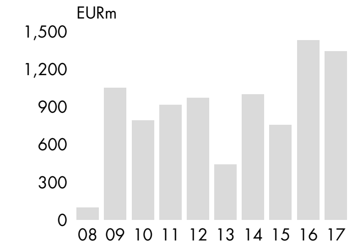
Operating cash flow



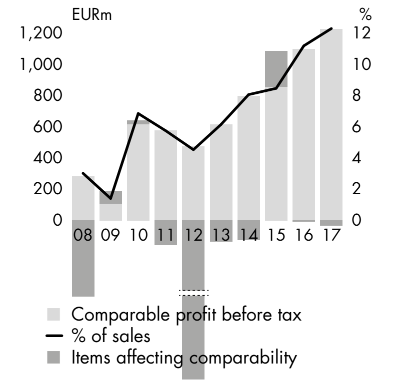
Capital expenditure excluding acquisitions and shares



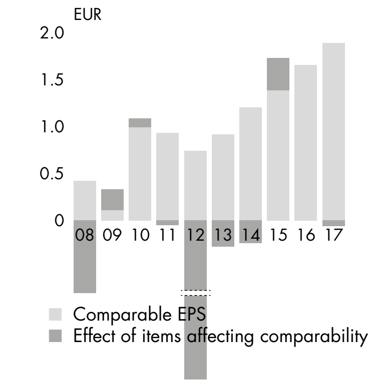
Free cash flow



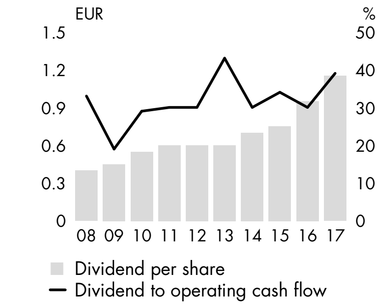
Profit before tax



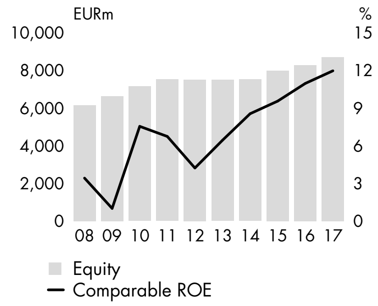
Earnings per share



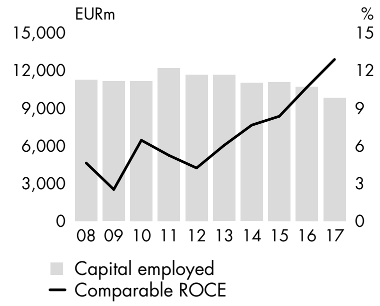
Dividend per share



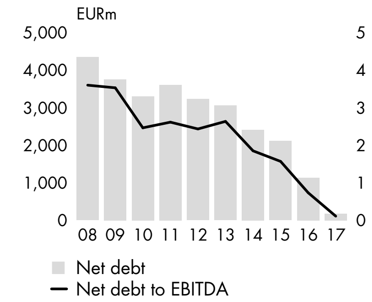
Equity and ROE



Capital employed and ROCE



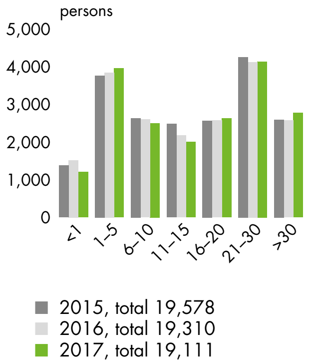
Net debt and net debt to EBITDA



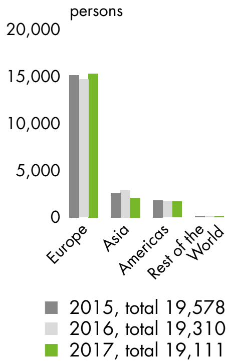
In 2016 UPM has relabeled the previously referenced "excluding special items" non-GAAP financial measures with "comparable" performance measures. Corresponding 2014 and 2015 group measures have been revised accordingly.

More on responsibility

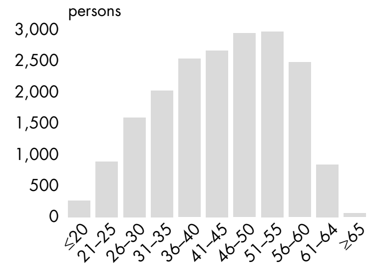
Employees' years of service with UPM



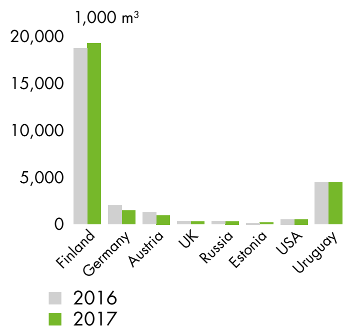
UPM employees by region



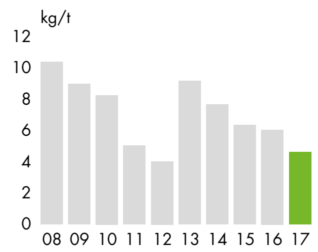
Age structure of UPM employees 2017



Wood deliveries to UPM mills

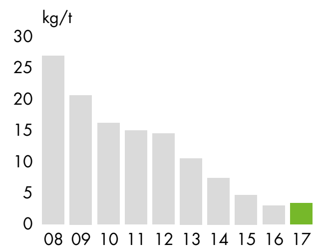


UPM's solid waste to landfills per tonne of paper



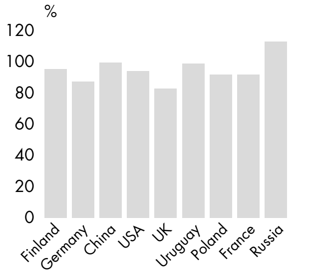
The amount of solid waste sent to landfills per paper tonne has decreased by 55% over the last ten years. However, from 2012 to 2013, the amount increased significantly. This is due to the fact that former reuse possibilities for ash ceased at one of UPM's paper mills. Starting from 2014, new methods of recycling were established.

UPM's solid waste to landfills per tonne of converted product



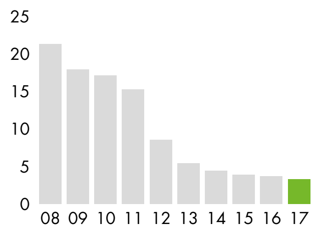
Solid waste to landfills per tonne of converted product has decreased by 87% over the last ten years.

Ratio of female to male salaries, weighted basic salary 2017



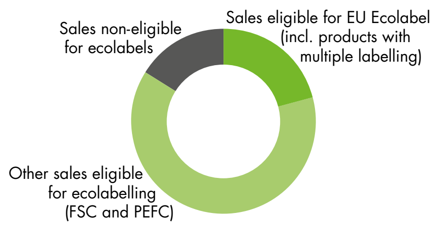
The ratio is calculated by comparing weighted average of basic salaries of women to men on the same job grades, for the nine biggest countries in terms of salaried employees. These countries cover 89% of UPM's total number of salaried employees.

Lost-time accident frequency, UPM workforce



Lost-time accident frequency (LTAF) is the number of lost-time accidents per one million hours of work. LTAF improved significantly over the last ten years.

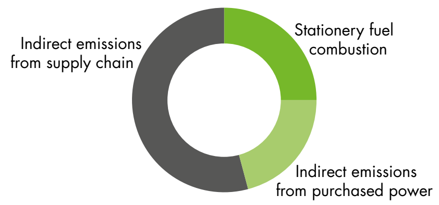
UPM's sales eligible for ecolabelling*)



*) incl. Paper, Pulp, Plywood, Label material, Timber and Biocomposites

In 2017, 85% (86%) of UPM's overall sales of paper, chemical pulp, plywood, label material, timber and biocomposite products was eligible for ecolabelling. This figure includes FSC, PEFC and EU Ecolabels, and national ecolabels.

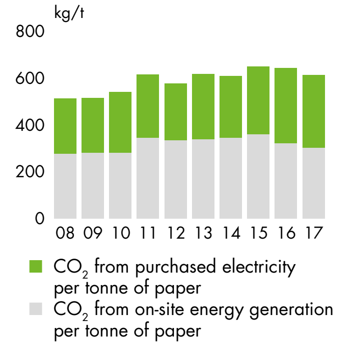
Sources of UPM's greenhouse gas emissions*), 2017



*) measured in CO_2-equivalents

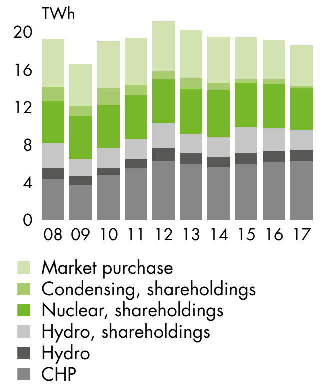
According to the calculation, approximately 46% of the direct and indirect greenhouse gas emissions are related to UPM's energy use, but raw materials, transportation and processing of sold products have also a significant impact. GHG emissions related to energy use reduced by 6% in 2017. More details are available at www.upm.com/responsibility.

UPM's fossil carbon dioxide emissions per tonne of paper



In 2017 on-site CO_2 emissions (Scope 1) decreased due to increased energy efficiency. CO_2 of purchased electricity (Scope 2) decreased due to purchases with lower CO_2 factors in Germany, the UK, Austria and Finland, for example.

Electricity sourcing



UPM BIOREFINING

- A versatile range of chemical pulp for many growing end uses with annual production capacity of 3.7 million tonnes produced at three pulp mills in Finland and one in Uruguay
- Annual capacities in tonnes by mills: UPM Fray Bentos 1.3 million; UPM Pietarsaari 800,000; UPM Kaukas 740,000 and UPM Kymi 870,000 tonnes
- 255,000 ha of forest plantations in Uruguay
- Certified sawn timber with annual capacity of 1.5 million cubic metres, produced at four sawmills in Finland
- Wood-based renewable diesel and naphtha with the annual capacity of 120 million litres produced in Finland

Pulp

#8 GLOBALLY

Pulp mills

Finland: UPM Kaukas (Lappeenranta), UPM Kymi (Kouvola) and UPM Pietarsaari

Uruguay: UPM Fray Bentos and sustainable eucalyptus plantations

Sawmills

Finland: UPM Alholma (Pietarsaari), UPM Kaukas (Lappeenranta), UPM Korkeakoski (Juupajoki) and UPM Seikku (Pori)

Biorefinery

Finland: UPM Lappeenranta Biorefinery (Lappeenranta)

UPM ENERGY

- Cost competitive low-emission electricity generation in Finland consisting of hydro, nuclear and condensing power.
- The total electricity generation capacity is 1,507 MWh, including UPM's own hydropower plants and shareholdings in other energy companies
- Market agility and optimisation services for industrial consumers
- Largest shareholdings:
  – 48.32% of Pohjolan Voima Oy (PVO), which is a majority shareholder (58.5%) in Teollisuuden Voima Oyj (TVO)
  – 19% of Kemijoki Oy's hydropower shares

#2 IN FINLAND

Hydropower plants:

Finland: Harjavalta, Kallioinen (Sotkamo), Kaltimo (Joensuu), Katerma (Kuhmo), Keltti (Kouvola), Kuusankoski (Kouvola), Tyrvää (Sastamala), Voikkaa (Kouvola) and Äetsä

UPM RAFLATAC

- Self-adhesive label materials for product and information labelling
- 10 factories and 28 slitting and distribution terminals in all continents

#2 GLOBALLY

Labelstock factories

China: Changshu
Finland: Tampere
France: Nancy
Malaysia: Johor
Poland: Kobierzyce (Wroclaw) and Nowa Wies (Wroclaw)
United Kingdom: Scarborough
USA: Mills River, NC; Fletcher, NC and Dixon, IL

Slitting and distribution terminals

Argentina: Buenos Aires
Australia: Adelaide, Brisbane and Melbourne
Brazil: Jaguariúna
Chile: Santiago
China: Chengdu, Guangzhou and Tianjin
India: Bangalore and Navi Mumbai
Indonesia: Jakarta
Italy: Osnago
México: Ciudad de México and Guadalajara
New Zealand: Auckland
Russia: Moscow and St Petersburg
South Africa: Cape Town, Durban and Johannesburg
Spain: Barcelona
Thailand: Bangkok
Turkey: Istanbul
Ukraine: Kiev
USA: Dallas, TX and Ontario, CA
Vietnam: Binh Thang Ward Di An District

Competitive businesses, strong market positions

Our 19,100 people work in 46 countries across six continents. With head office in Finland, our most important markets are in Europe, Asia and North America.

UPM SPECIALTY PAPERS

- Labelling materials for global markets, flexible packaging for Europe and fine papers for Asian markets
- Annual production capacity of 1.0 million tonnes of fine papers and 0.7 million tonnes of labelling and packaging materials

Label papers

#1 GLOBALLY

Office papers

#2 IN CHINA

Paper mills

China: UPM Changshu

Finland: UPM Jämsänkoski (Jämsä) and UPM Tervasaari (Valkeakoski)

UPM PAPER ENA

- Magazine paper, newsprint and fine papers for a wide range of end uses
- Annual paper production capacity of 8.2 million tonnes, manufactured in 15 paper mills
- Capacities: Annual production capacity of 4.0 million tonnes of magazine papers, 2.1 million tonnes of newsprint and 2.1 million tonnes of fine papers
- The combined heat and power (CHP) plants operating on paper mill sites included in the business area

#1 IN EUROPE

Paper mills

Austria: UPM Steyrermühl

Finland: UPM Jämsä River Mills (Jämsänkoski and Kaipola), UPM Kaukas (Lappeenranta), UPM Kymi (Kouvola) and UPM Rauma

France: UPM Chapelle Darblay (Grand-Couronne)

Germany: UPM Augsburg, UPM Ettringen, UPM Hürth, UPM Nordland Papier (Dörpen), UPM Plattling and UPM Schongau

United Kingdom: UPM Caledonian Paper (Irvine), UPM Shotton Paper

USA: UPM Blandin (Grand Rapids, MN)

UPM PLYWOOD

- Plywood and veneer products mainly for construction, vehicle flooring and LNG shipbuilding as well as other manufacturing industries
- Production capacity: approximately one million cubic metres
- Production in 9 mills in Finland, Estonia and Russia

High and mid segments

#1 IN EMEA

LNG plywood

#1 GLOBALLY

Plywood mills

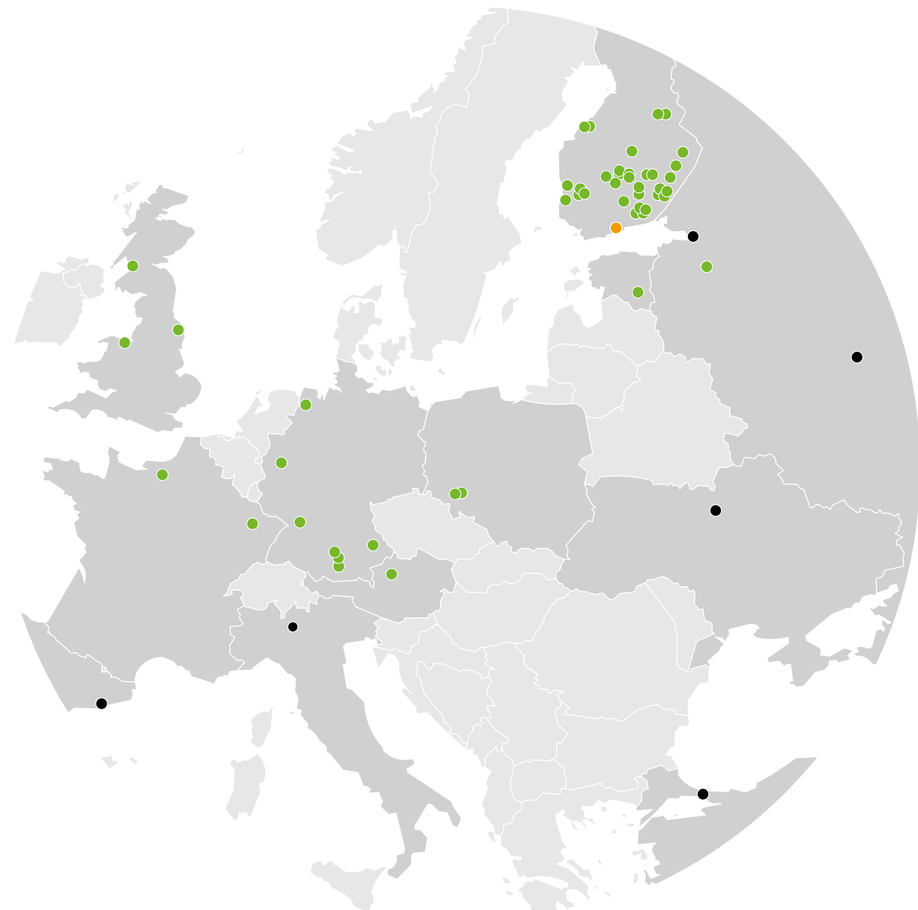
Estonia: UPM Otepää

Finland: UPM Joensuu, UPM Jyväskylä, UPM Pellos (three mills, Ristiina, Mikkeli) and UPM Savonlinna

Russia: UPM Chudovo

Veneer mill

Finland: UPM Kalso (Vuohijärvi, Kouvola)



- Production plant
- Slitting and distribution terminal
- Group Head Office

OTHER OPERATIONS

- Wood Sourcing and Forestry: Purchasing wood and biomass in 14 countries, 570,000 ha of own forests in Finland and 75,000 ha in the USA, offering forestry services to private forest owners in Finland
- UPM Biochemicals developing biochemicals, biomediacal products and lignin products
- UPM Biocomposites producing UPM ProFi outdoor products for construction and UPM Formi granulates for injection moulding and extrusion

Biochemicals innovation unit

Finland: Biomedicum research and educational centre, Helsinki.

Biocomposites mills

Finland: UPM Lahti

Germany: UPM Bruchsal (Karlsruhe)

Contact us

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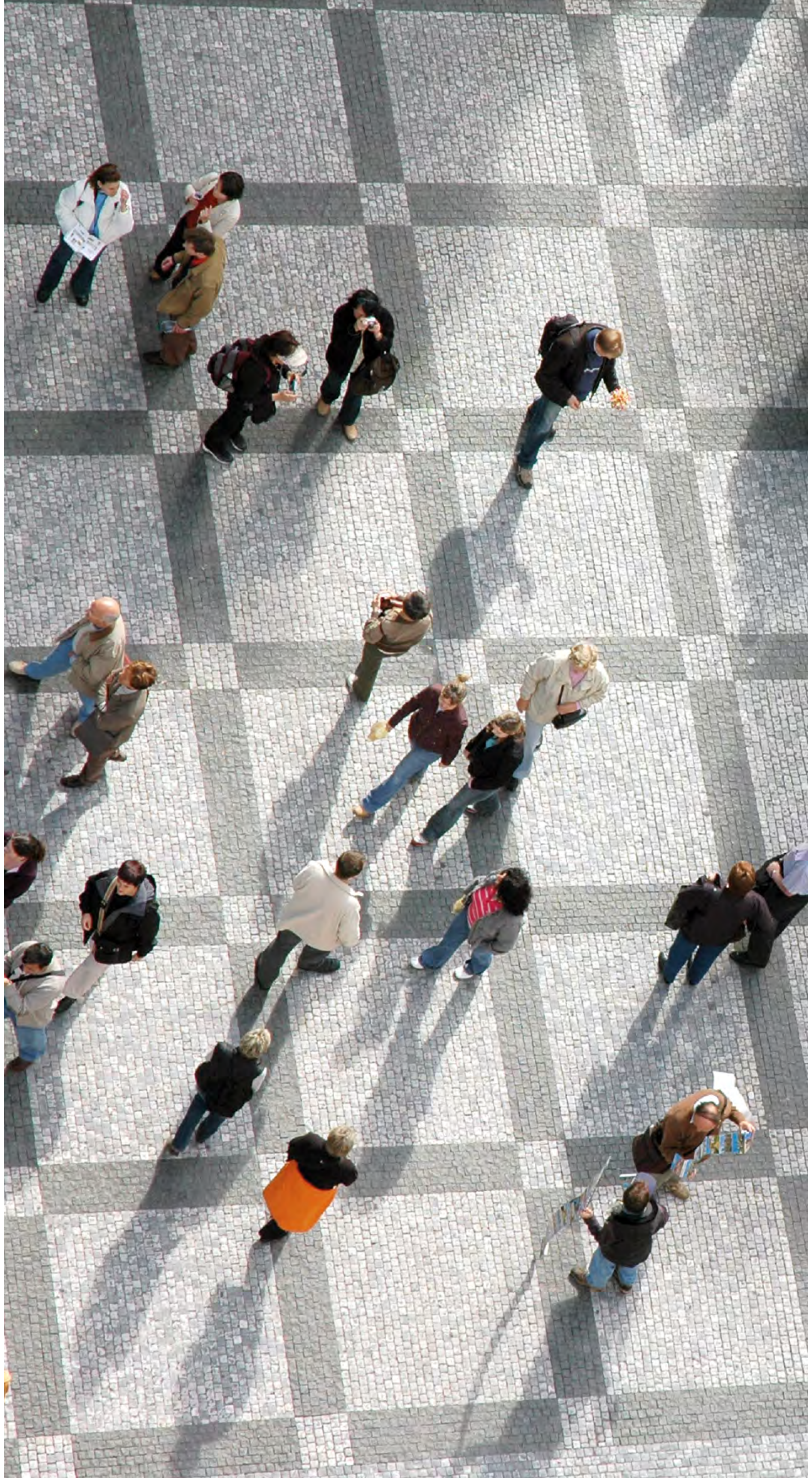
Contents



Annual General Meeting

UPM-Kymmene Corporation will hold its Annual General Meeting on Thursday 5 April 2018 at 14:00 (EET), at Messukeskus, Messuaukio 1, 00520 Helsinki, Finland. Instructions for those wishing to attend are given in the notice to the meeting, which is available on the company's website at **www.upm.com/agm2018.**

Dividend

The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 1.15 per share be paid for the 2017 financial year. The dividend will be paid to the shareholders who are registered in the company's shareholders' register held by Euroclear Finland Ltd on the dividend record date 9 April 2018. The Board of Directors proposes that the dividend be paid on 19 April 2018.

Financial information in 2018

UPM will publish the financial reports in 2018 as follows:

UPM Interim Report for January–March (Q1) on 26 April 2018
UPM Half Year Financial Report for January–June (H1) on 24 July 2018
UPM Interim Report for January–September (Q3) on 24 October 2018

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