



ACTIONS FOR THE FUTURE

ANNUAL REPORT 2022





We take action every day to create a future beyond fossils.

CONTENTS

FUTURE BEYOND FOSSILS



CEO REVIEW	6
THIS IS UPM	8
WHAT THE WORLD NEEDS	10
HOW WE MAKE A POSITIVE IMPACT	12
KEY FIGURES 2022	14
2022 HIGHLIGHTS AND RECOGNITIONS	16
CREATING SHAREHOLDER VALUE	18
BIOFORE STRATEGY	20
ACCELERATING GROWTH	22
ENSURING PERFORMANCE	24
INNOVATING FOR THE FUTURE	26
VALUE FROM RESPONSIBILITY	28
2030 RESPONSIBILITY TARGETS	30
RISKS AND OPPORTUNITIES	32

BUSINESSES



UPM FIBRES	36
UPM ENERGY	42
UPM RAFLATAC	44
UPM SPECIALTY PAPERS	46
UPM COMMUNICATION PAPERS	48
UPM PLYWOOD	50
UPM BIREFINING - UPM BIOFUELS	52
UPM BIREFINING - UPM BIOCHEMICALS	54
UPM BIREFINING - UPM BIOMEDICALS	56
UPM BIREFINING - UPM BIOCOMPOSITES	57

RESPONSIBILITY



ACTIVE DIALOGUE WITH STAKEHOLDERS	60
ENGAGING EMPLOYEES	64
DIVERSE AND INCLUSIVE WORKING CULTURE	68
SAFETY FIRST	70
EMBEDDING HUMAN RIGHTS IN EVERYTHING WE DO	72
COMMITTED TO COMPLIANCE	74
ENSURING A RESPONSIBLE SUPPLY CHAIN	78
CONTRIBUTING TO SOCIETY THROUGH TAXES	80
CLIMATE-POSITIVE FORESTRY	82
ENHANCING BIODIVERSITY	84
TAKING CLIMATE ACTION WITH ENERGY	86
RESPONSIBLE WATER USE	90
ADVANCING A CIRCULAR BIOECONOMY	92
SUSTAINABLE PRODUCT LIFECYCLE	96
OUR SOCIETAL AND ENVIRONMENTAL IMPACTS	98

GOVERNANCE



GROWTH IN A CHANGING ENVIRONMENT	102
REMUNERATION	109
BOARD OF DIRECTORS	112
GROUP EXECUTIVE TEAM	114
ASSURANCE REPORT ON RESPONSIBILITY	116

ACCOUNTS FOR 2022



REPORT OF THE BOARD OF DIRECTORS	120
FINANCIAL STATEMENTS	158
AUDITOR'S REPORT	231
OTHER FINANCIAL INFORMATION	235

About this report

This annual report provides a comprehensive overview of our performance in 2022. All material information has been integrated into this one, third-party assured entirety.

The reports online

PDF version for download on www.upm.com, UPM Corporate Governance Statement 2022, UPM Remuneration Report 2022, Accounts for 2022 in XBRL format, UPM GRI Content Index 2022, SASB content index 2022, UPM material balance 2022, UPM carbon inventory 2022, Interactive Analyst tool for financial figures and responsibility data. More about our responsibility agenda on www.upm.com/responsibility

FUTURE BEYOND FOSSILS

UPM IN 2022

- CEO review 6
- This is UPM 8
- What the world needs 10
- How we make a positive impact 12
- Key figures 14
- Highlights and recognitions 16
- Creating shareholder value 18

DIRECTION FOR THE FUTURE

- Biofore strategy 20
- Accelerating growth 22
- Ensuring performance 24
- Innovating for the future 26
- Value from responsibility 28
- 2030 responsibility targets 30
- Risks and opportunities 32

ACTIONS FOR THE FUTURE

We will continue our long-term biodiversity programme on Uruguay's plantations and work with local environmental organisations.



READY FOR SIGNIFICANT GROWTH

UPM had a record year in 2022. We had success across all our businesses, despite the extraordinary events happening in the world around us.

Russia's war in Ukraine permanently changed the geopolitical landscape and led to major sanctions. In the wake of the energy crisis, European countries focused on reducing their dependence on Russia. It was also a year that was marked by high inflation. This, combined with rapidly rising interest rates and continued COVID restrictions across China, had a huge impact on the global economy.

For UPM, 2022 was a pivotal year. Our annual sales and earnings were at an all-time high. Our sales increased by 19%, while comparable EBIT increased 42% year on year. Our transformative growth projects also progressed as planned towards the finish line. We responded to the challenges in the operating environment with commercial and operational agility. UPM's successes in 2022 also included the historic business-specific collective labour agreements, which will increase flexibility and create new opportunities for seven businesses across Finland.

All in all, the year proved that even in very exceptional circumstances, we are able to perform excellently. I am therefore very proud of the company and of all UPMers.

Major investments in the home stretch

Our strategy is firmly up to date with current events. Global megatrends are underpinning demand for many of our products, and both our customers and consumers want to make sustainable choices. Our purpose is to create a future beyond fossils. We offer renewable and recyclable materials, and low-emission energy. We also innovate and actively invest in sustainable growth.

In Uruguay, we are nearing the end of a major investment project. The Montevideo pulp terminal was inaugurated in October 2022, while construction of the Paso de los Toros pulp mill has been completed and production will start soon. The mill's cash cost level per tonne of pulp delivered will be around USD 280, making it one of the most competitive pulp mills in the world. This investment will increase our pulp production capacity by more than 50% to around 5.8 million tonnes per year.

The Olkiluoto 3 nuclear power plant unit was in its testing phase in 2022 and is now about to enter commercial production, increasing UPM Energy's carbon-free power generation by almost 50%. This will also improve Finland's energy self-sufficiency and provide emission-free energy for the society.

UPM Biorefining's biochemical refinery project in Leuna, Germany, is progressing well. Interest in the new biorefinery's products has been very high, as it is the world's first wood-based biochemicals plant. Detailed commercial and basic engineering studies of the potential biofuels refinery in Rotterdam continues in an intensive mode.

Sustainability will remain at the heart of our Biofore strategy. We have ambitious, science-based targets and a solid track record of concrete action to both mitigate climate change and safeguard biodiversity. We source our raw materials from sustainably managed forests and process them into climate-positive products that help our customers achieve their sustainability goals.



Strong financial position

Increasing shareholder value has been a long-standing goal of ours and we have worked systematically for years to achieve this. This work has produced results that benefit all our stakeholders and the wider society. UPM's Board of Directors proposes a dividend of EUR 1.50 (1.30) per share for 2022, reflecting UPM's strong financial position and the Board's confidence in the company's future success. The Board has also decided on a new earnings-based dividend policy in line with our transformative growth strategy.

The foundation of our business is solid and we expect a strong performance in 2023.

Although the operating environment remains uncertain, UPM's performance in 2023 is expected to be strong. In recent years, we have demonstrated our ability to operate and deliver results in a volatile environment. The foundation of our business is solid and we are completing major investment projects that will bring us significant growth.

I warmly thank all of UPM's employees, stakeholders and shareholders. Together, we made 2022 the best year ever for the company! I am proud of our recent achievements and I look to the long-term future with confidence. The world needs responsible solutions and our growth strategy meets this challenge. We are determined to continue creating a future beyond fossils!

Jussi Pesonen
President and CEO

THIS IS UPM

As a frontrunner in biomaterials, we provide renewable alternatives for fossil-based materials in everyday use. Our products enable our customers and consumers to make more sustainable choices. We invest in sustainable growth and innovate for a future beyond fossils. Responsibility is at the core of everything we do.

OUR BUSINESS AREAS

UPM FIBRES

UPM Fibres consists of pulp and timber businesses. UPM Pulp offers a versatile range of pulp grades suitable for various end uses such as tissue, specialty and packaging papers, graphic papers and board. UPM Timber offers certified sawn timber for joinery, packaging, furniture, planing and construction end-use segments.

UPM ENERGY

UPM Energy generates cost-competitive, zero-carbon electricity. Operations also include physical electricity and financial portfolio management as well as services to industrial electricity consumers and producers.

UPM RAFLATAC

UPM Raflatac offers high-quality self-adhesive paper and film products including label materials, graphics solutions and removable self-adhesive products.

UPM SPECIALTY PAPERS

UPM Specialty Papers offers labelling and packaging materials as well as office and graphic papers for labelling, commercial siliconising, packaging, office use and printing.

UPM COMMUNICATION PAPERS

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

UPM PLYWOOD

UPM Plywood offers high quality WISA® plywood and veneer products for construction, vehicle flooring, LNG shipbuilding, parquet manufacturing and other industrial applications.

OTHER OPERATIONS

UPM FOREST

UPM Forest secures competitive wood and biomass for UPM businesses and manages UPM-owned and privately owned forests in North Europe. UPM also offers forestry services to forest owners and forest investors.

UPM BIOREFINING – UPM BIOFUELS

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 the petrochemical industry.

UPM BIOREFINING – UPM BIOCHEMICALS

UPM Biochemicals offers wood-based renewable biochemicals to replace fossil-based raw materials in various applications such as textiles, PET bottles, packaging, cosmetics, pharmaceuticals, detergents, rubbers and resins.

UPM BIOREFINING – UPM BIOMEDICALS

UPM Biomedicals develops and supplies wood-based biomedical products for wound care, cell therapy and 3D bioprinting. The main ingredient of our high-quality products is nanocellulose, extracted from birch.

UPM BIOREFINING – UPM BIOCOSMOSITES

UPM Biocomposites offers composite decking materials based on both recycled consumer and industrial waste. The product range also includes composite materials made from renewable fibres and polymers to replace fossil-based plastics.



WHAT THE WORLD NEEDS

With higher living standards and an ageing population, a growing number of urban, middle-class people are consuming more over a longer period of time. At the same time, the world is still highly dependent on fossil raw materials and energy sources that cause climate change. Consumers, businesses and regulators alike are seeking solutions that allow a more sustainable, modern way of life. Our offering meets these challenges and opportunities today and also in the future.

WHY IS A LOW-CARBON ECONOMY NEEDED?

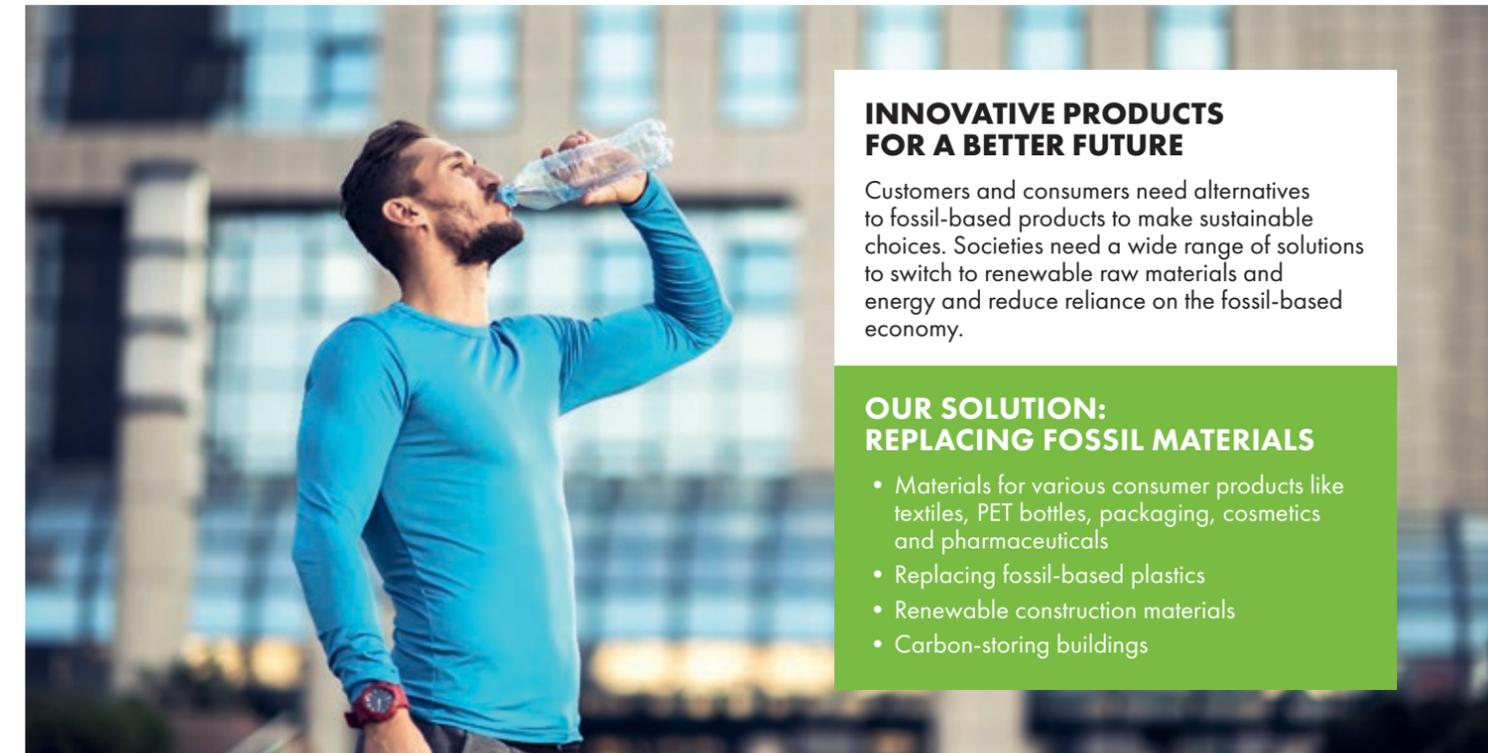
The world's population is now more than three times larger than it was in the mid-twentieth century. As populations, economies and standards of living grow, so does the cumulative level of greenhouse gas emissions. Limiting global warming to 1.5°C requires the rapid transition to a low-carbon economy.

8bn

Global population in November 2022

4-6

Expected investments required in the global transition to a low-carbon economy, USD trillion a year



INNOVATIVE PRODUCTS FOR A BETTER FUTURE

Customers and consumers need alternatives to fossil-based products to make sustainable choices. Societies need a wide range of solutions to switch to renewable raw materials and energy and reduce reliance on the fossil-based economy.

OUR SOLUTION: REPLACING FOSSIL MATERIALS

- Materials for various consumer products like textiles, PET bottles, packaging, cosmetics and pharmaceuticals
- Replacing fossil-based plastics
- Renewable construction materials
- Carbon-storing buildings

A SUSTAINABLE AND HEALTHY LIFE

Health and wellbeing depends, to a large extent, on safe hygiene products, both in personal care and medical use. Consumers need sustainable packaging and reliable information every day.

OUR SOLUTION: SUSTAINABLE PRODUCTS FOR DAILY NEEDS

- Fibres for hygiene and tissue products
- Safe food packaging materials
- Information labelling and sustainable packaging for e-commerce
- Papers for communication
- Personalised medicine



ENERGY TRANSFORMATION

The global energy sector accounts for over 70% of all greenhouse gas emissions. The transition to a low-carbon economy requires energy sources to be fossil-free as soon as possible.

OUR SOLUTION: LOW-EMISSION ENERGY AND FUELS

- CO₂-free electricity
- Renewable energy
- Reliable and adjustable energy
- Decarbonising traffic

HOW WE MAKE A POSITIVE IMPACT

We are transforming the world of materials by providing sustainable alternatives to fossil-based products. Forests play a key role here: they are a source of renewable raw materials for a broad range of products, from everyday necessities to ground-breaking innovations. Growing forests are one of the biggest carbon sinks on the planet, second only to oceans. They are also critical to biodiversity and water systems. In everything we do, we care about the prosperity and wellbeing of people, local communities and the societies around us.



ENABLING SUSTAINABLE CHOICES

People make important purchasing decisions and we provide products that are better for society. Credible product information supports the preferred choices. We provide sustainable solutions and create a future beyond fossils.

- Renewable and recyclable materials
- Responsible supply chain
- Sustainable product design concept
- Eco-labelled products
- Responsibility across product lifecycle



ENHANCING BIODIVERSITY

Forests are critical to biodiversity. Safeguarding biodiversity makes forests more resilient to climate change, thereby also benefitting our business. We enhance biodiversity in many ways.

- Global biodiversity programme, established in 1998
- Science-based biodiversity indicators
- Global Forest Action programme to run until 2030
- Stream water programme since 2016



ADVANCING A CIRCULAR BIOECONOMY

We use all raw material streams efficiently and reduce, reuse and recycle whenever possible. Cross-industry collaboration provides a greater impact.

- Products made from side streams, residues and recovered materials
- Recyclability integrated in sustainable product design concept
- Efficient use of resources
- Circular use of materials, nutrients, and water



TAKING CLIMATE ACTION

We're committed to the UN's 1.5°C climate target and to science-based measures to mitigate climate change. We're also committed to being net zero by 2040, ten years ahead of the Paris Agreement. We engage in climate-positive forestry wherever we operate.

- Our forests absorb CO₂ from the air as they grow
- We aim to reduce our own emissions by 65% and supply chain emissions by 30% by 2030
- Our products replace fossils in various end-uses



BUILDING THRIVING COMMUNITIES

We are committed to developing the vitality of the communities around us. We invite an active and open dialogue, anticipate and manage the impacts of our operations and contribute to the sustainable development of the communities.

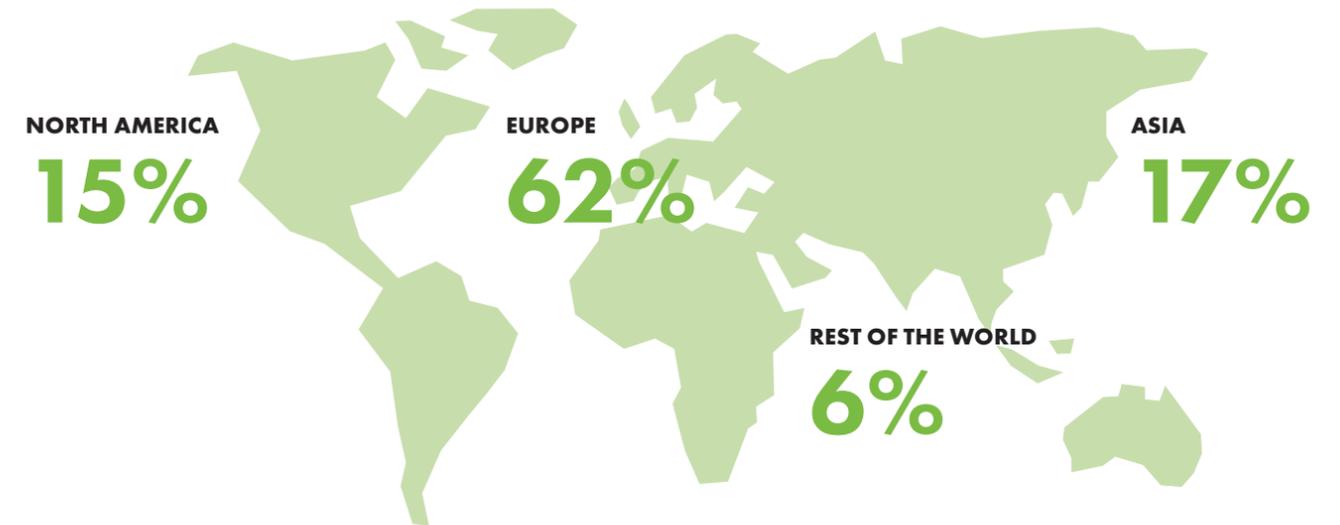
- Financial and social impact on communities
- Transparency of impacts
- Promoting diversity and inclusiveness
- The Biofore Share and Care programme



KEY FIGURES 2022

<p>SALES 2022 EUR</p> <p>11.7bn +19%</p>	<p>ATTRACTIVE DIVIDEND Dividend (proposal), EUR</p> <p>800m +15%</p>	<p>STRONG BALANCE SHEET Net debt, EUR</p> <p>2,374m Net debt/EBITDA ratio 0.94</p>
<p>PERFORMANCE Comparable EBIT, EUR</p> <p>2,096m +42%</p>	<p>FOCUSED INVESTMENTS Capital expenditure, EUR</p> <p>1,555m +5%</p> <p>attractive returns with disciplined and effective investments</p>	<p>CASH FLOW Operating cash flow, EUR</p> <p>508m -59%</p>
<p>PERFORMANCE Comparable ROE</p> <p>14.0% +2.3pp</p>	<p>CASH FUNDS and unused credit facilities, EUR</p> <p>6.4bn</p>	<p>BUSINESS AREAS Business areas achieved their financial targets</p> <p>4/6</p>

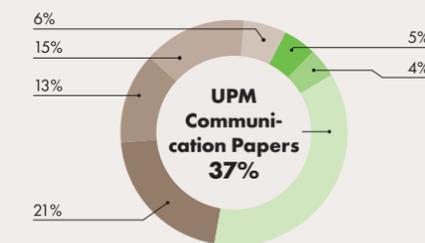
SALES BY MARKET



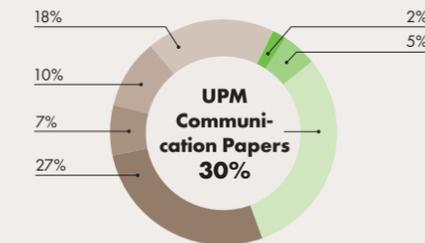
AIMING FOR CONTINUOUS IMPROVEMENT

<p>ACTIVE EMPLOYEES COMPLETED CODE OF CONDUCT TRAINING*</p> <p>97% -1pp</p> <p>The UPM Code of Conduct lays the foundation for responsible business operations and continuous improvement.</p>	<p>EMPLOYEE ENGAGEMENT SCORE</p> <p>70 +2 points</p> <p>Engaged, high-performing people drive our success.</p>	<p>FOSSIL CO₂ EMISSIONS (SCOPE 1 AND 2)</p> <p>4.5Mt -11%</p> <p>Creating climate solutions and working towards carbon neutrality.</p>
<p>SHARE OF SPEND COVERED BY OUR SUPPLIER CODE</p> <p>88% +2pp</p> <p>Transparent supplier requirements form the basis of responsible sourcing throughout the entire supply chain.</p>	<p>SHARE OF CERTIFIED WOOD</p> <p>86% +2pp</p> <p>Forest certification is an excellent tool for ensuring sustainable forestry. Chain-of-Custody requirements ensure 100% supply from controlled sources.</p>	<p>TOTAL RECORDABLE INJURY FREQUENCY</p> <p>5.9 -18%</p> <p>Ensuring a safe working environment for employees and everyone working for UPM.</p>

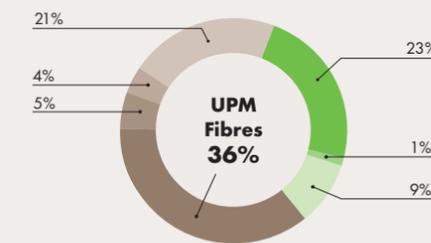
Sales 2022
EUR 11,720 million



Comparable EBIT 2022
EUR 2,096 million



Capital employed 31 Dec 2022
EUR 17,913 million



■ Other operations ■ UPM Plywood ■ UPM Communication Papers ■ UPM Fibres ■ UPM Specialty Papers ■ UPM Rafflatac ■ UPM Energy

* New training for the updated Code of Conduct started in September 2022

2022 HIGHLIGHTS

JANUARY

- 1 The Paperworkers' Union begins a strike in several UPM businesses in Finland

MARCH

- 1 UPM launches a new global forest responsibility programme, Forest Action, which will run until 2030
- 9 UPM ceases deliveries to Russia and suspends the purchasing of wood from Russia as well as the UPM Chudovo plywood mill operations

APRIL

- 22 UPM and the Paperworkers' Union agree on first-ever business-specific collective labour agreements, ending the strike at UPM businesses in Finland

MAY

- 3 UPM Biochemicals and KRAHN Chemie sign an exclusive distribution agreement for UPM BioMotion Renewable Functional Fillers (RFF)
- 16 UPM issues a green bond of EUR 500 million



- 27 UPM Raflatac signs an agreement to acquire the Germany-based AMC AG. The acquisition was completed on 15 September

JUNE

- 9 UPM Plywood starts using the lignin-based WISA® BioBond bonding technology in all of UPM's WISA spruce plywood products

- 21 UPM announces to sell its Austrian Steyrmühl site to the HEINZEL GROUP, the transaction and end of newsprint production are planned for the end of 2023

- 27-30 UPM BioMotion™ Renewable Functional Fillers (RFF) are presented at the world's largest International Rubber Conference DKT in Nuremberg

JULY

- 28 UPM is renewing its family leave practices in Finland as part of its efforts to promote equality and diversity

AUGUST

- 18 UPM Biochemicals and Dongsung Chemical announce a strategic partnership to develop renewable products for footwear materials on the Asian market

- 18 UPM receives an all-time high EcoVadis score thanks to its renewed social responsibility agenda

SEPTEMBER



- 12 UPM Timber and Lassila & Tikanoja start to collaborate to recycle sawn timber wrappings

OCTOBER



- 14 UPM Specialty Papers introduces heat-sealable and recyclable barrier papers designed to package dry and frozen foods

- 27 UPM sets the target to double the amount of deadwood in its forests to increase biodiversity. The new target is part of UPM Forest Action.

- 5 UPM inaugurates its new pulp terminal in the port of Montevideo, Uruguay

- 18 UPM announces that President and CEO Jussi Pesonen will retire in 2024

NOVEMBER

- 9 UPM inaugurates a combined heat and power (CHP) plant at the UPM Nordland paper mill in Germany

DECEMBER

- 12 UPM is listed in the Dow Jones European and World Sustainability Indices (DJSI) for 2022–2023 as the only company in its industry

- 13 CDP recognises UPM with a triple 'A' score for climate, forests and water security actions

- 23 UPM completes the construction work of the Paso de los Toros pulp mill in Uruguay

LEADER IN RESPONSIBILITY

Our consistent responsibility efforts have received recognition from several third parties.

Dow Jones Sustainability Index: The only forest and paper company in the Dow Jones European and World Sustainability Indices (DJSI) for 2022–2023.

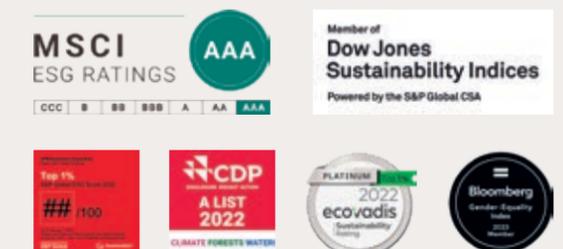
MSCI ESG ratings: An AAA rating in the assessment. MSCI ESG Research provides ESG ratings on global public companies, according to their exposure to industry-specific ESG risks and ability to manage those risks relative to peers.

CDP Programme: One of the only 12 Triple A list companies globally for our significant actions to mitigate climate change, prevent deforestation and enhance water security.

S&P Global's Sustainability Yearbook: Gold Class distinction in The Sustainability Yearbook 2022 by S&P Global as one of the top-scoring companies in our industry.

EcoVadis: The highest possible Platinum level for our sustainability performance for which only 1% of over 90,000 companies assessed globally attain.

Bloomberg Gender-Equality Index (GEI): UPM is among the 484 public companies globally and one of the three Finnish companies in this index. The GEI lists the companies most committed to transparency in gender reporting and advancing women's equality.





CREATING SHAREHOLDER VALUE

Making more sustainable choices increases demand for our products and attracts interest from investors. Our goal is to increase our earnings and valuation in the coming years, while offering an attractive dividend to our shareholders.

+4.4%

Share price 2022

Dividend proposal
EUR

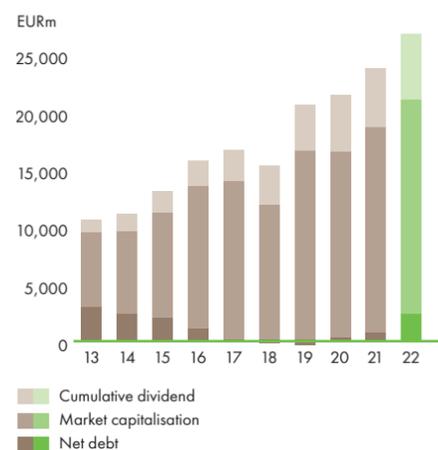
1.50

per share

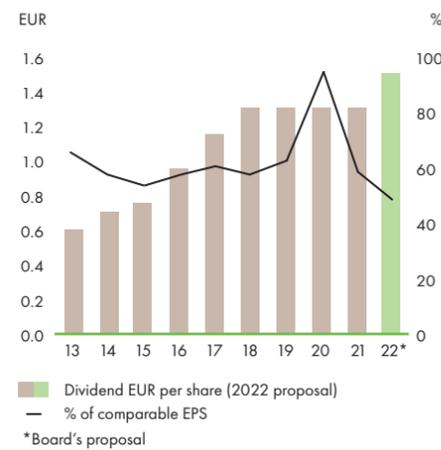
51%

Share of ESG-focused investors of all institutional shareholders

Enterprise value and cumulative dividends



Dividend per share



DRIVING LONG-TERM VALUE CREATION



Top performance enables investments in growth, innovation and responsibility

We aim for continuous improvement in our financial performance. We make good use of commercial strategies, tight cost control, materials and energy efficiency, effective capital allocation and efficient use of assets. We capture opportunities provided by our agile operating model, while capitalising on corporate synergies.



Value-enhancing growth

Consumer megatrends drive the demand growth for most of our products. This is further supported by the rapidly increasing need for sustainable alternatives to fossil-based materials and energy. We grow businesses with strong long-term demand fundamentals, where we have a clear competitive advantage. This underpins attractive returns on invested capital.

We are in an intensive growth phase. Over the coming 12 months, the UPM Paso de los Toros pulp mill will grow UPM's pulp business by more than 50% at low costs; the OL3 nuclear power plant unit will increase UPM Energy's carbon-free electricity generation by nearly 50% at an opportune time, and the Leuna biorefinery will open a completely new growth business in biochemicals.



Responsibility is good business

For us, sustainability is an important driver for growth and competitiveness. We capture the opportunities presented by increasingly responsible consumer choices and tightening regulations for mitigating climate change and answering the plastics challenge, for example. Responsible operations and value chains help to mitigate risks.



Innovating for a future beyond fossils

We innovate new growth businesses with a unique competitive position in biochemicals, biofuels, biomedical and speciality packaging materials, for example. The successful commercialisation and scale-up of the businesses to a significant size are important. We protect our intellectual property.



An improving business portfolio drives profitability and valuation

Increasing our share of sustainability-driven higher-margin growth businesses improves our long-term profitability and boosts the value of our shares. On average, UPM's growth businesses have more than three times higher EBIT margins than the mature graphic paper business.



Strong balance sheet

Our strong balance sheet mitigates risks and enables us to implement our growth projects even during uncertain times, such as during the pandemic or the energy crisis in Europe.



Attractive dividends

We aim to pay attractive dividends, targeting at least half of the comparable earnings per share over time.

5-YEAR SHARE PERFORMANCE AND VALUATION MULTIPLES

	2022	2021	2020	2019	2018
Share price at 31 Dec, EUR	34.93	33.46	30.47	30.91	22.15
Comparable EPS, EUR	3.09	2.22	1.37	2.07	2.24
Dividend per share, EUR	1.50 ^{*)}	1.30	1.30	1.30	1.30
Dividend to comparable EPS, %	49	59	95	63	58
Effective dividend yield, %	4.3	3.9	4.3	4.2	5.9
P/E ratio	12.2	13.9	29.0	15.5	7.9
P/BV ratio ¹⁾	1.49	1.65	1.74	1.64	1.21
EV/EBITDA ratio ²⁾	8.3	10.2	11.3	8.7	6.3
Market capitalisation, EUR million	18,629	17,845	16,250	16,485	11,813

^{*)} 2022: Board's proposal

¹⁾ P/BV ratio = Share price at 31 Dec./Equity per share

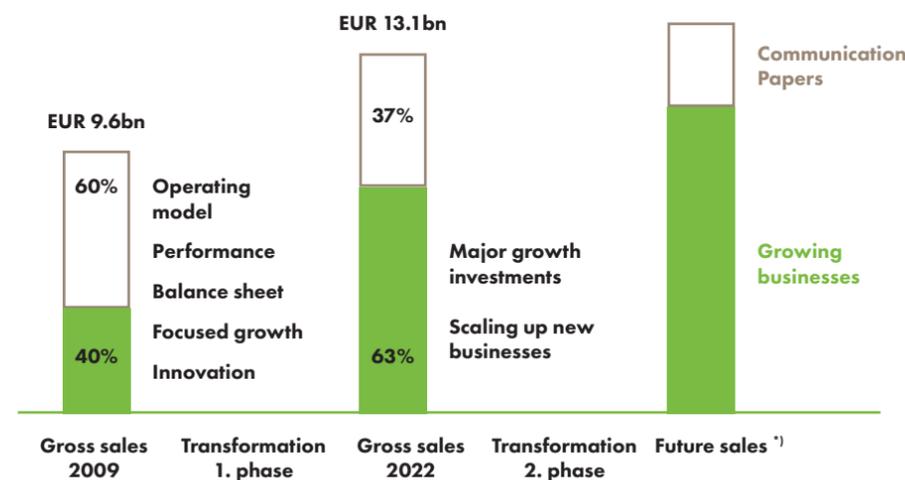
²⁾ EV/EBITDA ratio = (Market capitalisation + Net debt)/EBITDA



BIOFORE STRATEGY

We supply sustainable materials for everyday consumer needs, reliable carbon-free energy to electrify society and renewable fuels to decarbonise traffic.

TRANSFORMATION STRENGTHENS PERFORMANCE AND BUSINESS MIX



This is an illustration, not a forecast

Future beyond fossils

UPM's Biofore strategy remains unchanged. 2022 brought new challenges with Russia's war in Ukraine and sanctions derived from it, the energy crisis in Europe, high inflation, rising interest rates and a slowing global economy.

Our strategy is resilient to these new realities. Climate change mitigation and resource scarcity require further action, while the need to cut ties with Russian fossil energy further underlines the role of renewable and recyclable materials and reliable, competitive low-emission energy.

This is what we provide – we create a future beyond fossils.

The Biofore strategy drives our transformation as a frontrunner in biomaterials. This transformation has taken place for more than 10 years, at an increasingly fast

pace. We have an agile operating model and nurture a culture of high performance and integrity. Through effective capital allocation we have consistently improved our business portfolio, while maintaining a strong balance sheet.

We are currently in an intensive growth phase building a world-class pulp mill in Uruguay and a next generation bio-chemicals refinery in Germany. We are a shareholder in the new OL3 nuclear power plant unit in Finland. We are also conducting the basic engineering of a potential new biofuels refinery that would scale up our successful biofuels business. These transformative growth projects represent significant future earnings growth for us. They are set to further improve our business mix with higher-margin, higher value businesses.

Leader in responsibility

We are a world-leading company in responsibility. Our visionary purpose and values guide and inspire us to create a positive impact on society and value for our shareholders.

Our renewable and recyclable products meet the everyday needs of consumers at the same time as addressing many global challenges such as climate change and resource scarcity.

Many of our products offer sustainable alternatives to fossil raw materials and energy, for example replacing fossil plastics in consumer products, steel and cement in construction or fossil fuels in traffic, aviation and electricity markets. Furthermore, we provide our customers with entirely new solutions, creating new innovative growth businesses.

A FUTURE BEYOND FOSSILS

GROWTH

- Responding to megatrends and meeting customers' changing needs
- Creating new markets and enabling sustainable choices

PERFORMANCE

- Continuous improvement
- Agile operating model

INNOVATION

- Creating new business and competitive advantage
- Replacing fossils with biomaterials

RESPONSIBILITY

- Renewable & sustainable solutions
- Responsible operations and value chain

PORTFOLIO

- Effective capital allocation
- Investing in businesses with strong long-term fundamentals for growth and high barriers to entry

VALUES

Trust and be trusted

Achieve together

Renew with courage

ACCELERATING GROWTH

Our transformation is in an intensive phase, with growth investments totalling EUR 3.8 billion are estimated to be completed in 2023.

IMPACT

- We create a future beyond fossils
- We enable our customers and consumers to make more sustainable choices

TARGETS

- Earnings growth
- Attractive returns
- Successful commercialisation

OUR WAY

- Sustainable and safe solutions
- Strong long-term fundamentals for demand growth
- High barriers to entry and a competitive advantage
- Strict return requirements
- Talent attraction



OVER 50% GROWTH IN THE PULP BUSINESS



Global consumer megatrends and the need to find more sustainable alternatives for fossil-based materials support demand growth for market pulp. The requirements for competitive greenfield pulp operations are difficult to meet and provide a lasting competitive advantage.

The production in our world-class pulp mill in Paso de los Toros in Uruguay and deliveries from a highly efficient pulp terminal at the port of Montevideo are scheduled to start up by the end of Q1 in 2023. The project and related plantation operations and logistics solutions have been carefully designed and prepared over the past

decade to ensure that the operation is highly competitive and sustainable.

The mill will have an annual capacity of 2.1 million tonnes of eucalyptus market pulp. The USD 3.47 billion investment will raise our pulp production capacity by more than 50%. Given the expected highly competitive cash costs and the large scale of the mill, the investment is expected to significantly contribute to our future earnings.

- > UPM Pulp on page 36
- > UPM Paso de los Toros on page 40

NEARLY 50% GROWTH IN CARBON-FREE ELECTRICITY GENERATION



Climate change mitigation requires the further electrification of society and the rapid reduction of the use of fossil-based fuels. Russia's war in Ukraine and the current energy crisis in Europe have made fossil energy even less appealing and emphasised the importance of supply security and energy competitiveness.

UPM is a shareholder in the new OL3 nuclear power plant unit in Finland and is scheduled to start commercial production in April 2023. Once the new unit is fully up and running, it will increase UPM Energy's carbon-free

electricity generation by nearly 50%. It will also significantly improve the self-sufficiency, supply security and climate performance of Finland's electricity system.

- > UPM Energy on page 42

TRANSFORMATIVE NEW BUSINESSES BEYOND FOSSILS



Demand for sustainable alternatives for fossil-based chemicals in consumer products and decarbonising traffic with renewable fuels create significant new business opportunities. Access to sustainable feedstocks, proprietary technology concepts and high-quality products are expected to provide a lasting competitive advantage for UPM.

UPM Biochemicals is preparing for a commercial-scale market entry. Our next generation biochemicals refinery in Leuna, Germany is scheduled to start production by the end of 2023. The biorefinery will have an annual capacity of 220,000 tonnes of wood-based biochemicals. The EUR 750m investment is expected to meet our ROCE target of 14% once fully ramped up. UPM Biochemicals is also proceeding in commercialising its products. Application areas

include wood-based recyclable PET bottles, coolants for electrical vehicles, raw materials for textiles and renewable functional fillers to significantly reduce the CO₂ footprint and weight of rubber and plastic applications.

UPM Biofuels already supplies the markets with UPM BioVerno renewable diesel and naphtha. The Lappeenranta Biorefinery has proven its proprietary technology, product quality and sustainability, and has achieved commercial success. We are currently in the basic engineering phase of a potential larger next generation biorefinery in Rotterdam, in the Netherlands, to scale up the business.

- > UPM Biochemicals on page 54
- > UPM Biofuels on page 52

GROWTH AND PRODUCT INNOVATION IN SPECIALTY PACKAGING MATERIALS



Global consumer megatrends are driving demand for sustainable and safe labelling and packaging solutions.

We continue to expand in the specialty paper and self-adhesive label materials segments. Our focus is on expanding customer reach and continuously developing our product portfolio. Our strong position and innovations in these technically demanding and fast-growing niche segments of the packaging value chain provide attractive growth opportunities.

In 2022, UPM Raflatac acquired AMC AG, a German self-adhesive label materials company

to speed up its growth strategy. The acquisition opens new attractive product segments and further strengthens UPM Raflatac's position in the filmic products in Central Europe. UPM Specialty Papers has also made further progress with its barrier paper products that provide a sustainable and recyclable alternative for flexible packaging applications, for example.

- > UPM Raflatac on page 44
- > UPM Specialty Papers on page 46

ENSURING PERFORMANCE

We aim for continuous improvement in financial performance through our agile operating model, performance culture and effective capital allocation. In 2022, our comparable EBIT grew by 42% and reached a new all-time record.

IMPACT

- Top performance enables investments in growth, innovation and responsibility
- Effective capital allocation drives the company transformation and enhances long-term value creation

TARGETS

- Continuous improvement
- Top performance in each business
- Growth in comparable EBIT
- Attractive returns
- Strong balance sheet

OUR WAY

- Agile operating model
- High-performing people
- Commercial excellence
- Cost efficiency
- Efficient use of assets and capital
- Capitalise on corporate benefits and synergies

2022 was a very unusual year. Russia's war in Ukraine resulted in extensive sanctions and policy measures. UPM suspended its deliveries to Russia, the purchasing of wood from Russia and the UPM Chudovo plywood mill operations. In the context of the war and the energy crisis, Europe needs to rapidly reduce its energy dependency on Russia. Inflation reached levels last seen

over 40 years ago. The global economy slowed down, impacted by high inflation, rapidly rising interest rates and the zero-covid policies in China.

Good demand continued in most of our businesses, and sales prices more than offset the impact of significantly higher variable costs. While the energy crisis increased costs for our energy consuming businesses, UPM

Energy benefited from the higher prices and increased volatility in the electricity markets. Most of our production units in Finland were affected by a nearly four-month strike. In April, we signed first business-specific collective labour agreements with the Paperworkers' Union, which improve flexibility and opportunities for long-term success for both our businesses and employees.

In 2022, our comparable EBIT grew by 42% to EUR 2,096 million (1,471 million). We also succeeded in maintaining progress in the transformative growth projects in Uruguay and Germany. All in all, 2022 was a great success considering the highly uncertain and volatile business environment.

The agile operating model

Our businesses in various parts of the bio and forest industry value chain operate as separate market-facing entities, both in terms of customers and suppliers. This enables agility in a fast-changing business environment, higher efficiency, differentiated commercial strategies, optimal sourcing, the right incentives, wider product development opportunities and effective capital allocation.

At the business area level, we are targeting top performance in their respective markets. We have also set long-term return targets (ROCE %, on the left) for the six business areas. The return targets apply over business and investment cycles. In 2022, four out of six business areas exceeded the targeted returns.

Capturing corporate synergies

- We build on corporate synergies, adding value to our businesses and stakeholders with:
- Competitive and sustainable wood sourcing, forestry and plantation operations
 - Efficient and responsible global functions

- Group-wide continuous improvement programmes in commercial strategies, variable costs, working capital, site and maintenance costs, safety and environmental performance
- Technology development and intellectual property rights
- Global business platform
- Disciplined and effective capital allocation
- Compliance, UPM Code of Conduct and strong UPM brand

Effective capital allocation

Capital allocation is key to attractive long-term returns, as well as developing the business portfolio in areas with the best long-term value creation potential. At UPM, capital allocation decisions take place at the corporate level.

- UPM plans to allocate capital to:
- Invest to grow the company and its

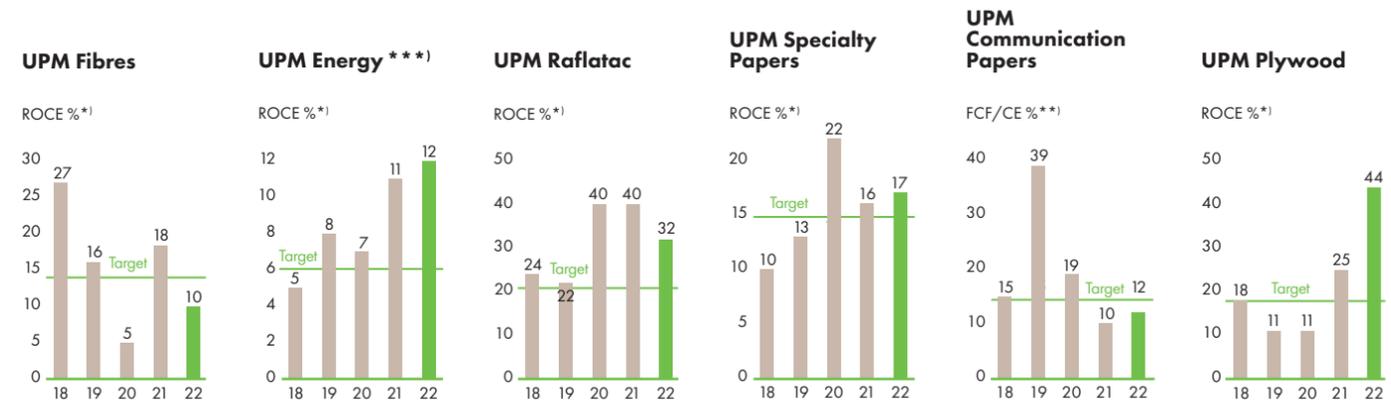
- earnings.* UPM invests in sustainable businesses with strong long-term fundamentals for demand growth and a clear competitive advantage or high barrier to entry for superior returns. UPM targets growth in comparable EBIT and comparable return on equity exceeding 10%.
- *Pay attractive dividends.* UPM aims to pay attractive dividends, targeting at least half of the comparable earnings per share over time. The targeted earnings growth drives dividend growth over time.
 - *Maintain a strong balance sheet.* According to UPM's leverage policy, net debt to EBITDA ratio is to be less than 2. An investment grade rating is an important element in the financing strategy.
 - *Share buybacks.* They are a complementing tool that may be used relative to investment opportunities and company valuation.

Currently, our transformation is in an intensive phase, with growth investments totalling EUR 3.8 billion scheduled to be completed by the end of 2023. For these investments, our ROCE target is 14% and we aim to achieve higher profitability than in the growing businesses on average.

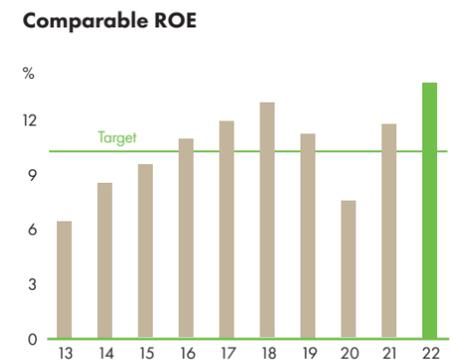
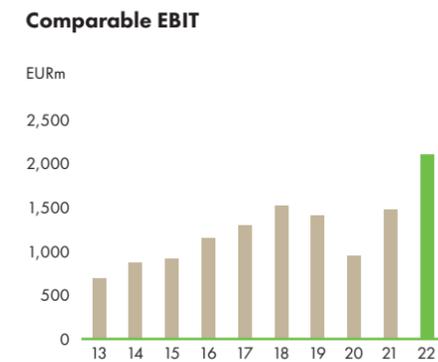
- [Creating shareholder value on page 18](#)
- [Accelerating growth on page 22](#)
- [2030 responsibility targets on page 30](#)
- [Financial Statements on page 158](#)

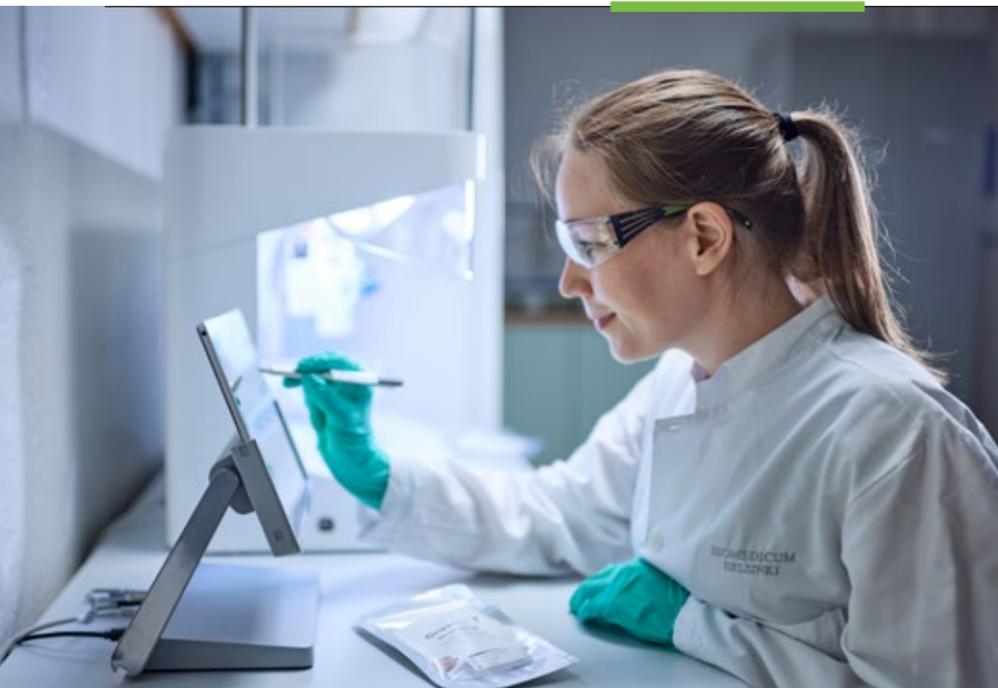


BUSINESS AREA RETURNS AND LONG-TERM TARGETS



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





INNOVATING FOR THE FUTURE

We innovate climate-positive products and turn them into growing businesses.

Our products offer solutions to mitigating climate change as they replace fossil raw materials with renewable alternatives. The products store carbon for the entire duration of their lifecycle, and extended when recycled multiple times. New solutions are developed in collaboration with our businesses, technology partners and customers.

Innovation and R&D programmes are essential in the development of new products and technologies. Research and development expenses cover the development of new technologies, businesses and processes. In 2022, UPM spent EUR 414 million (EUR 266 million) on research and development, which accounted for 81.5% (21.3%) of UPM's operating cash flow.

The patents, trademarks and intellectual property rights protecting our innovations support the journey from innovation to business. We have more than 3,000 patents

and patent applications, and nearly 1,400 trademarks globally.

Licensing innovations and technology provides an excellent basis for value creation with customers and technology partners. As an example, at the end of 2022, UPM Biochemicals owned 592 patents and patent applications and another 433 patents and patent applications were held by partners, covering technology and products throughout the value chain.

Extensive partner network

Our close-knit global partner network includes customers, universities, research organisations, suppliers and start-up companies. Collaboration speeds up the development and launch of new business solutions.

Our network includes the Circular Bio-based Europe Joint Undertaking (BBI) and the European Chemical Industry Council

IMPACT

- Respond to global megatrends and growing demand for bio-based products
- Reduce the use of fossil raw materials
- Provide more sustainable choices for customers and consumers

TARGETS

- Replacing fossil raw materials with renewable alternatives
- Accelerating the commercialisation of bio-based solutions into viable industrial-scale operations
- Creating new business and a competitive advantage

OUR WAY

- In-depth expertise in forest biomass processing
- Responsibility and circular bioeconomy
- Sustainable product design
- Technological development and intellectual property rights
- Innovation culture, current and future competences
- Extensive partner network

(CEFIC). We are a part of the Renewable Carbon Initiative (RCI) and a member of the 4evergreen alliance, an initiative created by CEPI (Confederation of European Paper Industries) to raise the overall recycling rate of fibre-based packaging to 90% by 2030. We also joined EUROPEAN, the European association that strives towards carbon neutrality of the packaging value chain.

We want to take part in the developments that reduce greenhouse gas emissions. In 2022, we actively participated in Hydrogen Cluster Finland, the EU's Clean Hydrogen Alliance and participated in the Roundtable on Clean Hydrogen in industrial applications.

- > [What the world needs on page 10](#)
- > [Sustainable product lifecycle on page 96](#)
- > [Report of the Board of Directors on page 120](#)
- > www.upm.com/innovation

OUR FOCUS IN 2022

IMPLEMENTING A SUSTAINABLE PRODUCT DESIGN CONCEPT



Our 2030 responsibility targets and contribution to the UN SDGs are integrated into our R&D activities and product development. We want our products to create value for our stakeholders during the whole product lifecycle.

We started to implement the sustainable product design concept and worked on cases for new product development to form solid sustainability value propositions. At UPM Specialty Papers, the concept was successfully used from development to the new packaging paper launch. The new

concept will be adopted gradually in all of our businesses.

Our approach applies lifecycle thinking and lifecycle assessment data, both of which are incorporated in sustainable product design practices. We use different sustainability tools, such as Life Cycle Assessments (LCAs), and biodegradability and recyclability testing in product development. LCAs are a good tool to support businesses in sustainability communication.

INNOVATIVE CLIMATE-POSITIVE PRODUCTS



Our biochemicals refinery under construction in Leuna, Germany, will enable a switch from fossil raw materials to wood-based alternatives in textiles, plastics, PET bottles, packaging and pharma. We introduced UPM BioPura™, renewable monoethylene glycols (bMEG) produced from carbon-neutral feedstocks.

We are in the basic engineering phase of a next-generation biofuels biorefinery. This biorefinery would produce high-quality renewable fuels,

including sustainable jet fuel. The products would significantly reduce the carbon footprint of road transport and aviation, as well as replace fossil raw materials for chemicals and plastic with alternatives.

We are examining new ways to utilise renewable fibre-based materials for textiles, nonwovens, hygiene products, labels and flexible packaging for example. We also look into opportunities provided by green hydrogen and biogenic CO₂.

EXPANDING R&D INFRASTRUCTURE



UPM's four Biofore Base research centres accelerate the development of bio-based products. The new Leuna Biofore Base in Germany works in connection with the upcoming biochemicals refinery and specialises in developing new molecular bioproducts. The centres focus on research, piloting and analytics enabling seamless collaboration with customers, value chain partners and research organisations such as universities. They work closely with UPM's mills, businesses and business-specific research centres in various countries.

UPM's first forestry research centre specialising in eucalyptus plantations began operations in Paysandú, Uruguay (page 41). The centre's research work is mainly focused on developing genetic materials with high productivity, optimal wood quality and tolerance to the pests and diseases that can affect plantations. The new centre contains state-of-the-art laboratories and equipment, as well as specific greenhouses and nurseries for various research and development purposes.

DEVELOPING R&D COMPETENCES



R&D supports our growth and responsibility targets globally and enhances technology-triggered business opportunities and protects performance in existing businesses. The strong focus is on the growth businesses and close collaboration with customers and production.

We continuously develop our competences for the future needs of our businesses. Competence development is essential for the entire organisation, including both technical capabilities and ways of

working. We focused especially on our digital and data and chemistry capabilities. We also started an apprenticeship training to educate new laboratory technicians and piloting plant operators for our growing needs in these areas. In addition to internal competence development, we collaborate with universities and vocational schools to enhance mutual learning, for example through the Aalto International Talent mentoring programme.

VALUE FROM RESPONSIBILITY

Creating value for society, both as a responsible company and through our renewable and sustainable solutions, is an integral part of our strategy.

Our Biofore strategy guides us in achieving our responsibility targets for 2030 and in contributing to the UN Sustainable Development Goals (SDGs). We are continuing our co-operation with the UN Global Compact (UNGC). In 2022, we joined the UNGC's Living Wage Think Lab. A living wage is an essential component of decent work, contributing directly to several SDG's.

We have also connected our sustainability performance to our financing. Our revolving credit facility is linked to our long-term biodiversity and climate targets, and we have issued three green bonds since 2020.

Since January 2022, responsibility-related measures have been included in UPM's management remuneration. The distinct responsibility measures comprise the reduction of fossil CO₂ emissions from UPM's on-site combustion and purchased energy, the achievement of a net positive impact on biodiversity in the UPM's own forests in Finland and the achievement of gender pay equity globally. These measures account for 20% of all performance measures.

Maximising the positive impact of our forestry operations

In March 2022, we launched the UPM Forest Action programme, which will run until 2030. The global programme steers our wood sourcing operations and covers our own forests in Finland and the USA, as well as our plantations in Uruguay.

The programme goes beyond current standard requirements and takes a holistic view of the impact of forestry, combining measures that cover five key areas: climate, biodiversity, soil, water and societal contribution.

Biodiversity as a new focus area

According to the UN, biodiversity is de-

IMPACT

- Renewable raw materials and recyclable products advance the transformation to a circular bioeconomy
- Our solutions respond to global challenges, such as climate change and resource scarcity

TARGETS

- Create value for our stakeholders
- Wide set of 2030 responsibility targets

OUR WAY

- We respect 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
- Our purpose, values, UPM Code of Conduct, and UPM Supplier and Third-Party Code provide a solid foundation for decision-making, management and operations
- Responsibility is managed by the Board of Directors and the Group Executive Team, as well as by businesses and functions
- Responsible business conduct in all our operations

teriorating worldwide, and this decline is projected to worsen unless extensive action is taken. Our operations are widely linked with biodiversity. Our forestry operations, hydropower plants and production can have negative impacts on biodiversity, which is why our approach covers a wide range of actions to mitigate possible negative impacts.

In 2022, we made biodiversity into a separate focus area under our 2030 responsibility targets. The new focus area will cover current and new targets and actions on enhancing biodiversity in forests, plantations, stream waters and other operating environments.

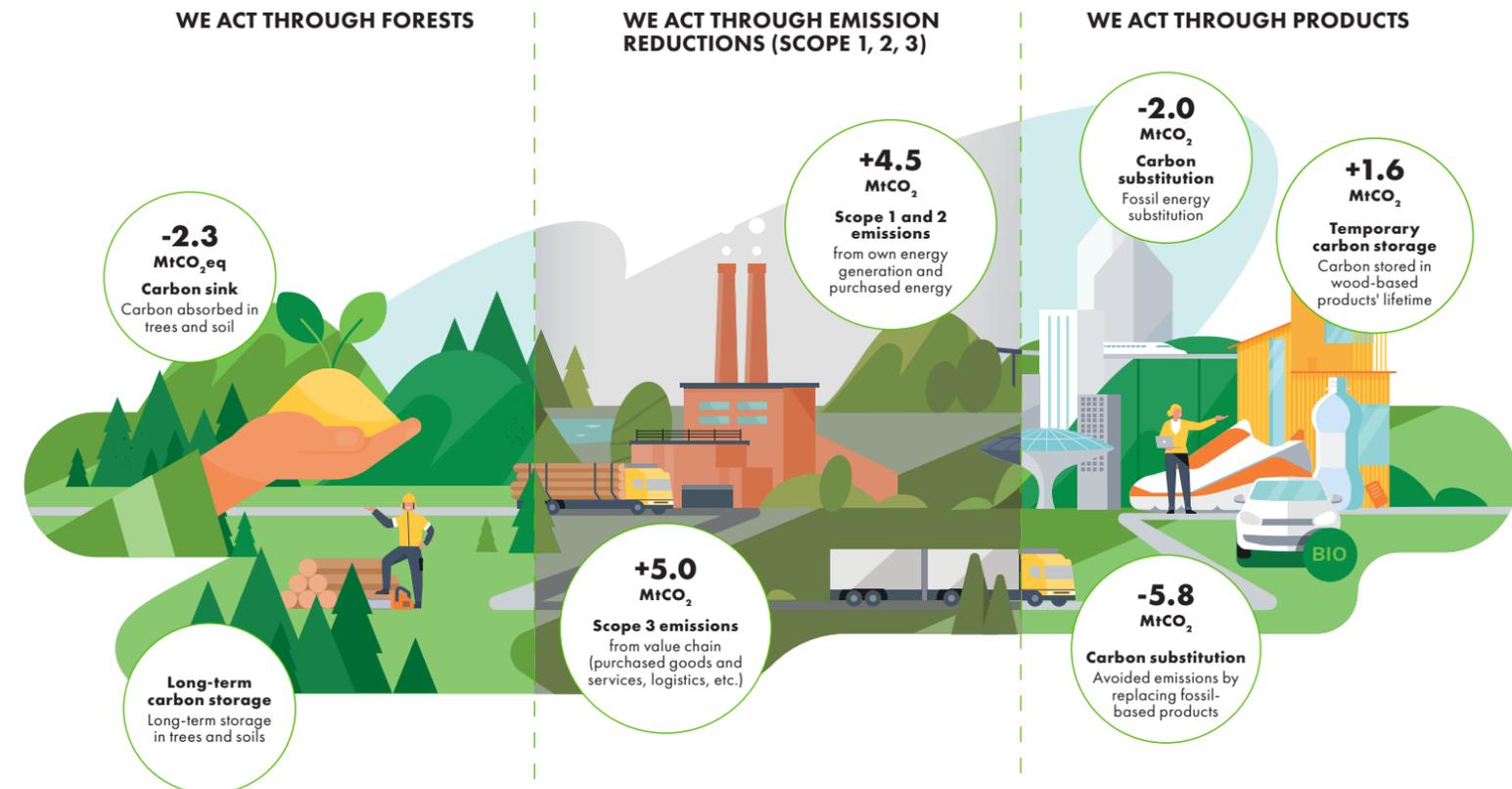
We also joined the Science Based Targets Network (SBTN) Corporate Engagement Program to participate in the development and testing of tools, methodology and guidance for setting science-based targets for the preservation of nature.

Implementing renewed social responsibility targets

All our activities on social responsibility are founded on the principle of respect for human rights. In 2021, we strengthened our social responsibility targets and the work to promote those continued in 2022. We carried out two company-wide reviews on our fair rewarding practices including gender pay equity and living wages and implemented pay adjustments to close identified pay gaps.

Both reviews were verified by a third party. We were also listed in the Bloomberg Gender-Equality index for 2023 for the 5th time in a row. Our community engagement focused on local activities and dialogue in Uruguay and providing aid to Ukraine under the Biofore Share and Care programme.

TOWARDS NET-ZERO EMISSIONS



We are committed to the UN's Business Ambition for 1.5°C in a promise to pursue science-based measures to limit global temperature rise. As a signatory of The Climate Pledge, we are also committed to achieve net-zero annual carbon emissions by 2040. We act through climate-positive forestry, reducing emissions and innovating products.

In 2022, we created a global, internal guideline to manage climate claims at UPM. The guideline is complemented by practical instructions and case examples on how to address climate related issues in communications and marketing in a credible manner. The package is supported by an online training and a dedicated Climate Glossary.

- › Our 2030 responsibility targets and how we did in 2022 on pages 30-31
- › Our responsible way of operating on pages 58-99
- › Climate-positive forestry on page 82
- › Enhancing biodiversity on page 84
- › Development of Scope 1–3 emissions on pages 86-89
- › Committed to compliance on page 74

In spring 2022, we finalised the study on climate-related substitution and carbon storage effects of our products with the Finnish Environment Institute SYKE and the German IFEU. Based on the study we calculated our overall product-related impacts, including temporary carbon storage and substitution effects. The illustration above describes the situation in 2022.

In autumn 2022, we joined the pilot by the GHG Protocol to test and give feedback to the Land Sector and Removals Guidance before its finalisation. As an outcome, we already discovered valuable insights about the challenging role of biogenic carbon removals and emissions in the carbon accounting.

All these activities will contribute to our work towards UPM's net-zero emission approach.

- › Embedding human rights in everything we do on page 72
- › Examples of responsibility in different sections of the report
- › Our Green Bond Report is available at www.upm.com/investors/upm-as-an-investment/debt
- › www.upm.com/responsibility

OUR RESPONSIBILITY TARGETS FOR 2030

Focus area	Key performance indicator	2030 target	2022 result
ECONOMIC			
Profit Creating value to shareholders	<ul style="list-style-type: none"> Comparable EBIT Comparable ROE Net debt/EBITDA 	<ul style="list-style-type: none"> Comparable EBIT growth through focused top-line growth and margin expansion (continuous) 10% (continuous) 2 times or less (continuous) 	<ul style="list-style-type: none"> 42% increase to EUR 2,096 million (1,471 million) 14.0% (11.7%) 0.94 times (0.35)
Governance Ensuring accountability and compliance	<ul style="list-style-type: none"> Participation in UPM Code of Conduct training 	<ul style="list-style-type: none"> 100% (continuous) 	<ul style="list-style-type: none"> 97% (98%) of active employees completed the new training for the updated Code of Conduct since September 2022.
Responsible sourcing Adding value through responsible business practices	<ul style="list-style-type: none"> UPM spend covered by UPM Supplier and Third-Party Code UPM raw material spend covered by UPM Supplier and Third-Party Code¹⁾ Supplier auditing based on systematic risk assessment practices CO₂ emissions from materials and logistics (Scope 3), compared to 2018 	<ul style="list-style-type: none"> 80% (continuous) 100% Continuous -30% 	<ul style="list-style-type: none"> 88% (86%) 96% (96%) 121 (124) supplier audits based on identified risks. 360 (300) contractor reviews with focus on working conditions Close co-operation with suppliers to develop CO₂ emissions reporting
ENVIRONMENTAL			
Forestry Ensuring sustainable land use	<ul style="list-style-type: none"> Climate-positive land use in UPM's own and leased forests Share of certified fibre²⁾ 	<ul style="list-style-type: none"> Forests as carbon sinks (continuous) 100% 	<ul style="list-style-type: none"> Five-year annual average carbon sink was approx. 2.3 mt (3.8 mt) of CO₂equivalents 86% (84%)
Biodiversity Enhancing biodiversity	<ul style="list-style-type: none"> Positive impact on forest biodiversity and developing a monitoring system⁴⁾ Obstacle-free streams⁵⁾ 	<ul style="list-style-type: none"> Positive development (continuous) 500 km 	<ul style="list-style-type: none"> Overall positive development measured in Finland and in Uruguay 174 km reached
Climate Creating climate solutions and working towards carbon neutrality	<ul style="list-style-type: none"> Fossil CO₂ emissions from UPM's on-site combustion and purchased energy (Scope 1 and 2), compared to 2015 Coal and peat usage in on-site energy generation Annual energy efficiency improvement Share of renewable fuels Acidifying flue gases (NO_x/SO_x) for a UPM average product, compared to 2015 	<ul style="list-style-type: none"> -65% 0 1% (continuous) 70% (continuous) -20% 	<ul style="list-style-type: none"> -34% compared to 2015 and -11% compared to 2021 3% increase compared to 2021 Not achieved 65% (70%) -28% (-27%)
Water Using water responsibly	<ul style="list-style-type: none"> Chemical oxygen demand (COD) for a UPM average product, compared to 2008³⁾ Wastewater volume for a UPM average product, compared to 2008³⁾ Nutrients used at effluent treatment from recycled sources³⁾ 	<ul style="list-style-type: none"> -40% -30% 100% 	<ul style="list-style-type: none"> -39% (-38%) -13% (-18%) 33% (35%)
Waste Promoting material efficiency and circular bioeconomy – reduce, reuse, recycle and recover	<ul style="list-style-type: none"> Process waste sent to landfills or to incineration without energy recovery 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 40% decrease compared to 2021, 90% (89%) of UPM's process waste recovered or recycled
Product stewardship Taking care of the entire lifecycle	<ul style="list-style-type: none"> Climate-positive product portfolio Development of new products and services with contribution to the SDGs Share of applicable products eligible for ecolabelling out of UPM sales 	<ul style="list-style-type: none"> Continuous Continuous 100% 	<ul style="list-style-type: none"> Scientific study on substitution and storage effect finalised Implementation of sustainable product design concept started 87% (84%)

¹⁾ Covers all raw material spend including wood and wood-based biomass sourcing and excluding energy

²⁾ Forest management certification

³⁾ Relevant for pulp and paper production

⁴⁾ Covers UPM's own forests in Finland and UPM's land in Uruguay

⁵⁾ Relevant for Finland

Responsibility focus area	Key performance indicator	2030 target	2022 result
SOCIAL			
Continuous learning and development Enabling continuous professional development for high performance, growth and future employability	<ul style="list-style-type: none"> Goal setting discussions are held and development plans are created for employees Employee perception of good opportunities to learn and grow 	<ul style="list-style-type: none"> 100% completion rate Clearly above benchmark 	<ul style="list-style-type: none"> 83% (88%) of employees completed individual goal setting or annual discussion, 58% (70%) of employees had a development plan documented In the Employee Engagement Survey average score of 64 (62). Below global average benchmark by 8 points.
Responsible leadership Emphasising value-based and inspiring leadership and integrity	<ul style="list-style-type: none"> Employee engagement 	<ul style="list-style-type: none"> Clearly above benchmark 	<ul style="list-style-type: none"> In the Employee Engagement Survey average score of 70 (68). Below global average benchmark by 5 points.
Diversity and inclusion Developing an organisational culture and workplace to ensure a diverse and inclusive working environment for business success	<ul style="list-style-type: none"> Employees' sense of belonging Continuous improvement in female representation in professional and managerial roles. Developing leadership and decision-making capabilities with increased diversity Diversity and inclusion initiative 	<ul style="list-style-type: none"> Among the top 10% of benchmark companies 40% female representation Continuous 	<ul style="list-style-type: none"> In the Employee Engagement Survey average score of 68 (67). Below top 10% benchmark companies by 12 points. 31.4% (30.7%) Dialogue continued on developing inclusive behaviours and a learning on LGBTQ+ inclusive workplace launched. A gender pay equity review process implemented.
Fair rewarding Ensuring fair, equitable and competitive rewarding for all employees	<ul style="list-style-type: none"> Employees' pay meeting at least local living wage: implementing a yearly review Gender pay equity for all employees: implementing a yearly review process to identify and close unexplained pay gaps 	<ul style="list-style-type: none"> Continuous Continuous 	<ul style="list-style-type: none"> Company-wide review done and pay adjustments implemented to close identified pay gaps related to local living wage Company-wide review done and pay adjustments implemented to close identified, statistically significant and unexplained gaps related to gender
Safe and healthy working environment Ensuring the safety and health of our employees, contractors and the local communities close to our operations	<ul style="list-style-type: none"> Fatalities or serious accidents in UPM operations Total recordable injury frequency (TRIF), including contractors Process safety integrated in safety management Employees' sense of worklife balance Absenteeism rate 	<ul style="list-style-type: none"> 0 (continuous) <2 All sites and businesses Among the top 10% of benchmark companies <2% 	<ul style="list-style-type: none"> 3 (0) fatal accidents, 5 (3) serious accidents TRIF 6.4 (6.3) for UPM workforce and 5.9 (7.2) including contractors Process safety standard published In the Employee Engagement Survey average score of 70 (70). Below top 10% benchmark companies by 7 points. 4.5% (4.1%)
Community involvement Ensuring local commitment and positive impact on communities	<ul style="list-style-type: none"> Assessment of quality of community relationships and define measures at relevant sites Long-term initiative(s) that impact their mill communities defined in line with the Biofore Share and Care programme 	<ul style="list-style-type: none"> Continuous All businesses (continuous) 	<ul style="list-style-type: none"> Community engagement model redefined and piloted in Uruguay Focus on providing aid for people suffering from the war in Ukraine

The Biofore strategy guides us in achieving our responsibility targets for 2030 and contributes positively to achieving the UN Sustainable Development Goals (SDGs). We have selected six goals and, thereunder, 12 targets that are the most relevant for us based on where we can have the greatest effect, either by minimising our negative impacts or by increasing our positive impacts on people, societies and the environment. There are others that are also relevant to us, but to a lesser extent.



Goal 6: Clean water and sanitation (Target: 6.3)



Goal 7: Affordable and clean energy (Targets: 7.2 and 7.3)



Goal 8: Decent work and economic growth (Targets: 8.2, 8.5 and 8.8)



Goal 12: Responsible consumption and production (Targets: 12.2, 12.4 and 12.5)



Goal 13: Climate action (Target: 13.1)



Goal 15: Life on land (Targets: 15.2 and 15.5)

RISKS AND OPPORTUNITIES

The operating environment exposes UPM to a number of risks and opportunities. Many of them arise from general political and economic activity and global megatrends.

- Risks in the report of Board of Directors on page 132
- Sensitivity to carbon pricing is presented on page 140
- Main earnings sensitivities are presented on page 173
- UPM's cost structure is presented on page 174
- Main currency exposures are presented on page 205

CYCLICAL AND COMPETITIVE BUSINESS ENVIRONMENT



UPM's current product offering competes in markets where there are competing alternatives for customers and where the shifts in supply and demand continuously influence prices. Changes in production capacity, supply chain shifts, new product or raw material development, and competitor and consumer behaviour may impact the price levels for our products and cause demand fluctuations. Rapid acceleration in digitalisation and e-commerce may expedite the decline in demand for graphic papers and simultaneously increase demand for sustainable packaging products.

Management: Industry-leading balance sheet. Continuous improvement in competitiveness, resource efficiency and customer offering. Responsible operations. Business portfolio development.

Opportunity: Growing need and consumer preference for renewable and recyclable solutions create business opportunities and drive demand growth.

GEOPOLITICAL AND ECONOMIC UNCERTAINTY



Russia's war in Ukraine and the resulting economic sanctions, soaring inflation and interest rates, energy crisis in Europe, geoeconomic rivalry between the US and China, as well as political uncertainties in several countries continue to cause uncertainty in trade policies, economic growth, rule of law and challenge competitiveness and predictability for companies with international value chains and operations in several countries. The testing relationships between businesses, governments and society, and the rapid COVID policy change in China may stress the economic and political environment and cause local challenges to our operations or influence demand or input costs for our products.

Management: Monitoring through international trade associations. Compliance. Continuous improvement in competitiveness. Disciplined planning and selection of investments. Business portfolio development.

Opportunity: Diverse business portfolio, geographical presence and responsible business practices may present opportunities for supply chain optimisation or strategic opportunities (incl. M&A) in an economic downturn.

CLIMATE CHANGE



The transition to a low-carbon economy can cause policy changes and shifts in market preferences, standards, and technologies, which in turn may result in changes to cost structures or the commercial opportunities of biomass and change the competitiveness of products, raw materials, industries, and countries. The physical impacts of climate change include more frequent and severe extreme weather conditions, which can increase droughts, floods and forest fires and cause uncertainties in business operations. Damage caused by insects and tree diseases can become increasingly common.

Management: Long-term targets and science-based measures to mitigate global warming through sustainable forestry, emissions reductions and innovating novel products. Enhancing biodiversity.

Opportunity: Transition opportunities include those driven by resource efficiency and the development of new technologies, emission-free electricity, products and services that could bring new markets, customers, sources of funding and competitive advantage for us. Longer forest growing season in northern hemisphere.

CHANGES IN POLICIES, LEGISLATION AND STAKEHOLDER EXPECTATIONS



The rising concern of the cost of living crisis and the strain on natural ecosystems have intensified expectations for companies to deliver economic, social and environmental benefits and complement the actions of governments. Changes in regulation, taxation or subsidies could have an effect on our performance, competitiveness and the costs and availability of raw materials. Unpredictable and rapid changes in EU policies or local legislation may occur as a response to the war in Ukraine. Environmental regulations may continue to become more stringent. As policies, legislation or stakeholder expectations, or the application of them, change, additional costs in complying with more stringent requirements may be imposed on us.

Management: Responsible operations in the value chain enhance the ability to operate and influence long-term business success, including environmental management systems, sustainable forestry and compliance.

Opportunity: Creating value for society, as a company and through our renewable and responsible solutions, is an integral part of our strategy. The bioeconomy offers new opportunities for value creation and business growth.

EXECUTION OF STRATEGIC INVESTMENT PROJECTS



We invest in selective strategic projects to enable profitable growth. Investment projects are often large and may take several years to complete. They may also involve strategic, technical and operational risks. Our large pulp mill project in Uruguay consists of several subprojects. The biochemical refinery project in Germany involves new technology and opens new markets for us. The OL3 power plant project may impact energy costs or the fair value of our energy shareholdings. The COVID-19 pandemic and the required additional health and safety measures, Russia's war in Ukraine as well as bottlenecks in the global logistics and supply chains have added new challenges to large investment projects.

Management: Stringent and continuous operational planning, steering and supervision, quality control, input procurement, scheduling as well as resource and cost monitoring. Environmental, health, safety and social impact assessments and protocols. Stakeholder engagement.

Opportunity: Carefully selected and implemented growth projects improve our earnings and returns and change the positioning of the company.

INFORMATION TECHNOLOGY AVAILABILITY AND INCREASING CYBERCRIME ACTIVITY



Our business operations depend on the availability of supporting information systems and network services. Unplanned interruptions in critical information system services can cause disruptions to the continuity of operations. The information systems may be exposed to a cyber-intrusion that could cause leakage of sensitive information, violation of data privacy regulations, theft of intellectual property, production outages or damage to reputation.

Management: We systematically maintain and further develop our measures for cybersecurity protection.

Opportunity: Sophisticated IT systems enable efficient operations and optimised performance, as well as new customer services and data security.

FINANCIAL RISKS



Financial risks include foreign exchange and interest rate fluctuations, challenges in refinancing, counterparty or credit risks or changes in taxes. Changes to the monetary policies of major central banks may significantly impact interest rates and consequently various currencies that directly or indirectly affect UPM. Our foreign exchange rate risk primarily relates to the US dollar, British pound sterling and Japanese yen.

Management: Continuous hedging of net currency exposure. Hedging the balance sheet. Continuous improvement in competitiveness. Disciplined planning and selection of investments. Business portfolio development.

Opportunity: Diverse business portfolio and geographical presence, focus on competitiveness and strong balance sheet may present strategic opportunities in a changing currency environment.

EMERGING RISKS

The recent global increase of crises may turn the focus of nations inwards and deteriorate international co-operation in trade or science critical to climate change mitigation or dealing with health crises.

Management and opportunity: Continuously engaging with universities, international co-operation, and public affairs and advocacy.

Growing public debt levels, while enabling fiscal support for the pandemic, the war in Ukraine, and the energy and food crisis, may not be sustainable under tighter economic conditions and a threat of a sovereign debt crisis may result.

Management and opportunity: Strong balance sheet. Continuously improving operating efficiency and diversification of sourcing and sales channels.

INPUT PRICE FLUCTUATIONS ON THE MAIN RAW MATERIALS AND SERVICES



The main production inputs required in the manufacturing of our products are wood, fibre, chemicals, energy and water. The prices for many of these inputs have been volatile in recent years and are expected to remain volatile for the foreseeable future. Russia's war in Ukraine, governmental protection, geoeconomic rivalry, climate change, environmental policies and COVID-19 related governmental actions or restrictions, could continue to cause further uncertainty around the prices and availability of these inputs as well as logistics services.

Management: Continuously improving resource efficiency and supply chain optimisation and diversification. New technologies. Long-term supply contracts and relying on alternative suppliers. Selected ownership of forest land and long-term forest management contracts.

Opportunity: Circular economy, continuous improvement in resource efficiency and supply resilience to withstand price fluctuations offer competitive advantage.

OPERATIONAL HAZARDS, HEALTH AND SAFETY ISSUES AND BUSINESS INTERRUPTION



Our operations are exposed to risks arising from the environment, fires, natural events, machinery breakdowns, site security and occupational health and safety. A major incident at a UPM site or at a critical part of the supply chain could cause a shutdown or curtail production. Any failure to maintain high levels of safety management could also result in physical injury, sickness or liability to employees, contractors or third parties.

Management: We systematically maintain and further develop our management, safety, security and loss prevention programmes as well as insurance protection and business continuity. Development of process safety.

Opportunity: Industry-leading environmental performance provides competitive advantage. Health and safety performance strengthens engagement, efficiency and productivity.

OUR BUSINESSES

BUSINESS AREAS

- UPM Fibres 36
- UPM Energy 42
- UPM Raflatac..... 44
- UPM Specialty Papers 46
- UPM Communication Papers 48
- UPM Plywood..... 50

OTHER OPERATIONS

- UPM Biorefining - UPM Biofuels 52
- UPM Biorefining - UPM Biochemicals 54
- UPM Biorefining - UPM Biomedicals 56
- UPM Biorefining - UPM Biocomposites 57

ACTIONS FOR THE FUTURE

A sense of belonging is an essential part of our employee experience and an important goal.



UPM FIBRES - PULP & TIMBER

FIBRES FOR THE FUTURE

The new pulp mill in Paso de los Toros will raise our position among the world's leading eucalyptus market pulp producers.

OUR DIRECTION

- **For pulp:** to grow with our customers. To provide the most versatile pulp range, advanced technical service and a reliable long-term supply with undisputed commitment to sustainability. To maintain cost-competitiveness through continuous operational improvement.
- **For timber:** to fulfil our ambitious vision of becoming a sawn timber industry leader in sustainability. To enhance profitability through efficient wood supply, fully integrated production and focused commercial strategy. To have a streamlined business model that secures our position in chosen key markets and end-use segments.

OUR STRENGTHS

- Broad selection of sustainably produced pulp grades for a wide range of end uses
- Modern, efficient pulp mills and expert teams committed to grow with customers
- Industry-leading forest management and sustainable eucalyptus plantations
- Fossil-free timber production with a dedicated global sales and logistics network

PLANNED ACTIONS FOR 2023

- Start-up of UPM Paso de los Toros pulp mill and commercialisation of new pulp volumes
- Continue to improve operational efficiency in Finnish pulp mills
- Continue to improve carbon footprint for sawn timber

KEY FIGURES 2022

<p>SALES EURm 2,704 -3%</p>	<p>COMPARABLE EBIT EURm 570 -27%</p>	<p>COMPARABLE ROCE % 9.7 -9pp</p>	<p>PERSONNEL on 31 Dec. 2,688</p>
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➤ More key figures on page 128

Pulp responds to the growing needs for responsible and renewable products as the global community works to reduce its dependence on fossil materials. We serve our customers with sustainably produced eucalyptus, birch and softwood pulp grades for a wide range of end uses such as tissue, specialty papers, graphic papers, board and packaging papers.

Our timber business offers certified sawn timber and serves our customers in the furniture, joinery, planing, construction and packaging sectors.

Good demand with record sales prices

In 2022, the good demand for tissue and hygiene products as well as for packaging materials supported global pulp demand. In China, pulp demand growth was solid as the COVID-19 lockdowns and containment measures continued to impact consumer spending. In Europe, the markets remained good. However, market demand started to slow down towards the end of the year and overseas competition returned after a two-year absence.

Pulp sales prices increased to record levels and peaked in the third quarter in both main markets. In the fourth quarter, pulp sales prices decreased.

In Finland, pulp operations were affected by a strike between January and April and by the scheduled maintenance shutdowns at UPM Kaukas and UPM Pietarsaari in the second quarter. In Uruguay, operations at the UPM Fray Bentos pulp mill were affected by a scheduled maintenance shutdown in the fourth quarter.



We offer the industry's most comprehensive product range of sustainably produced hardwood and softwood pulps.

CASE

MORE PULP FOR NEW MARKETS

The greater part of the 2.1 million tonnes of pulp from the UPM Paso de los Toros mill coming to the market will be delivered to existing customers in Asia and in Europe but also to new customers in North America. The demand for market pulp is estimated to increase by about 3% annually.

China remains the world's largest pulp market. Pulp demand and production volumes continue

to grow, although annual growth levels may not be those seen in recent decades. We are committed to the market and to our customers and want to co-operate with well-established producers.

Thanks to our new pulp capacity, we will also start selling pulp in North America, the world's third largest pulp market. The North American market considers eucalyptus fibre and its technical properties to be superior in various end uses.

During the construction of the mill we strengthened our global sales organisation and now have our own sales team for North America. We have gradually been developing the organisation and our competences, furthering digitalisation in logistics and technical customer service, for example.

➤ www.upmpulp.com

UPM Timber benefitted from strong construction activity in the first half of the year. Strong demand for sawn timber raised market prices to a record high level. In the second half of the year, the business was affected by a visible slowdown in the construction industry. Demand-supply balance weakened and market prices decreased from the peak level.

Meeting future demand

Long-term demand for pulp remains strong, driven by global megatrends. Global demand for pulp is expected to rise from 78 million tonnes to 108 million tonnes by 2035. Demand growth is strongest in China and the rest of Asia. The demand for pulp is being pushed up by the growing Asian middle class, increasing disposable incomes and a rise in the use of tissue and hygiene papers, paper packaging materials and specialty papers.

In 2022, construction of our new Paso de los Toros pulp mill in Uruguay progressed well in all main areas (page 40). Once fully commissioned, the new mill will put us among the world's leading eucalyptus pulp producers, serving global pulp markets with nearly 6 million tonnes of pulp.

In the sawn timber business, the demand for sustainable and climate-smart solutions for the construction and furniture industries is driving future growth. In 2022, we launched our new customer promise "Setting the Standard". It reflects our aim to become the benchmark in the industry by constantly developing our practices for sustainability, product quality and customer service (right).

The growth and competitiveness of our business is enabled by our strong position and sustainability across the forestry value chain in Finland and Uruguay (page 82). After the start of Russia's war in Ukraine, we suspended wood sourcing from Russia (page 83). We plan to achieve a new balance around the Baltic rim by increasing domestic sourcing and other imports while growing the share of softwood pulp in the production mix of our Finnish mills.

Making an impact

As a sustainable, renewable, recyclable and biodegradable raw material, pulp is at the core of the bioeconomy. We are actively

seeking new solutions for pulp-based packaging materials to replace plastic and to develop new uses for pulp by-products.

Pulp in Finland is produced in energy-efficient mills, which play an important role in the highly volatile energy markets. The steady flow of renewable electricity from the Finnish pulp mills helps to maintain the Finnish electrical system and ease energy shortages in the midst of the ongoing energy crisis (page 86).

The global construction industry is estimated to account for nearly 40% of energy-related CO₂ emissions. Replacing non-renewable raw materials in construction with responsibly produced timber is an effective solution for emissions reduction.

> www.upmpulp.com
> www.upmtimber.com



We turn sustainable, carbon-binding raw material into high-quality timber products.

CASE

UPM TIMBER'S NEW CUSTOMER PROMISE BENEFITS THE WHOLE VALUE CHAIN

As part of UPM Timber's new "Setting the Standard" customer promise, sustainable carbon-binding raw material is turned into high-quality timber products with the lowest carbon emissions in the industry. Key elements of the promise also include long-term partner-

ships with customers and reliability.

Our sawmills have operated using fossil-free electricity and heat since 2020. Now, we are aiming to decarbonise our internal logistics by 2025 with electrification and renewable fuels. An extensive energy efficiency programme has been implemented throughout our mills. In 2022, we also switched to recyclable packaging materials for our timber wrapping and set the goal of replacing all plastics used in packaging by 2030.

Our efforts to reduce emissions also benefit our customers. The more we reduce our emissions, the smaller the customer's product carbon footprint is. We are also looking for opportunities to jointly optimise our value chain to reduce emissions — by reviewing our logistics chain, for example.

> www.upmtimber.com

UPM PASO DE LOS TOROS WORLD-CLASS PULP MILL

In 2022, the UPM Paso de los Toros pulp mill project in Uruguay progressed smoothly towards completion. The new mill will grow the UPM Pulp capacity by more than 50%.



PROJECT IN SHORT

- Annual production capacity of 2.1 million tonnes of eucalyptus pulp
- Total investment estimate of USD 3.47 billion
- Investments in pulp terminal in the port of Montevideo and local facilities in Paso de los Toros
- Expected cash cost level of USD 280 per delivered tonne of pulp
- Competitive wood supply, best available techniques and efficient logistics
- Highest safety and sustainability standards
- Scheduled start-up by the end of Q1 2023

Our new pulp mill will be a significant step for UPM's future earnings and shareholder value. When operational, the UPM Paso de los Toros pulp mill, together with forestry, wood and pulp logistics and other related activities, will create around 10,000 new permanent jobs, of which 4,000 will be directly employed by UPM and its subcontractors. The mill is estimated to increase Uruguay's gross national product by about 2%.

Sustainable plantation management

Our eucalyptus plantations in Uruguay have established a new renewable raw material base for growing global fibre needs. Eucalyptus availability for the mill is secured through plantations owned or leased by UPM, as well as through wood sourcing agreements with private partners. Our plantation areas in Uruguay cover 504,773 hectares of land owned, leased or managed by UPM. All UPM's plantations are certified under the FSC™ and PEFC certification schemes or in the process of being certified, if the site is new.

Sustainably managed plantations are highly productive, acting as a carbon sink while taking care of biodiversity. We have created permanent carbon storage for 55 million tonnes of CO₂-equivalent in 30

years with no effect on food production or natural forests. Our biodiversity programme has been implemented at plantations since the early 1990s, and since 2020, we have used three key indicators to measure our impact on biodiversity:

1. Developing the nature conservation area network

2. Maintaining and enhancing endemic and threatened species populations in conservation areas

3. Controlling and decreasing the invasion of exotic woody species populations in conservation areas

1. Developing the nature conservation area network
2. Maintaining and enhancing endemic and threatened species populations in conservation areas
3. Controlling and decreasing the invasion of exotic woody species populations in conservation areas

PROJECT HIGHLIGHTS IN 2022

- The construction works at the mill site were completed in December and the project entered the final phase, focusing on the finalisation of the electrical, instrumental and automation works and commissioning
- The commissioning phase will run until the start-up of the mill in Q1 2023
- The pulp terminal in the port of Montevideo was completed and inaugurated, with port operations commencing in Q4 2022
- At its most intensive phase, more than 7,000 people worked at the various construction sites at the same time
- Work related to road infrastructure improvement in central and western Uruguay continued
- Work on the Central Railway by the Uruguayan government continued; the overall rail project is expected to be finalised in Q2 2023
- The state-of-the-art eucalyptus tree nursery in Sarandí del Yí began operations in Q1 2022
- The first forestry research centre specialising in eucalyptus plantations in Uruguay was inaugurated in Q2 2022 (right)
- Preparing commercial readiness continued in all main markets

Uruguay's native forests are all protected. The country is located within a temperate climate zone so there are no rain forests. The Forestry Act sets strict rules for plantation design and structure. This includes location, tree types and identifying suitable forestry soils for plantation development, as well as safe zones around roads, native forests and waterways.

Forestry has created important employment and entrepreneurial opportunities in rural areas. External contractors are responsible for all planting and logistics operations. UPM's forestry value chain employs some 7,000 people directly. Forestry involves a higher proportion of female workers than traditional agricultural activities – in the tree nurseries, around 50% of the workers are women. UPM has three nurseries to provide over 40 million eucalyptus seedlings for plantations per year.

➤ www.upmpasodelostoros.com



CASE

NEW FORESTRY RESEARCH CENTRE IN URUGUAY

The time-consuming work needed to breed the best seedlings to create the high-quality trees requires considerable research and development expertise. UPM's first forestry research centre specialising in eucalyptus plantations began operations in Paysandú, Uruguay in 2022. At the centre, we can enhance the applied research that we have been conducting in Uruguay for over 30 years.

The centre's research work is mainly focused on developing genetic materials with high productivity, optimal wood quality and tolerance to the pests and diseases that can affect plantations. The new centre contains state-of-the-art laboratories and equipment, as well as specific greenhouses and nurseries for various research and development purposes.

Around 60 employees, including agronomists and experts in genetic improvement, health, forestry research and wood quality, work at the research centre. We have been promoting the research projects of post-graduate students in Uruguay for a number of years. With this centre, we can offer better facilities and opportunities to students and professors to develop their projects.

UPM ENERGY

TOWARDS AN ENERGY TRANSITION

Future electricity markets require flexibility and zero-carbon solutions.

OUR DIRECTION

- Profitable growth in zero-carbon electricity generation
- Embracing the decarbonisation of society
- Solutions for industrial energy excellence

OUR STRENGTHS

- Growing the zero-carbon electricity generation asset portfolio
- Strong track record in physical and financial electricity markets
- World-class expertise in the optimisation of industrial energy

PLANNED ACTIONS FOR 2023

- Manage remarkable portfolio growth with OL3 nuclear power plant unit
- Continue exploring UPM's opportunities in energy transformation
- New projects for the stream water programme



KEY FIGURES 2022

<p>SALES EURm 734 +40%</p>	<p>COMPARABLE EBIT EURm 381 +41%</p>	<p>COMPARABLE ROCE % 11.6 +0pp</p>	<p>PERSONNEL on 31 Dec. 79</p>
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> More key figures on page 128

UPM has a unique dual role in the electricity market: we consume a lot of electricity in our mills, but we also produce it both at the mills and in UPM Energy's energy assets.

We are a major player in the Nordic electricity market. We produce competitive, CO₂-free hydropower in our own plants and through shareholdings as well as nuclear power through shareholdings. UPM Energy's hydropower plants meet the growing demand for renewable energy. Hydropower offers rapid adjustment to an electricity system in which flexibility in other production units is decreasing and weather-dependent solar and wind power are becoming increasingly important. Flexible hydropower balances out the system in an increasingly volatile market, while nuclear

power ensures reliable baseload capacity for the system.

The electricity generated is sold to the Nordic Nord Pool power exchange. We trade directly in physical and financial power markets. We also provide optimisation and consumption flexibility services to industrial electricity users and other energy companies.

Market-oriented solutions are contributing to the transformation of the energy market, and new transmission connections will increasingly link the Nordic electricity market to the continental European market. Electrification will play an important role in moving society away from fossil-based energy sources. UPM Energy is in an excellent position in a changing

energy market with its CO₂-free electricity production.

Markets have become more volatile

In 2022, the price of electricity rose to a record level throughout Europe. Russia has tightened its grip on the natural gas pipelines, and Central Europe is considering how to replace natural gas as an energy source. The importing of Russian electricity to Finland ceased during the year. As a consequence of decreased Russian energy supply to Europe, electricity prices shot up in Europe.

UPM Energy benefitted significantly from higher electricity prices and succeeded in optimising production and creating value in a volatile market. Hydropower produc-

In 2023, we will grow our carbon free electricity generation by nearly 50%.

tion volumes reached a good level and the ramp-up of Olkiluoto 3 also provided additional nuclear capacity during the autumn.

We continued the extensive renovation and modernisation of the Kuusankoski hydropower plant. The phased project will be fully completed during the first quarter of 2023. The plant's average annual energy production is expected to increase from the current 180 GWh to 195 GWh.

Nuclear energy plays a key role in enabling a fossil-free society

We are responding to the growing need for carbon-dioxide free electricity as society electrifies and moves away from fossil fuels. The largest ongoing investment project is the finalisation and ramp-up of the Olkiluoto nuclear power plant unit 3 by Teollisuuden Voima (TVO). The Olkiluoto 3 project was scheduled to start regular electricity

production in 2022 but due to issues that were detected during the testing phase, regular electricity production will start in April 2023.

UPM's share of the new unit's production will be approximately 500 MW generated through Pohjolan Voima's ownership. The Olkiluoto 3 will significantly increase the supply of CO₂-free electricity in Finland.

Restoration of two rapids re-opened routes for migratory fish

There are many unnecessary migratory barriers such as defunct dams in Finland, and by removing them, biodiversity can be enhanced.

In 2022, we completed two restoration projects, Sapsokoski and Arvajankoski rapids, as part of our stream water programme. In total, the restoration of these rapids freed up over 150 kilometres of routes for migratory fish. Restoration was carried out in co-operation with stakeholders and Arvajankoski also received funding from the Ministry of Agriculture and Forestry's Nousu programme.

> www.upmenergy.com

CASE

OFFERING FLEXIBILITY IN TIMES OF CRISIS

Electricity is a commodity that is difficult to store. Renewable wind power is only available when it is windy and solar power when it is sunny. But supply and demand of electricity need to be in balance at all times.

UPM Energy is the second largest electricity producer in Finland and UPM's mills also offer flexibility in electricity consumption. We contribute to the maintenance of the electricity system. We help when there is a risk of peaking prices or even shortages: either by reducing consumption or by increasing production through hydropower plants. Nuclear energy offers the base load for a stable electricity system when wind or solar power is not available.

Functioning electricity markets are dependent on the actions of market participants. Variation in prices is the incentive for market participants to balance supply and demand in all situations. Stable markets and regulation lay the ground for future investments in electricity supply. In times of crises, the impacts of any political market interventions should be thoroughly assessed to avoid an imbalance of electricity supply and demand.

UPM RAFLATAC

PROFITABLE GROWTH

We deliver long-term value in the attractive packaging materials value chain with our high-value added and sustainable label solutions.

OUR DIRECTION

- Profitable organic growth, potentially complemented by acquisitions
- Expanding customer reach through commercial excellence
- Widening product portfolio with high-value-added and sustainable products
- Improving productivity in everything we do

OUR STRENGTHS

- Safe and sustainable products for various end-uses
- Global customer reach, delivery network and efficient supply chain
- Global-scale R&D and technical expertise
- Modern, strategically well located production assets

PLANNED ACTIONS FOR 2023

- Continue with the Germany-based AMC integration
- Capture growth opportunities and expand product portfolio to new applications
- Continue new concepts in sustainability and the circular bioeconomy
- Continue to improve productivity



KEY FIGURES 2022



> More key figures on page 129

We create value to customers and brand owners with innovative and sustainable self-adhesive paper and film products for a wide variety of end uses. Our product and service offering, reliable supply chain and our wide distribution network enable printers and converters to serve their customers effectively.

Significant progress in our strategy
We have made significant progress in executing our growth strategy with a widening product portfolio and better customer reach. In May 2022, we announced the acquisition of Germany-based AMC AG (Advanced Methods of Coating). The acquisition was completed in September and UPM Raflatac now has two new production

sites in Kaltenkirchen and Hagenow in Northern Germany. The acquisition provides synergies, strengthens our position in Central Europe and expands our offering to new self-adhesive product lines such as graphics solutions and removable self-adhesive products.

To meet the growing customer needs in North America, we announced the opening of a new state-of-the-art terminal in Vancouver, Washington, due to open in early 2023. The new facility strengthens our terminal network and expands our slitting and distribution capacity in the western USA.

We launched the world's first certified label material under the Zero Plastic Oceans certifications program to fight ocean-bound plastic pollution: the Ocean Action label.

These labels are made from chemically recycled ocean bound plastic using a mass balance approach. This new innovative label material is made possible through close collaboration with multiple partners in the product's value chain. (right)

We extended our CarbonNeutral® product portfolio and our whole Linerless product range is now certified as a CarbonNeutral® product. The certification is issued by Natural Capital Partners in accordance with The CarbonNeutral Protocol.

Solid long-term growth
Customer demand for labels was solid in Q1-Q3 2022. Despite the high short-term volatility that challenged the industry in 2022, our business performed well. In the

We expand our product portfolio to new end uses.

first half of 2022, our business was impacted by a labour market strike and other supply chain disruptions which limited the supply of raw materials. Russia's war in Ukraine and our decision to suspend deliveries to Russia reduced our overall customer base.

In addition, variable cost inflation continued throughout the year and variable costs rose to historically high levels. We protected our profitability by taking firm actions to mitigate these cost increases and supply tightness.

Towards the end of 2022 the labelling value chain experienced significant destocking especially in Europe, which decreased deliveries and impacted our result in Q4 2022. However, the demand for UPM Raflatac's end-use portfolio is relatively resilient and the long-term outlook for self-adhesive label materials remains positive.

The first label materials company beyond fossils

We continued our efforts to be the world's first label materials company beyond fossils. In practice, this means increasing the use of certified fibres and traceability of biobased materials, fostering reduction of greenhouse gas emissions, and developing innovative products and services that help brand owners to take a positive climate action. Our ambition is to design better solutions for the packaging industry through the smart use of materials and enhanced recyclability and reuse. The recognitions received during 2022 proved that we are moving forward to reach this target.

The regulatory landscape around packaging and packaging waste continues to develop globally and will impact future product and service design and the demand for sustainable label solutions. In addition to developing our product portfolio, we continue to develop our service offering like RafCycle™ recycling service and Label Life lifecycle assessment. RafCycle now has over 400 partners globally.

> www.upmraflatac.com

CASE

TURNING OCEAN BOUND PLASTIC INTO LABELS

UPM Raflatac is the first label manufacturer to adopt ocean bound plastics as raw materials for labels. The new Ocean Action label material is made from chemically recycled ocean bound plastic waste on a mass balance basis. This waste has been mainly collected from the coastal regions of South-East Asia.

Today, only about 10% of plastic waste is recycled, and it is estimated that 80% of plastic marine litter comes from ocean bound plastic waste from areas up to 50 km inland from shores and at risk of ending up in the ocean.

Through its development work, UPM has collaborated with multiple partners in the product's value chain. Ocean Bound Plastic and ISCC PLUS certifications have been used to ensure credibility.

The label material is intended for cosmetics, home and personal care, beverages and food packaging. It has proved very interesting to brand owners who are committed to using recycled materials in their packaging. For example, the houseware producer Orthex has started using this label material in their product line, which makes use of old fishing nets and ropes.

UPM SPECIALTY PAPERS

CO-CREATING A SUSTAINABLE FUTURE

We innovate renewable and recyclable products that help minimise our dependency on fossil-based materials.

OUR DIRECTION

- A global leader in labelling materials
- The preferred partner for fine paper in the Asia-Pacific region
- Growth in selected flexible packaging applications

OUR STRENGTHS

- Sustainable alternatives to fossil-based materials
- Extensive expertise in technically demanding papers
- Recognised by customers as a reliable partner
- The ability to serve customers globally
- The ability to develop and co-create industrial scale innovation

PLANNED ACTIONS FOR 2023

- Continue commercialisation of new barrier papers
- Scaling up co-creation projects
- Preparation for future growth

KEY FIGURES 2022



➤ More key figures on page 129

We respond to the world's need for sustainable products with high-performance fossil-free materials for labelling and packaging. We also produce sustainable office and graphic papers available in the Asia-Pacific region. Our global team and mills in China, Finland and Germany serve customers reliably worldwide.

Delivering profitable growth

In 2022, we achieved a good performance despite historically high raw materials prices, the Finnish Paper Union's strike at the beginning of the year and a volatile

market environment. Delivery volume was below the previous year, mainly due to the strike. Demand for label papers, release base papers and packaging papers was good in all markets and sales prices increased compared to the previous year. Market demand became softer towards the end of the year. For fine paper, demand was impacted by the COVID-19 lockdowns and containment measures in China. Fine paper sales prices increased compared to the previous year.

Our global mill network and good preparation allowed us to maintain some deliveries despite the strike in Finland between

January and April. In China, we managed the COVID-19 situation very well with special arrangements and were able to run our operations with minimal interruption.

New business and co-creation

Megatrends support our business and healthy market demand is expected to continue.

We actively assess alternatives for future growth in specialty grades. Our recent investment in UPM Nordland Papier in Germany has already advanced our growth strategy.



CASE

CO-CREATING SUSTAINABLE PACKAGING FOR THE FUTURE

UPM Specialty Papers, BOBST, a Swiss leader in packaging and label machinery, and Michelman, a high-barrier coatings manufacturer, have collaboratively developed a ground-breaking packaging solution for foods with a long shelf life. The longer the shelf life, the higher the demands on the packaging to protect the food from moisture and oxygen.

The end result of a BOBST-led project was a new high-barrier packaging innovation that can be recycled in established fibre recycling streams. The new solution provides an alternative to the multi-layered plastic food packaging that is difficult to recycle.

UPM's paper provided a strong foundation for the development work. The paper is suitable for further processing as it is very smooth, dense and strong, while its structure enabled a lightweight and uniform coating.

The collaboration is a great example of the kind of packaging innovation the world needs right now. This new innovation enables brand owners to reduce the amount of fossil-based or non-recyclable materials and increase the use of renewable materials in their packaging.

We bring new, sustainable fibre-based packaging solutions to the market.

In addition, regulatory developments, particularly in Europe, and consumer demand are increasingly pushing for sustainable and easy-to-recycle packaging. In response to this, brand owners and the packaging value chain have set ambitious targets for recyclable packaging made of renewable materials, for which fibre-based packaging is an excellent choice.

In line with our strategy, we have been working to commercialise and co-create packaging papers that help brand owners achieve these targets. We have launched new products such as a new high-barrier packaging solution for food products with a long shelf-life (right) and heat-sealable barrier papers (page 96).

Continuous improvement in sustainability

We have been working intensively and innovatively to improve our energy efficiency globally and to reduce our emissions. A new combined heat and power (CHP) plant at UPM Nordland Papier in Germany and investments in electrical boilers at UPM Tervasaari and UPM Jämsänkoski in Finland are good examples of how we have improved efficiency, whilst also securing energy availability. (page 87)

In China, our consistent track record for being a leader in sustainability was further strengthened. We were recognised as a 2022 Green Development Leading Company in Jiangsu Province for being a leader in producer responsibility and preventing pollution. The UPM Changshu mill was awarded the 2022 Suzhou Quality Award for its excellent quality management model and high-quality product performance management.

➤ www.upmspecialtypapers.com

UPM COMMUNICATION PAPERS

CREATING LASTING VALUE

We believe in the future of print and its effective coexistence with digital media.

OUR DIRECTION

- Maintain a profitable leading market position while managing capacity
- Increase operational efficiency and ensure the quality of our products
- Operational and supply chain optimisation and digital solutions at the customer interface
- Secure the future relevance of the paper business, focusing on sustainability

OUR STRENGTHS

- Long-term commitment to graphic papers and the reliability of our supply
- The high quality of our products and services
- Extensive, thoroughly optimised production
- Responsible operations and traceable supply chain

PLANNED ACTIONS FOR 2023

- Capture growth opportunities and develop product portfolio and service offering
- Continue developing new concepts in sustainability and the circular bioeconomy
- Continue to improve productivity

KEY FIGURES 2022

SALES

EURm

4,866

+36%

COMPARABLE EBIT

EURm

619

(2021: EURm -79)

COMPARABLE ROCE

%

41.1

+47pp

PERSONNEL

on 31 Dec.

6,289

> More key figures on page 130

As the world's leading producer of graphic papers, we offer an extensive product range of papers for advertising and publishing, as well as for home and office use. We work constantly to deliver sustainable solutions for our customers, whether by optimising our production processes, using renewable energy in our mills or ensuring the protection of biodiversity in our forests.

High profitability and improved agility

In 2022, we achieved strong earnings in a highly uncertain market environment. Input costs increased significantly, particularly in energy and fibres, but they were successfully offset by higher sales prices and active margin management. Market prices for all paper grades were at a record high both in Europe and in the US.

Demand for graphic papers in Europe

was 12% lower than in 2021. Still, the demand and supply balance in Europe remained tight and we were able to strengthen our position with strategic customers.

We continued to focus on efficiency and cost competitiveness. Between January and April, our operations were affected by the negotiations on collective labour agreements and the related strike in Finland. The first-ever business-specific collective labour agreement with the Paperworkers' Union was signed in April, enabling improvements both in productivity and competitiveness.

We also adopted a more agile operating model and were active in energy optimisation and consumption. We focused on adjusting supply and demand to achieve a balance that benefited paper production and UPM's climate commitment (page 86).

Competitiveness and collaboration

Our strategic focus is on safeguarding long-term competitiveness and good cash flow. In Q2, we signed an agreement to sell the UPM Steyrermühl site to the HEINZEL GROUP. The mill has approximately 400 employees, an annual newsprint capacity of 320,000 tonnes and an annual timber capacity of 370,000 cubic metres. Newsprint production at the mill will stop at the end of 2023.

To further improve our competitiveness, we plan to optimise resource efficiency and reduce waste even more by making the best possible use of materials during production and after use. For example, residues from the papermaking process will be used for energy generation in our mills. In 2023, we will continue developing new concepts to increase energy flexibility and the use of byproducts.



CASE

NEW PAPER GRADES FOR DIGITAL PRINTING

We are collaborating with printing machine manufacturer Hewlett Packard to pilot a new generation of digital printing papers. The new coated paper grades are well suited for books, catalogues, direct marketing and magazines.

The digital printing market is growing rapidly, although its share of the global graphic paper market is still only 4%. The strengths of digital printing methods are cost-effective print runs at lower volumes, on-demand printing and the potential for personalised content.

The new papers benefit customers through increased production efficiency, outstanding print quality, time and cost savings, and ease of use. Lower ink consumption and waste reduction also support our customers' sustainability goals.

UPM and HP formed a partnership in 2019 to bring these products to market. After intense R&D work and test runs, production has now started at the UPM Kaukas paper mill in Finland.

> www.hp.com

We are a long-term committed paper partner – reliable and sustainable.

Collaboration with our customers on sustainability remained high on our agenda as print publications are at the core of the circular economy and fit well into customers' strategy. We also continued to strengthen our customer focus by monitoring how printing methods are evolving. In 2022, we piloted a new generation of digital printing papers as digital printing technologies are increasingly being adopted in conventional printing (on the right).

Commitment across the value chain

We contribute significantly to UPM's long-term targets to mitigate climate change

and our focus is on reducing our emissions across the entire value chain. Our defined three focus areas for the climate change mitigation are: climate-positive forestry, green energy production and supporting energy transition systems.

We support sustainable forestry practices through forest certification, biodiversity programmes and control over the supply chain. (pages 82-85)

Our significant investments in a combined heat and power plant and a biomass-fired boiler at two of our German mill sites are significant steps to reduce UPM's CO₂ emissions (page 87). Our long-term wind power purchase agreement will also lead to further reduction from 2023 onwards. By tapping into a wide range of energy sources, we're helping society to move towards an energy system that reduces carbon emissions, while increasing grid stability and our business viability.

> www.upmpaper.com

UPM PLYWOOD

BUILDING BETTER

WISA plywood is a climate smart material that acts as a carbon storage throughout its lifetime with a very low lifecycle contribution to fossil CO₂ emissions.

OUR DIRECTION

- Profitable growth by providing a superior customer experience and operational excellence
- A strengthened market position by increasing value and service packages
- Evaluating future growth opportunities

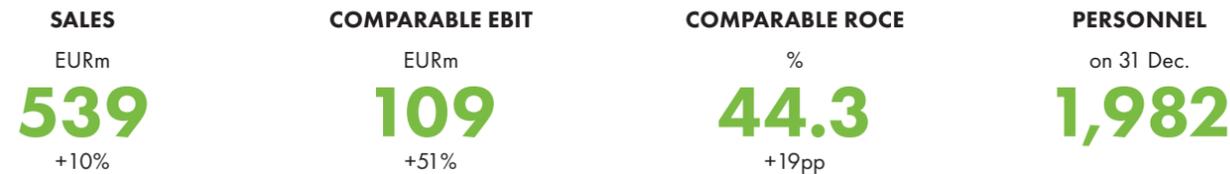
OUR STRENGTHS

- End use, market and customer insight
- Leader in supply reliability with consistent fit to purpose quality
- Leading supplier in demanding end-use segments
- Strongest brand on the market: WISA®

PLANNED ACTIONS FOR 2023

- EUR 10 million investment to Joensuu mill to be completed and ramped-up
- Enhance customer experience via new digital services
- Continue the measures to increase the production volume of birch plywood
- Manage cost and availability in supply chain

KEY FIGURES 2022



➤ More key figures on page 130

We manufacture high-quality WISA® plywood and veneer products for construction, vehicle flooring, LNG shipbuilding, parquet manufacturing and other industrial applications. Plywood can replace many substances that are made from non-renewable raw materials, such as aluminium, concrete and steel. Our products act as an efficient carbon storage and are made from responsibly sourced wood.

Strong earnings amid disrupted market conditions

UPM Plywood achieved record earnings in 2022. In the first half the year, the market demand for spruce plywood was strong, driven by the building and construction industry. Demand for birch plywood was also strong in panel trading and industrial

applications. In the second half of the year, demand for spruce plywood softened due to lower activity in the building and construction industry. Demand for birch plywood remained strong and the European market was extremely tight due to restricted plywood supply from Russia.

Sales prices reached record highs and increased throughout the year in all end-use areas. Costs increased throughout 2022, especially for chemicals, logistics, wood and energy.

In response to Russia's war in Ukraine, we suspended operations at the UPM Chudovo plywood mill, which has an annual production capacity of 155,000 cubic metres. To mitigate the impact of the suspended operations, we were able to increase the production in our Finnish

plywood mills. UPM Plywood's new three-year collective labour agreement with the Industrial Union made it possible to run Finnish plywood mills seven days a week as of the beginning of 2022.

Meeting future needs

Demand for sustainable raw materials is expected to increase in the coming years. In construction, many European markets are turning more to wood-based materials to offer this choice to customers and consumers.

Our products store carbon and can replace fossil-based materials in construction, transport and other applications. At the end of their lifecycle, they also replace fossil fuels when disposed of by burning.

Regulation is also driving demand for wood-based materials. For example, the



CASE

A RELIABLE CUSTOMER PROMISE FOR GROWTH

UPM Plywood's outstanding success in the plywood market relies on uncompromisingly meeting customer promises. Russia's war in Ukraine led to the suspension of operations at the UPM Chudovo plywood mill.

The economic sanctions imposed on Russia have closed off the European market to Russian plywood manufacturers. This has led to an unprecedented supply-demand imbalance in the birch plywood market and made meeting customer needs a challenge.

We have mitigated for the loss of production at Chudovo by increasing operation rates at our Finnish mills. This has been possible thanks to a new collective labour agreement that came in to force at the beginning of the year. We have also actively collaborated with customers to find industrial applications where spruce plywood could replace birch plywood.

Comprehensive and flexible customer management, and production reorganisation, have been keys to our success. We are able to deliver on both commercial and sustainability-related customer promises, even in exceptional market conditions, which is reflected in high customer loyalty and satisfaction.

We deliver responsibility to our customers through our products and services.

French government published plans for a sustainability law that will ensure all new public buildings are built from at least 50% timber or other natural materials. Many markets, especially in the Nordic countries, are already keen to make the most of all that structural construction plywood can offer.

Built on our customer promise

Responsibility is an underlying part of our products and operations and is guided daily by our "Responsibility Made Easy" customer promise. Our low carbon footprint aligns with our continuous efforts to offer our customers clear sustainability benefits, which help them to meet their own sustainability targets.

We are constantly improving efficiency and reducing emissions from our mills and the supply chain. Our goal is to reduce emission by more than 65% by 2030 including 1% annual energy efficiency improvement of our production. The heat required in the production process is almost exclusively produced by bioenergy. The by-products of the process, such as bark and fuel chips, are used as biofuel at the mills' bio-boiler plants that generate heat the mills require.

To further improve the carbon footprint for the product range, we started to use the lignin-based WISA® BioBond bonding technology in all our WISA spruce plywood products in 2022. The technology has already been used in UPM's birch plywood since 2017. WISA BioBond is UPM Plywood's proprietary bonding technology in which at least 50% of fossil-based phenol in the glue is replaced with lignin, wood's own natural bonding agent.

➤ www.wisaplywood.com

UPM BIOREFINING - UPM BIOFUELS

GREEN GROWTH WITH ADVANCED BIOFUELS

Our products meet the need to reduce transport emissions and find renewable alternatives to the production of various fossil-based plastics.

OUR DIRECTION

- Unique, sustainable, advanced biofuels and biomaterials in numerous markets and segments
- Expanding the biofuels business

OUR STRENGTHS

- Established producer of renewable diesel and naphtha
- Sustainable bio-based alternative to fossil feedstock in the petrochemical industry
- Advanced biofuels belong to the highest sustainability class of biofuels

PLANNED ACTIONS FOR 2023

- Continue the basic engineering of a next-generation biorefinery in Rotterdam
- Assess the growth opportunities and new sustainable feedstocks

Our renewable and sustainable biofuels mitigate climate change. Advanced biofuels reduce greenhouse gas emissions by more than 80% compared to fossil fuels. We also offer wood-based naphtha that can be used as a low-emission biocomponent for gasoline or for replacing fossil-based raw materials in the petrochemical industry to produce multiple types of plastic. Our strategy based on proprietary technology and UPM's integrated feedstocks, supplying highly sustainable renewable fuels, is truly delivering results.

UPM's operations are based on a circular bioeconomy and the raw material, crude tall oil (CTO), is a residue from pulp production. Our biofuels production does not compete with the production of food in land-use or raw materials. Our products offer customers ways to replace fossil raw materials and reduce their carbon footprint. They meet the most comprehensive sustainability criteria and are awarded certifications including the Roundtable on Sustainable Biomaterials (RSB) certification and the International Sustainability & Carbon Certification (ISCC) sustainability standards. Our main markets are in Northern and Central Europe.

Market dynamics reshaped

The biofuels market remained strong in 2022, with increased tightness in Europe. Markets were supported by the supply chain impacts of Russia's war in Ukraine as well as continuous demand growth for biofuels driven by climate targets. The year was marked by a dedicated and compulsory mandate for advanced biofuels based on EU-wide rules, which became a reality and was transposed into national legislation. Market prices were at record high level.

In the normal operating months, we achieved record production and profitability in the strong markets for renewable fuels. In January-May, biofuels operations were affected by the negotiations on collective labour agreements and the related strike in Finland. In the second half of the year, production rates of the UPM Lappeenranta Biorefinery stood at very high levels.

Input costs increased during 2022, as market volatility and uncertainty impacted natural gas and electricity prices. In addition, crude tall oil (CTO) markets became tighter due to increased replacement of fossil fuels, harder competition and loss of Russian volumes.

Focus on growth

Global demand for biofuels is expected to grow substantially by 2030 driven by blending mandates. UPM aims to become a major European player in the production of advanced biofuels, which play an important role in UPM's Biofore strategy (page 20).

We are currently investigating growth opportunities in biofuels and biochemical feedstock. In January 2021, we began conducting the commercial and basic engineering study for a next generation biorefinery in Rotterdam, in the Netherlands.

The planned biorefinery would improve the long-term competitiveness and sustainability performance of UPM Biofuels. We are studying several residue-based feedstocks and technologies for the most valuable end-uses in the transport and petrochemical sectors. The use of green hydrogen is also being studied as part of the technology concept. The planned biorefinery would enhance material efficiency with solutions based on the use of waste and residues without compromising global food production or biodiversity.



CASE

EUROPE NEEDS MORE ADVANCED BIOFUELS

A recent report has revealed that around 30% of fossil-derived fuels used for transportation in the EU could be replaced with advanced biofuels by 2050.

Globally, transport accounts for about a quarter of CO₂ emissions. Heavy-duty transport, shipping and aviation will soon require new solutions and will need to act rapidly. While electrification progresses, the legacy fleet of internal combustion engines will outnumber the electric fleet for a long time to come.

In terms of meeting the 55% emission reduction target of the EU climate plan, advanced biofuels offer a fast-track solution to significantly reduce emissions. UPM's planned biorefinery would help Europe meet this target and reduce dependence on non-EU energy sources.

The total annual use of biofuels in Europe is currently between 17 and 20 million tonnes. All sustainable solutions must be used to increase Europe's energy security and reduce the use fossil fuels. Geopolitical challenges make this more important than ever.

We fight climate change with advanced biofuels and bio-based raw materials.

Towards climate neutrality

Fossil substitution plays a key role in enabling the EU's green growth and climate neutrality by 2050. UPM's biofuels facilitate the EU's targets for greenhouse gas (GHG) reduction and our biofuels belong to the most demanding sustainability category of the Renewable Energy Directive (REDII). Products eligible for this category are of premium quality and

can be classified as advanced biofuels. Our UPM Lappeenranta Biorefinery, with the annual capacity of 130,000 tonnes, is the largest advanced biofuels-only biorefinery in the EU.

Predictable regulation is one of the key elements that enables green growth investments. We support increased emission reduction targets in transport and the increased mandate for advanced biofuels. The EU's target to speed up the deployment of other low-emission alternative energies for transport, such as electricity, hydrogen and renewable synthetic fuels, opens interesting growth opportunities for UPM with well-fitting know-how and assets.

> www.upmbiofuels.com

UPM BIOREFINING - UPM BIOCHEMICALS

RAMPING UP NEW BUSINESS

The world's first industrial-scale wood-based biochemicals biorefinery in Leuna is rapidly taking shape, while a robust business platform is almost complete and new customer partnerships confirm a promising commercial future.

OUR DIRECTION

- Increase expectations for sustainable solutions and create conditions for market progress
- Establish biochemicals as a widely accepted category of renewable solutions
- Consolidate understanding of the concept of climate-positive forestry and achieve buy-in to its execution
- Open new end-use markets for UPM, with large growth potential for the future
- Successfully launch the business to scale

OUR STRENGTHS

- Unique and innovative technology concept
- Sustainable, certified feedstock
- High quality products for plastics, textile and rubber applications, as well as industrial liquids, with a sustainability that sets us apart
- Very positive brand image for many consumer products in packaging, automotive, textiles and other industrial segments
- A robust, scalable business platform

PLANNED ACTIONS FOR 2023

- Site completion and gradual start-up of the biorefinery
- Accelerate commercial partnerships in readiness for production
- Continue to optimise the performance of the product portfolio, further reducing its carbon footprint as we strive for carbon negative
- Strengthen the sourcing network for our sustainably sourced feedstock

Manufacturers in multiple sectors must reduce their carbon footprints urgently. UPM's new generation of biochemicals made from hardwood, which is sourced from sustainably managed forests, will enable brands to redefine their emission reduction, significantly reduce their Scope 3 emissions and switch out of fossil-based chemical feedstocks for good. Our innovative biochemicals will show the way for the transition of the chemicals industry towards a circular bioeconomy.

The EUR 750 million investment at Leuna is rapidly taking shape, in anticipation for start-up by the end of 2023. The biorefinery will be the first industrial-scale facility of its type ever built, requiring precision in every detail of planning and construction.

The biorefinery will convert solid wood into next generation biochemicals: bio-monoethylene glycol (BioMEG) and renewable functional fillers. In addition, the biorefinery will produce bio-monopropylene glycols (BioMPG) and industrial sugars.

After confirming in January 2022 that the completion of the biorefinery would be delayed, we successfully navigated the challenges stemming from the global supply chain disruptions.

Construction at the biorefinery-site in Leuna continues with visible progress. Major overground structures have been emerging. The erection of pipe racks, casings, tanks and the substation buildings is progressing with good speed. Also, large parts of the reactors, furnaces and columns have been delivered and are stored on site.

Along with building the facility, we are preparing the business to become fully operational. We have hired and started training the operations personnel and established reliable supply chains.

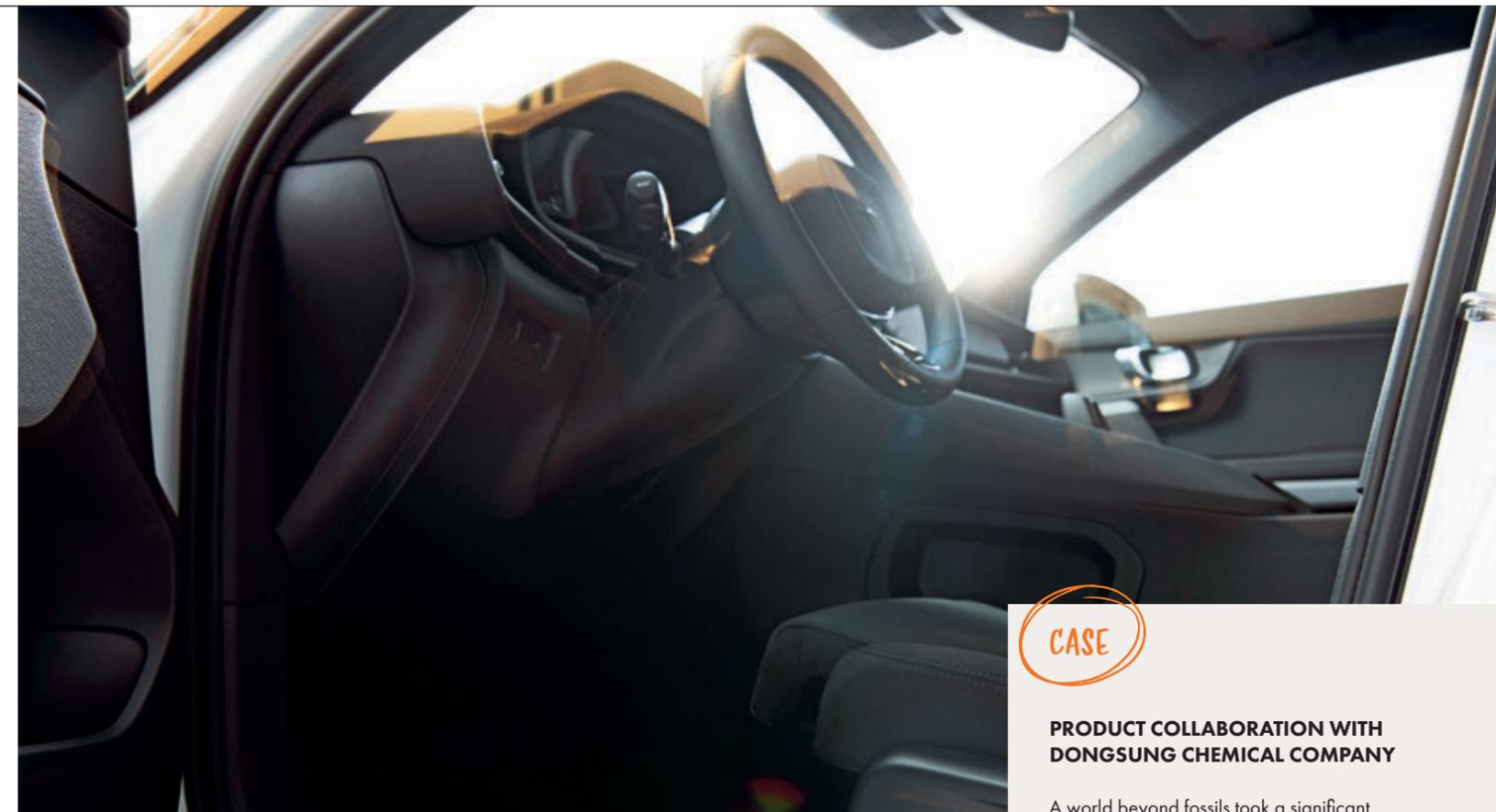
We have also extended our feedstock sourcing network, resulting in the first deliveries of wood on site in November. This has enabled us to begin testing our wood handling and processing operations. The networks we have built with partners in the forest value chain have helped us to address the benefits of wood use in wider policy discussions.

Commercialisation on the way

We took important steps to bring our products to global markets. We presented our lignin-based Renewable Functional Filler (RFF) solutions, UPM Biomotion™, at the world's biggest rubber industry trade fair (DKT IRC) in Nuremberg and further strengthened our distributor network.

We were ranked by the European Rubber Journal as the most important sustainability project in the elastomers and rubber industry. Our renewable monoethylene glycols (bMEG), UPM BioPura™, were shortlisted by Packaging Europe magazine as one of the standout innovations for its 2022 Sustainability Awards.

We also announced commercial partnerships for UPM BioPura that will transform the carbon footprint of value chains in different industries. For manufacturers like Dongsung Chemical (a supplier to global footwear brands) and Haertol (a leading engine and battery coolant producer), this is an opportunity to both advance their net zero commitments and achieve a competitive advantage in their



CASE

PRODUCT COLLABORATION WITH DONGSUNG CHEMICAL COMPANY

A world beyond fossils took a significant step forward in 2022, as we entered into commercial partnership with the South Korean company Dongsung Chemicals. Together, we are aiming to bring sustainable biochemicals to global markets.

The initial focus for Dongsung is to replace fossil-based mono-ethylene glycols, used to make shoe soles for global sports brands, with UPM BioPura™. For manufacturers like Dongsung, a leading Asian provider of polymers for the shoe industry, UPM's wood-based biochemicals present an opportunity to advance their net zero commitments and to achieve a competitive advantage.

Renewable materials in footwear are already being commercialised and demand will continue to increase further in the fashion and shoe industry. Whilst sports shoes are the first objective, UPM and Dongsung intend to extend their collaboration into other sectors, including automotive interior materials and adhesives. The rising demand of electric vehicles is driving a consumer expectation that, not only should it deliver zero emissions, but the whole vehicle should be made from environmentally sound materials.

➤ www.idongsung.com

Our innovative biochemicals lead the way in transforming the chemical industry.

global markets, where demand for sustainable products is increasing.

In 2022, we staffed our process and application development laboratories, ensuring high quality, continuous process optimisation and ongoing research and development activities around our portfolio of biochemicals.

Studying future applications

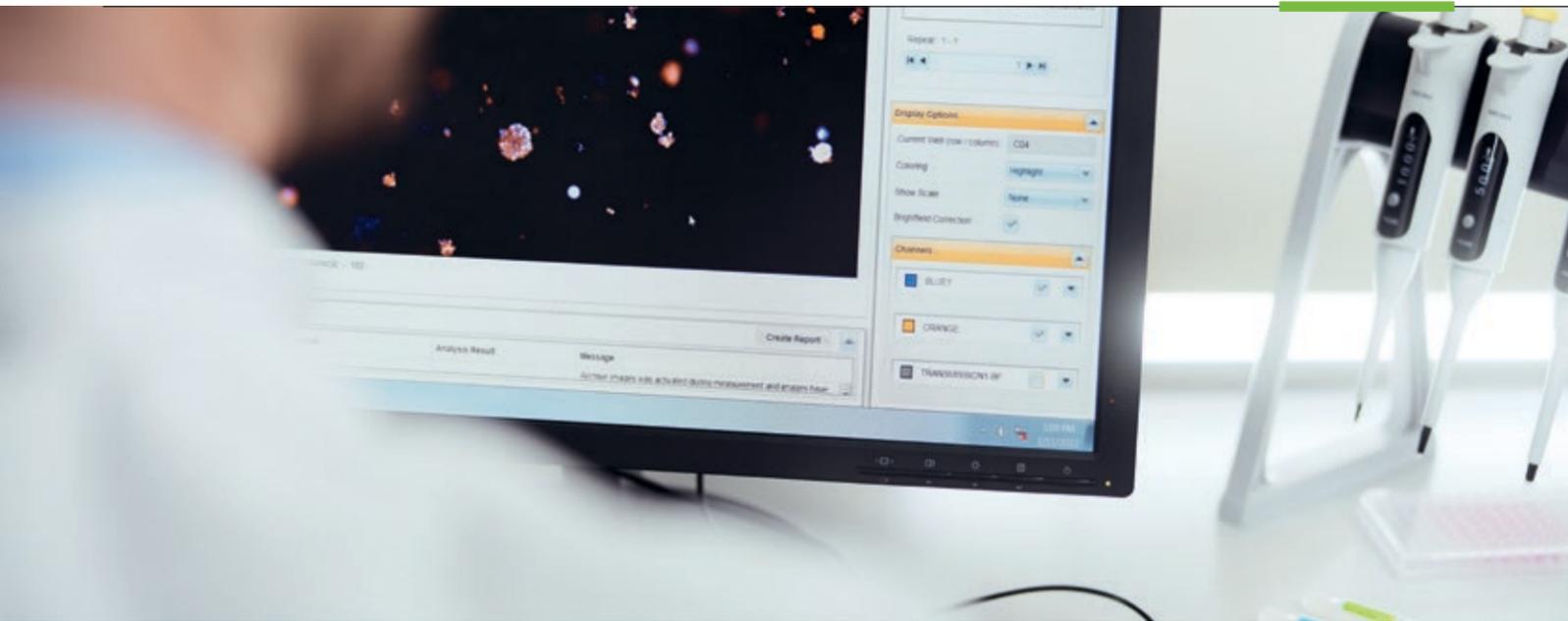
While fully focusing on completing the project and ramping up the business, we have also built the fundamentals for further growth in Biochemicals. We have brought together a team of experts to assess and study future ap-

plications for biochemicals. We are exploring opportunities to address needs in additional chemical value chains, utilising side-stream products or based on the technological platform we are now completing.

A heightened focus on reduced carbon emissions means the demand for renewable materials will continue to increase. We are actively working to optimise processes and material streams to further reduce emissions, seeking carbon neutrality - or even carbon negativity - of the products produced in our biorefinery.

The sustainable sourcing of biomass is a vital factor for us and our commercial partners. The wood used to produce UPM's renewable biochemicals is 100% certified and sourced from regional beechwood forests around Leuna, conserving biodiversity and natural ecosystems. All the wood used is fully traceable and supported by a verified third-party chain of custody.

➤ www.upmbiochemicals.com



UPM BIOREFINING - UPM BIOMEDICALS

ADVANCING INNOVATIONS

UPM Biomedicals is at the forefront of innovation and commercialisation, with a particular focus on life science and clinical applications.

PLANNED ACTIONS FOR 2023

- Compliance with the Medical Device Regulation (MDR) in the EU and alignment with the Food and Drug Administration (FDA) regulations in the USA
- Extend indication areas of FibDex® wound dressing
- Scale up and transfer the technology for cell-based liver models in pharma in collaboration with the Karolinska Institute, Sweden (two-year trial)

UPM Biomedicals develops and supplies innovative and sustainable wood-based biomedical products for medical and life science applications. The main component in our products is high-quality nanocellulose, refined from birch wood. All products are animal-free.

We actively collaborate with universities, research centres and key industrial partners in the fields of high-throughput drug screening, personalised medicine, cell therapies, 3D bioprinting, tissue engineering and advanced wound care. More than 520 patents and patent applications protect our existing and future products.

In life sciences, our main products are GrowDex®, a range of hydrogels for 3D cell culturing, and GrowDase™, an enzyme to release living cells from the gel. The nanocellulose ensures excellent compatibility with even the most demanding cells, such as stem cells and patient-derived cells.

In 2022, we completed a pilot study of GrowDex use in a cell-based model of a liver. Liver models are used in testing the toxicity of almost every new pharmaceutical candidate. We also opened UPM's own cell laboratory, where the first mini-livers and other mini-organs are currently grow-

ing, to support our customers and product development team.

GrowInk™ is a range of bioinks for 3D bioprinting, used in areas like cancer research, where models of tumours can be printed to test their response to different treatments. The ultimate goal is to print organs or tissues that could, in the future, be transplanted into patients. In 2022, we continued to supply nanocellulose to Cellink.

In the clinical field, many Finnish healthcare professionals and hospitals already use our CE-marked FibDex® wound dressings. The products are also being piloted in selected university hospitals in the Nordic countries and in Germany. In 2022, we launched a new clinical investigation for superficial dermal burns led by experienced plastic surgeons in the university hospitals of Uppsala and Linköping in Sweden.

> www.upmbiomedicals.com

UPM BIOREFINING - UPM BIOCOSMOS

THE BEST IN CLASS

UPM Biocomposites is creating circular economy solutions through the manufacture of innovative composite materials and decking products. The materials are based on our own R&D.

PLANNED ACTIONS FOR 2023

- Raise awareness of the unique UPM ProFi recycling and UPM Formi fossil substituting cases
- Continue to focus on effectiveness
- Grow with UPM Formi in chosen end-use areas
- Gain market share with UPM ProFi best-in-class decking solutions
- Continue actions to reduce our carbon footprint in business-related value chains

UPM ProFi utilises European post-consumer plastic waste and post-industrial label waste to manufacture high quality composite decking. The label production side streams come from UPM Raflatac and its customers, with the waste collected and delivered to Germany where the com-

posite decking is manufactured.

The UPM ProFi Piazza product range is made with up to 75% recycled materials and offers best-in-class performance. We are a member of the EU Circular Plastics Alliance, which aims to increase the EU market for recycled plastics to 10 million tonnes by 2025.

In 2022, the end of the COVID-19 pandemic lockdowns and the uncertainty surrounding construction, as well as continued consumer uncertainty, were reflected in UPM ProFi's sales. However, we managed to increase market shares in Central Europe, where we stand out thanks to the responsibility and recyclability of our locally produced products. The UPM ProFi Piazza product range was expanded.

UPM Formi creates and manufactures wood-based biocomposites, enabling a reduction in the carbon footprint of the end product by up to 80% when compared to

similar products made from fossil-based materials. The composite materials are suitable for various end uses, including kitchenware, personal care and acoustic devices. Products comply with food safety standards and other similar quality requirements.

Business growth continued in 2022 with our customers launching new products on the market, from storage boxes to design objects. Together with new and existing customers, we developed and piloted new end-use areas for the material. Commercial interest was reflected in the strong demand for almost 100% biobased UPM Formi EcoAce.

> www.upmprofi.com
> www.upmformi.com

OUR RESPONSIBLE WAY OF OPERATING

CREATING VALUE FOR PEOPLE AND SOCIETY

- Active dialogue with stakeholders 60
- Engaging employees 64
- Diverse and inclusive working culture 68
- Safety first 70
- Embedding human rights in everything we do 72
- Committed to compliance 74
- Ensuring a responsible supply chain 78
- Contributing to society through taxes 80

ACTIONS FOR ENVIRONMENT

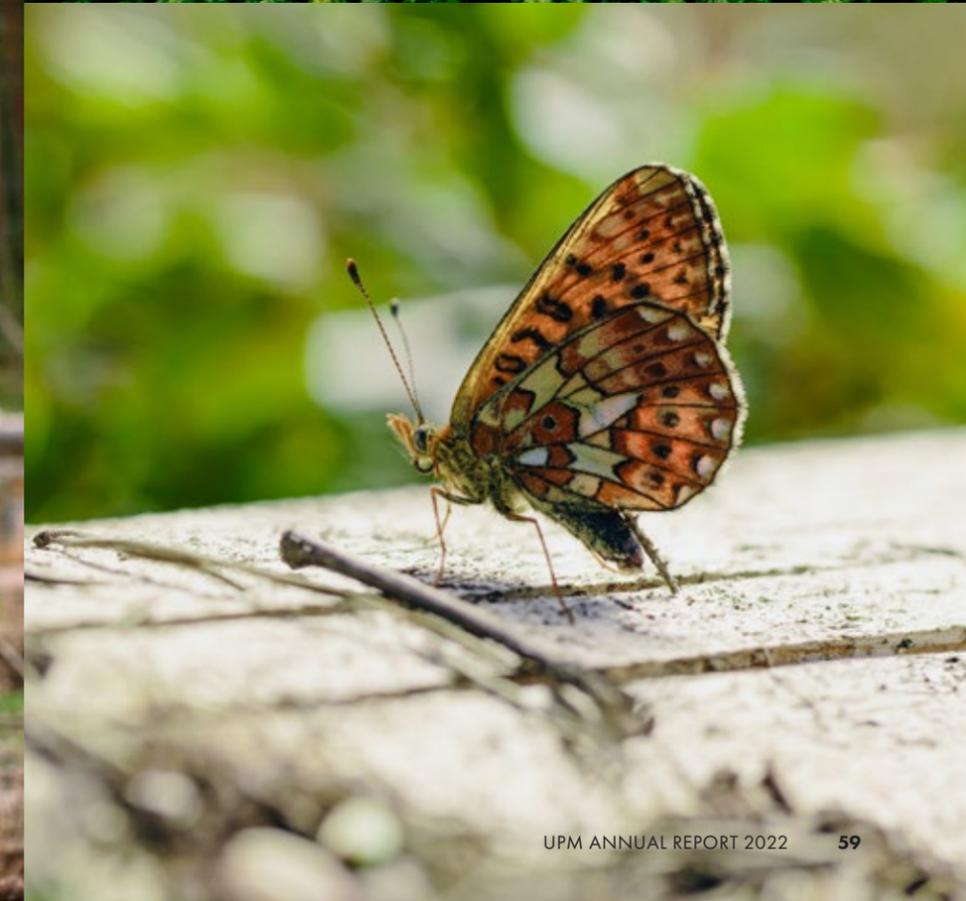
- Climate-positive forestry 82
- Enhancing biodiversity 84
- Taking climate action with energy 86
- Responsible water use 90
- Advancing a circular bioeconomy 92
- Sustainable product lifecycle 96

OUR SOCIETAL AND ENVIRONMENTAL IMPACTS

- 98

ACTIONS FOR THE FUTURE

We are actively developing new solutions to accelerate the transition to a circular bioeconomy.



CREATING VALUE FOR PEOPLE AND SOCIETY

ACTIVE DIALOGUE WITH STAKEHOLDERS

Understanding the views and expectations of our stakeholders plays a crucial role in the success of our company and the acceptability of our operations.

The impact of UPM's operations extends from the local level to wider society. We aim to provide a fact-based, balanced view of the economic, environmental and social aspects of our business activities. Active and open dialogue with our stakeholders provides valuable input for our development efforts.

Providing stakeholders with a clear picture of our future

Our goal is to provide our stakeholders with a clear picture of what our future course is, how we implement our Biofore strategy and how we create long-term value for our stakeholders. We disclose relevant and accurate information in accordance with market regulations.

Many stakeholder events were organised in 2022. Because many of our stakeholders view UPM primarily as

IMPACT

- Stakeholder engagement provides predictability and a competitive advantage
- Continuous dialogue improves the understanding of key risks, challenges and opportunities in the operating environment

TARGET

- We understand stakeholders' needs for information and expectations for UPM, and consider stakeholders in strategic development and decision-making processes

OUR WAY

- We engage in active dialogue with our stakeholders to discuss our operations and targets
- The UPM Code of Conduct sets the standards for responsible behaviour and collaboration
- Stakeholder engagement is measured by several indicators
- Stakeholder relations are coordinated globally at Group level, while businesses are responsible for continuous dialogue with customers and business partners, as well as the local communities

an economic operator, financial success, stability, good governance, future outlook and growth were the key themes

discussed. Numerous discussions were focused on forests and the current energy crisis in Europe.

new, we organised background briefings for several stakeholder groups, explaining UPM's thinking on the new way of negotiations. Representatives for the media, political parties, labour market organisations, think tanks and different corporations attended the briefings.

UPM Plywood and UPM Timber signed business-specific collective labour agreements with the Industrial Union in December 2021. UPM Communication Papers, UPM Specialty Papers, UPM Raflatac, UPM Pulp and UPM Biofuels reached

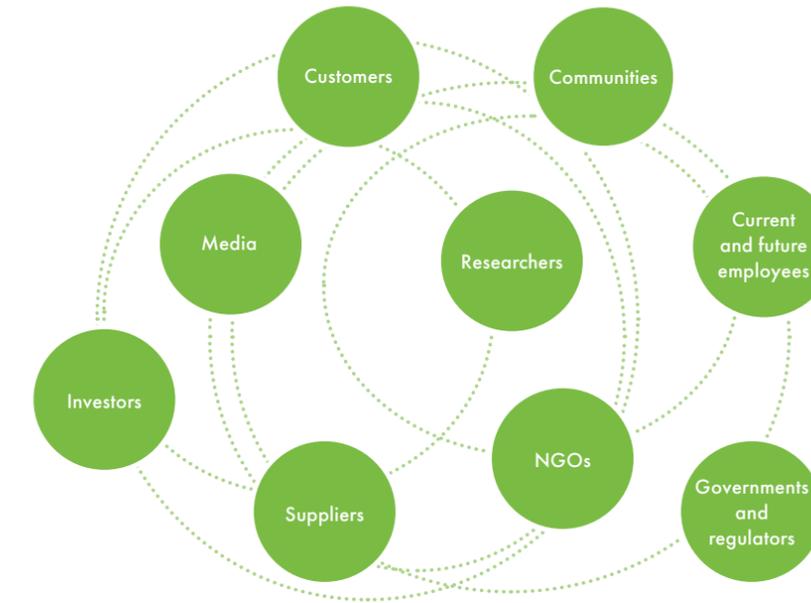
agreements with the Paperworkers' Union on 22 April 2022, after an almost four-month strike. The strike and the consecutive order backlog required intensive customer and supplier communications and co-operation during the spring.

We published all seven business-specific agreements on our website to increase transparency. We aim to be an attractive employer, providing competitive offerings for all employees.

> www.upm.com/responsibility

OUR MOST IMPORTANT STAKEHOLDERS

Our Biofore strategy forms the foundation of our stakeholder dialogue. The key focus areas and activities vary locally and according to stakeholder needs. Key stakeholders are defined on the basis of materiality: either UPM's operations have a significant impact on stakeholders or vice versa.



Stakeholder mapping, active dialogue and the systematic gathering of feedback play an essential role in our stakeholder relations' work. We analyse the feedback carefully to understand the expectations of our stakeholders. Then, we take these expectations into consideration during our development work and decision-making. We received approximately 300 (400) enquiries or concerns from the general public in 2022.

Every year, we conduct a materiality analysis (page 62) that highlights the topics UPM has a significant impact on or which have a significant impact on the company. The analysis is based on internal assessments as well as interests and concerns of stakeholders.

Green recovery high on the policy agenda

Through public affairs work, we aim to foster the necessary prerequisites for our op-

erations, particularly in Finland, Uruguay, Germany and China. Active influencing at the EU level is also important.

We co-operate with a number of trade associations, the most important being the Finnish Forest Industries Federation (FFIF) and the Confederation of European Paper Industries (CEPI). As we enter into new businesses, we also need to find new ways and forums for co-operation. For example, UPM is a founding member of the Advanced Biofuels Coalition in the EU and also a member of the European Chemical Industry Council (CEFIC).

For decision-makers and politicians, 2022 was challenging because of the Russia's war in Ukraine. The war has impacted especially on the supply and price of energy in Europe. Many political decisions have been taken under the context of RE-PowerEU and several temporary market measures have been considered. As UPM is an active energy market participant, both



CASE

MAKING YOUNG PEOPLES' VOICES HEARD

The three-year partnership between UPM and the Guides and Scouts of Finland created a dialogue around sustainability and climate. We want to contribute to the discussions and offer solutions as a response to young people's growing concerns about climate change and sustainable development.

The Erätauko dialogues provided a space for constructive dialogue on sustainable forests where young people's voices could be heard. At the Johtajatulet Leadership Seminar, Scouts engaged in a dialogue with Finland's leading decision-makers.

In the Climate Backpack project, social media influencers gathered young people's ideas on how everyone can contribute to a more sustainable future. The messages gathered during the project, including from websites and social media, were packed in a backpack which was handed over to Finland's Prime Minister in February.

The co-operation culminated in the Finnjamboree Kajo camp that took place in July in southern Finland, which attracted more than 120,000 visitors. Campers and visitors were able to learn about UPM's activities at the partner village and in recreational orienteering activities. UPM donated all the timber used in the camp.

> www.scouts.fi

CASE

THE NEW WAY FOR COLLECTIVE BARGAINING ATTRACTED INTEREST FROM STAKEHOLDERS

In 2022, the Finnish forest industry moved away from sector-specific to company-specific collective labour agreements. Our goal was to negotiate agreements that were specific to each business and thus improve the prerequisites for the development of the units.

As the set-up of negotiations was completely

as an energy intensive consumer and as an energy producer, we have been reminding decision-makers of the importance of functioning energy markets (pages 43 and 86).

Climate change mitigation and our commitment to the UN's 1.5-degree agenda continued to garner a lot of interest among our stakeholders. Discussions were carried out with environmental organisations, certification bodies, authorities and decision-makers. The climate impact on forests is linked to policies on land use, land-use change and forestry (LULUCF). We have highlighted the importance of sustainable forest management and manufacturing products from renewable raw materials that replace fossils as effective ways to mitigate climate change.

The EU's Fit for 55 package was published in 2021 and in 2022 both the European Parliament and the EU member

states have taken a position on several of the initiatives to update the EU climate and energy legislation so that it is in line with the EU's climate targets. The process for finalising the proposals in EU institutions is expected to continue also in 2023.

We actively promote the cost-competitive and consistent implementation of climate change policies. UPM calls for predictable regulations that enable green growth investments and further transformation beyond fossils. Therefore, EU policies must ensure sustainable forest use and the availability of wood as a key resource for the circular bioeconomy and green growth.

New Forest Action programme

In August, EcoVadis recognised UPM as being on a Platinum level based on the

company's sustainability performance. We received our all-time high EcoVadis score thanks to our renewed social responsibility agenda. In December, UPM was listed as the forest and paper industry leader in the Dow Jones European and World Sustainability Indices for 2022-2023. We continued active participation in the UN Global Compact initiatives and also chaired the Global Compact Finland Network.

We continued our co-operation with different stakeholders on responsibility issues on a voluntary basis, addressing themes such as ecolabels, fish migration, living wages, fair rewarding and nature conservation.

In March, we published a new Forest Action Programme, which will run until 2030. The global programme goes beyond current standard requirements and its measures have a positive impact on the

UPM'S MATERIALITY ANALYSIS 2022

A materiality analysis is carried out annually. The results highlight the topics UPM has a significant impact on or which have a significant impact on the company. The analysis covers both negative and positive as well as current and potential impacts on economy, environment and people, including impacts on their human rights.

Impacts are identified through internal assessments, audits and reviews, as well as by follow-up of interests and concerns of various stakeholder groups; communities, employees, NGOs, customers, suppliers, government and regulators, investors, researchers and media.

The significance of impacts is assessed by the severity and likelihood. Severity of the impact is determined based on its scale, scope and irremediability. After prioritising the impacts, the most significant ones are selected as material to UPM and then grouped into topics. This list (below) of material economic, environmental and social topics determines our responsibility-related focus areas and our reporting.

UPM MATERIAL TOPICS 2022



ECONOMIC AND GOVERNANCE

- Business ethics and values
- Competitiveness
- Regulatory environment
- Responsible sourcing



ENVIRONMENTAL

- Biodiversity
- Circular bioeconomy
- Climate change
- Product stewardship
- Responsible forestry



SOCIAL

- Decent work and fair rewarding
- Diversity and inclusion
- Employee engagement
- Health and safety
- Local engagement

fundamental aspects of sustainable forestry: climate, biodiversity, soil, water and societal contribution. As part of the programme, we collaborated with the Finnish Osprey Foundation and Vida Silvestre in Uruguay. (page 82)

We were an active international stakeholder member of the PEFC (Programme for the Endorsement of Forest Certification, PEFC/02-44-41) and participated in the development of the PEFC forest certification system, reflecting our aim to promote sustainable forest management globally. In Finland, we participated in updating the forest management standards in both the FSC™ (Forest Stewardship Council™, FSC N003385) and the PEFC schemes.

Responsibility issues were also raised in customer enquiries, with product safety, sustainable forest management and climate change as key themes. Globally, we continued active co-operation with local permit authorities.

Emphasis on local communities and impacts

Our mills in Europe, China and Uruguay have the potential to be some of the biggest employers and taxpayers in the locations where they operate. In Uruguay, we have been building a second pulp mill since 2019. Stakeholder engagement around the project has been active (page 73).

We aim for engagement and open dialogue with local communities. For example, the UPM Fray Bentos mill arranges regular

mill visits, and our Kymi, Kaukas and Steyrermühl mills have their own forums for local dialogue. We also co-operate with local schools and education networks, organising events and excursions, for example. In addition, it is crucial for us to engage in active dialogue with local forest owners, neighbours of harvesting sites and other individuals involved in forest management.

Our EMAS (EU Eco-Management and Audit Scheme) statements cover societal impacts in addition to environmental performance, providing more detailed information on the local impacts of our pulp and paper mills. The EMAS statements also include information on co-operation with local stakeholders, such as sponsorship of local organisations or co-operation with educational institutions. These mill-specific statements complement UPM's corporate EMAS reporting. They are compiled annually and published on the UPM website www.upm.com/responsibility.

The year 2022 marked the 150th anniversary of the beginning of UPM on the riverbanks in Kuusankoski, Valkeakoski, Pori and Verla in Finland. The anniversary celebrations for employees and stakeholders included visits to museum exhibitions, cultural events, seminars and publishing history books of the mills.

The Biofore Share and Care programme continues

UPM's Biofore Share and Care programme demonstrates our dedication to responsi-

bility and local community involvement through sponsorships, donations and employee voluntary work. We share our resources with causes that respect sustainable development and work in line with our purpose and values.

In 2022, we provided aid to Ukraine through various organisations and arranged a global fundraising campaign for our employees together with the Red Cross (below).

We continued to support projects with a focus on reading and learning, Beyond Fossils initiatives and community engagement. For example, we collaborated closely with the Guides and Scouts of Finland (page 61). UPM does not financially support political parties or individual candidates.

The local sponsorships and other contributions amounted to approximately EUR 0.9 million (EUR 0.8 million) within the Biofore Share and Care programme. The figure includes support for the Uruguayan UPM Foundation, which continued with a contribution of USD 400,000 (USD 400,000). The foundation supports and encourages training, entrepreneurship, employment, healthy living and entertainment in local communities in the Uruguayan countryside.

All in all, EUR 499,800 (EUR 498,700) was donated to charities or other non-profit causes such as the Red Cross, Unicef, Ukraine Foundation, Save the Children Finland, The Children and Youth Foundation as well as the Baltic Sea Action Group.



RUSSIA'S WAR IN UKRAINE BROUGHT UPM'ERS TOGETHER TO ACT

UPMers worldwide have been actively helping people suffering from the war in Ukraine. In the spring, we decided to allocate most of the annual donation funds to support Ukraine and therefore several donations were made to various charitable causes. In addition, UPM Plywood and UPM Timber delivered truckloads

of material support to Ukraine for the repair of the damaged buildings. In April, we arranged an internal, global fundraising campaign together with the Red Cross. The company tripled the donation amount to EUR 188,980 following a decision of the Board of Directors.

There have also been many volunteering activities. In Poland, employees organised charity events, coordinated the distribution of groceries to those in need and accommodated and assist-

ed their Ukrainian colleagues in many everyday tasks. In Finland, employees volunteered as street collectors for the Finnish Red Cross. In Spain, volunteers helped to coordinate refugee activities. In Germany, vacant employee housing was equipped for Ukrainian refugees. Altogether UPM donated more than EUR 300,000 to support people suffering from the war.

> www.upm.com/responsibility



CREATING VALUE FOR PEOPLE AND SOCIETY

ENGAGING EMPLOYEES

Our culture of Aiming Higher encourages all UPMers to grow, as individuals and as a company. Our values—Trust and be trusted, Achieve together and Renew with courage—guide us along the way.

IMPACT

- Strengthen sense of meaningful work and belonging among all UPMers
- Promote diversity and inclusion
- Aim for higher performance
- Lead with passion and purpose
- Create the future beyond fossils
- Raise the bar in our safety performance

TARGET

- Improved performance, engagement and professional growth

OUR WAY

- Lead according to our values and with integrity
- Develop an inclusive and diverse working environment
- Engage employees
- Enable performance with agile goal setting and feedback
- Invest in the growth of our people and develop new capabilities
- Provide a safe and healthy working environment and foster the wellbeing of employees and contractors
- Ensure fair, equitable and competitive rewarding for all employees

We are determined to be a responsible and attractive employer now and in the future. We want to strengthen employees’ sense of belonging and the feeling that they are doing meaningful work. This promotes productivity, engagement and wellbeing.

We measure our progress regularly. The annual Employee Engagement Survey (EES) has invited all employees to evaluate different aspects of their work every year since 2007. The high participation rate of 79% (83%) indicates that UPMers are keen to improve their workplace. The average engagement score is 70 (+2). According to the EES results, one of our strengths is that our employees are able

to successfully balance their work and private life. Our values lay the foundation of who we are. Building a culture of Aiming Higher is essential to our success in today’s rapidly changing world. We are accountable, performance-driven, human centric and eager to learn and grow. Our aim is to increase employee motivation further.

Encouraging learning

In a changing and increasingly complex business environment, enhancing employees’ capabilities and wellbeing is important for both business success and sustained employability. Our long-term goal is to ensure high performance and continuous professional development.

We work together and create a more innovative tomorrow.

We invest in the growth of our people and expect individuals to be eager to learn and develop. All employees are encouraged to create an individual development plan and keep it up to date. In 2022, 58% of employees had development plans documented. In the EES, the result on the question about good opportunities to learn and grow at UPM was 64 (+2).

We apply the 70-20-10 learning and development framework: 70% of the learning takes place on the job; 20% comes from sharing with and learning from colleagues; and 10% comes from training.

Expert communities have an important role in sharing and learning across the company. In 2022, we ran a project to support setting up new expert communities and boost the existing ones around various topics such as market intelligence and sustainability.

We have continuously introduced new digital learning content and online programmes. They encourage individuals to strengthen their self-leadership and resilience and support leaders in enabling their teams to perform and grow. Employees can share digital learning content flexibly on our

learning platform. We offer e-learning content to develop skills in areas in commerce, finance, compliance, safety and leadership, for example.

Developing employee experience and enabling renewal

Developing employee experience is a key aspect in developing UPM as a workplace. To strengthen our work community, we started a dialogue on our purpose and values in 2021, which we continued in 2022. All UPMers are given a chance to create a personal and team-based connection to our purpose, values and Aiming Higher mindset. Managers have been provided with support to facilitate discussions in their teams. The EES results show that our employees’ excitement about UPM’s future and their sense of belonging have increased.

We have launched projects to develop future ways of working and digital capabilities, and to create global health and wellbeing concepts as part of our UPM Experience programme (right). We are committed to caring for our employees to feel physically energetic, mentally balanced, included and proud to work at UPM.

Digital work is an important part of the experience. Over 450 UPMers participated in creating our new intranet, Griffin Forum. It connects and engages employees globally. Human centricity and design thinking guided us in planning and content creation.

We have also continued to develop our employees’ career experience. We use a design-thinking approach and enable employees to contribute to projects. Based on the targets for career experience, set in 2020, we redefined our development planning process and tools in 2022. The new practise enables employees to create their own development plans as needed, but at least once a year. Managers ensure that the plans are relevant. The aim is to support employees to keep their passion and expertise fresh for current and future jobs through continuous development.

Being the employer of choice has become crucial when recruiting new employees, especially younger professionals. We have been able to retain and attract employees despite the heated labour market.

We have organised several successful graduate programmes in recent years. Our apprenticeship programmes are a way to

2030 TARGETS

Employee engagement clearly above benchmark

8 RECENT WORK AND ECONOMIC GROWTH

70

average score achieved, 5 points below global benchmark

2030 TARGETS

Goal setting discussions and development plans for employees, 100% completion rate

8 RECENT WORK AND ECONOMIC GROWTH

83%

of employees had completed individual goal setting or annual discussion

8 RECENT WORK AND ECONOMIC GROWTH

58%

of employees had a development plan documented

CASE

ACCELERATING UPM EXPERIENCE

The UPM Experience programme is our group-wide, multi-year effort to engage UPMers and improve employee experience across businesses, functions and locations. It was launched in 2021 and continued in 2022, focusing on physical, digital and cultural aspects of work.

The key goals of the programme are:

- strengthening the sense of meaningful work and belonging
- enabling employee productivity
- increasing employee engagement and wellbeing
- enhancing meaningful collaboration
- increasing diversity and inclusion

UPM Experience includes seven different projects such as Purpose and values dialogue, Future ways of working and Health and wellbeing. Although for some of the projects the active development phase ended in 2022, the work and implementation will continue in the coming years.

OUR EMPLOYEES BY REGION



ensure the required level of expertise for future employees. The programmes are typically focusing on shop-floor production or maintenance work and run together with vocational training partners. At the end of 2022, approximately 350 people participated in the programmes after completing a degree.

We have extended our employer brand to new growth areas. Following our systematic efforts to develop our work environment and concrete actions to be a responsible employer, our position among students and professionals was recognised by external parties in Finland and China.

Leading by example

Achieving our ambitious targets requires committed input from skilled people and teams empowered by inspiring leaders.

We continuously invest in developing leadership capabilities. UPM values and an Aiming Higher mindset lay the foundation for our leadership development programmes that support the three cornerstones of leadership at UPM: leading oneself, leading people and leading the business. In recent years, the key areas of development have been inspiring and purposeful leadership, coaching, self-leadership and resilience.

In 2022, we continued to encourage a growth mindset and improve leadership

skills needed to enable teams' and employees' performance.

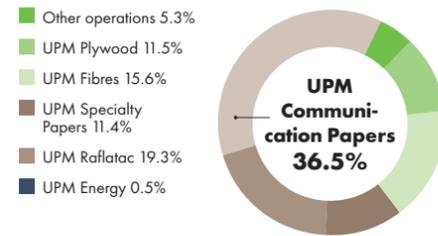
Rewarding and recognising high performance

We reward and recognise high performance. Our approach to rewarding and recognising employees consists of both tangible and intangible components. Tangible remuneration and recognition consists of base salary, benefits and incentives, which are determined by UPM's global rules, local legislation, general agreements, local market practices, the level of the position and individual performance. Gender, age, ethnic origin and nationality play no role in determining salaries and wages.

Intangible remuneration and recognition consists of, for instance, a safe and healthy working environment, interesting and meaningful work, and good leadership and career opportunities. We have designed our reward policy to increase employee commitment to, and motivation for, high performance.

Each employee belongs to a unified annual Short Term Incentive (STI) scheme. The scheme covers group- and business-level targets, personal and team performance targets, and individual performance evaluation to differentiate and reward high performance.

UPM's personnel by business area 2022



The annual incentives paid in 2022 for the 2021 STI plan amounted to EUR 63 million, and the estimated amount of annual incentives for the 2022 plan is EUR 53 million. We recognise significant individual or team success with a separate Achievement Award system. It is designed to support UPM's high-performance culture and recognise individuals and teams for outstanding contribution, significant achievements and exceptional performance.

In addition to the Short-Term Incentive scheme, we provide two long-term incentive plans: Performance Share Plan (PSP) for senior executives and Deferred Bonus Plan (DBP) for other key employees. Launched annually, the plans cover in total 477 participants.

Promoting co-operation

We are committed to active employee participation and consultation, organised in accordance with international and national rules and regulations. We offer various forums to facilitate continuous dialogue between employees and business management.

The UPM European Forum is a co-operative body that focuses on issues related to our business environment and changes within the company. The forum organises regular meetings for employee represen-

tatives from business units in Europe. Our other co-operative bodies in Finland and Germany aim to promote employee participation and dialogue, both between the business areas and country-level management and between employee representatives and employees on a national level.

After the Finnish Forest Industries Federation resigned from collective bargaining in 2020, the collective labour agreements have been negotiated between forest industry companies and the unions. In April 2022, UPM signed five business-specific collective labour agreements with the Paperworkers' Union after a strike that affected pulp, paper, label and biofuels businesses in Finland. UPM Plywood and UPM Timber reached business-specific agreements in December 2021.

UPM now has business-specific agreements for all its businesses in Finland. The new agreements enhance the productivity and competitiveness of the businesses and units. They also add flexibility to shift arrangements and the use of working hours. Replacing periodical pay with hourly pay and providing clearer criteria for pay will strengthen the prerequisites for success. The agreements also provide better opportunities to reward good performance with personal bonuses. The units have launched forums for developing business-specific collective labour agreements and the work will continue in 2023.

- > A diverse and inclusive working culture on page 68
- > Embedding human rights in everything we do on page 72



WE ARE COMMITTED TO FAIR REWARDING

We want to ensure fair, equitable and competitive rewarding for all employees globally. Our new social responsibility focus area for fair rewarding has two targets related to living wage and gender pay equity.

We are committed to ensuring that all employees' pay meets at least their local living wage and that the situation is assessed annually. If the



UPM PERSONNEL IN FIGURES	2022	2021	2020
Employees	17,236	16,966	18,014
Turnover, %	14.7	14.5	10.4
Turnover, % (voluntary)	6.8	5.6	3.5
Average age	44.1	44.3	44.6

assessment shows unexpected wage gaps, they are corrected. We work with an independent third party and they provide us with benchmark data on the countries and cities in which we operate. The next step is to start promoting living wages with our suppliers.

We are also committed to ensuring gender pay equity to all employees. The annual review enables the monitoring of possible gender pay gaps and to make pay adjustments respectively. In 2022, we conducted the company-wide

review and implemented the pay adjustments for unexplained gaps.

This commitment to fair rewarding is exceptional and shows our strong dedication to fair treatment of all employees on both a national and global scale.

- > www.upm.com/responsibility



CREATING VALUE FOR PEOPLE AND SOCIETY

DIVERSE AND INCLUSIVE WORKING CULTURE

We develop an organisational culture and local conditions that ensure a diverse and inclusive working environment.

We value diversity and strive for an inclusive culture and working environment. We respect the privacy of our employees and promote equal opportunities and objectivity in employment and career development.

All UPM employees are treated as individuals regardless of gender, age, ethnic origin or nationality, and we welcome the talent of people with diverse skills and backgrounds to our global team. Promoting

diversity and inclusion in the workplace is not only the right thing to do, but also a prerequisite for our business success. The richness of points of view improves decision-making and business success.

Diversity and inclusion are part of our Aiming Higher mindset and thus part of our cultural development plan. We develop our ways of working to be modern and inclusive.

Three action areas

Our Diversity & Inclusion initiative consists of three action areas: commitment to diversity and inclusion, creating and leading inclusive culture, and regular reviews of our data and processes.

In 2016, we signed an EU Diversity charter. Our D&I-related social responsibility targets, renewed in 2021, focus on sense of belonging and female representation in

professional and managerial roles. We have set an ambitious target of 40% of female representation by 2030. We aim to develop our leadership capabilities with this increased diversity. Our situation varies by organisation. Therefore, each business requires its own targets and plans to increase female representation. According to our analysis, men and women have equal opportunities to progress at UPM.

In 2022, we also carried out a gender pay equity review, closing the gender pay gap that cannot be explained by the factors that typically determine a person's salary and its development. We continue to monitor this development annually and make corrections if needed (page 67).

To further develop inclusive leadership and culture, we started a dialogue with management teams in 2019 and continued this work across the company in 2022. Over 1,800 people participated in the dialogue. We broadened the understanding on leading diverse teams and created awareness of LGBTIQ+ diversity and inclusion in the workplace among our top leaders in 2022. We launched e-learning training on the topic for all UPMers and will set up an Employee Resource Group on LGBTIQ+ in 2023.

Inclusive behaviours are integrated into our leadership development programmes and in the UPM Code of Conduct training. In 2022, we started to measure inclusive leadership, i.e., how leaders at UPM value

different perspectives. This will be one development area for us.

We have a target for the sense of belonging where we compare ourselves to the top 10% of benchmark companies. Our Employee Engagement Survey (EES) also measures authenticity, i.e., feeling comfortable being oneself, and fair treatment which are important strengths for us. We continuously follow up on them.

Regular monitoring

We regularly review our diversity status and data. Our management teams conduct self-assessments that touch on diversity and inclusion. Managers and HR have dashboards with diversity data. Processes such as rewarding and recruitment are followed up on regularly.

We also regularly report progress to several external indices. We were included in the Bloomberg GEI (Gender-Equality Index) for a fifth consecutive year. The index awards the publicly traded companies that are most committed to disclosing their efforts to support gender equality.



UPM is among top 10% companies on employees' sense of belonging



68 average score on EES question, 12 points below benchmark of top 10% companies



Employee Engagement Survey results



RENEWED BENEFITS FOR FAMILY LEAVE IN FINLAND

At UPM, parents and legal guardians of any gender and in diverse families have an equal right to paid parental leave. UPM pays 32 days of parental leave to all employees entitled to paid parental leave under new family leave legislation. The new law does not require this, but we want to offer this benefit to our employees.

A more even distribution of family leave has a positive impact on, for example, women's salaries and career development and eventually

the amount of pension people receive. 79% of UPM's personnel in Finland are men, and we hope that parental leave will act as a real incentive for fathers.

The new legislation aims to increase equality and flexibility in working and family life and provide fairer recognition to diverse families. Before the reform, mothers used approximately 90% of all family allowance days in Finland. In this new practise, parental leave and allowance days have been divided in half. As of now, parents' spouses or other legal guardians can also have paid parental leave.



CREATING VALUE FOR PEOPLE AND SOCIETY

SAFETY FIRST

Our focus areas in occupational health and safety were the wellbeing of our employees, process safety and behavioural science-based leadership.



Our safety work is based on long-term planning, effective communications and leadership. Safety is incorporated in all our daily operations and in new and ongoing projects, and proactive safety forms an integral part of project plans and site practices. Thorough investigation of incidents and effective risk management play an important role in making our operations safer. We also share safety observations and best practices in our business units to improve safety.

We aim to have zero accidents. Despite our continuous efforts to prevent all accidents, in 2022, we unfortunately had three fatal accidents concerning our contractors in the Paso de los Toros project in Uruguay and five serious accidents, one in Finland and in Uruguay and three in Germany. The fatal accidents were related to internal traffic at the construction site, cable pulling activity and working at heights. All accidents were thoroughly investigated in close co-operation with authorities and

In 2022, a total of

40,000

safety-related near-miss and safety observation reports

31,000

safety walks and discussions

UPM WORKFORCE INCLUDING CONTRACTORS	2022	2021	2020
Total injuries per one million hours worked, TRIF	5.9	7.2	6.2
Lost-time accidents per one million hours worked, LTAF	3.3	3.5	3.5
Serious accidents	5	3	2
Fatalities	3	0	0

UPM WORKFORCE	2022	2021	2020
Total injuries per one million hours worked, TRIF	6.4	6.3	5.3
Lost-time accidents per one million hours worked, LTAF	3.2	3.1	2.8
Serious accidents	3	2	1
Fatalities	0	0	0
% absence hours from theoretical working time*	4.5	4.1	3.9
Occupational diseases*	6	5	1

* Reflects own employees

contractors. The corrective and preventive actions were initiated and the key learning points were shared across all businesses to prevent similar accidents from happening in the future.

We recognise exemplary safety performance with company-wide awards. Forestal Oriental, the company responsible for forest operations in Uruguay, received the UPM Safety Award 2022. Forestal Oriental demonstrated a comprehensive and consistent safety performance in line with the company strategy.

Strong focus on process safety

We continued our systematic work to develop process safety. We developed a UPM-wide standard for process safety and a training concept for UPMers. Process safety risk assessments were incorporated into the investment process, and the key elements of process safety were also integrated into loss prevention surveys that are conducted in our mills by an external partner.

We held training sessions on Behavioural Science for Leadership in Safety for UPMers in various businesses. With this training, we aim to support our managers to lead safety so that it is a natural part of daily management and way of working.

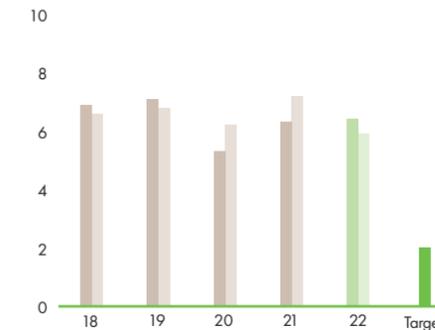
In 2022, we were once again able to conduct safety audits face-to-face on sites. Annual safety audits are an integral part of our OHS management system. Cross-functional auditing provides valuable feedback about selected OHS processes and daily activities.

Vision for health and wellbeing

We formulated a vision for UPM Health and Wellbeing in 2022. This takes a holistic perspective that is divided into four themes: body, mind, heart and soul.

The health and wellbeing pulse survey, conducted in May, showed that due to the COVID-19 pandemic, the past few years have been stressful for many employees, and that we should pay more attention to each other's wellbeing. To improve in these areas, we organised a Safety and Wellbeing week across UPM in 2022 with different local initiatives. During the week, we launched a wellbeing app, introduced various health and wellbeing challenges,

Total recordable injury frequency (TRIF)



UPM workforce
Including contractors

2030 TARGETS TRIF below 2 for UPM workforce and including contractors

5.9 achieved for total injuries per one million hours worked

2030 TARGETS Absenteeism rate below 2 for UPM employees

4.5 absence rate achieved as % of theoretical working hours

and held online events that focused on the body, mind, heart and soul.

UPM Plywood received ISO 45001 Occupational Health and Safety certification in 2022. UPM Raflatac, UPM Timber, UPM Pulp, UPM Communication Papers and UPM Specialty Papers have received the certification before.

Our actions to ensure business continuity during COVID-19 are based on long-term continuous risk assessments. We addressed both local and global coordination and preventing the spread of COVID-19 remained our focus in 2022. We supported our employees' wellbeing with a variety of health and safety measures globally, including support and tools for remote working, such as an info hub on the intranet and an application for taking breaks and boosting wellbeing at work. We also offer online training to build up resilience.



CASE

NEW WAYS OF HANDLING PROCESS SAFETY

Process safety refers to good design principles, safe operating practices, technical implementations and the maintenance of systems related to hazardous substances. The earlier it is incorporated in the process design, the lower the risk of a negative event impacting operations.

Our aim is to integrate process safety in safety management across all sites and businesses as part of our 2030 sustainability targets. The new process safety standard defines the procedures and sets minimum requirements. It is about new ways of working, best practices in technical solutions and applying a systematic approach in everything we do.

Training will start in 2023 and we will also provide advanced training for those working on process safety, such as operators, maintenance people and technical inspectors.

The company's expanding biofuel and biochemicals businesses throughout these chemical industries require significantly stricter risk management. Our pulp and paper businesses will also be included in the first wave of the implementation.

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CREATING VALUE FOR PEOPLE AND SOCIETY

EMBEDDING HUMAN RIGHTS IN EVERYTHING WE DO

Respect for human rights is the foundation of our social responsibility agenda and the related 2030 targets.

IMPACT

- Provide a safe and inclusive working environment for our employees and respect the rights of the people in our value chains
- Promote decent work and play our part in building a more equitable society

TARGETS

- We understand our business environment and impacts on people, whilst recognising the evolving nature of both
- We prioritise the most severe human rights risks and impacts and take action to address them

OUR WAY

- Our approach is based on the UN Guiding Principles on Business and Human Rights (UNGPs) and guided by our Code of Conduct and its associated policies, rules and guidelines
- Our expectations for suppliers are set in the Supplier and Third-Party Code
- We have identified our salient human rights issues at Group level and prioritise actions accordingly
- We monitor and work to remediate adverse impacts on human rights
- We engage with our stakeholders

In an era of major geopolitical instability, respect for human rights is crucial. Social inequality and working poverty are increasing globally as climate change and the COVID-19 pandemic underline these societal shifts. We must not only strive to understand the impacts on people and changes in our business environment, but also use our leverage to respond to these shifts.

Demonstrating progress transparently and building internal capabilities are vital in our work preventing and addressing human rights-related risks. In 2022, we renewed our Code of Conduct with a stronger emphasis on people. Our Code re-enforces our commitment to respecting

human rights in line with the UN Guiding Principles. The mandatory Code training includes several concrete cases on how to act in various difficult situations.

We recognise the critical role of living wages and decent work in promoting respect for human rights and tackling inequality. As an example, our social responsibility targets, renewed in 2021, are set to ensure that living wages and gender pay equity underline our commitment to foster fair and equitable rewarding for our people (page 67). We encourage our suppliers and business partners to uphold similar standards.

We participate actively as a member in several collaborative forums such as the Human Rights Business Learning Programme by Shift, Together for Sustainability (TfS) and UN Global Compact. In 2022, we became a member of the UN Global Compact Think Lab on living wages and contributed to a TfS academy course on human rights.

Living wages and decent work promote respect for human rights.

Focus on salient issues

In collaboration with an external expert, we have identified our salient human rights at corporate level, i.e., rights that stand out as being most at risk. In 2022, our work focused on salient issues such as occupational health and safety (OHS), decent work and working conditions as well as modern slavery risks.

In 2022, we initiated a review process for our salient issues to catch up with the developments in our business landscape and operational environments and to identify any gaps in our mitigation activities. We expect to complete our work in 2023.

Identifying actual and potential impacts

Human rights due diligence is a necessity for businesses to identify and manage potential and actual impacts. Our business areas regularly identify these risks and impacts and prioritise focus areas accordingly. This

practise is integrated into their unit-specific management systems to ensure continuity.

With this practice we aim to ensure that we identify topics that are specific to one country or unit only and identify changes in our operating environment that may impact people, particularly those in most vulnerable positions. Migrant workers, women, young workers as well as temporary and contractor workers have been identified as groups with a higher risk of potentially experiencing adverse impacts across our value chain. As a result of our 2022 assessments, we selected contractor management as one of our focus areas going forward covering all our business areas.

We monitor and work to remediate adverse impacts on human rights that we become aware of and that our activities have contributed to or caused. Remediation is specified case-by-case based on verified impacts.

Promoting decent work for contractors

Every person who works in our supply chain should be treated fairly. In 2022, our work in our supply chain focused on identifying high risk suppliers, highlighting topics such as fair terms and conditions of work, forced labour and modern slavery, environmental impacts and land use.

Overall, contractors perform a significant proportion of our activities, for example in maintenance at our production units and in construction work and forestry operations. Promoting decent work and preventing any form of labour exploitation involving our contractors is particularly relevant in our strategic investment projects.

In 2022, we initiated a project to strengthen our approach to human rights due diligence and social and environmental impacts assessments required for investment and business development projects. The aim is to ensure that these impacts are comprehensively assessed for all relevant projects.

In 2023, we will focus on developing our approach to contractor management. We will increase our internal capabilities to identify and mitigate any human rights-related risks in identified high-risk areas. Developing our responsibility reporting on contractors and contractor employees is an integral part of our development work.

- 2030 responsibility targets on page 30
- Committed to compliance on page 74
- Ensuring responsible supply chain on page 78



CASE

FOCUS ON COMMUNITY ENGAGEMENT IN URUGUAY

Our dedicated community engagement team in Uruguay focuses on three areas: active dialogue with stakeholders and local communities, management of key risks and impacts and contribution to local development. Long-term community development is supported by projects addressing the needs of local communities and funded by the UPM Foundation.

In 2022, our strong focus of community activities were in Paso de los Toros, where our new pulp mill is being built. Aspects identified as potential risks during the construction phase, such as road safety and increased social unrest due to a large number of construction workers staying in the nearby villages, were successfully managed and monitored throughout the construction phase. Our local office in the city centre has been dealing with queries and concerns from local communities and job seekers.

Towards the end of the year, we placed increased focus on managing the social impacts of transitioning from the large-scale construction phase to the commissioning phase, resulting in changes in the local dynamics on employment and small businesses.

➤ www.upmpasodelostoros.com

CREATING VALUE FOR PEOPLE AND SOCIETY

COMMITTED TO COMPLIANCE

Regardless of the location, circumstances or people involved, we are committed to complying with applicable laws and regulations, as well as our Code of Conduct.

IMPACT

- Committed and engaged employees
- Competitive business with no disruption
- Maintaining our reputation and the trust of business partners and other stakeholders

TARGETS

- Compliant operations and behaviour
- An engaging work environment where employees feel safe to voice their concerns
- Responsible value creation

OUR WAY

- We are all responsible for building a culture of integrity, with everything we do and every choice we make
- We do not compromise our standards of integrity under any circumstance
- Accountability for compliance extends down from the Board of Directors and senior management to all employees

Our Code of Conduct and our values help us make the right choices and guide our work in a changing business environment. This lays the foundations for long-term success.

We strive to ensure compliance with our values and commitments by implementing a company-wide compliance programme through our compliance system (right). The compliance system is embedded in our governance model and is designed to bolster company performance and a culture of integrity at all levels. We follow how this culture is developing with the help of our annual Employee Engagement Survey (EES). In the EES, the average score about how ethically people at UPM behave was 74 (74), when the external benchmark was 78 (78).

Risk assessment

With the support of our compliance team, each business area, function and unit is responsible for identifying and managing compliance risks related to its own operations. We use the results of annual risk assessments to guide compliance activities and mitigation actions in businesses and functions.

Together, the compliance team and the businesses update the risk assessments and mitigation actions throughout the year to respond to changes in the risk environment. The progress of mitigation actions is reported to the Audit Committee of the Board of Directors and businesses on a quarterly basis.

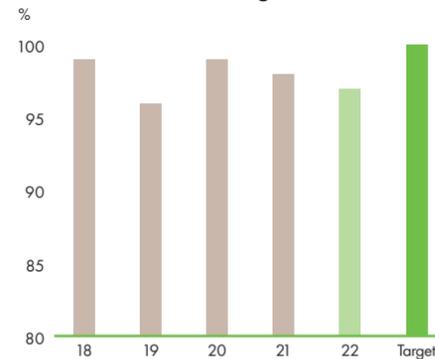
Policies and procedures

Policies and procedures form the basis of our compliance programme. We review their update needs in accordance with our policy management process annually.

In 2022, we updated our Code of Conduct in accordance with its three-year update plan. The world around us is in constant movement, our businesses evolve, and the regulatory environment changes. For this reason, we want to ensure that our Code of Conduct stays relevant and up to date.

In the renewed Code of Conduct we wanted to further emphasise respect for people, the environment and ethical business practices. By acting with integrity in every situation, we build trust both within the company and outside it, with our partners, suppliers, customers and other stakeholders.

Code of Conduct training



2030 TARGETS 100% coverage of participation in UPM Code of Conduct training (continuous)

12 RESPONSIBLE CONSUMPTION AND PRODUCTION **8 DECENT WORK AND ECONOMIC GROWTH** **97%**

of active employees completed the new UPM Code of Conduct training since September 2022



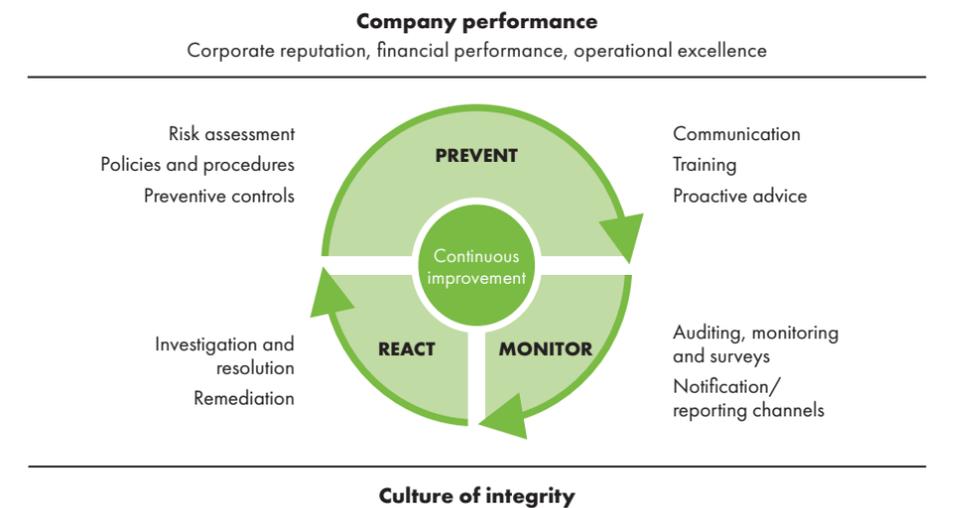
Training and communication

Policies and procedures are implemented through training sessions and communication. In 2022, we focused on training all our employees on the updated Code of Conduct (page 77).

Available compliance e-learning modules with the target group and completion rates at year-end are listed in the table on page 77. Our e-learning modules are available on the same HR platform and are easily accessible to our employees. The completion of mandatory e-learning modules is a prerequisite for short-term incentive payments.

We complement the e-learning modules with face-to-face and virtual compliance training with specific target groups. The target groups are determined based on risk assessments. The compliance training sessions are supported by active communication.

UPM COMPLIANCE SYSTEM



Monitoring

We aim to ensure compliance at all levels of the organisation through monitoring. Our monitoring activities are based on a group company risk matrix that considers the country risk and complexity and the extent of our operations in each country.

Our compliance team has a three-year monitoring plan for its unit-specific compliance reviews that are based on this matrix. On top of these general reviews covering all business integrity topics, we conduct risk-based reviews around specific topics such as competition law or anti-corruption.

The reviews to be performed each year are agreed with the businesses during the annual risk assessment process and coordinated with the Internal Audit. The most important compliance review findings and recommendations are reported to the Audit Committee of the Board of Directors and businesses. These recommendations are then carried out in collaboration with said businesses.

In 2022, the compliance team conducted compliance reviews in 16 local units or operations in the Americas, the Asia-Pacific region and Europe. Due to the COVID-19 pandemic some reviews were still conducted remotely. Another example of our compliance team's monitoring activity is the counterparty screening procedures shown in the illustration on the right.



Voicing concerns

It is an important part of our culture of integrity that employees feel comfortable voicing any concerns they have and that they can trust UPM to take the appropriate action. If we are worried about anything, we must speak up and act. We do not tolerate retaliation against any person who, in good faith, reports suspected misconduct or participates in an investigation to resolve suspected misconduct.

In 2022, we published our second internal Integrity Report, the purpose of which

is to communicate to our employees examples of cases of misconduct and how they have been handled within the company.

The table below summarises the number of cases recorded in our misconduct case management system in 2022 and provides examples of cases handled. Eight cases led to disciplinary action, including warnings and terminations of employment. Investigations into misconduct include a root cause analysis that aims to identify whether compliance programme improvements are necessary.

ALLEGED MISCONDUCT CASES

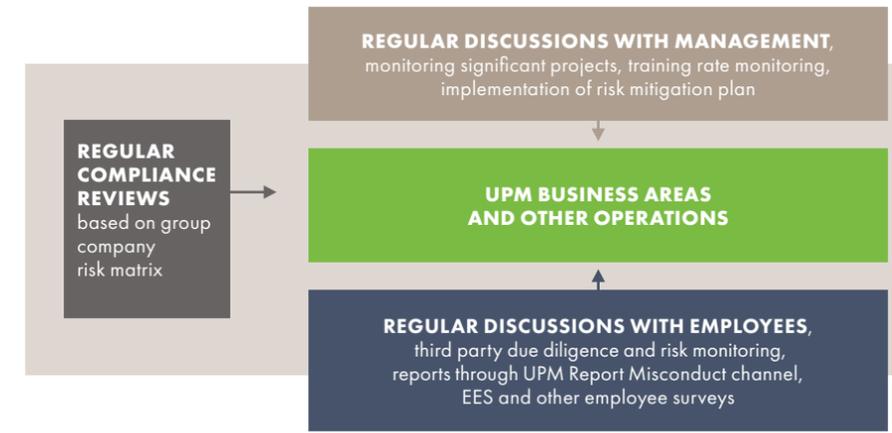
UPM Code of Conduct section	2022	2021
Our commitment on integrity	5	1
Our people and operations		
Respect people and human rights	25	19
Taking care of the environmental impact and product safety	4	2
Business integrity		
Zero-tolerance for corruption and bribery	2	0
Avoid conflicts of interest	4	8
Compliance with competition laws	0	5
Protect assets and information	8	23
Our stakeholders		
Know with whom you trade	6	8
Total	54	66

➤ The reports related to concerns both at UPM and suppliers. They concerned e.g. alleged breach of safety rules, challenges related to leadership and UPM values and discrimination, harassment and inappropriate behaviour.

➤ Employee had given gifts to a customer representative in violation of UPM's policies. The employee had also circumvented internal controls at UPM relating to gifts. Written warning.

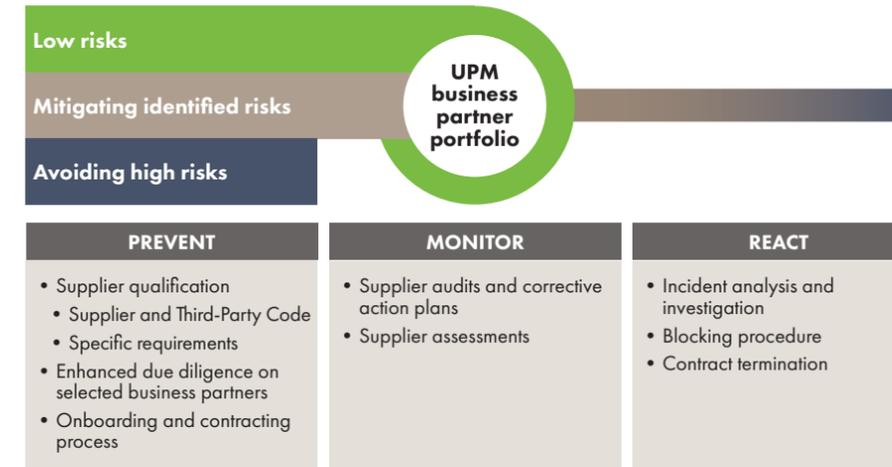
➤ Employee was supervised by a relative. According to UPM Code of Conduct this kind of direct supervision is not allowed. Written warning.

COMPLIANCE MONITORING

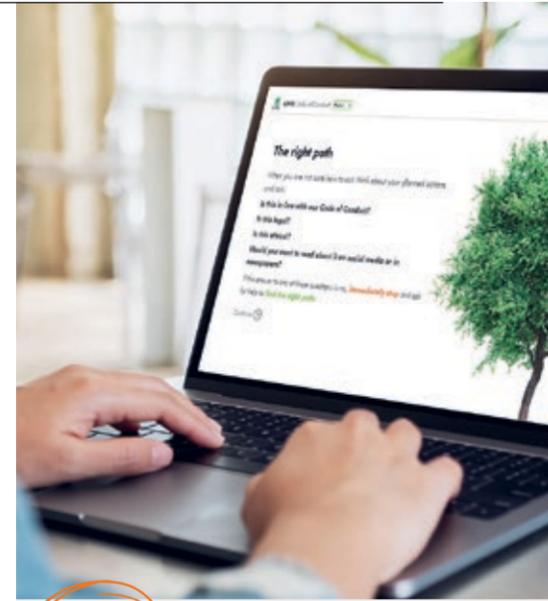


COUNTERPARTY SCREENING PROCEDURES

- Business partner screening against public sources
- Business integrity (trade sanctions, anti-corruption, anti-money laundering, competition law, fraud)
- Human rights
- Environment
- Supply chain risk assessments



COMPLIANCE TRAINING FOR SPECIFIC TARGET GROUPS IN 2022	COMPLETION RATES AS OF 31 DECEMBER 2022	SIZE OF TARGET GROUP
Code of Conduct e-learning	97	16,000
Personal data protection e-learning	99	6,850
Anti-Corruption e-learning	99	6,850
Confidentiality e-learning	99	6,850
Competition law e-learning	99	2,900
Insider Policy e-learning	98	120
Association participation e-learning	100	450



CASE

GROW YOUR OWN TREE

We update our Code of Conduct every three years to keep it aligned with the fast-changing world. When the Code is renewed, we also provide new mandatory training. The 2022 edition of the e-learning module focused on how we can apply the Code in our everyday work and how our choices impact others, in addition to the main principles of the Code. As with the Code of Conduct document update, one of the key themes in the training was promoting diversity and inclusion.

The e-learning training was launched in September with two versions, both in 18 languages, to better target and reflect real life scenarios, one for salaried employees and another for shop floor employees. The idea behind the e-learning training was for participants to grow their own tree with their choices.

For the second time, we also launched special training materials aimed at UPM managers. Supervisors received information on what is expected of them as well as support in embedding the culture of integrity in their teams. The manager e-learning, available in six languages, has been completed by 88% of all UPM managers so far. It has been welcomed very positively, as 95% of the respondents feel that the training strengthens their engagement to our culture of integrity.

➤ www.upm.com/compliance

CREATING VALUE FOR PEOPLE AND SOCIETY

ENSURING A RESPONSIBLE SUPPLY CHAIN

An effective and responsible supply chain guarantees the availability of sustainably produced, cost-competitive and innovative materials and services globally in all market situations.

Suppliers are an essential part of our value chain. We buy products, materials and services from about 20,000 B2B suppliers globally. Our sourcing network includes suppliers from start-up companies to international corporations. We also buy wood from some 16,000 private forest owners.

The main sourcing categories are fibre, chemicals, other raw materials, indirect purchases, logistics and energy. When selecting suppliers, our most important criteria include reliable long-term deliveries, product and service quality, suppliers' financial stability, social and environmental responsibility, product safety and the product's carbon footprint.

Suppliers also play a significant role in UPM's transformation and business-specific growth projects. Supplier management, together with the required competencies and digitalisation, boost product development and the commercialisation of new products in the long term.

Circumstances remain exceptional

In 2022, our focus was on securing the availability of services and products in the highly uncertain and volatile business environment, impacted by high inflation and rapidly rising interest rates.

The global economy faced restrictions due to the availability of raw materials and cost increases in many supply chains that have been under increasing pressure since the start of the COVID-19 pandemic. However, we were able to successfully protect our business continuity despite the tight global logistics and supply chains.

Reducing CO₂ emissions in the value chain

A significant part of UPM's carbon footprint is created in the value chain, where our most significant emissions sources are purchased goods and services and logistics. We focus on reducing emissions from selected raw materials such as chemical pulp, pigments, chemicals and paper as well as from logistics. In the future, climate impacts will become an important factor when selecting suppliers.

Our goal is to reduce the CO₂ emissions in the value chain by 30% from 2018 levels by 2030. We started a group-wide -30 by 30 programme to manage supply chain emissions in 2022 (page 89). We aim to reach this goal in close co-operation with our partners and suppliers.

What we expect from our suppliers

We are committed to responsible sourcing practices, as per our Code of Conduct. The minimum requirements for suppliers are defined in the UPM Supplier and Third-Party Code. We expect suppliers to promote the same requirements in their own supply chains. In 2022, 88% (86%) of our total spend was with suppliers who are committed to the Code.

In addition to the UPM Supplier and Third-Party Code, we apply various additional requirements to wood, chemicals, pulp, packaging materials and logistics. The requirements refer to environmental performance, social responsibility and reporting. Contractors working at our production sites must comply with UPM's safety requirements.

IMPACT

- Providing more sustainable choices to customers and consumers
- Securing the resiliency of our supply chain
- Enhancing positive brand perception for both UPM and our customers

TARGETS

- We are a trustworthy and future-oriented partner
- We ensure the efficiency, compliance and responsibility of the supply chain
- We create long-term business opportunities in the value chain in collaboration with our partners

OUR WAY

- Focus on long-term, co-operative supplier relationships and promoting responsible practices
- Clear requirements and expectations for our suppliers
- Continuous monitoring and development of our suppliers' performance
- Process development with key suppliers
- Focus on 2030 responsibility targets

UPM'S FIVE LARGEST SUPPLIERS 2022

1. Suzano, a pulp supplier, Brazil
2. Lechwerke AG, an energy supplier, Germany
3. Bayergas, an energy supplier, Germany
4. Stora Enso, a pulp supplier, Finland
5. Pohjolan Voima, an energy supplier, Finland

Strict requirements for wood-based materials

All the wood we use is legally logged and comes from sustainably managed forests. We don't use wood harvested from tropical rainforests or accept wood from plantations that have been established by converting natural forests. We don't accept wood from regions that do not respect the rights of indigenous peoples.

In addition to third-party certification, we also verify that the wood supplied to our mills is compliant with the EU Timber Regulation, the US Lacey Act and other regional requirements.

Our wood, pulp and recovered paper suppliers are continuously evaluated in regard to environmental issues, social responsibility and their involvement in the local community. These raw materials are either FSC™ (N003385) and PEFC (PEFC/02-44-41) certified or comply with the FSC Controlled Wood standard or Due Diligence requirements for PEFC.

We source all wood assortments to ensure optimal utilisation of this valuable raw material. In 2022, we purchased 19.8 (26.0) million cubic metres of wood worldwide. After the start of Russia's war in Ukraine, we suspended the purchasing of wood in Russia (page 83).

We are also one of the world's leading users of recovered paper for the production of graphic paper. In 2022, we used approximately 1.4 (1.7) million tonnes of recovered paper. Recycled fibre accounted for 24% (22%) of all fibre raw materials used in our paper production. We buy approximately 1.7 million tonnes of pulp from external suppliers annually.

Identification and evaluation of supplier risks

We identify our supply chains with a high risk of potential negative environmental and social impacts. Collecting and analysing data on the environmental and social responsibility of our key suppliers is an integral part of our supplier risk and performance evaluation. We create development plans together with our suppliers based on these analyses. We also monitor the performance of our other raw material suppliers through various surveys.

With the counterparty risk management tool, we can evaluate counterparty-related

risks through automated screening and support businesses in ethical and prudent decision-making. Effective third-party management plays an essential role in securing business continuity and compliance.

With regard to responsibility risks, we have implemented a new high sustainability risk supplier model in 2022. The evaluation is based on the country of origin, sourced material or service and the UPM supply chain ESG risk register. The register is updated annually and holds UPM's view on company and business area relevant risks on people and environment. We apply the model to our suppliers regardless of the business unit, country of operation or supplier spend. We also use EcoVadis and other assessments, supplier audits and joint development plans to carry out more detailed evaluations of suppliers' activities.

If any non-conformities are identified, the supplier is required to take corrective measures. We monitor the implementation of these measures and provide support for improving the suppliers' operations if needed. However, some contracts may have to be discontinued due to insufficient measures or the seriousness of UPM's findings.

In 2022, we started to renew our Responsible Sourcing Framework with the aim of improving supply chain resilience and risk management. The corresponding trainings will begin in 2023.

Extensive supplier audits

Supplier audits are one of the most comprehensive tools to evaluate a supplier's performance, manage supplier risk and guarantee responsible operations in our supply chain.

In 2022, our own trained auditors and external auditors carried out 121 (124) audits in Europe, Asia and the Americas, based on identified risks that covered human rights, social and environmental matters. We also carried out 360 (300) contractor reviews with a focus on working conditions. In 2022, we updated our supplier assessment criteria and the supplier audit questionnaire.

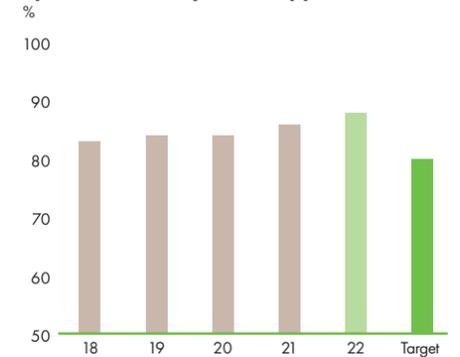
We identified approximately 300 responsibility-related findings in our audits in 2022. None of the findings were critical. The findings are followed-up with corrective action plans and further audits in close collaboration with our suppliers.

We continue to collaborate with Together for Sustainability (TfS), a chemical industry

initiative. The collaboration improves transparency and the efficiency of our assessments and audits. As a member, we have access to a wider pool of EcoVadis assessments and TfS audit reports. In 2022, we conducted around 520 (340) environmental and social risk assessments with EcoVadis.

- Safety first on page 70
- Embedding human rights in everything we do on page 72
- Committed to compliance on page 74
- Climate-positive forestry on page 82
- Taking climate action with energy on page 86
- Advancing a circular bioeconomy on page 92
- Sustainable product lifecycle on page 96
- www.upm.com/about-us/for-suppliers

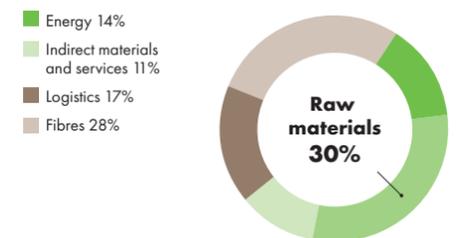
Spend covered by UPM Supplier Code



2030 TARGETS 80% of total supplier spend covered by UPM Supplier and Third-Party Code (continuous)

88% achieved

UPM's external purchasing spend 2022



CREATING VALUE FOR PEOPLE AND SOCIETY

CONTRIBUTING TO SOCIETY THROUGH TAXES

The winds of change are blowing through the global principles of taxation.

Throughout 2022, the OECD, the G20 forum and the European Union (EU) continued to introduce and develop solutions to address the tax challenges arising from the digitalisation and globalisation of economies. These solutions are aiming for a minimum level of taxation of companies in the countries where they operate (the OECD's Statement on a Two-Pillar Solution), as well as standardised public tax reporting by companies (the EU's public country-by-country reporting).

We have implemented our transparent and responsible Tax Strategy for several years. Therefore, we welcome any initiatives for more standardised global tax reporting by corporations, as well as those for fair and responsible tax payments in the countries where corporations operate. We continue to monitor these developments in the global principles of taxation and to assess the impact to UPM. We will modify our tax reporting accordingly as soon as the final definitions are available.

Corporate income taxes vary by country

Despite the turbulent year, we improved our financial performance in 2022, which is also reflected in the tax revenues generated in various countries. In 2022, UPM's effective tax rate was 19.9% (15.5%) and its cash tax rate was 16.2% (17.8%). The corporate income tax reported in 2022 was EUR 388 million (EUR 240 million) and the corporate income tax paid in 2022 was EUR 315 million (EUR 276 million). In addition to taxes on income, our various production inputs and outputs are also subject to taxation, which is either paid by us (e.g. energy tax or property tax such as taxes on real estate) or collected by us (e.g.

IMPACT

- Taxes contribute to society on a local, regional and national level

TARGETS

- We are strongly committed to continuously improving our economic and social performance
- Our good financial performance generates higher tax revenues
- Our businesses also play a leading role in contributing to societal development in the surrounding communities through the tax revenue we generate

VAT, payroll tax and social security contributions). We paid real estate and similar taxes in various countries to the sum of EUR 35 million (EUR 30 million).

The table on the right displays the corporate income tax and property tax paid in our main countries of operation. Based on our corporate and operational structure, UPM mainly reports and pays its corporate income tax in countries where production and innovating activity takes place.

In Finland, we have significant production operations across our six business areas, as well as research and development operations. As a result, UPM is one of the major taxpayers in Finland. UPM's corporate income tax in Finland in 2022 is estimated to be EUR 247 million (EUR 234 million), with subsidiaries reporting and paying approximately EUR 175 million (EUR 121 million). The remaining figure

OUR WAY

- Based on the standards of the UPM Code of Conduct, the UPM Tax Strategy describes the main principles and guidelines for our taxation
- Taxes are paid in accordance with local tax laws and regulations that apply to the country in question
- We pay corporate income taxes in the countries where added value is created and profit is generated

of approximately EUR 71 million (EUR 113 million) will be reported and paid by the UPM-Kymmene Corporation.

In Uruguay, the government has granted several free-trade zone permits for domestic and foreign investments. The Uruguay government has granted our pulp mill a permit to operate in a free-trade zone and therefore taxes in Uruguay mainly consist of property tax and annual tax-like charges paid to the Uruguay government for the development of the zone. The new pulp mill in Uruguay will also be located in a similar free-trade zone.

In China, as a fine paper producer, UPM qualifies as a high-tech enterprise with a reduced corporate income tax rate of 15%. UPM also pays withholding tax on dividends in China.

In countries where our companies are using tax losses from previous years to offset the tax liability of the year in question,

such as Germany, limited corporate income tax is paid.

In accordance with UPM's Tax Strategy, the locations of our companies are driven by commercial rationale and business reasoning. We do not transfer any value created or have any investments in production or service operations in jurisdictions defined by the Council of the European Union as non-co-operative jurisdictions for tax purposes, or in any similar secrecy jurisdictions. A list of UPM subsidiaries and joint operations, as well as their country of incorporation, can be found on page 214.

Furthermore, our sites contribute to local employment, income tax and purchasing power, as well as engaging in projects with communities. Information can be found in the pulp and paper mills' third-party verified EMAS reports on environmental and societal responsibility.

Energy taxation at various levels of the value chain

In addition to future changes to global income taxation as described above, the European Commission also aims to reform the current taxation of energy products and electricity as part of the European Green Deal development programme and its Fit for 55 climate package. The energy sector has also been impacted by the temporary

measures introduced in the EU in response to the developments in the energy market over the year.

Energy taxation is relevant to us not only as a significant electricity producer but also in our manufacturing processes and the taxation of end products, as well as taxation at various levels of the supply chain.

Electricity produced by us is subject to electricity taxation, regardless of which sources are used. The majority of our electricity production is CO₂ free hydropower and nuclear power.

Also, our renewable products (UPM BioVerno diesel and naphtha produced from a residue of pulp production) are subject to the energy taxation charged by fuel distributors to their customers. However, the energy tax rates for transport fuels from renewable and sustainable sources, like UPM BioVerno, are lower than those from fossil fuels.

Most of the energy used in our production processes is subject to energy tax, although there are various tax rates and exemptions depending on the type of use. We also pay a significant amount of energy tax on fuels for logistics costs, especially for road transportation.

Within the EU, energy taxation laws allow member states to compensate for the taxes paid on, or apply lower tax rates to, industrial production. Many of the main

countries in which we have production facilities, such as Finland and Germany, offer such tax relief because the level of energy taxation has increased significantly in recent years.

Our tax governance and tax compliance

The Board of Directors' Audit Committee is responsible for the supervision of tax risk management as part of our risk management processes. UPM's internal control and risk management operations review tax risks regularly and update the control framework together with the tax function. A more thorough review of the tax practices of customers and suppliers is part of our counterparty risk management processes.

The UPM Tax Strategy is supported by internal instructions, internal controls and the benchmark analyses of best practice. Tax matters are managed by our tax function, which is complemented by third-party tax services to comply with local tax reporting and filing, as well as other requirements.

We aim to co-operate transparently and proactively with tax authorities. We also value dialogue with other important stakeholders concerning taxation. In Finland, UPM co-operates with the Finnish Tax Administration.

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED BY UPM IN 2022 (EUR MILLION)		
Direct economic value created	Economic value distributed	
	Operating costs	-8,289
Sales	11,720	Employee wages and benefits -1,181
Income from sale of assets	76	Payments to providers of loans -95
Income from financial investments	11	Dividend distribution -693
Other income	194	Corporate income taxes paid and property taxes -349
Total	12,001	-10,607
Economic value retained 1,394		

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.

CORPORATE INCOME TAXES PAID AND PROPERTY TAXES BY COUNTRY		
EURm	2022	2021
Finland	289	225
Germany	-10	20
Uruguay	18	15
China	11	24
United States	27	8
United Kingdom	4	3
Austria	1	0
Russia	1	4
Poland	2	2
Estonia	1	1
France	2	2
Other	3	2
Group total	349	306

ACTIONS FOR ENVIRONMENT

CLIMATE-POSITIVE FORESTRY

Our business is based on sustainable forest management. We grow and harvest wood to produce renewable materials and products.

IMPACT

- Sustainable forest management is an important means to adapt to climate change
- Forests and wood-based products play a unique role in climate change mitigation
- Well-managed forest plantations are a sustainable and efficient way to supply fibre for the increasing global demand
- Demand for wood-based products creates a strong economic incentive for good forest management and growth
- Forestry builds wealth and prosperity for local communities
- Sustainably managed commercial forests provide wellbeing and recreation

TARGETS

- Climate-positive forestry and maintenance of carbon sinks
- Efficient production of quality wood
- Enhancing biodiversity
- Safeguarding forest ecosystem services

OUR WAY

- Third-party verified and certified wood origin monitoring systems to ensure full traceability
- No wood sourced from tropical rainforests or from forest plantations that have been established by converting natural forests
- No deforestation
- No operations in areas where indigenous peoples' rights are at risk
- No plantations in areas where water is scarce
- Strong stakeholder engagement
- Focus on 2030 responsibility targets
- UPM Forest Action programme activities

Finland and Uruguay are UPM's largest wood sourcing regions. At the end of 2022, we owned approximately 903,000 hectares of forest land in Finland, Uruguay and the USA. Most of this land is in Finland, totalling around 522,000 hectares. In Uruguay, we have about 305,000 hectares of eucalyptus plantations, grasslands and conservation areas, and in the USA 76,000 hectares of forest. We also lease about 167,000 hectares in Uruguay and manage about 1.4 million hectares of private forests in Finland and 33,000 hectares in Uruguay. We apply the same strict sustainability standards everywhere we operate.

About 165,000 hectares (18%) of the land we own globally is protected. Protected areas include valuable habitats, natural forests, and other areas of high value.

Of our four modern nurseries, three are in Uruguay and one in Finland. In 2022, our newest nursery in central Uruguay began operating to ensure sufficient wood supply for the new Paso de los Toros pulp mill.

High-quality seedlings will ensure good growing conditions for the forests and are important not only for wood raw material production but also for carbon sequestration, restoration of biodiversity and increasing resilience to climate change.

For example, in Finland, nurseries are producing hardwood seedlings, which enable the restoration of vibrant mixed forests, in turn helping to support enhanced biodiversity and climate adaptation. In Paysandú, Uruguay, we opened our first Forestry Research Centre specialising in eucalyptus plantations (page 41).

Forest Action: the global forest responsibility programme

In 2022, we launched our new global forest responsibility programme. The Forest

Action programme encompasses responsibility actions under five primary pillars: climate, biodiversity, water, soil, and social contribution.

As an example, we use many solutions for managing the impact of forestry on water resources. Our main harvesting approach is to leave untouched buffer zones along water courses and aquatic habitats. Healthy forests are an essential asset to clean water throughout a country. Our forest inventory system is updated annually on the location of important habitats and waterbodies in relation to timber harvesting activities.

In Uruguay, an institutional network has studied and monitored water usage of eucalyptus plantations for decades. Planted eucalyptus species are very efficient in terms of biomass production per water unit usage. Tree plantations reduce rapid run-off through the soil surface thus minimising soil erosion.

In Finland, we are one of the funding partners in a national two-year restoration project related to small inland waters including springs, ponds or streams in 2022-2023. In the USA, the forest lands are considered a crucial conservation tool in protecting the iconic Mississippi River which serves as an essential water supply to millions of people in Minnesota where our forests are located.

Forests and climate

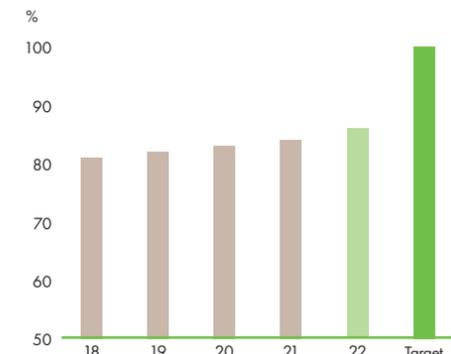
We are committed to climate-positive forestry and improving biodiversity. Forests and forest diversity are critical for mitigating the effects of climate change. We ensure that our forests continue to act as carbon sinks, remain resilient and diverse in changing climate conditions, and grow well for future generations.

For our forests to remain carbon sinks, the growth needs to exceed harvests. The annual carbon sink from owned forests in Finland and in the US and owned and leased plantations in Uruguay has averaged 2.3 (3.8) million tonnes of CO₂ equivalent over the past five years. The main reason for the decrease was the development of calculation methodologies both in Finland for soil and Uruguay for trees. Our aim is to constantly improve our understanding of carbon. In 2022 we initiated a project with the Natural Resources Institute Finland (Luke) to improve soil carbon models for Uruguay with actual measurements on the ground. The project's goal is to gather detailed information on the local conditions and enhance the science-based approach of soil carbon modelling. We expect to have an improved model in use for our 2023 carbon calculations.

Third-party-verified supply chain

We always know the origin of our wood. We do not use wood from illegal sources or from areas where high conservation value forests could be under threat. Our wood procurement does not cause land-use change or deforestation as is evidenced by the fact that forest cover is stable or increasing in all wood sourcing areas. We do

Certified fibre share



2030 TARGETS 100% certified fibre

15% (IN LAND) 86% achieved

not use genetically modified trees. Compliance with these requirements is verified by an independent third party.

All UPM-owned forests are certified or in the process of being certified if the site is new. We also promote forest certification for private forest owners and other customers. We have established FSC group certification schemes in Finland and in Uruguay, which support small forest owners' access to certification. In 2022, the forest area covered by UPM's FSC group covered approximately 540,000 hectares in Finland and over 13,000 hectares in Uruguay.

CDP has recognised UPM as a Forest A List company for its significant actions to mitigate climate change and prevent deforestation every year since 2016.

Co-operation with stakeholders

We have a long history of working with researchers, academic institutions, environmental organisations and other stakeholders to develop sustainable forest management.

In 2022, we continued our long-term co-operation with the Osprey Foundation in Finland by launching a bird protection project for 8,000 hectares on UPM land. As part of this project, active measures were put in place to encourage three endangered predatory species to nest in commercial forests using species inventories and artificial nests will also be built.

In the USA, we initiated stakeholder co-operation with local indigenous peoples' communities to learn more about their approach to forest management and aim to increase this type of work in the future. In Uruguay, we collaborated with stakeholders and NGOs such as Vida Silvestre Uruguay to professionally manage conservation areas.

We participated in forest and environ-

mental stakeholder forums. In Finland, we took part in biodiversity roundtables coordinated by the Ministry of Environment and the Ministry of Agriculture and Forestry. We also continued our active co-operation with the international FSC and PEFC to promote sustainable forest management globally.

- [Enhancing biodiversity on page 84](#)
- [Ensuring a responsible supply chain on page 78](#)
- [Sustainable product lifecycle on page 96](#)
- [Forest Action report on www.upm.com/responsibility](#)



INCREASED WOOD PROCUREMENT IN THE BALTIC RIM

After the start of the Russian war in Ukraine, we suspended the purchasing of wood from Russia. The major forest certification bodies FSC™ and PEFC have also excluded wood originating from Russia and Belarus from their certification systems.

Approximately 10% of the wood used by UPM in Finland came from Russia, and birch was the most important imported species of wood. Wood imports from Russia have now been replaced with increased wood procurement in Finland and increasing imports from the Baltic rim and Sweden.

Finland is UPM's main market for wood procurement. Thanks to sustainable forest management, Finland's forests grow significantly more than they are used. Although logging levels are increasing, they remain below the annual forest growth levels. We have also increased the share of softwood pulp in the production mix. For example, the UPM Kaukas pulp mill has switched to softwood pulp production only.

Despite changes to wood procurement areas, we know the origin of the wood, and certification and actions that improve biodiversity play a key role in that. We have also increased the number of purchasing personnel and opened new forest service offices as well as increased resources in logging and logistics. In addition to onboarding new personnel, we have trained entrepreneurs in quality management and the ways of working at UPM.

UPM FORESTS AND PLANTATIONS		
	2008	2022
Forest and plantation land, own and leased (1,000 ha)	1,012	1,070
Forest growth (million m ³)	4.3	6.7
Wood harvested from UPM forests and plantations (million m ³)	2.2	4.5
Value of forests and plantations, including land (EURm)	1,270	3,421

ACTIONS FOR ENVIRONMENT

ENHANCING BIODIVERSITY

Biodiversity is instrumental to ensuring the vitality of our business.

Biodiversity refers to the diversity and variation of species and ecosystems on our planet. According to the UN, and despite ongoing efforts, biodiversity is deteriorating worldwide. This decline is projected to worsen if no action is taken. Mitigating climate change is the single most important action to improve biodiversity.

Our operations are widely linked with biodiversity. Our most significant impacts on biodiversity take place in wood sourcing. Biodiversity is instrumental in maintaining healthy forest growth and ensuring that forests adapt to the changing climate. Biodiversity also plays an important role in ensuring the sustainability of our energy business and in particular of our hydropower plants.

Rivers have been dammed, which has affected the flows and changed the living conditions of migrating fish and other river-dwelling fauna. The emissions our production sites generate can have a nega-

tive impact on biodiversity. For example, the potential depletion of oxygen caused by wastewater load impacts the living conditions at receiving water courses.

We want to increase the role of biodiversity in our business to respond to the current and future ecological challenges. In 2020, we linked the margin of a EUR 750 million revolving credit facility to the biodiversity enhancement in our forests in Finland. In 2022, we further strengthened this link by including biodiversity as a measure in UPM's management remuneration. We have also joined the Science Based Targets Network (SBTN) Corporate Engagement Program to develop and test tools, methodology and guidance for setting science-based targets for the preservation of nature.

Forestry and biodiversity

We safeguard biodiversity in our own forests and continue to implement our

IMPACT

- Healthy forests ensuring the vitality of our business
- Resilient forests adapting to changing climate
- Increased variety of species and thriving ecosystems

TARGET

- Enhancing biodiversity

OUR WAY

- Global forest biodiversity programme since 1998
- Global Forest Action programme since 2022
- Stream water programme since 2016
- Best Available Techniques used at production sites
- Indicator and follow-up development

biodiversity activities as part of the new global Forest Action programme, launched in 2022. The programme considers the various regional regulation, requirements and guidelines regarding forest management in Finland, Uruguay and the US. In 2018, we set a new target of net positive impact on biodiversity in our forests in Finland with dedicated key performance indicators to measure the progress.

In Finland, we have nine indicators: share of broadleaved trees, amount of deadwood, forest age, forest structure, protected areas, valuable habitats, habitat restoration, species and habitat projects and indicator development. In 2022, all quantitative indicators showed a positive trend. The share of broadleaved trees increased and the protected area continued to grow.

In Uruguay, plantations grow on grasslands formerly used for cattle grazing. The biodiversity values of the area are assessed before the plantation is established, and all valuable biodiversity hotspots and native forests are protected. Our work focuses on invasive species control and the active management of protected habitats. The majority of species indicators from the last five years show a positive trend of occurrence compared to the last 15 years.

In our forestry operations in the US, we consider and restore the forest's natural diversity by aligning management actions with the forest's natural ecology. All harvest sites are managed so that deadwood is retained at sustainable levels. In 2022, 368 hectares were restored with natural species mixtures.

Forest certification plays a crucial role in managing biodiversity in wood sourcing. Since 2022, biodiversity-related activities in all regions are incorporated in our Forest Action programme.

Water and biodiversity

In Finland, our hydropower plants impact the environment by altering river flow rates and their ecosystems. We have taken voluntary measures to restore migratory fish stocks, in addition to statutory levies on fisheries, to mitigate the production impacts.

UPM's stream water programme strives to remove obstacles to fish migration and restore fish stocks all around Finland. Sev-

eral projects have already been completed and new potential projects are actively being sought and identified.

To steer our activities and to measure our impact on biodiversity, we have launched a new indicator with a target of 500 km of obstacle-free streams by 2030. By 2022, we reached 174 km in total. Our largest project was the restoration of two rapids that reopened over 150 km of routes for migratory fish (left).

Mills and biodiversity

Industrial emissions to water and air also have an impact on biodiversity. Emissions change the ecological living environment of different species. In the past, acidifying flue gases worsened air quality, for example. Today, thanks to modern technology, harmful emissions can be neutralised, allowing sensitive species such as lichen to return. Water quality has also improved as a result of advanced best available techniques.

For example, at the UPM Fray Bentos pulp mill in Uruguay, we monitor effluent discharge to the river as well as water quality and biology in the river itself, together with emissions to the air, air quality and soil quality. Studies show that, since the start-up in 2007, mill operations have had no measurable negative impact on biodiversity. In addition to the actions taken in line with the global forest biodiversity programme, many mill sites have actively been promoting biodiversity at a local scale. UPM Schongau in Germany and UPM Jämsänkoski in Finland have created dozens of bird nests and left part of their mill area in its natural state, for example.

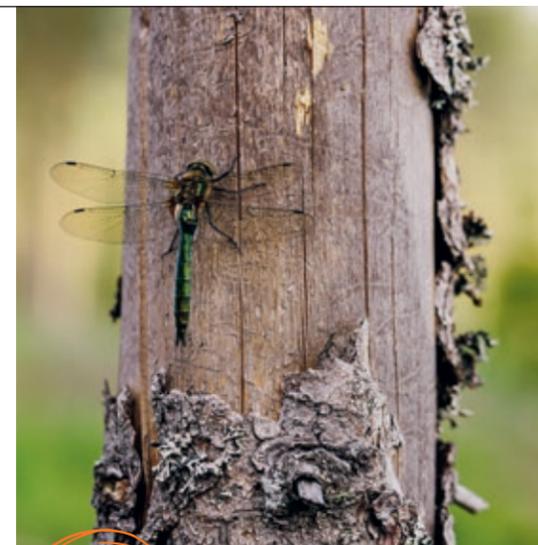


Positive impact on forest biodiversity



Overall positive development measured in Finland and in Uruguay

- > Value from responsibility on page 28
- > Our 2030 responsibility targets on page 30
- > Climate-positive forestry on page 82
- > River Kymi's condition improved on page 91



DEADWOOD AS A MEASURE OF BIODIVERSITY

In 2018, we set the target of positive impact on biodiversity in our forests in Finland while efficiently producing high-quality wood raw material. In 2022, we set a new target to double the amount of deadwood in our commercial forests from the current level of about 5 cubic metres to 10 cubic metres per hectare.

In UPM's protected areas and commercial forests where a specific nature management target has been set, the deadwood target is 20 cubic metres per hectare. The new targets are part of our forest responsibility programme, UPM Forest Action.

The indicators used to measure biodiversity are based on comparing natural forests with commercial forests. Studies have shown that one clear difference between these two types of forests is the amount of deadwood. More than a fifth of Finland's forest species—fungi and insects in particular—depend on deadwood at some point in their lives. Buffer zones for bodies of water also increase the amount of deadwood.

The amount of deadwood in UPM's forests is based on data from the National Forest Inventory (VMI) of the Natural Resources Institute of Finland (Luke). We will also study the accumulation of deadwood and its impact on biodiversity in co-operation with Luke.

> www.upm.com/responsibility/forests



MORE SPAWNING AREAS AND WATERWAYS FOR MIGRATORY FISH

There are many unnecessary migratory barriers such as defunct dams in Finland, and by removing them, biodiversity can be restored. In 2022, we restored the Sapsokoski and Arvajankoski rapids as part of our stream water programme.

The restoration of the Sapsokoski rapids in north-eastern Finland provided a better spawning habitat for trout. We returned the stones we had removed from the dam back into the watercourse and built some 30 gravel beds at various locations along the rapids.

In Central Finland, we dismantled the Arvajankoski dam, replaced the old fishway with a natural fishway and built new spawning sites. The 19-kilometre rapids route is an important spawning river for the endangered Päijänne trout. In total, the restoration of the rapids freed up a habitat of more than 55 kilometres for migratory fish.

Our aim is to revive stream species in locations offering the best conditions for their natural success. The measures must be designed to best suit each body of water. Our work to protect species will continue in the coming years.

> www.upm.com/responsibility



ACTIONS FOR ENVIRONMENT

TAKING CLIMATE ACTION WITH ENERGY

We are seeking new solutions and optimising energy sources and generation methods. Our energy portfolio consists mostly of energy sources that do not cause fossil CO₂ emissions.

IMPACT

- Minimising the use of fossil fuels is the most important way to mitigate climate change
- Supporting the transition to a low-carbon economy
- Decarbonising traffic

TARGETS

- Significantly cut fossil CO₂ emissions across the whole supply chain and increase energy efficiency
- Minimise other air emissions in production and transportation

OUR WAY

- Committed to the UN Business Ambition for 1.5°C and The Climate Pledge
- Committed to continuous improvements in energy efficiency and to an increased share of renewable and low-emission energy
- Optimising our energy use and offer flexibility
- Science-based targets of our CO₂ emissions reduction
- Use of Best Available Techniques (BAT)
- Focus on 2030 responsibility targets

2030 TARGETS

65% reduction of UPM's total CO₂ emissions (Scope 1 and 2) from 2015 level

13 CLIMATE ACTION

34%

reduction achieved

2030 TARGETS

20% reduction of acidifying flue gases from 2015 level

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

28%

achieved for the UPM average product

The global energy sector accounts for over 70% of all greenhouse gas emissions. To cut the emissions from fossil fuels, more renewable and low-emission energy is needed. Wind and solar power are growing exponentially, but they are dependent on weather conditions. This increases volatility in both electricity supply and prices. Therefore, the transforming energy markets need nuclear energy for stability, hydropower and natural gas for balancing, and innovations for electricity storage capability. Managing electricity markets has become a balancing act.

Russia's war in Ukraine pushed the energy markets into crisis as several former supply channels were no longer available. Fossil-based emissions need to be cut and therefore the electrification of society with low-emission sources is accelerating. At the same time, the security of the electricity

supply has become more important. All this drives demand for low-emission electricity.

A unique dual role

UPM is the second largest electricity producer in Finland but also the largest consumer of electricity. We contribute to maintaining the balance of the electricity system by helping when there is a risk of electricity shortages, either by reducing consumption at our paper mills or by increasing production at our hydropower plants.

We are consistently developing our energy portfolio, growing our CO₂-free electricity generation in UPM Energy and switching our energy-consuming businesses to lower-emission energy sources. We are contributing to the decarbonisation of the electricity system by growing the supply of reliable, emission-free electricity.

We generate significantly more electricity than we consume, and this net selling position will increase to over 7 TWh when the OL3 nuclear power plant unit in Finland and the new UPM Paso de los Toros pulp mill in Uruguay are fully operational.

Flexibility in the electricity market

Energy is no longer just a raw material. Managing the whole electricity system is now essential. That requires more flexibility from households and industries, and a well-functioning, open market that ensures supply and demand stay in balance.

This is also good business for us, as we time electricity generation to the high-consumption hours and electricity consumption to the low-consumption hours.

Electrification of the whole economy is,

however, not possible. We also need other solutions to mitigate climate change. UPM Biofuels is supplying renewable fuels for decarbonising traffic. We are also studying business cases for utilising green hydrogen and biogenic CO₂ to possibly produce synthetic fuels and chemicals in the future.

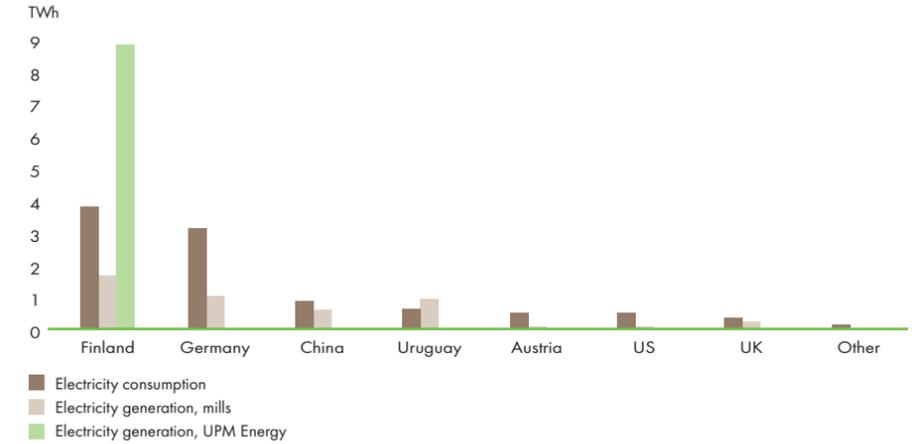
The energy crisis has caused energy prices to rise in Europe. It has also increased the risks related to political interventions and changes in energy market regulation and taxation. It is crucial that such measures do not reduce the incentives for energy investments that drive the transition to a low-carbon economy. Regulatory measures should not interfere with the market price signal, which is needed to balance the electricity markets in all circumstances.

Several ongoing projects

We favour the use of renewable and other carbon-neutral energy sources. UPM Energy is a major energy provider in Finland with assets in Finnish hydropower and nuclear power, as well as thermal power to a lesser extent. Hydropower is the most effective and sustainable method of producing balancing power for the volatile electricity grid. Nuclear power provides a reliable baseload generation of electricity; it relies on Finland's unique and safe solution for the final disposal of spent fuel. 95% of UPM Energy's electricity is emission-free. The start of OL3 in April 2023 will increase UPM Energy's CO₂-free electricity generation by nearly 50%.

UPM Energy also completed the extensive modernisation project of the Kuusankoski hydropower plant in early 2023. Ultracapacitors have been installed at two

Electricity generation and consumption by country



hydropower plants to provide energy storage for rapid reaction to demand changes.

Also, four new dual-fueled LNG vessels have been taken in use in European sea routes during 2022, and three of them will be in service by end of the first quarter in 2023.

The majority of our energy consumption is due to the production processes at the paper and pulp mills, where electricity and heat are needed for mechanical pulping, pumping and drying. We generate steam and electricity through combined heat and power (CHP) plants. Biomass-based fuels account for 65% (70%) of our fuel usage at production sites. The temporary decrease is due to the strike at the Finnish mills at the beginning of the year. At some mills, all or part of the required energy is produced

by external or co-owned power plants or provided by UPM Energy.

Continuous improvement in energy efficiency

We are looking for ways to improve our energy efficiency across our operations with audits, innovations and investments. Improvements usually lead to a reduction in CO₂ and other air emissions as well.

We took a number of measures at many paper mills in 2022. In Germany, we implemented evaporative cooling of the intake air on the gas turbine at UPM Plattling, an advanced process control for process optimisation at UPM Augsburg's deinking plant and a new heat exchanger for one paper machine at UPM Schongau. At UPM Caledonian in

CASE

WE PARTICIPATE IN ENERGY ACTIONS

We invest in sustainable energy supply, which supports the transformation of energy systems in Germany and Finland. UPM Nordland Papier's new combined heat and power plant enables us to reduce dependency on the energy grid and actively participate in the German electricity market.

UPM Hürth's biomass boiler, installed by E.ON, will supply carbon-neutral heat and electricity to the mill and the public power grid from 2023 onwards. The use of biomass, i.e., residual wood from the region, reduces greenhouse gas emissions and slows down global warming.

At UPM Tervasaari, we are now using an electric boiler alongside the gas boiler to produce the steam required for the mill's production

processes. The new boiler will improve steam production efficiency and reduce CO₂ emissions. Heat recovery will also be improved.

At the beginning of 2023, a new Finnish wind farm will begin supplying renewable energy to UPM's paper mills.

These investments are expected to lead to a reduction of, at minimum, 300,000 t of fossil CO₂ emissions.

the UK, we will invest in vacuum blowers in 2023 to replace pump systems, which will significantly reduce the site's electricity use.

UPM Timber will implement a new heat pump system at the UPM Korkeakoski sawmill in 2023. This will decrease SO₂ and NOx emissions as well as energy use. Sawn timber kilning is typically handled with heat generated from the wood bark, and the plant uses the waste heat generated during drying.

UPM Plywood has started projects to reduce steam consumption and air emissions by preheating and improved heat recovery at the UPM Pellos plywood mill.

As a result of our energy-saving investments and actions taken in 2022, we reduced our energy costs by EUR 8.5 million (1.7 million), avoided emitting 34,900 (5,400) tonnes of CO₂ and achieved a 114,000 (33,000) MWh reduction in energy consumption. The annual savings were EUR 9.5 million (1.9 million), 40,500 (6,100) tonnes of CO₂ and 126,000 (35,000) MWh of energy.

Follow-up on our 2030 targets

Our energy portfolio consists mostly of energy sources that do not cause fossil CO₂ emissions. In 2022, we decreased our fossil CO₂ emissions from energy generation (Scope 1) and purchased energy (Scope 2) by 11% compared to the previous year, which is in line with our 65% reduction target for 2030. The main reason for the reduction is the increased use of emission-free electricity at our pulp and paper mills in Finland.

Due to the strike in Finland in early 2022

and Russia's war in Ukraine, coal and peat usage increased by 3%, after a decrease of 9% in 2021. Our target is to stop using coal and peat for on-site energy generation by 2030. Currently, coal is the main fuel at the UPM Changshu paper mill in China, where alternatives have not been available historically. Peat is used in Finland.

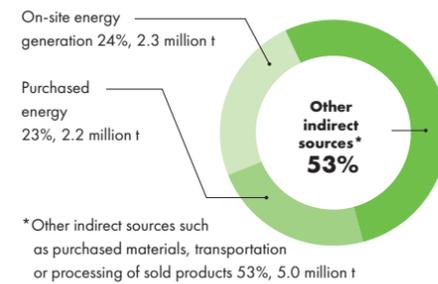
In 2022, we achieved our target for acidifying flue gases (NOx and SO₂). We did not reach our target of increasing energy efficiency by 1% annually. However, an improvement of 0.3% was achieved compared to 2021.

Collaboration with suppliers to reduce CO₂ emissions

In addition to fossil CO₂ emissions from our own energy generation (Scope 1) and purchased energy (Scope 2), we also evaluate the emissions from other indirect sources (Scope 3), such as purchased materials, transportation and the processing of sold products.

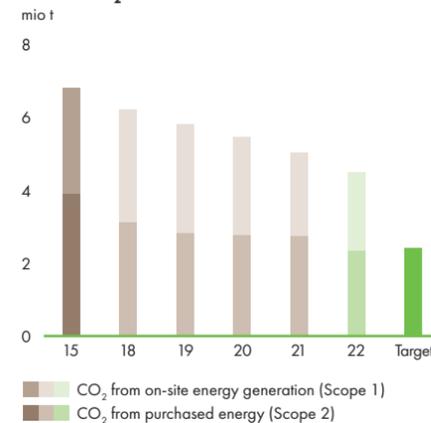
We set a target to reduce the fossil CO₂ emission levels from materials and logistics by 30% by 2030 from 2018 levels. To reach this target we launched our -30 by 30 programme in 2022 (right). New and existing suppliers are required to provide data about the carbon footprint of goods and services provided to UPM. This includes all the relevant emissions from the supplier's own upstream supply chain and operations. Almost 70% of our pigment supplies is already covered with primary CO₂ emissions data from suppliers, and almost 60% of our deliveries is calculated based on supplier data already.

Sources of UPM's fossil CO₂ emissions



*Other indirect sources such as purchased materials, transportation or processing of sold products 53%, 5.0 million t

Fossil CO₂ emissions



Legend: CO₂ from on-site energy generation (Scope 1), CO₂ from purchased energy (Scope 2)

ELECTRICITY GENERATION THROUGH OWN POWER PLANTS AND SHAREHOLDINGS

TWh	2022	2021
Mill CHP	4.3	5.5
Hydropower	3.0	3.5
Nuclear power	5.4	4.7
Thermal power	0.5	0.3
Total	13.2	14.0

ELECTRICITY CONSUMPTION

TWh	2022	2021
Total	9.7	11.7

CAPACITY TO GENERATE POWER THROUGH OWN POWER PLANTS AND SHAREHOLDINGS

	Nominal MW
Hydropower	729
Nuclear power	588
Thermal power	154
UPM Energy in total	1,471

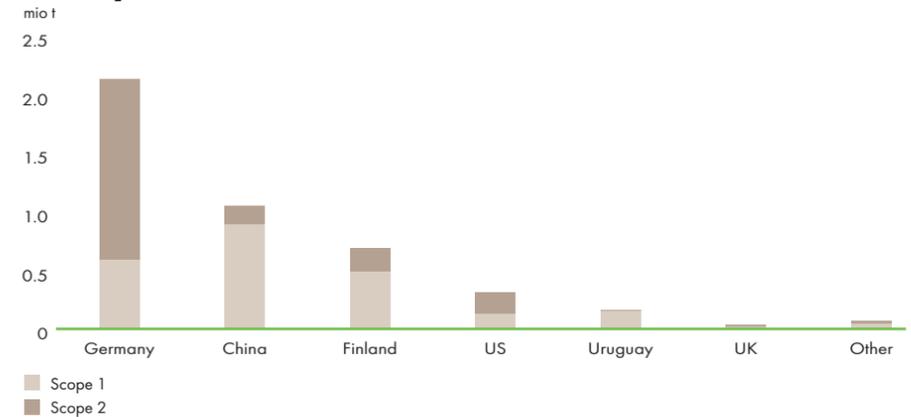
Mill site combined heat and power (CHP)	1,250
Mill site hydropower	7

Mill site power generation in total	1,257
Total UPM	2,728

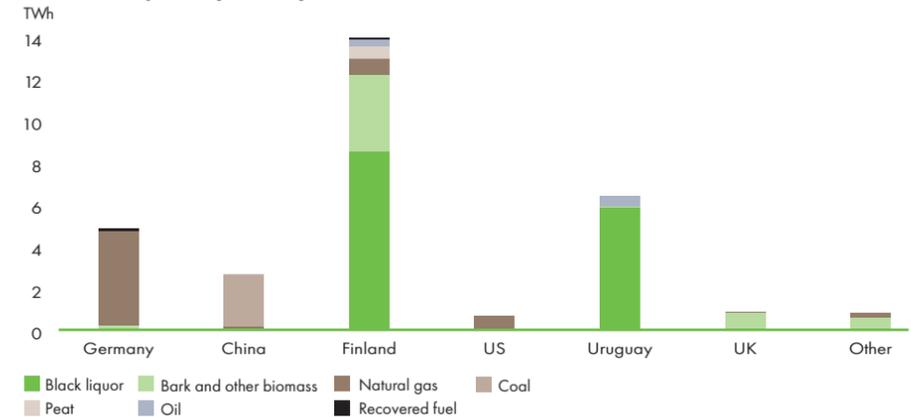
FUEL AND HEAT RESOURCES USED

TWh	2022	2021
Black liquor	14.3	20.1
Bark and other biomass	5.2	5.9
Heat recovered from TMP production	0.6	0.8
Renewable fuels total	20.1	26.8
Peat	0.6	0.5
Purchased heat	0.4	0.4
Natural gas	6.3	7.2
Oil	0.9	0.5
Coal	2.5	2.5
Fossil recovered fuel	0.2	0.3
Total	31.0	38.2

Fossil CO₂ emissions by country



Fuel consumption by country



CASE

COMPETITIVE ADVANTAGE IN THE DEVELOPING HYDROGEN ECONOMY

Green and emission-free hydrogen plays a key role in the EU's plans to achieve climate goals, increase energy self-sufficiency and reduce dependence on fossil energy sources. The EU's goal is to produce 10 million tonnes of domestic renewable green hydrogen in Europe and import the same amount. The aim of this is to replace natural gas, coal and oil in transport and industry.

UPM produces emission-free energy in the form of hydropower and, through shareholdings, nuclear power. We already use hydrogen in our industrial processes, particularly to produce advanced biofuels to be used in transport. We also have significant amounts of biogenic CO₂ available at the UPM pulp mills.

This biogenic CO₂ will be a key resource to achieve a fully sustainable hydrogen economy in the future. UPM sees significant business opportunities in combining zero-emission elec-

tricity and hydrogen with bio-based carbon in new commercial products. Together with our partners, we are in the process of actively assessing the opportunities in the hydrogen economy that our resources can provide. We have the assets, infrastructure and process know-how required to further develop the hydrogen economy.

CASE

WE REDUCE EMISSIONS IN THE VALUE CHAIN

A significant part of the company's carbon footprint is created in the value chain, where UPM's most significant emissions sources are purchased goods and services and the logistics at the beginning and end of the supply chain. These emissions account for a third of our total carbon footprint.

Our goal is to reduce the CO₂ emissions in the value chain by 30% from 2018 levels by 2030. We aim to reach this goal with the -30 by 30 programme in close co-operation with our partners and suppliers.

The first phase of the programme involves collecting emissions data from suppliers of goods and services. Using the information, we can determine an accurate baseline for the products and services that we procure from very different types of companies internationally.

The quickest way to reduce emissions involves improving energy and operational efficiency and making technological improvements. In the future, when selecting our suppliers and partners and developing our product portfolio, we will take into account the climate impacts of the products or services we purchase, as well as their quality, delivery time and price.

www.upm.com/responsibility

ACTIONS FOR ENVIRONMENT

RESPONSIBLE WATER USE

Water has a crucial role in our business, from sustainable forestry to production and logistics. It is also an important source of renewable energy.



CASE

IMPACT

- Our measures ensure that the impact of our operations on watercourses are minimised so that clean water is available for surrounding communities
- Our efforts to protect and restore aquatic ecosystems enhance the quality of watercourses and the natural habitat of species living there

TARGETS

- Use water responsibly
- Continuously reduce the effluent load and wastewater volume generated by our operations
- Use only recycled nutrients in wastewater treatment

OUR WAY

- Water-intensive operations in areas with sufficient water resources
- Efficient water use with appropriate recycling techniques
- Treatment of used water according to the Best Available Techniques
- Best practice sharing in internal and external expert networks
- Returning water to its original watershed when possible
- Co-operation with local stakeholders to further improve the quality of local waterways
- Focus on 2030 responsibility targets

NEW COMMITMENT TO DIVERT SHIP-GENERATED WASTEWATER DISCHARGE FROM SEA TO LAND

We are the first Finnish company, acting as a shipper and charterer, to discharge our ship-generated wastewater on land and to utilise various circular economy solutions in wastewater treatment. The new model will be implemented in the ports of Rauma, Hamina, Kotka and Pietarsaari in Finland.

The latest commitment to the Baltic Sea Action Group (BSAG) was made for 2022–2026, focusing on promoting BSAG’s Ship Waste Action initiative. It has established a model whereby cargo ship effluents are discharged at the port and their nutrients are recycled through circular economy solutions. We are exploring opportunities to use recycled nutrients from ship-generated wastewater in our own wastewater treatment plants, for example. This contributes to our 2030 target of using only recycled nutrients in our wastewater treatment plants.

We and BSAG will also explore the possibility of discharging cargo hold washing waters on land for possible further reuse.

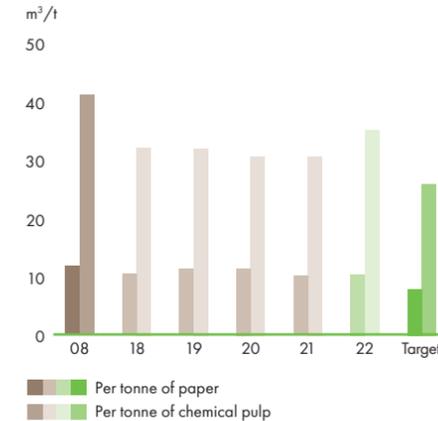
2030 TARGETS 30% reduction of wastewater volumes from 2008 level

2030 TARGETS 40% reduction in effluent load (COD) from 2008 level

6 CLEAN WATER AND SANITATION **13%** reduction achieved for the UPM average product

6 CLEAN WATER AND SANITATION **39%** reduction achieved for the UPM average product

Process wastewater volumes



As a signatory of the UN Global Compact’s CEO Water Mandate, we follow recognised principles in water stewardship. We use water in a way that is environmentally sustainable, socially equitable and economically beneficial.

CDP recognised UPM with an A score for its significant actions to enhance water stewardship.

Our water management

Pulp and paper production is our most water-intensive operation. Approximately 95% of the water we use in production is internally recirculated, and only a small fraction eventually leaves the process as effluent and needs to be replaced. Using less water also means using less energy and fewer chemicals.

All wastewater from our pulp and paper mills is cleaned in both mechanical and biological effluent treatment processes.

According to the water risk analysis carried out with the help of the WWF Water Risk Filter tool, our production sites are in areas with low to medium water scarcity. The tool also provides scenarios on water risks related to climate change for 2030 and 2050. The scenarios also show that our main production sites are in areas of low to medium basin risk, with only one exception. While the UPM Changshu paper mill near Shanghai is expected to face the highest rise in water risk by 2050, the mill has made substantial improvements in water efficiency in recent years, leading to a 21% reduction of process wastewater volume over the last five years.

Continuous improvement towards 2030 targets

Each pulp and paper mill has a dedicated plan to reach its reduction targets related to water use and effluent load by 2030. In 2022, we made a number of improvements in the paper machine and pulp drying machine process controls and assessed the water saving potential of those actions through several studies.

Several mills have started to use advanced process controls and predictive analytic models to optimise their wastewater treatment plant. Together with the supplier, a new method based on image analysis of bio-sludges was also investigated to improve the monitoring of the effluent treatment process.

Exploring new ways of working, new technologies and new partnerships with potential chemical and machinery suppliers continued in 2022. Some of the new technologies, such as using new water fractions from our future biorefinery, were piloted.

UPM Augsburg paper mill in Germany has successfully tested a new filtration process to replace warm water used in paper machine showers. The technology would allow the mill to reduce water use even further from an already ‘best of the class’ level. The work will continue in 2023.

Both UPM Kaukas and UPM Pietarsaari pulp mills in Finland improved their water management during the year. At UPM Kaukas, we invested in the softwood fibre line, reducing the COD load (Chemical Oxygen Demand). At UPM Pietarsaari, modifications were made to the bleaching processes of the two production lines to decrease chemical consumption and improve the wastewater treatment plant operations.

We have a target to use 100% nutrients from recycled sources in our effluent treatment by 2030. In 2022, 33% (35%) was achieved. For example, the UPM Changshu paper mill in China has further increased the ratio to almost 80% in 2022 by replacing urea with its side stream product ammonia. Reject waters from the biogas plant are now in regular use to replace urea at the UPM Tervasaari wastewater treatment leading to a 43% share of recycled nutrients.

Collaboration with stakeholders

In 2021, we joined a two-year project ‘Circular Economy of Water in Industrial Pro-

cesses’ together with several industrial and academic partners. The project was initiated by the Finnish innovation cluster CLIC. In 2022, as a result of this project, a measurement method for microplastics in water is under development, together with universities, in our research centre in Lappeenranta.

In Uruguay, we continue supporting the Rio Negro Initiative to improve the status of the river. We are also funding the refurbishment of the municipal wastewater treatment plant and sewer systems in Paso de los Toros and neighbouring towns where temporary and permanent housing facilities have been built.

> www.upm.com/responsibility

CASE

RIVER KYMI’S CONDITION IMPROVED

The Water and Environment Association of the River Kymi has been researching the state of the river for over 50 years. The first measurements describing the state of the ecological region at the lowest level of the river, the benthic zone, were published in 1968. The methods and the accuracy related to species diversity measurement have improved over the years. In 2018, the benthic survey of the River Kymi rapids was carried out for the first time in joint monitoring, where samples were taken from upstream rapids of the UPM Kymi mill and from four rapids downstream of the load. In all the rapids in the main river, the benthic fauna corresponded very well to the benthic community of a natural rapids area according to the ecological state variables. Species classified as threatened were also present. The condition and biodiversity of the river have improved considerably compared to past decades as wastewater treatment methods have become more efficient.

The latest results, published in 2022, indicate that the environmental impact of the UPM Kymi mills’ water load on the midge communities is low and that the benthic communities indicate a slightly oligotrophic river condition, i.e., having a low level of nutrients.



ACTIONS FOR ENVIRONMENT

ADVANCING A CIRCULAR BIOECONOMY

We are using materials, energy and water efficiently, and many of our products are made from side streams, residues or recovered materials.

IMPACT

- Resource efficiency and a circular bioeconomy respond to resource scarcity, contribute to climate change mitigation and provide new sustainable solutions for customers and consumers

TARGET

- Efficient use of all material streams and the implementation of a circular bioeconomy; renew, reduce, reuse, recycle and recover

OUR WAY

- Circularity as part of our Sustainable Product Design concept
- Circular use of materials, nutrients and water
- Use of residues, side streams and recovered materials
- Cross-industry and cross-business collaboration
- Focus on 2030 responsibility targets

Our goal is to minimise waste, maximise the utilisation of side streams and create added value through smart solutions. We are constantly looking for partners to co-create circular innovations linked to side stream use and valorisation, product development and supply chain efficiency.

In response to climate change, we are actively developing new solutions to accelerate the transition to a circular bioeconomy and aim to continuously reduce our environmental impact.

Our sustainable product design concept includes circularity aspects throughout the product lifecycle (page 96). Our environmental 2030 targets ensure resource efficiency and contribute to the UN Sustainable Development Goals.

Our circularity targets

By 2030, we will not deposit any process waste at landfill sites, and no process waste will be incinerated without recovering the energy. On average in 2022, 90% (89%) of our process waste was recycled or recovered, of which 21% is energy recovery. Today, 58% (59%) of our production sites use 100% of the process waste. The total amount of waste to landfills decreased by 40% (3%) compared to 2021. This was due to the four months' strike in Finland, the sale of UPM Shotton paper mill and the continuous improvement efforts at all sites.

We share best practices, research results and ideas throughout the company, and have several internal working groups focusing on the use and valorisation of side streams. Green liquor dregs are a side stream originating from pulp production and one of our most challenging residues to use. We are putting a lot of effort into developing ways to find a sustainable use for it.

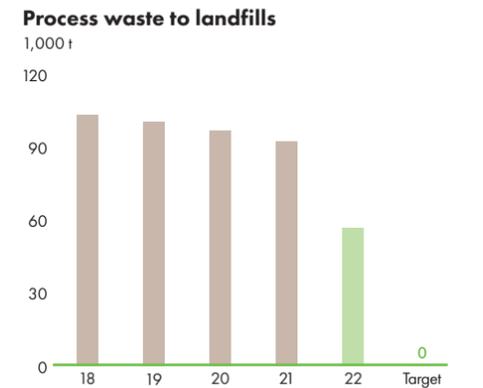
Our other circularity target is to use 100% nutrients from recycled sources in our effluent treatment by 2030. In 2022, 33% (35%) was achieved.

Making use of residues, side streams and recovered materials

Most organic production residues, such as bark, wood residues and fibre-containing solids from deinking and effluent treatment, are used to generate energy for mill sites. The fibrous residues that are not incinerated are used in brick manufacturing or as soil amendment materials.

Overall, ash originating from biomass-based energy generation makes up the largest share of our solid waste. In 2022, 97% (96%) of the ash was used in various applications, such as in soil stabilisation, road construction and the cement industry, or internally to replace caustic soda or as raw material for paper filler production.

The UPM Caledonian paper mill in Scotland, in particular, has significantly improved the use rate of their ash despite challenges due to changes in local regulation. The mill has explored several recovery options in recent years. Using ash in the manufacturing of cement blocks is today the main end use and has resulted in an ash



2030 TARGETS No process waste to landfills or to incineration without energy recovery

12 RESPONSIBLE CONSUMPTION AND PRODUCTION **90%** recycling or recovery achieved for our total process waste

2030 TARGETS 100% of nutrients used at effluent treatment from recycled sources

6 CLEAN WATER AND SANITATION **33%** achieved

CASE

PLASTIC SAWN-TIMBER WRAPPING RECYCLED

UPM Timber and Lassila & Tikanoja, a recycling company, have launched a new recycling concept where the used plastic sawn-timber wrapping is picked up from customers and recycled into new wrapping. The Finnish log-house manufacturer Honkarakenne was also involved in piloting the recycling concept.

Plastic wrapping that was previously sent to energy waste is now collected from customers for further processing at L&T's plastic recycling plant. At the plant, the material is washed and renewed into recycled granulate, which is then used for

the re-manufacturing of new sawn-timber wrappers. The customers also receive compensation for their recycling collaboration.

The concept has been welcomed by customers. The recycling concept began in Finland, but we are exploring opportunities to expand it to foreign-export customers. Earlier in 2022, UPM Timber switched to sawn-timber wrapping containing recycled plastic. The long-term goal is to stop using fossil-based plastics altogether. In the future, sawn-timber wrappers could be made of wood raw material, other bioplastics or a combination of the two.

➤ www.upmtimber.com

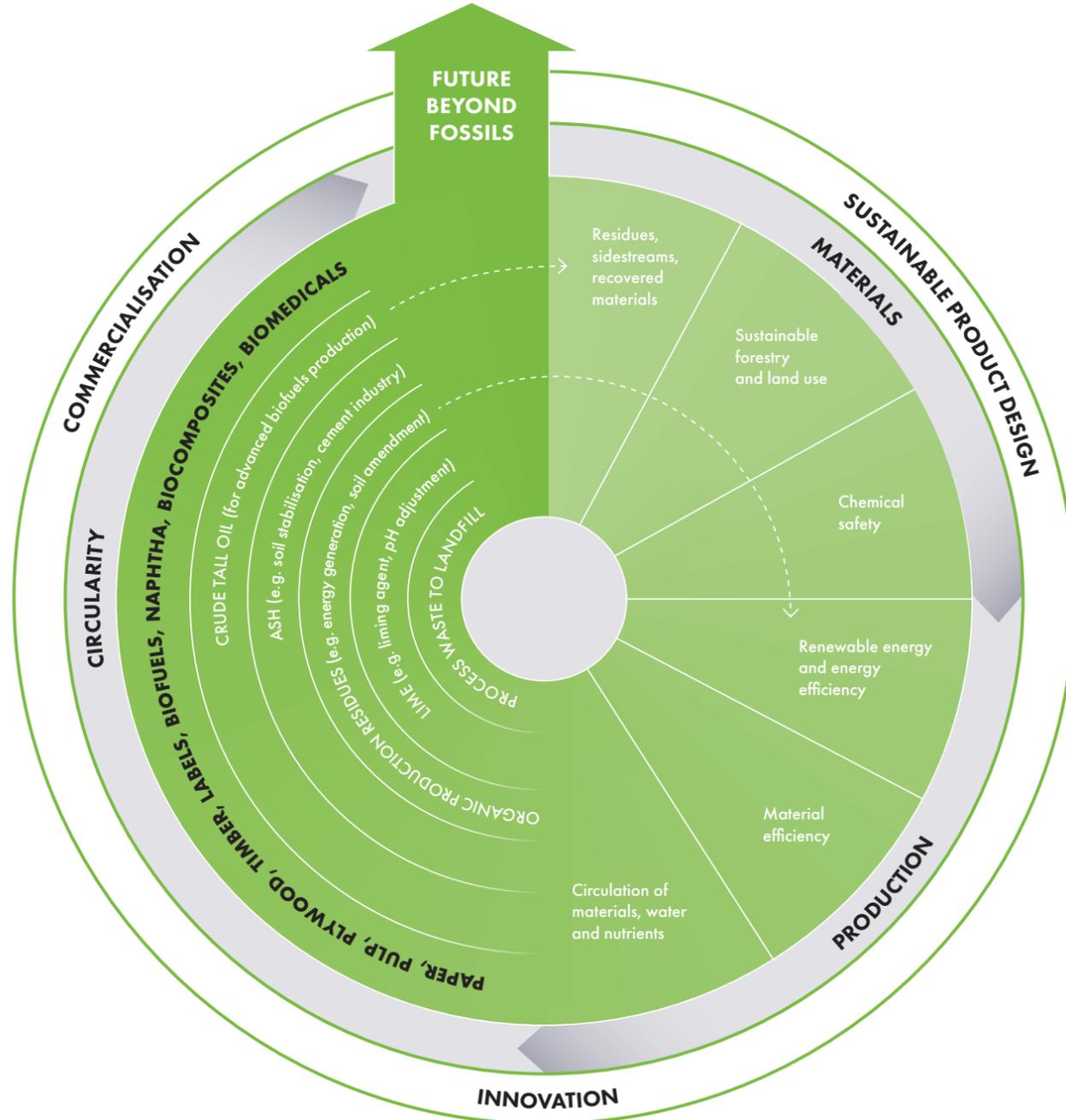


utilisation of 100% in 2022. We have further developed circular bioeconomy aspects, especially the utilisation of future side streams at the Paso de los Toros pulp mill

that will start in Uruguay in early 2023. UPM BioVerno renewable diesel and naphtha are produced from crude tall oil, a residue from chemical pulp production.

Lignin, a side stream of pulp production, is used in WISA BioBond gluing technology, replacing fossil-based phenol used in plywood manufacturing. If lignin is not used as mate-

CIRCULAR BIOECONOMY AT UPM



rial, its energy content is recovered. Lime is a side stream of pulp production, which can be used as a liming agent or for pH adjustment.

We are also actively enhancing circularity over the product lifecycle by using recovered materials. UPM Raflatac collects label waste from more than 400 partners globally and recycles it with its RafCycle® service. The service takes the self-adhesive label waste and gives it new life as paper liner, magazine paper or biocomposite material. UPM Specialty Papers has developed UPM LinerLoop™, a unique concept where collected release liners are desiliconised at UPM Plattling and used to produce new high-performance release liner base papers. We also have a long history of using recovered paper to produce new graphic paper. In 2022, we used approximately 1.4 (1.7) million tonnes of recovered paper. Recycled fibre accounted for 24% (22%) of all fibre materials used in UPM's paper production.

We minimise waste and maximise the reuse of materials and side streams.

Active engagement with circular economy networks

We are a member of INGEDE (International Association of the Deinking Industry), and a shareholder of CLIC Innovation Ltd., a Finnish open innovation cluster with the aim of finding breakthrough solutions in bioeconomy, circular economy and energy systems. We are also a member of 4evergreen, a cross-industry alliance to promote low-carbon and circular fibre-based packaging. The alliance aims to achieve a 90% recycling rate of fibre-based packaging by 2030 throughout Europe.

UPM Raflatac is an active member of the Ellen MacArthur Foundation, the global thought leader of the transition towards a circular economy. UPM Specialty Papers and UPM Raflatac are members of the CEL-AB, to further promote the development of a circular business model in the self-adhesive label industry.

In 2022, we participated in the preparation process of the Finnish Green Deal of circular economy and continued to participate, together with Pohjolan Voima, in the Finnish UUMA4 programme, which aims to enhance the use of secondary raw materials in earth construction. We are also participating in the ISO standardisation of Circular Economy and are active in several local projects related to side stream utilisation.

- Innovation for the future on page 26
- Sustainable product lifecycle on page 96

ACTIONS FOR ENVIRONMENT

SUSTAINABLE PRODUCT LIFECYCLE

Our products help to mitigate climate change by replacing fossil-based products and materials with renewable alternatives.

We actively develop solutions where sustainability of the whole product lifecycle from raw material sourcing to circularity is considered. Our target is to provide products that improve our customers' business processes and performance, creating mutual benefit and societal value.

Our innovative and sustainable wood-based biomedical products, as well as our pharmaceutical and healthcare labelling solutions, are examples of where we create direct societal impact. In the future, our wood-based biochemicals will offer renewable alternatives for many consumer products in packaging, automotive, textiles and various industrial segments. Many of our products are made from side streams and residues or from materials recovered after product use, thus supporting circular bioeconomy (pages 92-95).

Continuous dialogue and collaboration with customers

UPM's businesses offer a variety of products

IMPACT

- Bio-based and recyclable raw materials and products reduce the world's dependency on fossil-based raw materials and contribute to climate change mitigation
- We offer sustainable everyday products to customers and consumers

TARGETS

- Creating innovative renewable and responsible solutions for a future beyond fossils
- Taking care of the entire lifecycle

and services. Each business has its own customer relationship management process and way of interacting with customers. A comprehensive understanding of each market, as well as knowledge of the end uses of products and the needs of our customers,

OUR WAY

- Use of a sustainable product design concept in product development
- Improved chemical management to enhance product safety
- Strong commitment to long-term customer relationships
- Co-operation across the value chain
- Open and transparent product communication supported by ecolabels, certificates and product declarations
- Focus on 2030 responsibility targets

underpins our approach.

We maintain a continuous dialogue with our customers, and we engage in various product-related development projects with them. Our businesses conduct regular customer-satisfaction surveys.

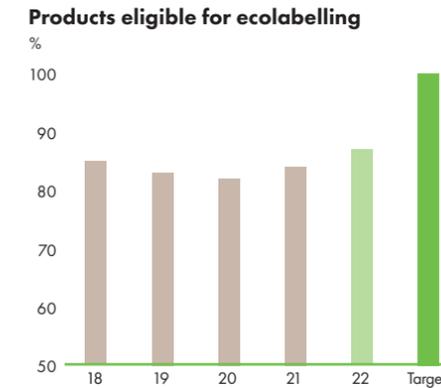
result of intensive development work. They are suitable for food end-uses. They are safe to use and designed to be recycled in existing fibre recycling streams.

The papers have been developed based on the needs of UPM's customers. Testing, analysis and piloting of the technically demanding paper properties, in particular its heat sealability, was carried out at the UPM research centre. The product development is based on UPM's own

sustainable product design concept.

During the development process, UPM expanded its collaboration with external partners. The papers were developed in a co-creation process to ensure that the end result was a renewable paper easy to use in packaging processes and able to keep the quality of food products until their best before date.

> www.upmspecialtypapers.com



2030 TARGETS 100% of applicable products eligible for ecolabelling

12 RESPONSIBLE CONSUMPTION AND PRODUCTION **87%** achieved

Based on these results, overall satisfaction with UPM as a supplier is 84% (86%). The surveys also help us to define our areas of improvement. Actions to mitigate climate change and enhance biodiversity remain the highest priorities of our customers. Product safety, sustainable forest management, recyclability, circularity and ecolabels are also highly valued.

Sustainable product design

Our Sustainable Product Design concept, developed in 2021, enables us to further develop the environmental and societal aspects of our products. We have been working on several product development cases with businesses in 2022 and have tested this concept and defined solid sustainability value propositions. As an example, UPM Specialty Papers used the concept successfully in its packaging paper development (left).

According to our assessments, our new products have had significant positive impacts on the UN Sustainable Development Goals (SDGs). For example, when we use less material, replace fossil raw material with renewable material or when recyclability is improved, we promote SDG 12.

We have also increased the use of Life

Cycle Assessments (LCAs) to support the concept. LCAs provide reliable, documented information on the environmental impacts of used materials and production processes.

Product safety requirements renewed

The ISO 9001 Quality and ISO 22000 Food Safety management systems provide a framework for continuously improving our performance. All our production sites are ISO 9001 certified. All UPM pulp mills, UPM Raflatac sites, UPM Specialty Papers production lines in Europe and UPM Kymi paper mill have a certified ISO 22000 Food Safety management system. UPM Changshu paper machine 3 in China has both a certified ISO 22000 Food Safety management system and a certified FSSC 22000 Food Safety management system. This allows us to offer several products that are designed and produced to meet food packaging requirements.

We have developed the way in which we communicate our product safety requirements to our chemical and raw material suppliers, as well as to our customers. Together with several paper and chemical companies, we have increased transparency in the supply chain and accelerated the exchange of information. A harmonised questionnaire and tool enable us to pre-assess the chemicals used in products and to ensure the compliance of our products with legal requirements and additional commitments, such as ecolabel criteria. For customer communications, we have created Product Safety Profiles and Non-Use Warranty documents.

In 2022, we modernised our chemical database to improve access to advanced reporting and control features (right).

Ecolabels and product declarations increase transparency

We offer product declarations and environmental data for most of our products. They tell our customers about the environmental performance of our products and help customers to make sustainable choices.

Most of our products are certified with widely recognised ecolabels, such as the EU Ecolabel and national ecolabels for graphic paper, RSB (Roundtable on Sustainable Biomaterials) certification for UPM Biofu-

els, ISCC (International Sustainability and Carbon Certification) for UPM Biofuels, UPM Formi and UPM Pulp, ISCC Plus for four UPM Raflatac production sites. UPM Raflatac also offers CarbonNeutral® certified RAFNXT+ labelling material, and UPM Communication Papers established a carbon offset service, certified by the Gold Standard.

All UPM businesses have FSC and/or PEFC chain of custody certification. It verifies the origin of wood and guarantees that all wood used in our products is legally harvested from sustainably managed forests and does not originate from controversial sources.

- > Innovation for the future on page 26
- > Ensuring responsible supply chain on page 78
- > Climate-positive forestry on page 82
- > Advancing a circular bioeconomy on page 92



UPM CHEMICAL DATABASE RENEWED

In 2022, we adopted a new global chemical database tool and process to manage our production, laboratory and maintenance chemicals in a standardised way.

The chemical database enables the safe use of chemicals in all stages of the lifecycle, from delivery and reception to use and waste disposal. This new way of working will help to ensure that we meet all safety targets and regulations.

The information requirements regarding chemical use from our customers and end users are increasing. With this new process, we will be able to fulfil the requirements of the authorities and the expectations of our customers. Co-operation becomes easier when the availability of chemical information improves. The project involved 34 mills in eight countries.

> www.upm.com/about-us/for-suppliers/requirements/general-and-category-specific-requirements



NEW RECYCLABLE PAPERS FOR FOOD PACKAGING

The packaging industry is experiencing an unprecedented change as consumers and legislators call for renewable and easily recyclable packaging alternatives. This drives development in the entire packaging value network.

UPM Specialty Papers has introduced heat-sealable barrier papers which are the

OUR SOCIETAL AND ENVIRONMENTAL IMPACTS

Our activities and products have impacts on the environment and society. Understanding these impacts is a prerequisite to developing our operations. Direct and indirect inputs and outputs provide a comprehensive picture of the value chain and form the basis for the impact assessment. Environmental, social and economic aspects are considered and impacts are valued in monetary terms for selected parameters.

➤ UPM's detailed material balance is available at www.upm.com/responsibility

INDIRECT UPSTREAM	DIRECT UPSTREAM	DIRECT DOWNSTREAM	DIRECT DOWNSTREAM	INDIRECT DOWNSTREAM	IMPACTS
	Raw materials	Products	Emissions to air		
Number of b-to-b suppliers	Wood	Paper	Nitrogen oxides	Number of customers	Increasing knowledge and quality of life through our products
20,000	20m m ³	6.2m t	5,800 t	10,500 in 99 countries	Vitality and prosperity for area of influence
Private forest owners supplying wood to UPM	Market pulp	Chemical pulp	Sulphur dioxide	People using UPM products	Increased social capital and skills of employees
16,000	1.7m t	2.8m t	880 t	over 170 million	Wellbeing and safety of employees and contractors
Seedlings planted	Recovered paper	Converting materials	Particulates	Biofore Share and Care donations and sponsorships	Biodiversity enhanced in managed forests and through conservation ²⁾
55 million	1.4m t	0.6m t	680 t	EUR 1.4m distributed to about 180 groups	Ecosystem services secured through sustainable forest management
Supplier spend covered by UPM Supplier Code	Minerals	Plywood and veneer	VOC	Virgin materials replaced	Climate change mitigation through UPM's carbon actions ³⁾
88%	1.6m t	0.6m m ³	380 t	2.1m t	Value added EUR 3.5 billion
Certified wood	Purchased paper for converting	Sawn timber	Fossil CO ₂ emissions (Scope 1)	Value of products eligible for ecolabelling	Societal value of carbon sink of UPM own and leased forests EUR 240m ⁴⁾
86%	0.4m t	1.5m m ³	2.3m t	EUR 10.9 billion	Societal cost of GHG emissions (Scope 1-3) EUR -960m ⁵⁾
Percentage of wood origin known	Plastic, adhesives, resins, films	Electricity and heat	Biogenic CO ₂ emissions	UPM forests available for recreational use	Societal cost of other air emissions EUR -110m ⁶⁾
100%	0.2m t	12,000 GWh	7.2m t	589,000 ha	Recreational value of UPM forests EUR 83m ⁷⁾
Fossil CO ₂ emissions (Scope 2)	Costs, raw materials	Sales	Emissions to water	Fossil CO ₂ emissions (Scope 3 downstream)	Value of ash used as raw material EUR 12m ⁷⁾
2.2m t	EUR 4.8 billion	EUR 11,720m	Process wastewater	1.7m t	Impact of paid taxes on social capital EUR 414m ⁸⁾
Fossil CO ₂ emissions (Scope 3 upstream)	Water uptake	Comparable EBIT	Cooling water	Carbon content in UPM products	
3.3m t	Surface water	EUR 2,096m	140m m ³	13m t	
Water intensive production sites located in water abundant areas	Ground water	Granted patents and patents validations	Biological oxygen demand (7days)	Carbon sink in UPM own and leased forests	
100%	19m m ³	247	6,300 t	2.3m t CO ₂ eq ¹⁾	
New hires	Communal water	People and society	Chemical oxygen demand		
3,400	4m m ³	Employees	48,000 t		
Own and leased forests and plantations	Energy	Shareholders	Absorbable organic halogens		
1,070,000 ha	Renewable fuels	17,200	210 t		
	19,400 GWh	132,100	Process waste and by-products		
	Fossil fuels	Training hours per employee	Material recycling		
	10,500 GWh	8	517,000 dry t		
	Purchased electricity and heat	Total recordable injury frequency incl. contractors	Energy recovery		
	14,300 GWh	5.9	159,000 dry t		
		Dividend distribution	Composting		
		EUR 693m	5,000 dry t		
		Employee wages and benefits	Landfilling		
		EUR 1,181m	55,000 dry t		
		Corporate income taxes paid and property taxes	Temporary storage		
		EUR 349m	16,000 dry t		
			Incineration without energy recovery		
			2,100 dry t		
			Hazardous waste for special treatment		
			7,200 t		

¹⁾ Based on study by Luke Finland: 5-year average of carbon sink and sources in UPM own and leased forests in Finland and Uruguay. ²⁾ Read more on pages 82-83 ³⁾ Read more on pages 28-29 ⁴⁾ Calculated using societal cost of carbon EUR 100/tCO₂ (average damage cost per tonne of CO₂). Source: EEA. Using European emissions allowance price would result in EUR -810m. ⁵⁾ Calculated using societal cost of each air pollutant. Source: EEA ⁶⁾ Based on pilot study by Gaia. Read more on upm.com/responsibility ⁷⁾ Calculated using corporate income and property taxes, and health utility of taxes. Source: Vionnet et al. (2021) The Health Utility of Income and Taxes. Part B.

¹⁾ Calculated using societal cost of carbon EUR 100/tCO₂ (average damage cost per tonne of CO₂). Source: EEA. Using European emissions allowance price would result in EUR -810m. ²⁾ Read more on pages 82-83 ³⁾ Read more on pages 28-29 ⁴⁾ Calculated using societal cost of carbon EUR 100/tCO₂ (average damage cost per tonne of CO₂). Source: EEA. Using European emissions allowance price would result in EUR -810m. ⁵⁾ Calculated using societal cost of each air pollutant. Source: EEA ⁶⁾ Based on pilot study by Gaia. Read more on upm.com/responsibility ⁷⁾ Calculated using corporate income and property taxes, and health utility of taxes. Source: Vionnet et al. (2021) The Health Utility of Income and Taxes. Part B.

GOVERNANCE

- Growth in a changing environment 102
- Remuneration 109
- Board of Directors 112
- Group Executive Team 114
- Independent practitioner’s limited assurance report on UPM’s Corporate Responsibility reporting 116



ACTIONS FOR THE FUTURE

The Paso de los Toros pulp mill will have a major impact on the Uruguayan economy. Together with the contractors, we directly employ around 4,000 people and in total the mill will create 10,000 jobs in the region.



GROWTH IN A CHANGING ENVIRONMENT

Our decision-making, management and operations are guided by our values and by the UPM Code of Conduct. Our governance structure supports good management, responsible business operations and compliance at all levels, with clear responsibilities and reporting lines.

UPM complies with all recommendations of the Finnish Corporate Governance Code (CG Code), which is issued by the Finnish Securities Market Association. In accordance with the CG Code, we have published our Corporate Governance Statement (CG Statement) for the financial year 2022. It is available on the corporate website at www.upm.com/governance. We can refer to the CG Statement for information on:

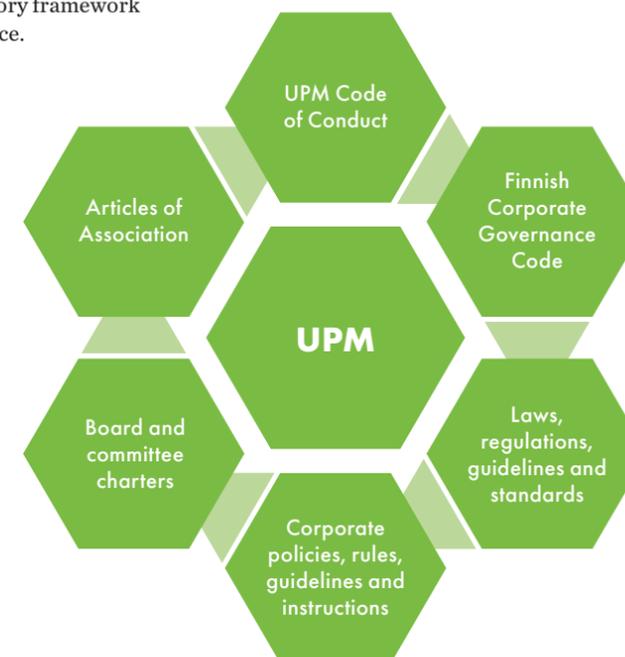
- Our governance structure and management system
- The duties and responsibilities of the Board of Directors and its Committees
- The duties and responsibilities of our management bodies
- Our management and control procedures related to internal control, risk management, internal audit, insider administration and related party transactions

General Meeting of shareholders

Our Annual General Meeting (AGM) 2022 took place in Helsinki on 29 March 2022. The proposals by the Board of Directors and the Nomination and Governance Committee to the AGM were published in January and the notice of the AGM was published in February. In order to prevent the spread of COVID-19, the AGM was arranged under the Finnish temporary Legislative Act (375/2021) and held without the share-

Governance framework

The illustration below summarises the basic regulatory framework for our governance.



holders and their proxy representatives being present at the meeting venue. UPM also offered a proxy authorisation service, whereupon shareholders had the possibility to authorise an independent proxy representative nominated by the Company.

This exceptional AGM arrangement was necessary to ensure the health and safety of the shareholders, employees and other stakeholders, as well as to organise the meeting in a predictable way, allowing equal means for shareholders to participate whilst also ensuring compliance with the prevailing restrictions set by the authorities at that time. The shareholders could participate and exercise their shareholder rights at the AGM by voting in advance, as well as submitting counterproposals and asking questions in writing in advance. A total of 2,737 (2,542) shareholders were represented at the meeting and they represented 58.1% (54.2%) of the Company's shares and voting rights at the time of the AGM. The AGM supported all of the proposals and all decisions at the meeting were made in accordance with the proposals by the Board

of Directors, as well as the Board's Nomination and Governance Committee.

The shareholders and the public were able to follow the whole meeting, including greetings by the Board Chair and a review by the President and CEO, via a webcast. The recorded speeches were further made available after the AGM on the corporate website at www.upm.com/agm2022.

The AGM adopted the Company's Financial Statements and decided to distribute the same dividend of EUR 1.30 per share as for the previous year and released the members of the Board of Directors and the President and CEO from liability for the financial year 2021. The dividends, totalling EUR 693 million, were paid on 7 April 2022 to the shareholders who were registered on our list of registered shareholders on 31 March 2022. UPM's Remuneration Report 2021 for governing bodies was presented to and adopted by the AGM. Information on other decisions made at the AGM can be found later on in this section and on the corporate website at www.upm.com/agm2022.

The AGM 2023 will be held at the

Messukeskus, Helsinki (an exhibition and convention centre) on 12 April. Detailed instructions for shareholders wishing to participate in the meeting or follow the webcast are available on the corporate website at www.upm.com/agm2023. For the year 2022, the Board of Directors has proposed a dividend of EUR 1.50 per share to be paid in two instalments.

Board of Directors

- Sets the Company's strategic objectives
- Reviews and approves financial and other plans relevant to the achievement of these objectives
- Reviews the management team's performance in terms of meeting these objectives

The Board's other primary responsibilities relate to the integrity of the Company's financial reporting, the effectiveness of internal control and risk management systems and the appointment, remuneration and succession planning of the Company's senior management.

Board composition

The composition of the Board changed in 2022 when Berndt Brunow, UPM's Director since 2002, announced that he would not be available for re-election. The Nomination and Governance Committee conducted its annual review of the structure, size, composition, diversity and succession needs of the Board as a whole. This includes whether the Board reflects an appropriate balance of sound judgement and a diverse range of business expertise, skills, experience, independence, availability of service to the Company and other desired qualities. As a result of a careful selection process, the Nomination and Governance Committee proposed nine members be elected to UPM's Board of Directors for a one-year term.

As proposed by the Nomination and Governance Committee, Henrik Ehrnrooth, Emma FitzGerald, Jari Gustafsson, Piia-Noora Kauppi, Marjan Oudeman, Martin à Porta, Kim Wahl and Björn Wahlroos were re-elected, whilst Topi Manner was elected as a new director. All directors are non-executive and their term of office will end upon the closure of the AGM 2023. The shareholders were asked to vote for the

Board of Directors on a single slate, as this has been, unlike in many other countries, a market practice in Finland. The Nomination and Governance Committee also believes that this practice helps to ensure that the Board works effectively as a whole, whilst comprising of sufficiently diverse members with varied experience and versatile areas of expertise that mutually complement each other.

The composition of the Board is presented in the table below. The new director, Topi Manner (born 1974), is a Finnish citizen and holds a Master's degree in Economics and Business Administration from the University of Turku. Manner has been the President and CEO of Finnair Plc since 2019. Previously, he was a member of Nordea Group's Executive Management and their Head of Personal Banking 2016–2018. He also held various other executive roles at Nordea from 2006–2016. He is a Board member for Elisa Corporation and Service Sector Employers PALTA and Chair of the Audit Committee for IATA (the International Air Transport Association).

Board diversity

The overall aim of diversity is for the Board, as a whole, to have a broad range of skills, experience and perspectives, as well as knowledge of UPM and other relevant industries, so that the Board can effectively accomplish its responsibilities, in particular those pertaining to strategy and risk management. With regards to other factors

relevant to Board diversity, it is the Board's objective to include an appropriate number of directors of different nationalities, ages, genders and lengths of service, as presented in the pie charts on the right. Information on the professional backgrounds of the Board of Directors and their other significant commitments is available on pages 112–113 of this report.

The Board's diversity principles are included in the Board and Committee Charters and, more specifically, in the Board's Diversity Policy, available at www.upm.com/governance. More information on UPM Board diversity, its related objectives and the results obtained is available in our CG Statement 2022.

Director independence

With the assistance of the Board's Nomination and Governance Committee, the Board of Directors evaluates the independence of its members both annually and on a continuous basis. Director independence is assessed based on the independence criteria of the Finnish CG Code. The majority of the members on the Board of Directors must be independent of the Company and at least two of these independent members must be independent of any significant shareholders.

The independence evaluation of director candidates is one of the key factors in the preparation of the Nomination and Governance Committee's annual proposal for the composition of the Board. The Committee

58%

of shares and votes represented in the AGM 2022

2,737

shareholders represented in the AGM 2022

RELEVANT PROFESSIONAL EXPERIENCE

- ✓ Financial expertise
- ✓ Relevant industry knowledge
- ✓ International experience
- ✓ Risk management experience
- ✓ Governance and leadership experience
- ✓ Experience in the planning and implementation of company strategies



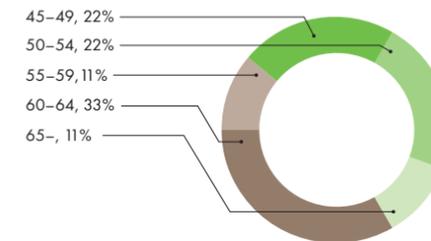
assesses the independence of members of the Board of Directors on a continuous basis. It also reviews a report on any changes in professional engagements and other commitments at every meeting to ensure that members are compliant with the indepen-

dence criteria. The Committee also assesses how such changes may affect the Board members' availability for Board-related work and reports to the Board on the outcome of such assessments. In particular, the Committee assesses the Board members' positions

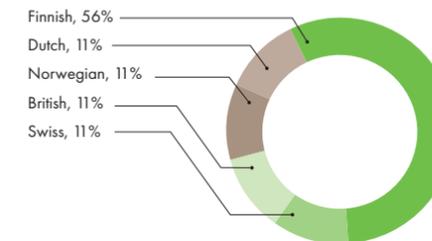
in other publicly listed companies to ensure that the members adhere to best practice with regards to overboarding. According to the Nomination and Governance Committee's assessment, all directors are independent of both the Company and the significant shareholders. High attendance rates at the Board and Committee meetings prove the Board members' commitment and availability for Board-related work. The attendance rates at the meetings by each member are in the table on the previous page.

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 have announced a holding of 10% or more of the Company's shares or votes attached thereto.

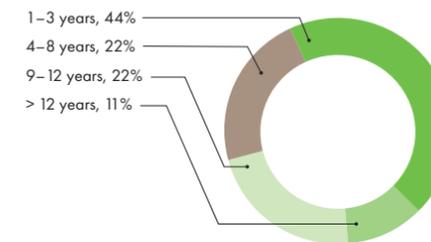
Board diversity – age



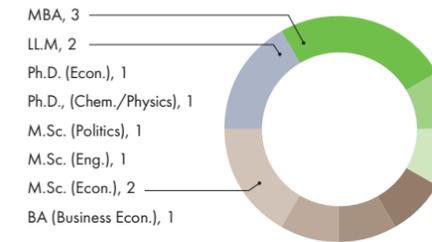
Board diversity – nationality



Board diversity – tenure



Board diversity – education



Board diversity – gender



BOARD COMPOSITION, 31 DECEMBER 2022

DIRECTOR ¹⁾	DIRECTOR SINCE	NO. OF TERMS	AGE (AT THE END OF 2022)	INDEPENDENCE OF THE COMPANY	NON-EXECUTIVE / EXECUTIVE DIRECTOR
Björn Wahlroos (Chair) ²⁾	2008	15	70	Independent	Non-executive director
Henrik Ehrnrooth (Deputy Chair)	2015	8	53	Independent	Non-executive director
Emma FitzGerald	2020	3	55	Independent	Non-executive director
Jari Gustafsson	2021	2	64	Independent	Non-executive director
Piia-Noora Kauppi	2013	10	47	Independent	Non-executive director
Topi Manner	2022	1	48	Independent	Non-executive director
Marjan Oudeman	2018	5	64	Independent	Non-executive director
Martin à Porta	2020	3	52	Independent	Non-executive director
Kim Wahl	2012	11	62	Independent	Non-executive director

¹⁾ Berndt Brunow's term ended at the AGM 2022 due to his announcement that he would not be available for re-election

²⁾ Not available for re-election at the AGM 2023

ATTENDANCE AT BOARD AND COMMITTEE MEETINGS 2022

DIRECTOR	ATTENDANCE / NO. OF BOARD MEETINGS	ATTENDANCE %	ATTENDANCE/NO. OF COMMITTEE MEETINGS	ATTENDANCE %	AVERAGE ATTENDANCE %
Björn Wahlroos, Board and NGC Chair	14/14	100	5/5	100	100
Henrik Ehrnrooth, Deputy Chair and NGC member as of 29 March (RC Chair until 29 March)	14/14	100	5/5	100	100
Emma FitzGerald, RC member (AC member until 29 March)	14/14	100	5/5	100	100
Jari Gustafsson, AC member	14/14	100	5/6	83	95
Piia-Noora Kauppi, NGC member	14/14	100	5/5	100	100
Topi Manner, Board and RC member as of 29 March	12/12	100	3/3	100	100
Marjan Oudeman, AC member	14/14	100	6/6	100	100
Martin à Porta, RC Chair as of 29 March, RC member	14/14	100	4/4	100	100
Kim Wahl, AC Chair	14/14	100	6/6	100	100
Berndt Brunow, Deputy Chair and NGC member until 29 March	2/2	100	1/1	100	100

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



CASE

LEADERSHIP IS A TEAM EFFORT

Topi Manner, Finnair President and CEO and a new Board member for UPM, has been impressed by UPM's people, culture and business model.

"The people are very committed; they have deep know-how and they are goal-driven. The roots, long history and strong will for continuous renewal are visible in the culture. There is room for innovation and success is rewarded. The business model enables strategy to be implemented across various businesses and empowers people to act. The strategy packages everything into a common direction."

"UPM's purpose guides the activities of all business areas and personnel in the short and long term. The purpose is like a map on which thinking and actions can be linked. I hope it also inspires UPM's customers, owners and other stakeholders."

Manner, who has had a long career at Nordea, says his leadership style is entrepreneurial. It could be defined as being focused on responsibility, initiative and determination. "I believe in teams of diverse people and building teams is an important part of leadership. I strive to be an approachable people-oriented leader who communicates the direction and rationale for decisions and motivates people."

All directors are non-executive and the Board has also concluded that all directors are independent of the Company, including Kim Wahl and Björn Wahlroos, who have been non-executive directors of the Company for 10 or more consecutive years. Based on the Board's overall evaluation of the independence of these directors, their long-standing service does not compromise their independence and no other factors or circumstances have been identified that could affect their independence.

Board-related work in 2022

The Board convened according to its original meeting schedule and held 14 meetings in 2022. Its work was not disrupted, even during the continued exceptional circumstances in spring 2022 caused by the COVID-19 pandemic.

There is no minimum meeting attendance requirement for Board members. Instead, Board members are expected to attend all meetings unless there is a valid reason for not attending. The average attendance of the Board members at the Board meetings was 100% (98.8%) and 89.0% (100%) at the Committee meetings. The personal attendance rate of each Board member is presented in the table on page 105. In connection with its meetings, the Board also held non-executive sessions and non-executive sessions with the external auditor.

Strategic focus points in 2022

In line with its main duties and responsibilities, the Board reviewed and approved strategic plans during its strategy session in May. The main focus points of the UPM Biofore strategy continue to be growth, performance, innovation, responsibility and portfolio. Read more about our strategy on pages 20–21. An essential part of the Board's annual strategy-related work is to oversee the assessment and management of risks related to the Company's strategy and operations. These risks and opportunities, as well as their impact on operations and strategy, are described on pages 32–33 and 132.

In 2022, the Board continued to focus on major strategic investments, most notably the pulp mill project in Uruguay and the biochemicals biorefinery in Germany. The Board has been closely monitoring the status and the feasibility of the project in Uruguay since 2016

and has conducted several status reviews, including risk assessments, in its meetings since then. The investment will raise UPM's pulp production capacity by more than 50% and significantly contribute to future earnings. Read more about this strategic investment on pages 40–41 and on the corporate website at www.upmpasodelostoros.com.

The investment decision on the new biorefinery in Germany was made in January 2020 and the Board has regularly reviewed the status and feasibility of this project. The biorefinery will produce a range of 100% wood-based biochemicals that will enable a switch from fossil raw materials to sustainable alternatives in various consumer-driven end-uses. Read more about this strategic investment on pages 54–55 and on the corporate website at www.upmbiochemicals.com/biorefinery.

Board performance evaluation

The Board of Directors conducts an annual evaluation on its performance and working methods, including an evaluation of the performance and working methods of its Committees.

In 2022, the evaluation was conducted as a self-evaluation in November and its results were reviewed and discussed at the Board meeting in December. The Board members evaluated the performance of the Board and its Committees in relation to their respective duties and responsibilities, their compositions and structure, Board culture, the effectiveness of the Board and Committee meetings, the individual performance of the Board members and the performance of the Chair of the Board.

The overall results of the 2022 self-evaluation were highly favourable and indicated that the Board, the Chair of the Board and the Board Committees are performing effectively, and that the Board members are committed to Board work. Identified areas for improvement are considered when planning Board-related work and the Nomination and Governance Committee takes the results into consideration when preparing its proposal for the composition of the Board for the Annual General Meeting.

Board Committees

The Board has established the following three Committees to further improve the

COMMITTEE MEMBERS 2022**AUDIT COMMITTEE**

Kim Wahl (Chair)
Jari Gustafsson
Marjan Oudeman
Emma FitzGerald (member until 29 March)

REMUNERATION COMMITTEE

Martin à Porta (Chair as of 29 March)
Emma FitzGerald
Topi Manner (member as of 29 March)
Henrik Ehrnrooth (Chair and member until 29 March)

NOMINATION AND GOVERNANCE COMMITTEE

Björn Wahlroos (Chair)
Henrik Ehrnrooth (member as of 29 March)
Piia-Noora Kauppi
Berndt Brunow (member until 29 March)

preparation of matters to be decided by the Board:

- The Audit Committee
- The Remuneration Committee
- The Nomination and Governance Committee

The Nomination and Governance Committee assisted the Board in reviewing the composition, qualification criteria and duties of the Board Committees and made a proposal to the Board for the appointment of Committee members and Chairs. The members were appointed to the Board Committees in the Board's constitutive meeting on 29 March 2022. The Committee compositions are presented in the table on the left. 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 define the purpose, composition, operations and duties of each Committee, as well as the prerequisites of Committee membership. Each Committee is responsible for performing the duties assigned to it in its Charter. The Committee Charters are presented in the

CG Statement and are also available at www.upm.com/governance. The Committees hold their meetings prior to Board meetings in order to prepare matters to be decided by the Board. The chairs of each Committee report on matters discussed and actions taken by the Committees during the Board meetings. In addition, minutes from the Committee meetings are available to the Board members for information purposes.

Committee-related work in 2022

The importance and extent of the work of the Committees has increased in recent years and will further increase following the continuous changes to the regulatory framework and the Company's business environment. This is also reflected in the Committee Charters and in the topics and matters that the Committees were involved with in addition to their regular duties throughout the year.

Audit Committee

The Audit Committee is responsible for overseeing the Company's financial reporting processes and financial reporting, internal control, and internal audit and risk management, as well as monitoring the Company's audit and compliance procedures. In 2022, the Audit Committee held six meetings. In addition to the Audit Committee's assigned matters and regular reports as listed above, it also reviewed reports on and discussed cybersecurity, the audit tendering process, energy market topics, ESG, impacts on the environment and other non-financial matters (together with the review of non-financial reporting). The Board would respectively be informed as part of the Committee Chair's regular reporting to the Board if the Committee was provided concerns from the stakeholders analysed having a material impact on the economy, environment or people. Read more on our sustainable development on pages 58–99.

The lead audit partner attended all regular, pre-scheduled Committee meetings and reported to the Committee on interim procedures and findings, as well as quarterly audit and non-audit fees and services. The Committee's standard procedures also include quarterly sessions with the internal auditor, the lead audit partner, manage-

ment and amongst Committee members.

The Audit Committee has prepared the Board's proposal for the election and remuneration of the auditors for the financial years 2023 and 2024, to be presented at the AGM 2023. When preparing the proposal for the financial year 2023, the Committee evaluated the qualifications and independence of the auditor, as well as the audit-related and non audit-related services provided by the auditor. The evaluation included an assessment of the effectiveness of the audit process, the quality of the audit, the performance of the lead auditor and audit team and the co-operation with the auditor's international audit network. As a result of the evaluation, the Committee recommended the re-election of PricewaterhouseCoopers Oy as the Company's auditor for the financial year 2023. Following the stipulations of the Audit Regulation, the last financial year that PricewaterhouseCoopers Oy can act as the Company's auditor is 2023.

The Company has an obligation to organise an audit firm selection procedure in accordance with the EU Audit Regulation concerning the audit for the financial year 2024 (mandatory auditor rotation). To prepare for the mandatory rotation, the Annual General Meeting held on 29 March 2022 resolved on amending the article 8 of the Articles of Association to allow the Annual General Meeting to elect the auditor also in advance for a term of one financial year.

With regard to the proposal for the financial year 2024, the Audit Committee has prepared its recommendation in accordance with the EU Audit Regulation and organised a statutory audit firm selection procedure. The Committee has reviewed potential audit firm candidates and identified Ernst & Young Oy and Deloitte Oy as the best candidates for the global audit engagement of the Company. These candidates have been evaluated against a variety of selection criteria such as proposed audit plan and methodology, experience and composition of the audit team, audit quality, and price. The selection process included multiple rounds of information submissions, testing of technological capabilities, interviews and presentations by the candidates as well as external reference checks. After careful consideration based

on the selection criteria, Ernst & Young Oy became the Committee's preference and recommended audit firm for the financial year 2024 with Deloitte Oy as the secondary option. The Board agreed with these proposals and has made corresponding proposals to the AGM 2023.

According to PricewaterhouseCoopers Oy, Authorised Public Accountant Mikko Nieminen will continue as the lead audit partner for the financial year 2023. Ernst & Young Oy has informed that Authorised Public Accountant Heikki Ilkka would act as the lead audit partner for the financial year 2024.

Remuneration Committee

The Remuneration Committee is responsible for preparing the Company's remuneration principles and practices, as well as planning the remuneration and succession of the President and CEO and other senior executives.

In 2022, the Committee held four meetings. In addition to the Remuneration Committee's assigned matters and regular reports as listed above, it also discussed the performance measures of the incentive plans and made recommendations to the Board concerning the terms of planning the remuneration and succession of the President and CEO and other senior executives. Following the Remuneration Committee's recommendation, the Board decided to define three ESG-related performance measures (page 28) in the new performance share plan (PSP 2022–2024).

Nomination and Governance Committee

The Nomination and Governance Committee is responsible for the composition, diversity and remuneration of the Board of Directors and corporate governance. If necessary, the Committee also identifies individuals who are qualified to serve as the President and CEO. In 2022, the Committee held five meetings. In addition to the Nomination and Governance Committee's assigned matters and regular reports as listed above, it also focused on extraordinary measures for the AGM pursuant to the Finnish temporary Legislative Act (375/2021) prevailing at that time. The Committee further focused on the search for a director and the succession plan for the Board and its Chair, as the latter announced in connection to the AGM 2022 that the commencing term would be his last as Chair.

The Nomination and Governance Committee conducted its annual review of the structure, size, composition, diversity and succession needs of the Board as a whole. This included whether the Board reflects an appropriate balance of sound judgement and a diverse range of business expertise, skills, experience, independence, availability of service to the Company and other desired qualities.

As a result of careful research and selection efforts, the Nomination and Governance Committee has proposed that Pia Aaltonen-Forsell be elected as a new member of the Board at the AGM 2023. Of the incumbent directors, Björn Wahlroos, Chair of the Board, will not be available for

re-election. The Nomination and Governance Committee's proposal on the composition of the Board in 2023, along with the Board's assessment of the independence of potential Board members, is available on the corporate website at www.upm.com/agm2023.

Executive management

Jussi Pesonen has been the President and Chief Executive Officer of UPM-Kymmene Corporation since January 2004. According to his service agreement, Jussi Pesonen was entitled to retire at the age of 60. At the request of the Company's Board of Directors, he continues as the President and CEO and has announced that he will exercise his right to retire from UPM during 2024. The schedule allows UPM's Board of Directors sufficient time to implement the succession planning process.

The President and CEO's duty is to manage and oversee the Company's day-to-day business operations in accordance with the instructions and orders given by the Board of Directors. In the operative management of the Company, the President and CEO is assisted by the Group Executive Team, consisting of the executives leading business areas and global functions, the Business Area Boards and the Strategy Team. The President and CEO makes decisions on matters that are relevant to the Company's daily business operations. The President and CEO chairs the Group Executive Team. The compositions of these management bodies are presented in the table on the right.

COMPOSITION OF MANAGEMENT BODIES

GROUP EXECUTIVE TEAM	BUSINESS AREA BOARDS	STRATEGY TEAM
President and CEO (Ch.)	President and CEO (Ch.)	President and CEO (Ch.)
CFO	CFO	CFO
General Counsel	General Counsel	General Counsel
Business area EVPs	Business area EVP	EVP Strategy
EVPs of global functions	EVPs of global functions	EVP Technology

RESPONSIBILITY AREAS OF THE MEMBERS OF THE GROUP EXECUTIVE TEAM

PRESIDENT AND CEO JUSSI PESONEN				
Tapio Korpeinen	CFO ¹⁾		UPM Fibres ⁴⁾	Bernd Eikens
Juha Mäkelä	General Counsel		UPM Energy	Tapio Korpeinen
Kari Ståhlberg	Strategy		UPM Raflatac	Antti Jääskeläinen
Winfried Schaur	Technology ²⁾		UPM Specialty Papers	Jaakko Nikkilä
Riitta Savonlahti	Human Resources		UPM Communication Papers	Massimo Reynaudo
Pirkko Harrela	Stakeholder Relations ³⁾		UPM Plywood	Mika Kekki

¹⁾ Incl. Finance & Control, Treasury, IR, IT, Sourcing and Real Estate (incl. Finnish forest assets)

²⁾ Incl. Investment Management, R&D and UPM Biorefining business unit (UPM Biofuels, UPM Biochemicals, UPM Biomedicals and UPM Biocomposites)

³⁾ Incl. Communications & Brand, Responsibility, Public Affairs

⁴⁾ Incl. UPM Pulp and UPM Timber

Management responsibilities

Members of the Group Executive Team have primary responsibility for the business areas and global functions that they lead. These areas of responsibility are shown in the illustration on the right.

Remuneration

In accordance with the CG Code, we have published our Remuneration Report for the financial year 2022. The Remuneration Report and information on the remuneration of the Group Executive Team members is available on the corporate website at www.upm.com/governance.

The Remuneration Report for governing bodies presents the remuneration of the directors and the President and CEO and has been prepared by the Board of Directors' Remuneration Committee and Nomination and Governance Committee. The Remuneration Report 2022 for governing bodies will be presented at the AGM 2023. The Remuneration Policy sets

out the framework for the remuneration of the Company's governing bodies and is available on the corporate website at www.upm.com/governance.

Remuneration of the members of the Group Executive Team and information about the Company's short and long-term incentive schemes and plans, as well as the terms and conditions of the aforementioned executives' service agreements, is available on the corporate website at www.upm.com/governance.

Remuneration of the Board of Directors

At the AGM 2022, in accordance with the Nomination and Governance Committee's proposal, it was decided that the remuneration of the Chair of the Board of Directors would be raised so that the Chair of the Board will be paid an annual base fee of EUR 200,000. The remuneration of the Deputy Chair of the Board and the other members of the Board remains unchanged, with the Deputy Chair of the Board being

➤ Read more on our management system in the Corporate Governance Statement 2022 and at www.upm.com/governance.

➤ Members of the Group Executive Team, including information on the executives' biographical details, professional and educational backgrounds, other significant commitments and shareholdings in the Company, are presented on pages 114–115.

CASE

NEW CYBERSECURITY PROGRAMME LAUNCHED

Cybersecurity has become more important than ever before given the current geopolitical situation. In a networked world, potential attacks and consequences could also impact UPM's operations. Changing technology and regulations also require effective cyber-risk mitigation.

Although our work on cybersecurity is based on continuous development, UPM launched a new cybersecurity improvement programme in 2022. The programme aims to prevent and mitigate cyber-risks, safeguard business continuity and protect against the misuse of our systems, networks and technologies.

The programme consists of eight solution streams and will run from 2022 to 2025. The programme's initial steps involve critical

service and process identification, which will be followed by several organisational and technical cybersecurity improvements. The programme is regularly reported to UPM's audit committee, which monitors the progress in its meetings. Renewed employee training on detecting and reporting cybersecurity incidents will begin in 2023.

It is a long-standing custom at UPM to remunerate Board members in both shares and cash. 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 the interests of Board members with those of shareholders.

BOARD REMUNERATION AND PAYMENT MECHANISM

ANNUAL BASE FEE (EUR)	2022		2021	PAYMENT MECHANISM
	2022	2021	2021	
Chair	200,000	195,000		<ul style="list-style-type: none"> Approx. 40% in company shares, rest in cash to cover taxes. The Company paid costs and transfer tax related to the purchase of the Company shares Shares may not be transferred within two years from the purchase date or until the Director's membership in the Board has ended, whichever occurs first
Deputy Chair	140,000	140,000		
Member	115,000	115,000		

COMMITTEE FEES AND PAYMENT MECHANISM

ANNUAL COMMITTEE FEES 2021-2022 (EUR)	CHAIR	MEMBERS	PAYMENT MECHANISM
Audit Committee	35,000	15,000	cash
Remuneration Committee	27,500 (20,000)	10,000	
Nomination and Governance Committee	20,000	10,000	

BOARD REMUNERATION IN 2022

DIRECTOR ¹⁾	ANNUAL BASE FEE (EUR) OF WHICH 40% FOR SHARES (EUR)		ANNUAL COMMITTEE FEE (EUR)	TOTAL REMUNERATION (EUR)	NUMBER OF SHARES PURCHASED AS PART OF ANNUAL BASE FEE ²⁾
	60% IN CASH (EUR)				
Björn Wahlroos	200,000		20,000	220,000	2,489
	80,000	120,000			
Henrik Ehrnrooth	140,000		10,000	150,000	1,742
	56,000	84,000			
Emma FitzGerald	115,000		10,000	125,000	1,431
	46,000	69,000			
Jari Gustafsson	115,000		15,000	130,000	1,431
	46,000	69,000			
Piia-Noora Kauppi	115,000		10,000	125,000	1,431
	46,000	69,000			
Topi Manner	115,000		10,000	125,000	1,431
	46,000	69,000			
Marjan Oudeman	115,000		15,000	130,000	1,431
	46,000	69,000			
Martin à Porta	115,000		27,500	142,500	1,431
	46,000	69,000			
Kim Wahl	115,000		35,000	150,000	1,431
	46,000	69,000			
Total	1,145,000		152,500	1,297,500	14,248
	458,000	687,000			

¹⁾ Berndt Brunow's term ended at the AGM 2022 due to his announcement that he would not be available for re-election. No Board fees were payable to him during financial year 2022.

²⁾ Transaction date 27 April 2022

Remuneration of executive management

Remuneration at UPM is designed to encourage our value-based behaviour and the achievement of ambitious strategic targets, as well as compensate performance accordingly.

The aim of the remuneration process for the Company's management team is to promote the Company's long-term financial success, competitiveness and favourable development of shareholder value. Remuneration comprises fixed and variable components. These components are shown in the table on page 111.

The variable components are linked to pre-determined and measurable performance criteria, as well as thresholds have been set for the payable amount. The payable amounts of incentives are linked to the management team member's position, as well as their achievement of performance measures and targets set on an annual basis.

The Company has the right to reclaim any paid or due variable remuneration under

certain circumstances, such as the violation of laws or other legal obligations or the violation of the UPM Code of Conduct or other Company policies. Overall circumstances will be considered before exercising this right. The Company also has the right to cancel, recover or restate any paid or due variable remuneration in the event that financial or other calculations are found to be incorrect.

Salaries, benefits and incentives earned by the President and CEO and members of the Group Executive Team are shown in the tables on the right.

In 2022, costs under the Finnish statutory pension scheme for the President and CEO amounted to EUR 458,000 (EUR 329,000). Payments under the voluntary pension plan amounted to EUR 1,000,000 (EUR 1,200,000).

In 2022, costs under the Finnish and German statutory pension schemes for GET members (excluding the President and CEO) amounted to EUR 941,000 (EUR 860,000). Payments under the voluntary pension plan amounted to EUR 987,000 (EUR 1,035,000). Please also see the Remuneration Report 2022 (subject to adoption at the AGM 2023) and Note 3.2 of the consolidated Financial Statements.

Auditor and audit fees

At the AGM 2022, PricewaterhouseCoopers Oy, a firm of Authorised Public Accountants, was re-elected as the Company's statutory auditor for a one-year term, with Authorised Public Accountant Mikko Nieminen as the lead audit partner. Mr Nieminen has held this position since 4 April 2019. He is the CEO of PwC Finland.

The Company conducted a tendering process for auditing services in 2022. The previous tendering process was carried out in 2013. Following the stipulations of the Auditor Regulation, the last financial year that PricewaterhouseCoopers Oy can act as the Company's auditor is 2023. Therefore, the AGM has been given proposals for election of the auditor for the financial years 2023 and 2024 (page 107).

The AGM 2022 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 table on the right.

COMPONENTS OF MANAGEMENT REMUNERATION

COMPONENT	PAYABLE IN	BASIS OF PAYMENT	TIME OF PAYMENT
Base salary	Cash	Service agreement/ Executive contract	Monthly
Fringe benefits	For example, company car and phone	Service agreement/ Executive contract	Monthly
Short-term incentives	Cash	Short-Term Incentive Plan	Annually
Long-term incentives	Shares	Performance Share Plan (PSP)	Annually following a three-year earning period

REMUNERATION OF THE PRESIDENT AND CEO

SALARIES AND BENEFITS (EUR 1,000)	2022	2021
Salary, paid during the financial year	1,153	1,093
Short-term incentives, earned during the financial year	1,473 ¹⁾	1,309 ²⁾
Share rewards, earned	2,902 ³⁾	2,997 ⁴⁾
Benefits, paid during the financial year	28	31

¹⁾ Paid in February 2023

²⁾ Paid in February 2022

³⁾ PSP 2020-2022 (shares delivered in February 2023)

⁴⁾ PSP 2019-2021 (shares delivered in February 2022)

REMUNERATION OF THE GROUP EXECUTIVE TEAM (EXCLUDING THE PRESIDENT AND CEO)

SALARIES AND BENEFITS (EUR 1,000)	2022	2021
Salaries, paid during the financial year	4,140	3,958
Short-term incentives, earned during the financial year	2,973 ¹⁾	2,739 ²⁾
Share rewards, earned	9,242 ³⁾	9,347 ⁴⁾
Benefits, paid during the financial year	135	142

¹⁾ Paid in February 2023

²⁾ Paid in February 2022

³⁾ PSP 2020-2022 (shares delivered in February 2023)

⁴⁾ PSP 2019-2021 (shares delivered in February 2022)

AUDITOR'S FEES

EUR MILLION	2022	2021	2020
Audit fee	4.0	3.4	3.8
Audit-related services	0.2	0.2	0.1
Tax services	0.3	0.4	0.4
Other services	0.1	0.2	0.2
Total	4.6	4.2	4.5

BOARD OF DIRECTORS



Björn Wahlroos

Chair of the Board

- Chair and member since 2008
- Chair of the Nomination and Governance Committee
- Independent of the Company and significant shareholders
- Born 1952, Finnish citizen
- Ph.D. (Econ.)
- UPM shares 273,189

President and CEO of Sampo plc 2001–2009. Chair of the Board of Mandatum Bank plc 1998–2000, CEO and Vice Chair of the Board of Mandatum & Co. Ltd. 1992–1997. Executive Vice President and member of the Executive Committee of the Union Bank of Finland 1989–1992.

Chair of the Board of Sampo plc. Board member of the Finnish Business and Policy Forum EVA and the Research Institute of the Finnish Economy ETLA. Board member of the Mannerheim Foundation.



Henrik Ehrnrooth

Deputy Chair of the Board

- Member since 2015, Deputy Chair since 2022
- Member of the Nomination and Governance Committee
- Independent of the Company and significant shareholders
- Born 1969, Finnish citizen
- M.Sc. (Econ.)
- UPM shares 14,461

President and CEO of KONE Corporation since 2014 and KONE Corporation's Chief Financial Officer and Executive Board member 2009–2014. Previously 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 Round Table for Industry (ERT).



Emma FitzGerald

Member since 2020

- Member of the Remuneration Committee
- Independent of the Company and significant shareholders
- Born 1967, British citizen
- MBA, D.Phil., MA (Surface Chemistry/Solid-State Physics)
- UPM shares 4,644

CEO and Executive Director of Puma Energy Ltd. 2019–2021. Executive Director responsible for water and waste service businesses and member of the Board of Severn Trent plc. 2015–2018, CEO of Gas Distribution Networks for the UK National Grid 2013–2015, Vice President, Global Retail Network, Shell International Ltd. 2010–2013, Vice President, Downstream Strategy and Consultancy, Shell International Ltd. 2007–2010, Managing Director, Shell China/Hong Kong 2004–2007 and Shell Gas Ltd. 2001–2004, Shell International Ltd., Global R&D, sales and marketing roles 1992–2001.

Board member of Graphene Manufacturing Group Ltd, Seplat Energy plc and Newmont Corporation. Mentor of Creative Destruction Lab - Climate work stream. Expert Advisor of World Economic Forum supporting acceleration of energy transition in developing markets.

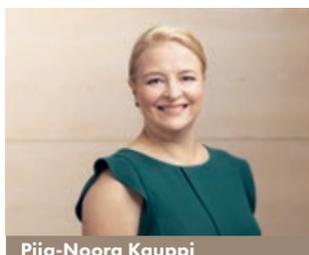


Jari Gustafsson

Member since 2021

- Member of the Audit Committee
- Independent of the Company and significant shareholders
- Born 1958, Finnish citizen
- M.Sc. (Political Science)
- UPM shares 2,836

Ambassador of Finland to Greece and Albania since 2020. Permanent Secretary of the Ministry of Economic Affairs and Employment, Finland 2015–2020. Ambassador of Finland to the People's Republic of China and Mongolia 2013–2015. Ambassador of Finland to Japan 2009–2013. Board Director at the European Bank for Reconstruction and Development (EBRD) UK 2007–2009. Deputy Director General, Ministry for Foreign Affairs of Finland 2003–2006. Deputy Director General, Ministry of Trade and Industry, Finland 1998–2003. Counsellor (Industry, Energy, Trade), Finnish Mission to the OECD, France 1995–1998. Head of the Foreign Trade Division, Senior Advisor and Commercial Secretary, Ministry of Trade and Industry, Finland 1987–1995.



Piia-Noora Kauppi

Member since 2013

- Member of the Nomination and Governance Committee
- Independent of the Company and significant shareholders
- Born 1975, Finnish citizen
- LL.M.
- UPM shares 24,035

Partner of Odgers Berndtson Oy since 2023. Managing Director of Finance Finland (FFI) 2009–2022. 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 Gofore plc. Chair of the Board of the SOS-Children's Villages Foundation. Member of the Supervisory Board of Helsinki Deaconess Institute Foundation and Deputy Chair of its working committee.



Topi Manner

Member since 2022

- Member of the Remuneration Committee
- Independent of the Company and significant shareholders
- Born 1974, Finnish citizen
- M.Sc. (Econ.)
- UPM shares 1,431

President and CEO of Finnair Corporation since 2019. Various positions at Nordea during 2006–2018: Head of Personal Banking 2016–2018, CEO of Nordea Bank Finland Plc 2015–2016, Head of Banking Finland and Baltics, EVP 2012–2015, Head of Segments, EVP 2008–2012, Head of Northern Capital Branch Region in Finland 2006–2008, Head of Management Secretariat in Finland 2005–2006, Head of Planning & Control 2003–2005.

Board member of Elisa Corporation and Service Sector Employers PALTA. Member of the IATA Board of Governors and Chair of the IATA Audit Committee.



Marjan Oudeman

Member since 2018

- Member of the Audit Committee
- Independent of the Company and significant shareholders
- Born 1958, Dutch citizen
- LL.M., MBA
- UPM shares 9,594

President of the Executive Board of Utrecht University 2013–2017. Executive Committee member of AkzoNobel NV., responsible for HR and organisational development 2011–2013. Executive Director of Strip Products Division and Executive Committee member in Tata Steel Europe (previously Corus Group plc.) 2007–2010. Managing Director positions in Corus Group plc. 2000–2007, most recently Executive Director responsible for Corus Strip Products business and CEO of Corus Nederland BV. Various positions in Hoogovens Group NV. 1982–1999, most recently Managing Director of Hoogovens Packaging Steel business.

Board member of SHV Holdings NV., Solvay SA. and Koninklijke Luchtvaart Maatschappij N.V. (KLM).



Martin à Porta

Member since 2020

- Chair of the Remuneration Committee
- Independent of the Company and significant shareholders
- Born 1970, Swiss citizen
- M.Sc. (Eng.)
- UPM shares 24,844

President and CEO of Pöyry plc. 2015–2019, most recently EVP of ÅF Pöyry AB's Management Consulting Division until 2019, various positions in Switzerland, China, Hong Kong and Qatar with Siemens companies 2001–2015, most recently as CEO of Siemens Building Technologies Division Europe, Head of Engineering Section and Project Manager, Electrowatt Engineering Ltd., 1996–2000.

Board member of BKW AG and Stantec Inc.



Kim Wahl

Member since 2012

- Chair of the Audit Committee
- Independent of the Company and significant shareholders
- Born 1960, Norwegian citizen
- MBA (Harvard), BA (Business Econ.)
- UPM shares 25,949

Chair of the Board of Strømstangen AS. since 2009. Deputy Chair 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 Civita AS.

Chair 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 the UPM Group since 1987
- UPM shares 567,390

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

Board member of the Confederation of European Paper Industries (CEPI).



Tapio Korpeinen

Chief Financial Officer, Executive Vice President, UPM Energy

- M.Sc. (Tech.), MBA
- Born 1963, Finnish citizen
- Member of the Group Executive Team since 2008, employed by the UPM Group since 2005
- UPM shares 211,956

CFO since 2010. President, Energy and Pulp Business Group 2008–2010. Vice President, Corporate Development and Senior Vice President, Strategy, UPM 2005–2008. 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.

Chair of the Board of Pohjolan Voima Oy. Vice Chair 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 Fibres

- Ph.D. (Eng.)
- Born 1965, German citizen
- Member of the Group Executive Team since 2013, employed by the UPM Group since 1998
- UPM shares 130,649

Executive Vice President, UPM Specialty Papers 2016–2019. Executive Vice President, UPM Paper ENA 2013–2016. Senior Vice President, Supply Chain, Paper Business Group 2008–2013. President, UPM-Kymmene Inc. North America 2005–2008. Several management positions at UPM Nordland Papier 1998–2005. Senior Process Engineer, International Paper Co. 1996–1998.

Supervisory Board member of Johann Bunte Bauunternehmung GmbH & Co. KG. Advisory Board member of Meyer Turku Oy.



Pirkko Harrela

Executive Vice President, Stakeholder Relations

- M.A.
- Born 1960, Finnish citizen
- Member of the Group Executive Team since 2004, employed by the UPM Group since 1985
- UPM shares 86,155

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

Board member of the Finnish Forest Industries Federation (FFIF). Member of S-Group's CSR and Sustainability Advisory Group. Board member of Deutsch-Finnische Handelskammer and Satalinna Foundation. Chair of Kymi Corporation 100 Years Anniversary 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 the UPM Group since 2014
- UPM shares 59,576

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

Board member of the Vaisala Corporation.



Mika Kekki

Executive Vice President, UPM Plywood

- B.Sc. (Eng.)
- Born 1969, Finnish citizen
- Member of the Group Executive Team since October 2021, employed by the UPM Group since 1994
- UPM shares 6,307

Vice President, Productions & Operations, UPM Plywood 2013–2021. Director Spruce Mills & Operations, UPM Plywood 2011–2013. Mill Manager, UPM Plywood 2007–2011. Several operations managerial positions at UPM Plywood 1994–2007.

Board member of the Federation of the Finnish Woodworking Industries.



Juha Mäkelä

General Counsel

- LL.M.
- Born 1962, Finnish citizen
- Member of the Group Executive Team since 2008, employed by the UPM Group since 2005
- UPM shares 97,785

Group General Counsel since 2005. Positions as legal counsel and senior legal counsel at KONE Corporation 1997–2004. Several positions in law firms 1991–1996.

Supervisory Board member of Kemijoki Oy.



Jaakko Nikkilä

Executive Vice President, UPM Specialty Papers

- M.Sc. (Eng.), eMBA
- Born 1967, Finnish citizen
- Member of the Group Executive Team since July 2019, employed by the UPM Group since 1995
- UPM shares 21,165

Senior Vice President, UPM Specialty Papers ENA 2018–2019. Vice President, APAC Sales, UPM Fine and Specialty Papers, China 2012–2017. Vice President, Converters, Paper Business Group, Finland 2011–2012. Area Sales Director, APAC Converters, Paper Business Group, Hong Kong 2005–2011. Production manager, Fine and Specialty Papers 2001–2005. Technical Customer Service Manager, Fine and Specialty Papers 1995–2000. Analyst, Jaakko Pöyry Consulting 1993–1995.



Massimo Reynaudo

Executive Vice President, UPM Communication Papers

- M.Sc. (Eng.)
- Born 1969, Italian citizen
- Member of the Group Executive Team since October 2021, employed by the UPM Group since 2017
- UPM shares 10,288

Senior Vice President, UPM Raflatac 2017–2021. Several senior business positions at Kimberly-Clark Corporation 1995–2017.



Riitta Savonlahti

Executive Vice President, Human Resources

- M.Sc. (Econ.)
- Born 1964, Finnish citizen
- Member of the Group Executive Team since 2004, employed by the UPM Group since 2004
- UPM shares 19,828

Senior Vice President, Human Resources at Elcoteq Network Corporation 2001–2004. Senior Vice President, Human Resources at Raisio Group 2000–2001. Human Resources Manager at Nokia Mobile Phones, Salo Operations 1995–2000. Human Resources positions at ABB 1990–1994.

Supervisory Board member of the Ilmarinen Mutual Pension Insurance Company. Member of the Work, Education and Skills Committee of the Finland Chamber of Commerce.



Winfried Schaur

Executive Vice President, Technology and UPM Biorefining

- Dipl. Eng. (FH)
- Born 1965, German citizen
- Member of the Group Executive Team since 2016, employed by the UPM Group since 2001
- UPM shares 86,699

Executive Vice President, UPM Communication Papers 2016–October 2021. Senior Vice President, Newspaper Publishing, UPM Paper ENA 2013–2016. Several leadership positions in the UPM paper business 2001–2013. Project Manager, Investments, Haindl Papier GmbH 1993–2001. Project Engineer, Hoerbiger Automotive 1991–1992.

Chair of the Board of the German Pulp and Paper Association (VDP). Vice Chair of the Board of the Bavarian Industry Association (VBW). Board member of the Confederation of European Paper Industries (CEPI) and the Federation of German Industries (BDI).



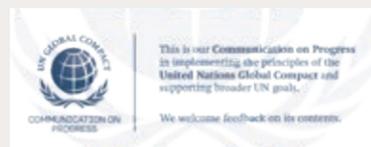
Kari Ståhlberg

Executive Vice President, Strategy

- M.Sc. (Eng.)
- Born 1971, Finnish citizen
- Member of the Group Executive Team since 2013, employed by the UPM Group since 2007
- UPM shares 68,235

Senior Vice President, Corporate Strategy 2010–2013. Director, M&A, UPM-Kymmene Corporation 2007–2010. Investment Manager at Finnish Industry Investment Ltd. 2006–2007. M&A Advisor at JP Capital International Limited in the UK 2000–2006. Management Consultant at Jaakko Pöyry Consulting Oy. 1998–2000.

Vice Chair of the Board of Stevco Oy.



UPM'S CORPORATE RESPONSIBILITY REPORTING IN ACCORDANCE WITH GRI STANDARDS AND AA 1000

UPM has reported in accordance with the Global Reporting Initiative's (GRI) Standards for the period 1 January 2022 to 31 December 2022.

Our GRI index document shows where the disclosures of material topics and general disclosures are addressed in the Annual Report, on UPM's webpage or in the GRI index document itself. It also includes information on omissions, additional explanations, and disclosures on the management approach. The document is available on the UPM webpage www.upm.com/responsibility.

UPM is also committed to the principles of inclusivity, materiality, responsiveness, and impact as defined in the AA 1000 AccountAbility Principles Standard (2018).

The English version of the corporate responsibility information for 2022 has been assured by an independent third party, PricewaterhouseCoopers Oy (see the Independent Assurance Report on the right) and identified in the GRI content index. Congruence between the English and Finnish version has been checked.



Independent practitioner's limited assurance report on UPM's Corporate Responsibility reporting

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 2022 to 31 December 2022, disclosed in UPM-Kymmene Annual Report 2022 and on its website in section "Responsibility" (hereinafter "CR Reporting").

Selected corporate responsibility information

The selected corporate responsibility information within the scope of assurance covers:

- The economic, social and environmental corporate responsibility indicators as identified in the GRI Content Index 2022 on the Company's website.
- UPM-Kymmene Corporation's adherence to the AA1000 AccountAbility Principles (2018).

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 UPM-Kymmene Corporation reporting instructions described in UPM-Kymmene Corporation's Annual Report 2022 and GRI Standards of the Global Reporting Initiative.

The Management of UPM-Kymmene Corporation is also responsible for the Company's adherence to the AA1000 AccountAbility Principles of inclusivity, materiality, responsiveness and impact as set out in AccountAbility's AA1000 AccountAbility Principles Standard 2018.

The Management of UPM-Kymmene Corporation is also responsible for such internal control as the management determines is necessary to enable the prepara-

tion of the CR Reporting that is free from material misstatement, whether due to fraud or error.

Practitioner's independence, other ethical requirements and quality control

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

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 (ISQC) 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.

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" and, in respect of greenhouse gas emissions, International Standard on Assurance Engagements (ISAE) 3410 "Assurance Engagements on Greenhouse Gas Statements". These standards require 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 v3. For conducting a Type 2 assurance engagement as agreed with the Company, the AA1000ASv3 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 information in the CR Reporting, and about the Company's adherence to the AA1000 AccountAbility Principles. The procedures Selected depend on the practitioner's judgment, 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 of senior management of the Company.
- Visiting the Company's Head Office as well as two sites in Europe.
- Interviewing employees responsible for collecting and reporting the selected information on responsibility indicators at the Group level.
- 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 related information based on these topics.
- Performing a media analysis and an internet search for references to the Company during the reporting period.
- 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.
- Considering the disclosure and presentation of the CR Reporting.

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's CR Reporting for the reporting period 1 January 2022 to 31 December 2022 is not properly prepared, in all material respects, in accordance with the Reporting criteria.

Furthermore 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.

When reading our limited assurance report, the inherent limitations to the accuracy and completeness of corporate responsibility 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 (2018). These observations and recommendations do not affect the conclusions presented above.

Regarding Inclusivity: UPM-Kymmene Corporation has processes in place for stakeholder inclusivity both at the group and at the business level. During 2022 UPM has completed two voluntary company-wide salary reviews, first eliminating unexplained gender pay gaps and second defining the minimum income necessary for a worker to meet their basic needs. We encourage UPM to continue its aim to be an employer that offers fair pay and equal career opportunities for all.

Regarding Materiality: UPM-Kymmene Corporation has a systematic process in place to evaluate and determine the materiality of corporate responsibility topics. Materiality analysis has been updated to reflect the updated GRI standard to better reflect the assessment of impact. We recommend that the Company continues to update its materiality assessment process and prepares for the Corporate Sustainability Reporting Directive requirements of materiality assessment.

Regarding Responsiveness: UPM-Kymmene Corporation has processes in place for responding to stakeholder needs. Collective bargaining agreement negotiations in 2022 required adjustment and responsiveness towards stakeholder expectations. We recommend that the Company continues to develop its systematic approach to respond to stakeholder's expectations.

Regarding Impact: UPM-Kymmene Corporation has a process in place to monitor and measure the economic, environmental and social impacts of its business activities. Biodiversity has been assessed as an area of high impact and the company has set a target to continuously develop biodiversity reporting. We recommend UPM to continue the systematic development of impact assessment and related disclosures.

Helsinki 17 February 2023

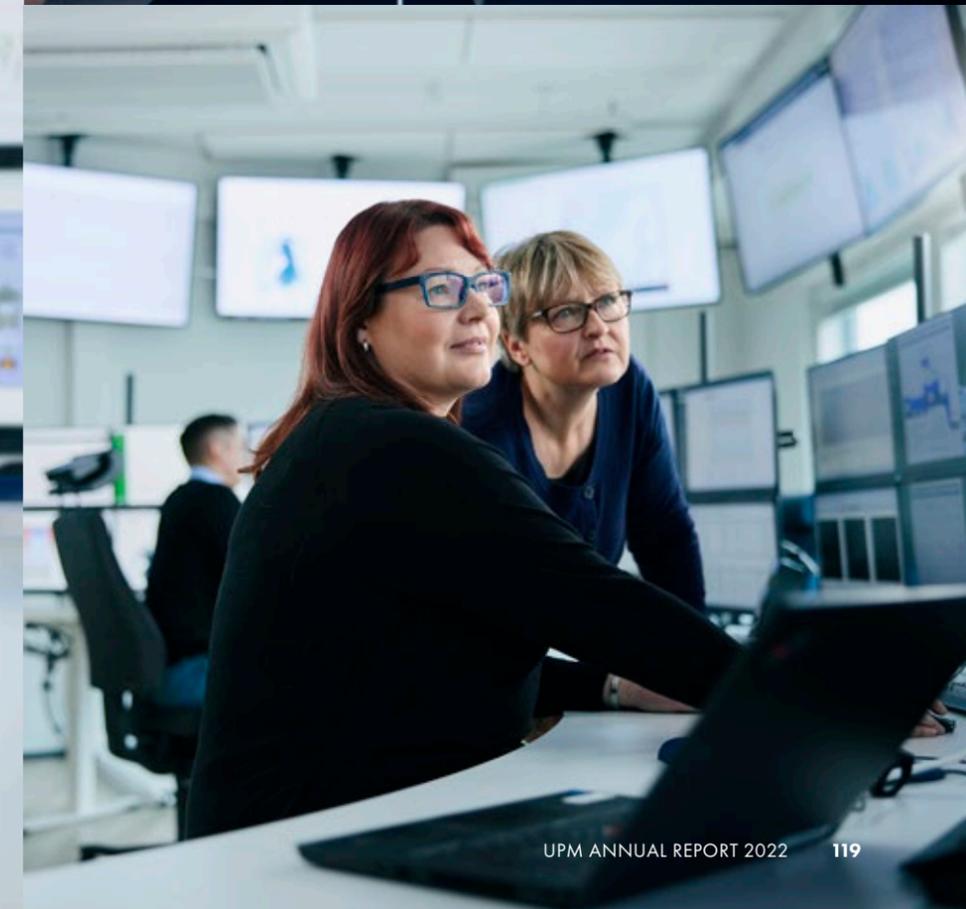
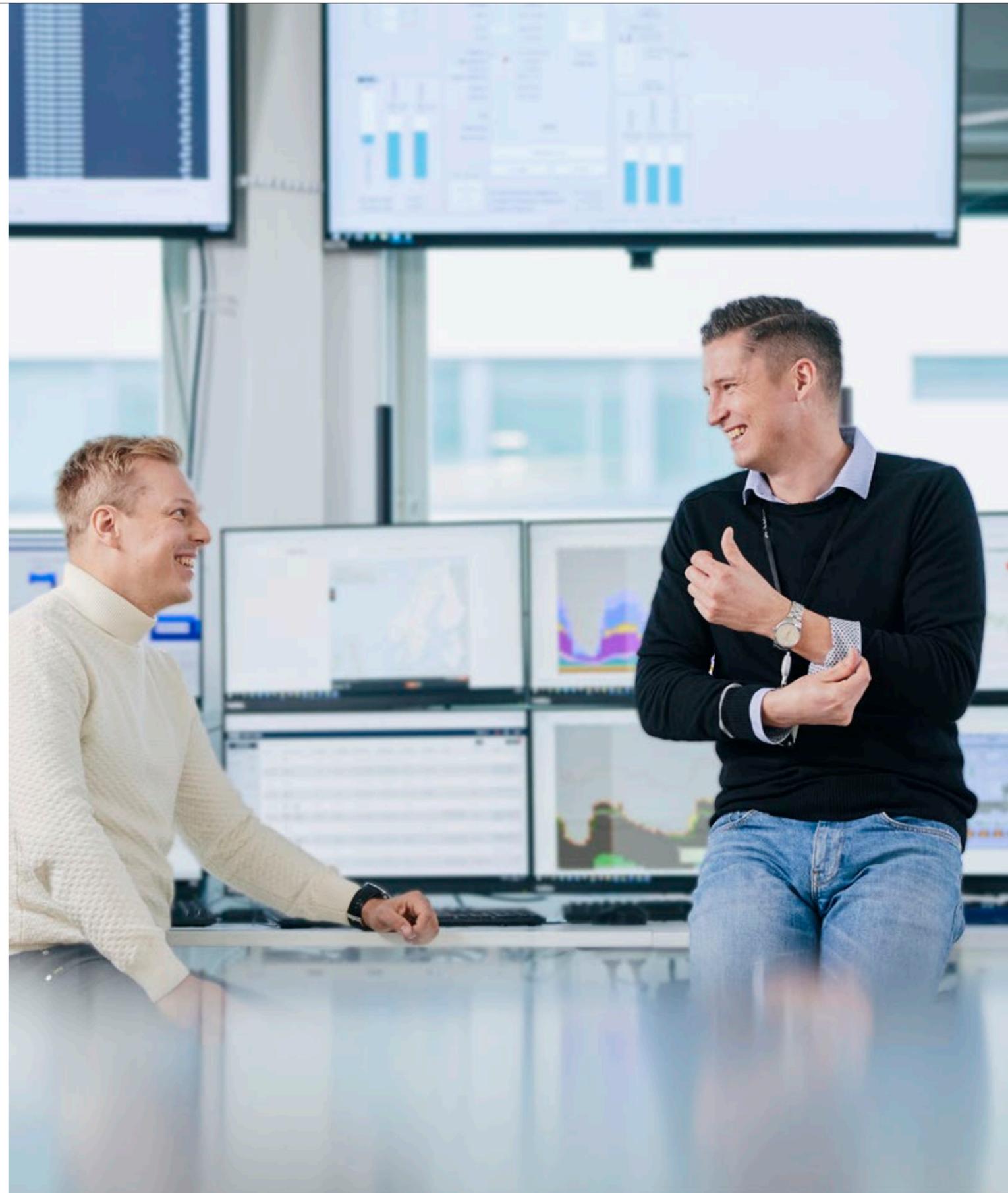
PricewaterhouseCoopers Oy

Tiina Puukkoniemi
Partner, Authorised Public Accountant (KHT)
ESG Reporting & Assurance

Mikko Nieminen
Partner, Authorised Public Accountant (KHT)
Lead Financial Audit Partner

ACCOUNTS FOR 2022

Report of the Board of Directors 120
 Financial statements 158
 Auditor’s report 231
 Other financial information 235
 UPM on a world map 242
 Contact us 245



ACTIONS FOR THE FUTURE

We will significantly increase our carbon-free electricity generation and use low-emission energy sources in our energy-consuming businesses.

Report of the Board of Directors

UPM introduction and business model

As a frontrunner in forest industry, UPM provides sustainable solutions to the growing global consumer demand. UPM's large product range covers pulp, graphic papers and specialty papers, self-adhesive labels, wood-based renewable diesel and naphtha, electricity as well as plywood and timber products. Products are made from renewable materials and are recyclable replacing fossil-based materials in various end-uses.

UPM invests in sustainable growth and innovates for a future beyond fossils across six business areas: UPM Fibres, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Communication Papers and UPM Plywood. The business areas are competitive with strong market positions.

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 programmes in commercial strategies, variable costs, working capital, site and maintenance costs, safety and environmental performance
- Technology and intellectual property rights
- A global business platform
- Disciplined and effective capital allocation
- Compliance with applicable laws and regulations, UPM Code of Conduct and corporate policies

Market environment in 2022

The global economy slowed down during 2022, while inflation rose to approximately 9% — the highest level in decades. Global real GDP growth is projected at 3.0% in 2022. Geopolitical tensions, tightening financial conditions in most regions, Russia's war in Ukraine, disrupted global energy and food supplies, high energy prices, rising interest rates and the lingering COVID-19 pandemic caused economic growth to slow down. Still, global trade volumes continued to grow throughout 2022 and, together with the efforts to build a green world economy, they showed resilient demand for environmentally sustainable products.

Russia's war in Ukraine posed a geopolitical shock to Europe. Western sanctions on Russia and Belarus, and Russia's attempts to weaponise energy supplies against Western countries led to increasing geopolitical tensions, weaker macroeconomic conditions, and disrupted supply chains for certain commodities and products. This forced Western countries to intensify their focus on managing potential threats to global security and deal with fiscal pressures due to additional spending in energy and defence and simultaneous tightening of monetary policy of the European Central Bank.

In Europe, economic growth is projected at 3.6% in 2022. The economy continued to grow despite global uncertainty and the energy crisis. Domestic demand was good and H1 was strong, as a result of COVID-19-driven pent-up consumption which continued to drive demand for consumer services. Successful energy savings and measures to secure natural gas from alternative markets enabled countries to avoid short-term gas shortages caused by declining Russian supply. The economy was further stabilised by the labour market seeing record low unemployment. Simultaneously, inflation saw record high rates, driven by accelerating energy and food prices and continuing global supply

Clear roles and responsibilities



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 of our operations and a source of competitive advantage. UPM is committed to continuous improvement in financial, 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.

chain disruptions. As a result of high inflation followed by the interest rate hikes and the tightening household real incomes, consumer sentiment fell to its lowest level in H2 2022, and industry confidence fell.

The US economy remained strong with a tight labour market, a historically low unemployment rate and a growing economy driven by good consumer spending. Economic growth in the US is projected at 2.0% in 2022. The US economy was resilient to the Federal Reserve's interest rate hikes to manage the rapid rise in inflation. The US dollar strengthened to record highs against the euro and other major world currencies. On a negative note, trade tensions between the US and China intensified and raised increasing concerns regarding geopolitics and impacts on global trade.

China's economy faced the weakest growth on record, projected at 2.8% in 2022 as COVID-19 restrictions led to prolonged disruption in China's economic activity. Turmoil in international markets, lower net exports and the crisis in the Chinese property sector continued to slow down growth. China's debt ratio reached an all-time high, growth in retail sales continued to lag and household savings reached a new record high. The year ended with COVID-19 restrictions being lifted and a surge in COVID-19 cases, but with expectations of improving consumer confidence and a sustainable recovery of the economy.

Calls for further action in the energy, industry, transport and buildings sectors, as well as in the food and financial systems, to tackle climate change continued. In line with the COP26 and COP27 meetings, additional net-zero commitments and capital towards a net-zero world continued to be prioritised with a target to limit global warming to 1.5°C. Furthermore, in line with climate change mitigation

objectives, governments focused on energy savings and investments in low-emission energy supply to tackle the current energy crisis.

A new set of goals and a framework to guide global actions to halt and reverse biodiversity loss by 2030 was agreed at the UN Biodiversity Conference (COP15) in 2022. The participants of COP15 also agreed to increase financing for biodiversity, driving funds toward sustainable investments and reducing harmful government subsidies.

Market demand for UPM's sustainable and renewable products was good, particularly in Europe and North America. Sales prices increased in all businesses, offsetting the impact of increased variable costs. UPM's input costs were significantly higher compared to 2021, most notably in energy.

The global demand for chemical pulp in 2022 was good. The average market prices for both northern bleached softwood (NBSK) and bleached hardwood kraft pulp (BHKP) increased in Europe and in China.

Energy prices and volatility in Europe reached unprecedented levels and the rise in energy futures increased the liquidity needs of energy industry companies. Electricity sales prices in Finland were at a record high, although prices on average stayed lower than in many other European markets. Optimised hydropower generation helped to stabilise the volatile markets. The first nuclear power test volumes generated from the new OL3 unit improved Finland's electricity self-sufficiency.

In Q1-Q3 2022, the demand for self-adhesive label materials was solid in Europe (excl. Russia) and North America while the markets were somewhat impacted by supply constraints. However in Q4, the demand declined in Europe and North America due to significant destocking in the value chain. In Asia, demand was relatively soft. Market prices increased in all main markets.

The global demand growth for label, release and packaging papers was good though demand became softer towards the end of the year. Market prices increased. Fine paper demand was impacted by the COVID-19 lockdowns and containment measures in China. Market prices for office papers in the Asia-Pacific region increased compared to 2021.

Demand for graphic papers in Europe decreased by 12% compared to 2021. Market prices increased significantly for all paper grades.

In H1 2022, demand for spruce plywood in Europe was strong. In H2, demand was softening due to reduced activity in the building and construction industry. Demand for birch plywood was strong in panel trading and industrial applications. Market prices increased in all end-uses.

The timber business benefited from high levels of construction activity in H1 2022, and market prices saw record highs. In H2, the demand-supply balance weakened, and market prices fell under the peak level.

Strong demand for advanced renewable fuels continued to be driven by climate targets. Market prices were at a high level.

Impact of the COVID-19 pandemic

The COVID-19 pandemic, the related containment measures around the world and the rapid changes in the global economy impacted the operating environment also in 2022 and continue to represent uncertainty.

Global economy

The COVID-19 pandemic and the related containment measures resulted in a sharp decline in the global economy in 2020. In 2021, the global economy started to recover, but it is uncertain how long-lasting the recovery will be. Despite progress with vaccinations, additional waves of the pandemic in different parts of the world remain possible.

The recovery of the global economy from the deep downturn in 2020, combined with the ongoing pandemic created tightness and disruptions globally in many supply chains, including logistics and energy. This caused rising costs and uncertainty about the price and availability of many raw materials and energy. China adopted a zero-covid policy that held back its economic growth through 2022. However, it opened up restrictions in December. This represents uncertainties regarding surging infections in the country, but also represents the potential to increase economic activity.

Safety and business continuity

UPM has implemented extensive precautions to protect the health and safety of its employees and to ensure business continuity and the progression of its strategic projects during the pandemic. Despite these efforts, the operation of one or more units or the supply chain and logistics could be temporarily disrupted during the pandemic, the related lockdown measures, or the following economic recovery. In these circumstances some units may need to limit operations or be temporarily shut down. So far UPM has been able to protect its business continuity well.

Demand for UPM products

Many of UPM's products serve essential everyday needs and have therefore seen resilient demand during the crisis. These products include pulp, specialty papers and self-adhesive label materials. However, even in these businesses, demand is influenced by general economic activity, and any re- or destocking cycles in product value chains.

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

Lockdowns and the level of economic activity may also influence demand for electricity, plywood and sawn timber.

Adjusting to different scenarios

The potential impacts on UPM are likely to differ by business and phase and waves of the pandemic, lockdown measures, changes in consumer behaviour, and the recession and recovery thereof. UPM has used shift arrangements, temporary lay-offs, or reduced working hours as required to adjust its operations in different scenarios.

Projects and maintenance shutdowns

The pandemic and the required health and safety measures add challenges to large investment projects and maintenance shutdowns. UPM's transformative pulp project in Uruguay and biochemicals project in Germany are proceeding with strict health and safety controls. Despite these efforts, some changes to the detailed timeline and costs of such projects are possible during the pandemic, the related containment measures, or due to tight global logistics and supply chains.

Financing

UPM's financial position is strong. UPM's net debt was EUR 2,374 million at the end of 2022. Net debt has been impacted by energy hedging derivative market value payments, which are driven by the increase in energy futures prices and volatility in the energy markets. Cash funds and unused committed credit facilities totalled EUR 6.4 billion at the end of 2022. The total amount of committed credit facilities was EUR 5.7 billion of which EUR 4.5 billion maturing in 2024, EUR 300 million maturing in 2025 and EUR 950 million maturing in 2027. The facilities and UPM's outstanding debt have no financial covenants.

Impact of Russia's war in Ukraine

In response to Russia's attack on Ukraine, the European Union as well as the United States, the United Kingdom, and other countries have imposed extensive sanctions on Russia, the breakaway regions Donetsk and Luhansk and more recently the oblasts of Zaporizhzhia and Kherson, and Belarus. Since 21 February 2022, these measures include for example asset freezes and travel restrictions on individuals and entities, economic sanctions targeting sectors of the Russian and Belarusian economies, and diplomatic restrictions. Russia has also implemented several countermeasures affecting especially foreign companies' operations within Russia and with Russian counterparties. Further escalation of the conflict has involved Russia's attempted illegal annexation of four partially occupied regions in Ukraine based on sham referenda, mobilisation of military reservists in Russia, issuance of open nuclear threats and explosions in Russia-to-Germany gas pipelines under the Baltic Sea, which have all increased geopolitical tensions between Russia and several other countries and triggered further sanctions packages against Russia.

Global economy

While the sanctions primarily target Russia's ability to finance its military operations in Ukraine and cause economic and political costs on the people responsible for them, economic and geopolitical uncertainty and inflation may accelerate around the world. Import bans on various goods categories will restrict the availability of raw materials and drive cost and lead time increases in many supply chains that have been under increasing pressure during the COVID-19 pandemic. Export bans will impact industries dependent on Russian markets and shift delivery volumes and services to other markets. Fuel prices are exposed to geopolitical uncertainties. Because of Russia's attack on Ukraine, the sanctions imposed on the Russian energy sector and Russia's countermeasures on gas and electricity deliveries, energy price levels and volatility may increase, especially in Europe if the scope of EU sanctions expands to further fossil fuels such as natural gas.

Impact on UPM businesses

The EU has imposed export and import bans on several forest industry product categories, prohibitions on Russian transportation operators entering the EU and has sanctioned several Russian banks. Disruptions in international sales, purchases and payment flows involving Russian counterparties are inevitable. The EU has also imposed restrictions on Russian seaborne crude oil, certain petroleum products and oil transportation services and agreed in December 2022 to impose a cap of USD 60 per barrel on the price of Russian oil. Russia has also introduced legislation restricting non-Russian companies to repatriate dividends and loan payments and has caused friction in collecting customer payments from Russia. Russia has also restricted or suspended the flow of natural gas or electricity from Russia. These restrictions have impacted several European countries where UPM has production locations and caused increases in the price of power and gas. The unprecedented increase in energy futures prices has impacted cash flows from energy hedges, temporarily tying liquidity. EU energy ministers also adopted a new temporary regulation (applicable from 1 December 2022 to 30 June 2023) on the reduction of electricity use, the capping of revenues of electricity producers, and mandatory solidarity contributions from fossil fuel businesses. To implement the revenue cap of electricity producers, on 29 December 2022 the Finnish government has made a proposal for an additional profit tax on energy companies, commonly referred to as the windfall tax. The additional and temporary 30% tax would apply to Finnish electricity generating companies' profits exceeding a 10% return on adjusted shareholder's

equity in the fiscal year 2023. According to the proposal, group internal electricity profits would not be taken into account when calculating the taxable net profit for the temporary profit tax. The government proposal is still in the parliamentary decision-making process and the final decision is expected by the end of February 2023 at the earliest. Major forest certification organisations (i.e. FSC™ and PEFC) have also excluded Russian and Belarusian wood from their certification systems. UPM businesses have suspended deliveries to Russia as well as wood sourcing in and from Russia. UPM also decided to suspend the UPM Chudovo plywood mill operations. UPM Raflatac's Kiev terminal has been closed down since March 2022 until further notice. Due to the significant uncertainties related to operations in Russia and Ukraine, UPM recognised a write off of all operating assets and uninsured receivables locating or relating to operations in these countries in Q1 2022. Impairment of fixed assets, inventories and other receivables amounting to EUR 95 million was reported as items affecting comparability. In addition, in Q1 the group increased the general provision for expected credit losses on trade receivables by EUR 17 million, which is impacting comparable EBIT. At the end of 2022, the impairment was EUR 80 million and the credit loss provision was EUR 8 million. UPM's sales to Russia and Ukraine combined was in 2022 less than 1% (2.3%) of UPM's total sales. Assets in Russia were less than 1% of the group total assets. In 2022, 3% (less than 10%) of UPM's wood sourcing to Finland originated from Russia.

Adjusting to different scenarios

The full impact of current and possible new sanctions, counter-sanctions and market development will be known only as the situation evolves. UPM has implemented mitigation plans to contain and reduce the negative consequences for its employees, customers, vendors, and other stakeholders as well as operations affected by sanctions and the war in Ukraine in general. The potential further impacts for UPM are likely to differ by business and by the pace, scope and duration of sanctions, market price reactions, development of supply chains, and the length of the war in Ukraine and whether any geographic escalation of the war develops. UPM is monitoring the situation closely and preparing plans to adjust its operations in different scenarios accordingly.

Key figures

	2022	2021	2020
Sales, EURm	11,720	9,814	8,580
Comparable EBITDA, EURm	2,536	1,821	1,442
% of sales	21.6	18.6	16.8
Operating profit, EURm	1,974	1,562	761
Comparable EBIT, EURm	2,096	1,471	948
% of sales	17.9	15.0	11.1
Profit before tax, EURm	1,944	1,548	737
Comparable profit before tax, EURm	2,066	1,457	924
Profit for the period, EURm	1,556	1,307	568
Comparable profit for the period, EURm	1,679	1,204	737
Earnings per share (EPS), EUR	2.86	2.41	1.05
Comparable EPS, EUR	3.09	2.22	1.37
Return on equity (ROE), %	13.0	12.7	5.8
Comparable ROE, %	14.0	11.7	7.5
Return on capital employed (ROCE), %	12.8	12.4	6.7
Comparable ROCE, %	13.6	11.7	8.3
Operating cash flow, EURm	508	1,250	1,005
Operating cash flow per share, EUR	0.95	2.34	1.89
Equity per share at the end of period, EUR	23.44	20.34	17.53
Capital employed at the end of period, EURm	17,913	13,759	11,555
Net debt, EURm	2,374	647	56
Net debt to EBITDA	0.94	0.35	0.04
Personnel at the end of period	17,236	16,966	18,014

» Refer Other financial information Alternative performance measures for definitions of key figures.

Results

2022 compared with 2021

Sales in 2022 were EUR 11,720 million, 19% higher than the EUR 9,814 million for 2021. Sales increased in UPM Communication Papers, UPM Raflatac, UPM Energy, UPM Specialty Papers and UPM Plywood business areas and decreased in UPM Fibres.

Comparable EBIT increased by 42% to EUR 2,096 million, 17.9% of sales (1,471 million, 15.0%).

Sales prices increased significantly for all business areas, with the largest impact in UPM Communication Papers.

Variable costs increased in all business areas, especially in UPM Communication Papers, UPM Raflatac and UPM Fibres. At Group level, the positive impact of higher sales prices was larger than the negative impact of higher variable costs.

Delivery volumes were lower in all business areas. The strike in Finland in January-April significantly affected delivery volumes especially in UPM Fibres, UPM Communication Papers, UPM Specialty Papers and UPM Biofuels.

The strike affected the January-June results through lost production and sales, lower fixed costs and various dynamic impacts. The full-year earnings impact was not material.

Fixed costs increased by EUR 100 million mainly due to scheduled maintenance activity and costs related to the transformative projects.

Depreciation, excluding items affecting comparability, totalled EUR 457 million (463 million) including depreciation of leased assets

totalled EUR 80 million (74 million). The change in the fair value of forest assets net of wood harvested was EUR 12 million (111 million).

Operating profit totalled EUR 1,974 million (1,562 million). Items affecting comparability in operating profit totalled EUR -122 million in the period (91 million). In 2022, items affecting comparability include EUR 80 million impairment charges of assets impacted by Russia's war in Ukraine, EUR 69 million settlement loss resulting from replacement of a defined benefit pension plan in Finland with defined contribution plan, EUR 8 million capital gain on the sale of Chapelle mill site in France, EUR 11 million reversal of restructuring provisions related to the Chapelle paper mill, EUR 26 million gain on the sale of other non-current assets, EUR 18 million restructuring costs and EUR 8 million addition to environmental provisions in Finland. In 2021, items affecting comparability include the EUR 133 million gain on the sale of Shotton Mill Ltd in the Communication Papers business area and EUR 50 million impairment charges of newsprint related fixed assets.

Net interest and other finance income and costs were EUR -55 million (-12 million). The exchange rate and fair value gains and losses were EUR 25 million (-3 million). Income taxes totalled EUR -388 million (-240 million).

Profit for 2022 was EUR 1,556 million (1,307 million), and comparable profit was EUR 1,679 million (1,204 million).

Financing and cash flow

In 2022 cash flow from operating activities before capital expenditure and financing totalled EUR 508 million (1,250 million). Working capital increased by EUR 687 million (115 million) mainly due to inflation and energy-related items. In 2022, particularly in June - August, the energy futures markets experienced an unprecedented rise in futures prices. Due to this, the cash outflow of UPM's unrealised energy hedges totalled EUR -0.9 billion in 2022. As UPM's energy hedges are only for hedging the existing electricity generation and energy consumption, this cash outflow will later be offset by a similar cash inflow from hedges or production. Approximately 23% of the energy hedging cash outflow during 2022 is included in the change in working capital above.

Net debt was EUR 2,374 million at the end of 2022 (647 million). The gearing ratio as of 31 December 2022 was 18% (6%). The net debt to EBITDA ratio, based on the last 12 month's EBITDA, was 0.94 at the end of the period (0.35).

On 31 December 2022 UPM's cash funds and unused committed credit facilities totalled EUR 6.4 billion. The total amount of committed credit facilities was EUR 5.7 billion of which EUR 4.5 billion maturing in 2024, EUR 300 million maturing in 2025 and EUR 950 million maturing in 2027.

A dividend of EUR 1,30 per share (totalling EUR 693 million) was paid on 7 April 2022 for the 2021 financial year.

Capital expenditure

In 2022, capital expenditure totalled EUR 1,555 million, which was 13.3% of sales (1,483 million, 15.1% of sales). Capital expenditure does not include additions to leased assets.

In 2023, UPM's total capital expenditure, excluding investments in shares, is expected to be about EUR 950 million, which includes estimated capital expenditure of approximately EUR 750 million in transformative projects. Transformative projects consist of the new pulp mill in Uruguay and the biochemicals biorefinery in Germany.

In January 2019, UPM announced that it would invest in the refurbishment of the Kuusankoski hydropower plant in Finland. The average annual production of the Kuusankoski plant is expected to increase from the current 180 GWh to 195 GWh. The investment will be completed in Q1 2023.

In July 2019, UPM announced that it would invest in a 2.1 million tonne greenfield eucalyptus pulp mill near Paso de los Toros, central Uruguay. Additionally, UPM will invest in port operations in Montevideo and in local investments outside the mill fence. The mill is scheduled to start up by the end of Q1 2023, and the total investment estimate is USD 3.47 billion.

In October 2019, UPM announced that it would invest EUR 95 million in a Combined Heat and Power (CHP) plant at the UPM Nordland paper mill in Germany. The plant was connected to grid in Q3 2022. The annual cost savings of more than EUR 10 million will begin in 2023. The investment is estimated to decrease UPM's CO₂ footprint by 300,000 tonnes.

In January 2020, UPM announced that it would invest in a 220,000 tonnes next-generation biochemicals biorefinery in Leuna, Germany. The facility is scheduled to start up by the end of 2023, and the total investment estimate is EUR 750 million.

In December 2021, UPM announced that it would invest EUR 10 million in the development of UPM Plywood's plywood mill in Joensuu, Finland. The investment includes new production lines, new workspaces and 720 square metres of completely new production space. The investment will be completed by the end of 2023.

Personnel

In 2022, UPM had an average of 17,176 employees (17,512). At the beginning of the year the number of employees was 16,966 and at the end of 2022 it was 17,236.

Further information about personnel is available in » [Our People](#) section in UPM Annual report 2022.

Uruguay pulp mill investment

On 23 July 2019, UPM announced that it would invest USD 2.72 billion in a 2.1 million tonne greenfield eucalyptus pulp mill near Paso de los Toros, central Uruguay. Additionally, UPM would invest approximately USD 280 million in port operations in Montevideo and USD 70 million in local investments outside the mill fence, including a new residential area in Paso de los Toros. In May 2020, an electrical grid reinforcement investment of USD 70 million was added to the scope of the project to fully utilise and sell the surplus energy of the mill.

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

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

Competitive wood supply

Eucalyptus availability for the mill is secured through UPM's own and leased plantations, as well as through wood sourcing agreements with private partners. The plantations that UPM owns, leases or manages in Uruguay cover 504,773 hectares. They will supply the current UPM Fray Bentos mill and the new mill near Paso de los Toros.

State of the art mill design

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

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

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

Efficient logistics set-up

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

The Public-Private-Partnership agreement between the government and the construction company for the construction of the central railway was signed in May 2019. Works on the central railway are

proceeding, but the overall rail project is delayed, and the railway is scheduled to start operations in May 2023. UPM has a contingency plan in place to ensure logistics with truck transportation before the rail logistics are commissioned.

UPM has completed the construction of a deep-sea pulp terminal at Montevideo port with an investment of approximately USD 240 million. Direct rail access from the mill to a modern deep-sea port terminal will create an efficient supply chain to world markets. The Montevideo deep-sea port also enables synergies in ocean logistics with UPM's existing Uruguayan operations.

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

Significant impact on the Uruguayan economy

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

In the most intensive construction phase, more than 7,000 people have been working on the site. In total, over 20,000 people have been involved in the various construction sites related to the project.

When completed, approximately 10,000 permanent jobs are estimated to be created in the Uruguayan economy of which approximately 4,000 would involve direct employment by UPM and its subcontractors. About 600 companies are estimated to be working in the value chain.

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

Project schedule and capital outflow

The start-up will take place by the end of Q1 2023, and the total investment estimate is USD 3.47 billion.

In December, UPM finalised construction works at the Paso de los Toros mill site and is in its final phases of the project. The project now proceeds with the finalization of the electrical, instrumental and automation works and commissioning. The auxiliary boilers and power boilers have been commissioned. The water intake and water treatment process as well as the process air system are already in use. The recovery boiler testing has started and is advancing well, and commissioning is progressing in all process areas. As the project has entered its final phases, the number of people working on the project has significantly reduced and continues to rapidly decline.

Works at the pulp terminal in the port of Montevideo have been completed. The railway connection from the port to the Central Railroad is in progress.

The total capital expenditure of USD 3.47 billion will take place in 2019-2023, with 2021 and 2022 being the most intensive years. UPM will hold 91% ownership of the project and a local long-term partner which has also been involved in UPM Fray Bentos, owns 9%. UPM's investment will mainly be financed from operating cash flow complemented by regular group financing activities.

Biochemicals refinery investment

On 30 January 2020 UPM announced that it would invest EUR 550 million in a 220,000 tonnes next-generation biochemicals refinery in Leuna, Germany. Originally, the biorefinery was scheduled to start up

by the end of 2022. However, the pandemic has slowed down the completion of the detailed engineering in Leuna. Disruptions to global supply chains have affected both the availability and costs of critical construction materials. Hence the start-up schedule has been updated to take place by the end of 2023. The capital expenditure estimate has been increased to EUR 750 million.

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

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

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

InfraLeuna GmbH, in the state of Saxony-Anhalt, offers very competitive conditions for constructing a biorefinery with its logistics arrangements and infrastructure for various services and utilities. In October 2020, UPM entered into service agreements with InfraLeuna GmbH related to wood handling, wastewater treatment and other utilities, which will be recognised as lease assets and liabilities under IFRS 16 Leases upon the commencement date. The total amount of such lease assets and liabilities is estimated to be EUR 120 million.

Construction at the biorefinery-site in Leuna continues with visible progress. Major overground structures have been emerging. The erection of pipe racks, casings, tanks and the substation buildings is progressing with good speed. Also, large parts of the reactors, furnaces and columns have been delivered and are stored on site.

The business foundation has been strengthened further. Business function teams are in place and hiring the operations staff has progressed enabling entering to concrete start- and ramp-up preparations from training through process development and concrete operations planning. Also, the research and analytics laboratories are now established in Leuna and the teams are staffed and working – an important step towards quality assurance, process optimisation and to define future development options.

Commercial activities have continued to proceed positively in different product and application areas. After the launch of UPM BioMotion™ Renewable Functional Fillers (RFF) in October 2021, joint product development activities with potential customers in the rubber value chain have progressed further as have discussions with OEMs, especially in the automotive sector, with good results regarding both the technical and commercial viability of the product. We made further progress in taking renewable bio-monoethylene glycols (bMEG) to market, advancing sales capabilities and extending pre-commercial discussions with potential customers, as well as end-users in the packaging, textile and automotive end-uses.

The environmental benefits of the biorefinery and the UPM Biochemicals portfolio continue to be publicly acknowledged with nominations as finalist in the Packaging Europe's "Renewables, Pre Commercialized" category and first position in the sustainability ranking in the European Rubber Journal.

Biofuels business development

In January 2021, UPM announced that it moves forward with biofuels growth plans and starts the basic engineering phase of a next generation biorefinery. The potential biorefinery would have a maximum annual capacity of 500,000 tonnes of high-quality renewable fuels including sustainable jet fuel. The products would significantly reduce the carbon footprint of road transport and aviation, as well as replace fossil raw materials with renewable alternatives in chemicals and bioplastics. Feedstock sourcing will focus on UPM integrated feedstocks from the company's own ecosystem and wood-based residues play a substantial role. In addition, the biorefinery would use sustainable liquid waste and residue raw materials.

UPM is proceeding with a detailed commercial and basic engineering study to define the business case, select an innovative technology option and sustainable feedstock mix and estimate the investment need.

The site assessment of the potential biofuels refinery was completed in January 2022 and Rotterdam in the Netherlands has been selected as the optimal location.

If all preparations are concluded successfully, UPM would initiate the company's standard procedure of analysing and preparing an investment decision.

OL3 power plant project

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

On 12 March 2022, TVO announced that the electricity production at OL3 had started, when OL3 was connected to the national grid. In June 2022 TVO announced that according to information received from Supplier, OL3's regular electricity production would start in December 2022. In August 2022, TVO announced that after completion of maintenance and repair activities and automation updates the test production continued with tests at a power level of 60 percent. Tests at an 80 percent power level were started on 9 September 2022. On 30 September 2022, TVO announced that the commissioning of OL3 proceeded to the full electrical power level of approximately 1,600 MW.

On 18 October 2022, TVO announced that damage had been detected in the internals of the feedwater pumps located in turbine island. Cracks of a few centimeters were identified in all four of OL3's feedwater pumps. A schedule estimate on an effect on the continuation of OL3's nuclear commissioning and the start of regular electricity production is to be completed during the upcoming days.

On 7 November 2022, TVO announced that the investigations were still ongoing and it was not possible to set a date for the continuation of the test production programme. The feedwater pumps were delivered for the turbine island by a proven pump supplier that supplies pumps to several nuclear power plants.

On 21 November 2022, TVO announced that the investigation into the damage at OL3's feedwater pumps would continue still for some weeks, and its impact on the schedule cannot be estimated. According to information TVO received from Supplier, electricity production will continue on 11 December 2022 at the earliest, and as such regular electricity production starts at the end of January 2023 at the earliest.

On 9 December 2022, TVO announced that the investigation into the damage in OL3's feedwater pumps proceeded into its final stages, and that according to Supplier, electricity production would continue on 25 December 2022 at the earliest. Regular electricity production would start in February 2023. According to TVO there were still uncertainties related to the schedule.

On 21 December 2022, TVO announced that the electricity production of OL3 will be continued on Tuesday, 27 December 2022. During test production, approximately 1.3 terawatt hours of electricity will be produced. Around ten significant tests still remain. Regular electricity production is to start on 8 March 2023.

After the end of the reporting period, TVO announced on 4 January 2023 that after the production tests, production at the plant unit is discontinued in January 2023 for planned inspections of the impellers of the feedwater pumps.

On 20 January 2023, TVO announced that the impellers of OL3 feedwater pumps will be replaced with impellers with more robust measurements during the ongoing production break. After this, electricity production will continue mainly at full power. Regular electricity production starts in March 2023. Supplier is obligated to complete the plant unit in accordance with the Plant Contract and the settlement agreements.

When completed, OL3 will supply electricity to its shareholders on a cost-price principle (Mankala-principle), which is widely applied in the Finnish energy industry. Under the Mankala-principle electricity and/or heat is supplied to shareholders in proportion to ownership, and each shareholder is, pursuant to the specific stipulations of the respective articles of association, severally responsible for its respective share of the production costs of the energy company concerned.

OL3 will increase UPM Energy's electricity generation capacity significantly. The new power plant unit is expected to be highly efficient and meet the highest safety standards. Its power generation will be CO₂-free and TVO will have a secure solution for the final disposal of used fuel.

Events during the reporting period

On 1 January, UPM announced that members of the Paperworkers' Union, the Finnish Electrical Workers' Union and the Trade Union Pro had started strikes at UPM mills in Jämsänkoski, Kouvola, Lappeenranta, Pietarsaari, Rauma, Tampere and Valkeakoski. UPM businesses affected by the strikes in Finland were UPM Pulp, UPM Biofuels, UPM Communication Papers, UPM Specialty Papers and UPM Raflatac. The duration of the strike was extended several times (5 January, 20 January, 4 February, 24 February, 16 March, 31 March and 14 April).

On 1 March, UPM launched a new forest responsibility programme. On 3 March, UPM announced that it would cease deliveries to Russia.

On 9 March, UPM announced that would suspend the purchasing of wood in and from Russia as well as the UPM Chudovo plywood mill operations for the time being.

On 12 March, electricity production began at the OL3 EPR unit.

On 22 March, UPM announced that a proposal for a settlement to the collective labour agreement negotiations between UPM Pulp and the Paperworkers' Union had been submitted.

On 29 March, UPM held its Annual General Meeting.

On 9 April, UPM announced that the conciliator had interrupted the conciliation between UPM Communication Papers and the Paperworkers' Union.

On 11 April, UPM announced that the conciliator had submitted settlement proposals for UPM Specialty Papers and UPM Raflatac.

On 12 April, UPM announced that the conciliator had submitted settlement proposal for UPM Biofuels.

On 14 April, UPM announced that UPM and the Paperworkers' Union had not been able to come to a new collective labour agreements. The union turned down four settlement proposals submitted by the conciliator.

On 21 April, UPM announced that the conciliator had submitted settlement proposals to five businesses in collective bargaining between UPM's businesses and the Paperworkers' Union.

On 22 April, UPM announced that UPM and Paperworkers' Union had agreed on the first-ever business-specific collective labour agreements and the strike ended at UPM mills in Finland.

On 16 May, UPM announced that it had issued a new EUR 500 million Green Bond under its EMTN (Euro Medium Term Note) programme and its Green Finance Framework. The bond matures in May 2029 and pays a fixed coupon of 2.25%.

On 23 May, UPM announced that it had applied for listing of a EUR 500 million Green Bond under its Euro Medium Term Note (EMTN) programme to Irish Stock Exchange plc, trading as Euronext Dublin.

On 27 May, UPM announced that UPM Raflatac had signed an agreement to acquire AMC AG (Advanced Methods of Coating), a Germany-based company. The transaction was expected to be closed in Q3 2022 at the latest.

On 14 June, UPM announced that it had raised its earnings outlook for H1 2022 and for the full year 2022.

On 21 June, UPM announced that it had signed an agreement to sell 100% of the shares of its Austrian subsidiary UPM-Kymmene Austria GmbH to the HEINZEL GROUP. The transaction comprises the UPM Steyrermühl site with approx. 400 employees, including the newsprint paper machine with an annual capacity of 320,000 tonnes and the Steyrermühl sawmill operations with an annual timber capacity of 370,000 cubic metres.

On 18 August, UPM announced that EcoVadis had recognised UPM on a Platinum level based on the company's sustainability performance. Only one percent of the 90,000 global companies assessed received the Platinum score.

On 15 September, UPM Raflatac announced that it had completed the acquisition of AMC AG.

On 5 October, UPM announced that it had inaugurated its new pulp terminal in the port of Montevideo, Uruguay.

On 13 October, UPM announced that it had substantiated its positive outlook following the record strong Q3 2022 results.

On 18 October, UPM announced that UPM's President and CEO Jussi Pesonen would retire during 2024. Jussi Pesonen was appointed as UPM's President and CEO in 2004. Before that he served UPM in several management positions since 1987.

On 12 December, UPM announced that it had been listed on the Dow Jones European and World Sustainability Indices (DJSI) for 2022-2023 as the only company in its industry.

On 13 December UPM announced that it had been recognised with a triple 'A' score for its performance and transparent reporting on climate change, forests and water security by the global environmental non-profit CDP.

On 23 December, UPM announced that it is finalizing the construction works of the new pulp mill in Uruguay and enters the final phases of the project.

Events after the balance sheet date

On 2 February 2023, UPM's Board of Directors revised the company's dividend policy to be based on earnings instead of cash flow. This aligns the dividend policy with the company's transformative growth strategy. According to the new policy, UPM aims to pay attractive dividends, targeting at least half of the comparable earnings per share over time.

Outlook for 2023

UPM reached record earnings in 2022, and 2023 is expected to be another year of strong financial performance. UPM's comparable EBIT is expected to increase in H1 2023 from H1 2022.

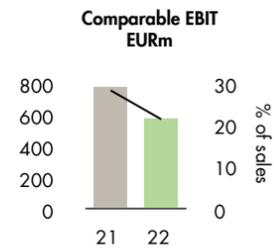
In 2023, UPM's delivery volumes are expected to benefit from the ramp up of the UPM Paso de los Toros pulp mill and the OL3 nuclear power plant unit and having no strike impact when compared to 2022. In the early part of the year, however, demand for many UPM products is expected to be held back by destocking in various product value chains. The opening of the Chinese economy from the COVID lockdowns and easing inflation in other key economies represent potential for increasing demand as the year progresses.

Year 2023 is starting with high cost level for many inputs, while the lower demand is exerting pressure on product prices. However, several input costs have also progressed past their peak. UPM will continue to manage margins with product pricing, by optimising its product and market mix and by taking measures to improve variable and fixed cost efficiency.

There are significant uncertainties, both positive and negative, in the outlook for 2023, related to the European, Chinese and global economy, Russia's war in Ukraine, the remaining effects of the pandemic, energy prices and related regulation in Europe, and the ramp-up of the OL3 power plant unit.

UPM Fibres

UPM Fibres consists of pulp and timber businesses. UPM Pulp offers a versatile range of responsibly-produced pulp grades suitable for a wide range of end-uses. UPM Timber offers certified sawn timber. UPM has three pulp mills in Finland, one mill and plantation operations in Uruguay and operates four sawmills in Finland.



	2022	2021
Sales, EURm	2,704	2,794
Comparable EBITDA, EURm	743	961
% of sales	27.5	34.4
Change in fair value of forest assets and wood harvested, EURm	11	-9
Share of results of associates and joint ventures, EURm	3	2
Depreciation, amortisation and impairment charges, EURm	-187	-173
Operating profit, EURm	517	781
% of sales	19.1	27.9
Items affecting comparability in operating profit, EURm ¹⁾	-53	-
Comparable EBIT, EURm	570	781
% of sales	21.1	27.9
Capital employed (average), EURm	5,867	4,277
Comparable ROCE, %	9.7	18.3
Pulp deliveries, 1,000 t	2,761	3,724

2021 figures have been restated due to change in composition of reportable segments. Refer **Note 1.5** in UPM 2022 consolidated financial statements.

¹⁾ Include EUR 55 million settlement loss resulting from replacement of defined benefit pension plan with defined contribution plan in Finland and EUR 2 million reversal of environmental provisions.

2022 compared with 2021

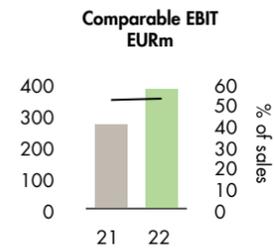
Comparable EBIT decreased. Pulp production and delivery volumes were lower due to the strike in Finland in January-April. Sales prices were higher offsetting the negative impact of higher variable costs. Fixed costs increased partly due to scheduled maintenance activity and partly in preparation for the start-up of the UPM Paso de los Toros mill. The average price in euro for UPM's pulp deliveries increased by 35%.

Market environment

- In 2022, global chemical pulp demand growth was good. In China, COVID-19 restrictions held back market growth. In Europe, chemical pulp demand was strong in H1. However, European demand growth was slowing down towards the end of the year due to weakening economic sentiment.
- In 2022, the average European market price in euro was 32% higher for NBSK and 43% higher for BHKP, compared with 2021. In China, the average market price in US dollars was 10% higher for NBSK and 21% higher for BHKP, compared with 2021.
- In H1 2022, demand for sawn timber was strong and market prices were at high level. In H2, market prices decreased from the peak level. Sources: FOEX, UPM

UPM Energy

UPM Energy generates cost-competitive, zero-carbon electricity. Operations also include physical electricity and financial portfolio management as well as services to industrial electricity consumers and producers.



	2022	2021
Sales, EURm	734	526
Comparable EBITDA, EURm	388	277
% of sales	52.9	52.7
Depreciation, amortisation and impairment charges, EURm	-7	-7
Operating profit, EURm	381	270
% of sales	52.0	51.3
Items affecting comparability in operating profit, EURm	0	0
Comparable EBIT, EURm	381	270
% of sales	52.0	51.3
Capital employed (average), EURm	3,286	2,375
Comparable ROCE, %	11.6	11.4
Electricity deliveries, GWh	9,442	9,300

2022 compared with 2021

Comparable EBIT increased due to significantly higher electricity sales prices.

UPM's average electricity sales price increased by 41% to EUR 73.3/MWh (52.1/MWh).

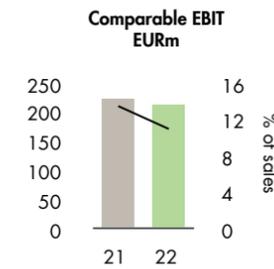
Market environment

- The Nordic hydrological balance was below the long-term average at the end of December. In Finland, the hydrological situation was somewhat below the long-term average.
- The CO2 emission allowance price of EUR 82.3/tonne at the end of 2022 was higher than at the end of 2021 (EUR 80.1/tonne).
- The average Finnish area spot price on the Nordic electricity exchange in 2022 was EUR 154.0/MWh, 113% higher than in 2021 (72.3/MWh).

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

UPM Raflatac

UPM Raflatac offers high-quality self-adhesive paper and film products including label materials, graphics solutions and removable self-adhesive products.



	2022	2021
Sales, EURm	1,982	1,671
Comparable EBITDA, EURm	251	259
% of sales	12.7	15.5
Depreciation, amortisation and impairment charges, EURm	-41	-36
Operating profit, EURm	203	222
% of sales	10.3	13.3
Items affecting comparability in operating profit, EURm ¹⁾	-11	-1
Comparable EBIT, EURm	214	223
% of sales	10.8	13.3
Capital employed (average), EURm	681	553
Comparable ROCE, %	31.5	40.2

¹⁾ In 2022, items affecting comparability include EUR 6 million impairment charges of assets impacted by Russia's war in Ukraine, EUR 2 million of AMC acquisition-related costs and EUR 3 million restructuring charges. In 2021, items affecting comparability include restructuring charges.

2022 compared with 2021

Comparable EBIT decreased. Variable costs were higher, offsetting the positive impact of higher sales prices. Q1 2022 was affected by a provision for expected credit losses related to Russian trade receivables.

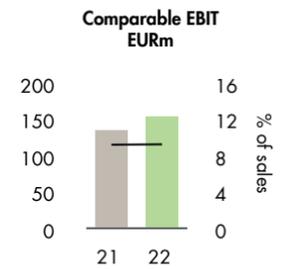
Market environment

- In Q1-Q3 2022, demand for self-adhesive label materials was solid in Europe (excl. Russia) and North America while the markets were somewhat impacted by supply constraints.
- In Q4 2022, demand for self-adhesive label materials declined in Europe and North America due to significant destocking in the value chain. Destocking was especially significant in Europe, resulting in 25% lower market deliveries during the quarter.
- Demand in Asia was relatively soft throughout the year 2022.

Sources: UPM, FINAT, Tlmi

UPM Specialty Papers

UPM Specialty Papers offers labelling and packaging materials as well as office and graphic papers for labelling, commercial siliconising, packaging, office use and printing.



	2022	2021
Sales, EURm	1,677	1,482
Comparable EBITDA, EURm	230	209
% of sales	13.7	14.1
Depreciation, amortisation and impairment charges, EURm	-77	-75
Operating profit, EURm	153	135
% of sales	9.1	9.1
Items affecting comparability in operating profit, EURm	-	-
Comparable EBIT, EURm	153	135
% of sales	9.1	9.1
Capital employed (average), EURm	889	864
Comparable ROCE, %	17.2	15.6
Paper deliveries, 1000 t	1,431	1,658

2022 compared with 2021

Comparable EBIT increased. The positive impact of higher sales prices more than offset the negative impact of higher input costs and lower delivery volumes.

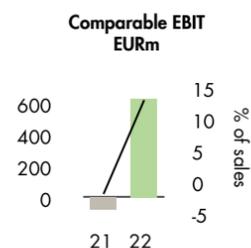
Market environment

- Global demand for label, release base and packaging papers was good during 2022, though demand became softer towards the end of the year and was impacted by destocking in the value chain. Demand was driven by fast moving consumer goods and e-commerce. Market prices increased.
- Fine paper demand was impacted by the COVID-19 lockdowns and containment measures in China.
- In 2022, fine paper market prices in the Asia-Pacific region increased compared to 2021.

Sources: UPM, RISI, AFRY, AWA

UPM Communication Papers

UPM Communication Papers offers an extensive product range of sustainably produced graphic papers for advertising and publishing as well as home and office uses.



	2022	2021
Sales, EURm	4,866	3,577
Comparable EBITDA, EURm	697	23
% of sales	14.3	0.6
Share of results of associates and joint ventures, EURm	3	0
Depreciation, amortisation and impairment charges, EURm	-80	-155
Operating profit, EURm	631	14
% of sales	13.0	0.4
Items affecting comparability in operating profit, EURm ¹⁾	12	93
Comparable EBIT, EURm	619	-79
% of sales	12.7	-2.2
Capital employed (average), EURm	1,506	1,275
Comparable ROCE, %	41.1	-6.2
Paper deliveries, 1000 t	4,703	5,828

¹⁾ 2022 items affecting comparability include EUR 26 million capital gain on sale of non-current assets, EUR 11 million settlement loss resulting from replacement of a defined benefit pension plan in Finland with defined contribution plan, EUR 9 million restructuring charges, EUR 11 million reversal of restructuring provisions related to Chapelle paper mill and EUR 5 million charges related to prior capacity closures. 2021 items affecting comparability include gain on sale of Shotton Mill Ltd EUR 133 million, impairment charges of newsprint fixed assets EUR 50 million, gain on sale of non-current assets EUR 6 million and restructuring charges EUR 4 million.

2022 compared with 2021

Comparable EBIT increased. Significantly higher sales prices more than offset the negative impact of higher variable costs. Production and delivery volumes were lower, partly due to the strike in Finland in January-April 2022.

The average price in euro for UPM's paper deliveries increased by 71%.

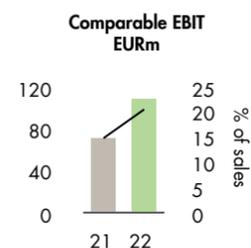
Market environment

- In 2022, demand for graphic papers in Europe was 12% lower than in 2021. Newsprint demand decreased by 8%, magazine papers by 18% and fine papers by 10% compared to 2021.
- In 2022, publication paper prices in Europe were 76% higher and fine paper prices were 47% higher compared to 2021.
- In 2022, demand for magazine papers in North America increased by 5%, compared to 2021. In 2022, the average price in US dollars for magazine papers increased by 28% compared to 2021.

Sources: PPI/RISI, Euro-Graph, PPPC

UPM Plywood

UPM Plywood offers high quality WISA® plywood and veneer products for construction, vehicle flooring, LNG shipbuilding, parquet manufacturing and other industrial applications.



	2022	2021
Sales, EURm	539	492
Comparable EBITDA, EURm	133	99
% of sales	24.6	20.0
Depreciation, amortisation and impairment charges, EURm	-67	-25
Operating profit, EURm	44	80
% of sales	8.2	16.2
Items affecting comparability in operating profit, EURm ¹⁾	-65	8
Comparable EBIT, EURm	109	72
% of sales	20.3	14.6
Capital employed (average), EURm	247	286
Comparable ROCE, %	44.3	25.1
Plywood deliveries, 1,000 m3	616	738

¹⁾ In 2022, items affecting comparability include EUR 54 million impairment charges of assets impacted by Russia's war in Ukraine, 8 million addition to environmental provisions related to prior mill closures in Finland and EUR 3 million restructuring charges in Russia. In 2021, items affecting comparability include EUR 6 million restructuring charges reversals and EUR 1 million impairment reversals related to Jyväskylä plywood mill closure in 2020.

2022 compared with 2021

Comparable EBIT increased due to significantly higher sales prices. Variable costs increased and delivery volumes were lower. Fixed costs increased.

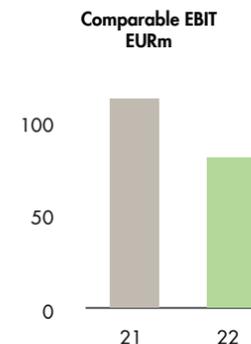
Market environment

- In H1 2022, demand for spruce plywood was strong. In H2, demand became weaker due to lower activity in the building and construction industry. Uncertainty around economic development increased cautious purchasing behavior.
- In 2022, demand for birch plywood was strong in panel trading and industrial applications.

Source: UPM

Other operations

Other Operations includes UPM Forest, UPM Biofuels, UPM Biochemicals, UPM Biomedicals and UPM Biocomposites business units as well as biofuels development and group services. UPM Forest secures competitive wood and biomass for UPM businesses and manages UPM-owned and privately owned forests in North Europe. In addition, UPM Forest offers forestry services to forest owners and forest investors. UPM Biofuels produces wood-based renewable diesel for all diesel engines and renewable naphtha that can be used as a biocomponent for gasoline or for replacing fossil raw materials in petrochemical industry. UPM operates one biorefinery in Finland.



	2022	2021
Sales, EURm	634	483
Comparable EBITDA, EURm	126	36
Change in fair value of forest assets and wood harvested, EURm	2	120
Share of results of associated companies and joint ventures, EURm	-2	0
Depreciation, amortisation and impairment charges, EURm	-64	-44
Operating profit, EURm	64	112
Items affecting comparability in operating profit, EURm ¹⁾	-16	-1
Comparable EBIT, EURm	81	113
Capital employed (average), EURm	2,577	2,152
Comparable ROCE, %	3.1	5.2

2021 figures have been restated due to change in composition of reportable segments. Refer to **Note 1.5** in UPM 2022 consolidated financial statements.

¹⁾ In 2022, items affecting comparability include EUR 20 million impairment charges of assets impacted by Russia's war in Ukraine, EUR 8 million gain on sale of other non-current assets, EUR 3 million settlement loss from replacement of defined benefit pension plan in Finland with defined contribution plan and EUR 2 million of AMC acquisition-related costs. In 2021, items affecting comparability relate to restructuring charges.

2022 compared with 2021

Comparable EBIT for other operations decreased. The change in the fair value of forest assets net of wood harvested was EUR 2 million (120 million). The increase in the fair value of forest assets was EUR 85 million (171 million). The cost of wood harvested from UPM forests was EUR 84 million (51 million). In 2021, the increase in fair value was impacted by increased forest growth and higher stumpage price estimates used in valuation.

Biofuels sales prices were significantly higher. In January-May 2022, biofuels production and deliveries were impacted by the strike and the long ramp-up of the process.

Market environment

- In 2022, market demand for advanced renewable fuels was strong and prices were at a high level.

- In 2022, interest for bio-based MEG and renewable functional fillers in Europe remained strong. Strong interest in more sustainable solutions from consumers, brand-owners and automotive OEMs, is driving demand for bio-based glycols and renewable functional fillers.
- In 2022, market demand for biocomposites remained firm in Europe, driven by the continued demand for sustainable products. However, delivered volumes in construction related applications decreased in H2 due to highly uncertain business environment. Market prices increased in response to input cost inflation.
- In UPM Biomedicals, hydrogel demand for cell cultivation is driven by material shortages in market. Hospitals continue to explore new sustainable advanced wound care dressings.

Board of Directors and the Group Executive Team

At the Annual General Meeting held on 29 March 2022, the number of members of the Board of Directors was confirmed as nine, and Henrik Ehrnrooth, Emma FitzGerald, Jari Gustafsson, Piia-Noora Kauppi, Marjan Oudeman, Martin à Porta, Kim Wahl and Björn Wahlroos were re-elected to the Board. Topi Manner was elected as a new director to the Board. The directors' term of office will end upon the closure of the next AGM.

Björn Wahlroos was re-elected as Chairman, and Henrik Ehrnrooth as Deputy Chairman of the Board of Directors of UPM-Kymmene Corporation at the Board of Directors' constitutive meeting that took place following the Annual General Meeting. Mr Wahlroos has announced that the commencing term will be his last as the Chairman.

In addition, the Board of Directors elected the chairs and other members to the Board committees from among its members. Kim Wahl was re-elected to chair the Audit Committee, and Jari Gustafsson and Marjan Oudeman were elected as other committee members. Martin à Porta was elected to chair the Remuneration Committee, and Emma FitzGerald and Topi Manner were elected as other committee members. Björn Wahlroos was re-elected to chair the Nomination and Governance Committee, and Henrik Ehrnrooth and Piia-Noora Kauppi were elected as other committee members.

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 owned a total of 380,983 (685,197) UPM-Kymmene Corporation shares. These represent 0.07% (0.13%) of the shares and 0.07% (0.13%) of the voting rights. At the end of the year, President and CEO Jussi Pesonen owned 567,390 shares. At the end of the year, the other members of the Group Executive Team owned a total of 798,643 shares.

» Refer Note 3.2 Key management personnel, of the consolidated financial statements 2022 for further information on remuneration and shares held by the members of the Board and the President and CEO and remuneration of the members of Group Executive Team.

Legal proceedings

The Group's management is not aware of any significant litigation at the end of 2022.

In October 2021, the European Commission conducted an unannounced inspection at UPM's premises. According to the

Commission's press release on 12 October 2021, the Commission has concerns that the inspected companies in the wood pulp sector may have violated EU antitrust rules that prohibit cartels and restrictive business practices. The Commission states that the unannounced inspections are a preliminary step in an investigation into suspected anticompetitive practices, and the fact that the Commission carries out such inspections does not mean that the companies are guilty of anticompetitive behaviour nor does it prejudice the outcome of the investigation itself. UPM takes any suspected violation of antitrust rules very seriously and has a compliance programme in place to mitigate the risk of such violations. For example, all employees and executives are required to take training on the UPM Code of Conduct, which includes a section regarding antitrust compliance. In addition, UPM has also in place a specific training programme regarding antitrust rules which covers approximately 3,000 employees and executives.

» Refer Note 9.2 *Litigation*, of the consolidated financial statements 2022 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 also includes risks that can be avoided through careful planning and evaluation of future projects and business environments.

Risk management is an integral part of UPM's management system as risk taking is a normal part of business operations. While executing strategies, UPM and its business areas, functions and manufacturing units are exposed to a number of risk 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.

The Risk Management Committee, chaired by the CFO, is responsible for recommending risk tolerances and profile to the President and CEO and the Strategy Team. The Strategy Team is responsible for aligning risk management priorities, business and risk management strategies and policies.

The Board of Directors, assisted by the Audit Committee, monitors and assesses the effectiveness of the company's risk management systems and oversees the assessment and management of risks related to the company's strategy and operations. The Audit Committee oversees that risk management activities are aligned with the Risk Management Policy, and that risk assessments are used to guide internal audit activities.

UPM seeks to transfer insurable risks through insurance arrangements for any risks that 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.

UPM has developed and implemented a comprehensive internal control system that covers business and financial reporting processes. Internal control is aimed at ensuring that the company's operations are efficient and reliable, and in compliance with statutory requirements, and that the company's financial reporting is accurate and reliable, and reflects operational results. Internal control pertaining to financial reporting is described in the Corporate Governance Statement available in the corporate website.

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, and financial risks. Risks may also arise from legal proceedings incidental to UPM's operations.

Strategic risks

Uncertainties in the economic and political operating environment

The main short-term uncertainties in UPM's earnings relate to sales prices and delivery volumes of its products, as well as to changes in the main input cost items and currency exchange rates, most of which are affected by uncertainty in the global, regional or local economic and political conditions. Political developments are causing uncertainties to the global economy. Such uncertainties also affect UPM's customers influencing the demand for UPM's products.

Examples of such developments are the trade tensions between the United States, the EU and China, the nature of the relationship between the EU and the UK after its exit from the EU as well as increased geopolitical tensions that may lead to military conflicts, such as Russia's war in Ukraine, or economic sanctions, blockades, or export and/or import restrictions that could limit or prevent UPM's business in a country or area. UPM is also exposed to the impacts of certain governmental protection and trade protection measures such as foreign direct investment restrictions that safeguard domestic industries and other changes affecting international trade. Restrictions on import and export and other measures protecting national interests may affect the availability or cost of necessary raw materials, and changes in the international trade agreements. Changes in fiscal, monetary and other policies taken to respond to the economic impacts of Russia's war in Ukraine and to reduce dependency on Russian resources may cause unintended price volatility or other adverse effects on UPM. Economic downturn, global pandemics, or global power struggles continue to cause high uncertainty to global trade, geopolitics or trajectories of economies.

UPM is especially exposed to the economic and political conditions in countries in which UPM has significant production operations and ongoing investment projects, such as Finland, Uruguay and Germany. UPM also has significant production operations and sales in and to China where 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 the country. UPM's subsidiaries and employees in Russia and Ukraine, while currently not operating, are exposed to challenging and unpredictable environment stemming from Russia's war in Ukraine.

Cyclical and highly competitive markets

In all markets UPM operates in, the price level is determined by a combination of demand and supply and an imbalance between them could cause the prices of UPM's products to fluctuate significantly. Imbalances in demand and supply may be caused by factors such as decreases or increases in the end-use demand, changes in customer preferences, market adjustments to Russia's war in Ukraine, or a new production capacity entering the market or an old production capacity being closed, all of which may affect both the volume and price level of UPM's products.

Competitor behaviour may also influence the market price development. UPM may, from time to time, experience price pressures from competitors in its main business areas and geographic market areas as well as particularly large fluctuations in operating margins due to this competitive environment.

The majority of UPM's revenue comes from sales of graphic and specialty papers, pulp and label materials, and UPM principally

competes with several large multinational paper and forest product companies as well as with numerous regional or more specialised competitors.

Changes in consumer behaviour

Demand for UPM's products may be affected by the introduction of substitute or alternative products. The demand for graphic papers in the mature markets is forecast to continue to decline. This will likely increase the pressure on UPM's graphic paper deliveries and sales prices as well as the scarcity of recycled fibre. The COVID-19 pandemic may further amplify the speed of changes adopted by consumers in consuming and communicating information. Changes in demand could also cause overcapacity in some of UPM's products, affecting the sales prices and deliveries of such products.

Depending on the product area, the shifts in consumer demand may either have a positive or an adverse effect on the consumption of UPM's products. For example, UPM expects that there will continue to be a growing need for renewable and recyclable solutions, which creates various opportunities for UPM and drive demand growth for most of UPM's products. At the same time digitalisation and e-commerce have changed consumer behaviour and resulted in decline in demand for graphic papers for various end uses.

Changes in legislation

UPM is exposed to a wide range of laws and regulations globally. The performance of UPM's businesses, for example the paper, energy, and biofuels businesses, are to a high degree dependent on the regulatory framework for these areas. Changes in regulation, direct and indirect taxation or subsidies, aid, grants or allowances could have a direct effect on UPM's performance and its relative competitiveness, and structurally restrict or exacerbate UPM's ability to compete for raw material. For example, the Finnish Government has published in December 2022 a law proposal for a temporary profit tax on the Finnish electricity sector. The proposed tax would be 30% of the companies' net profits generated from the electricity operations in Finland in fiscal year 2023 exceeding 10% annual return on shareholder's equity of the electricity business. UPM Energy is the second largest electricity producer in Finland and in the scope of the proposed temporary profit tax.

UPM also operates in industries that are subject to extensive environmental laws and regulations governing, among others, emissions, water quality, energy efficiency, as well as waste handling, recycling and disposal. Environmental laws and regulations have become more stringent and may continue to develop to be even more stringent due to various global, regional and national level regulatory initiatives. As these environmental laws and regulations are amended or as their application or enforcement is changed, additional costs in complying with new and more stringent regulations may be imposed on UPM.

UPM's operations require UPM to obtain multiple environmental permits and other licences from relevant authorities and comply with their terms and conditions. These permits and licences may be subject to modification, renewal or, subject to certain conditions, revocation by the issuing authorities. UPM monitors regulatory changes in order to better adapt to the effects of such changes.

Shareholdings in Pohjolan Voima Oyj

UPM is a shareholder of Pohjolan Voima Oyj (PVO), which is the majority shareholder of Teollisuuden Voima Oyj (TVO). TVO is in the process of constructing a third nuclear power plant unit, OL3 EPR, at the Olkiluoto site (OL3). When completed, OL3 will supply electricity to its shareholders on a cost-price principle (so called 'Mankala-principle') that is widely applied in the Finnish energy industry. Under the Mankala

principle, electricity and/or heat is supplied to the shareholders in proportion to their ownership and each shareholder is, pursuant to the specific stipulations of the respective Articles of Association, severally responsible for its respective share of the production costs of the energy company concerned. OL3 is expected to increase UPM's electricity generation capacity significantly. UPM's indirect share of OL3 is approximately 31%.

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

In March 2018 TVO announced that it had signed a Global Settlement Agreement (the 2018 GSA) with Supplier and the Areva Group parent company, Areva SA, a company wholly owned by the French state. The Global Settlement Agreement, which concerns the completion of the OL3 project and related disputes and entered into force in late March 2018. According to TVO's announcement, the GSA was amended with agreements signed in June 2021.

In the GSA, the Supplier consortium companies committed to ensuring that the funds dedicated to the completion of the OL3 project are sufficient and cover all applicable guarantee periods. Consequently, a trust mechanism was set up funded by the Areva companies to secure the funds required to cover Areva's costs for the completion of the OL3 project.

According to TVO the key matters of the amendment agreements to the GSA are:

- The Areva companies' trust mechanism, established in the GSA of 2018, was replenished in July 2021 with EUR 432.3 million.
- Both TVO and the Supplier are to cover their own costs as of July 2021 until end of February 2022.
- In the case that the Supplier consortium companies would not complete the OL3 project by the end of February 2022, they would pay additional compensation for delays, depending on the date of completion.
- In connection with the amendment of GSA entering into force, the Supplier paid EUR 206.9 million of the EUR 400.0 million delay compensation as agreed in the GSA 2018.

Due to OL3 additional delay in 2022 in interim report Q3 2022 TVO announced that TVO had recorded receivables from the Supplier for the additional delay compensation accumulated by the end of Q3 2022 in accordance with the amended GSA. The additional delay compensation has been recorded as EUR 56.7 million at the end of Q3 2022. At the end of Q3 2022, TVO has recognised current receivables of EUR 249.8 million from the Supplier.

According to TVO, all payments related to the settlement compensations have been recorded in the consolidated balance sheet as property, plant and equipment.

TVO announced in its interim report Q3 2022 that the trust, which was replenished in July 2021, has been used to cover costs incurred to Areva companies for the completion of the OL3 project in accordance with the GSA. Also, TVO mentioned, that TVO's right to terminate the plant contract in accordance with the GSA was postponed until 31 March 2023. In addition, the payment of approximately EUR 193 million of the delay compensation agreed in the GSA of 2018 was postponed until the completion of OL3, up to 31 March 2023 at the latest.

On 12 March 2022, TVO announced that the electricity production at OL3 had started, when OL3 was connected to the national grid. In June 2022 TVO announced that according to information received from Supplier, OL3's regular electricity production would start in December 2022. In August 2022, TVO announced that after completion of

maintenance and repair activities and automation updates the test production continued with tests at a power level of 60 percent. Tests at an 80 percent power level were started on 9 September 2022. On 30 September 2022, TVO announced that the commissioning of OL3 proceeded to the full electrical power level of approximately 1,600 MW.

On 18 October 2022, TVO announced that damage had been detected in the internals of the feedwater pumps located in turbine island. Cracks of a few centimeters were identified in all four of OL3's feedwater pumps. A schedule estimate on an effect on the continuation of OL3's nuclear commissioning and the start of regular electricity production is to be completed during the upcoming days.

On 7 November 2022, TVO announced that the investigations were still ongoing, and it was not possible to set a date for the continuation of the test production programme. The feedwater pumps were delivered for the turbine island by a proven pump supplier that supplies pumps to several nuclear power plants.

On 21 November 2022, TVO announced that the investigation into the damage at OL3's feedwater pumps would continue still for some weeks, and its impact on the schedule cannot be estimated. According to information TVO received from the Supplier, electricity production will continue on 11 December 2022 at the earliest, and as such regular electricity production starts at the end of January 2023 at the earliest.

On 9 December 2022, TVO announced that the investigation into the damage in OL3's feedwater pumps proceeded into its final stages, and that according to the Supplier, electricity production would continue on 25 December 2022 at the earliest. Regular electricity production would start in February 2023. According to TVO there were still uncertainties related to the schedule.

On 21 December 2022, TVO announced that the electricity production of OL3 will be continued on Tuesday, 27 December 2022. During test production, approximately 1.3 terawatt hours of electricity will be produced. Around ten significant tests still remain. Regular electricity production is to start on 8 March 2023.

After the end of the reporting period, TVO announced on 4 January 2023 that after the production tests, production at the plant unit is discontinued in January 2023 for planned inspections of the impellers of the feedwater pumps.

On 20 January 2023, TVO announced that the impellers of OL3 feedwater pumps will be replaced with impellers with more robust measurements during the ongoing production break. After this, electricity production will continue mainly at full power. Regular electricity production starts in March 2023. The Supplier is obligated to complete the OL3 plant unit in accordance with the Plant Contract and the settlement agreements.

TVO announced in its Q3 2022 Interim Report that according to the Supplier's latest project schedule, TVO's current cost estimate, and the effects of the GSA, TVO estimates that its total investment in the OL3 project will be approximately EUR 5.8 (5.7) billion.

Also, in Q3 2022 Interim Report TVO presented that as the OL3 project is still ongoing, no assurance can be given that further delays would not materialise prior completion of the project. According to TVO a failure by one or more of the Supplier to meet their respective obligations according to the Plant Contract or the Global Settlement Agreement may subject to new legal proceedings or new negotiations with the Supplier which have joint and several liability. In addition, TVO said that restrictions caused by the main grid may have an impact on OL3's electricity production.

On 16 December 2020 TVO announced, that the shareholders of TVO, including PVO, had signed an additional shareholder loan commitment, comprising a total of EUR 400 million new subordinated shareholder loan agreements. According to TVO with the new

shareholder loan commitment, TVO is preparing to maintain a sufficient liquidity buffer and equity ratio to complete OL3. On 30 November 2022, TVO announced that the shareholder loan commitment of EUR 400 million, originally agreed in December 2020, has been extended by one year until the end of 2023.

On 21 March 2022, TVO announced that S&P Global Ratings upgraded its long-term credit rating from "BB" to "BB+" and affirmed its positive outlook.

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

Climate change

UPM is exposed to a variety of risks related to climate change. Strategic risks related to climate change include risks concerning competition, markets, customers, products and regulation. For example, unpredictable regulation, subsidies or EU policies and resulting national legislation in EU countries may distort raw material, energy and final product markets and changing costs of greenhouse gas emissions may influence UPM's financial performance. Policies and regulations responding to Russia's war in Ukraine and cutting Russian gas supply to Europe may temporarily emphasize energy supply security over climate targets and thus change the trajectory of climate change or slow down the achievement of emission reductions. UPM believes that forest, wood-based products and low-carbon energy hold significant value creation potential with respect to renewable and recyclable products.

Other risks related to climate change particularly concern UPM's supply chain as well as the availability and price of major inputs, such as wood and electricity. Climate change may cause exceptional weather events, such as severe storms, floods and draughts, which could, for example, result in unpredictable hydropower availability and wood harvesting conditions. Exceptionally mild winter conditions with a reduced period of frozen soil in the Nordics could affect the harvesting and transport of wood, consequently undermining the stability of raw material supply and potentially increasing the cost of wood. These could also increase the risk of production limitations.

Loss of major customers and industry consolidation

UPM has several major customers, and the largest customer in terms of sales represented approximately 3% of UPM's sales in 2022, and the ten largest customers represented approximately 15% of such sales. Although UPM is not dependent on any specific customer or group of customers, the loss of its major customers, if not replaced on similar terms, could have a material effect on UPM's business. Also, as the size of UPM's customers could increase in connection with industry consolidation, such customers could exert increased bargaining power on all of their suppliers, including UPM. UPM is also exposed to risks related to any deterioration of a major customer group's financial condition.

Product development, innovation and intellectual property rights

Research and product development are an important part of UPM's strategy, particularly with regard to new businesses, such as wood-based biofuels, biochemicals and biomedical. The return on investment of new or enhanced existing products and solutions may not meet targets or improve UPM's competitiveness.

UPM has a broad patent portfolio that provides value creation potential in the future; however, it also exposes UPM to risks related to the protection and management of intellectual property, including patents and trademarks.

Corporate acquisitions and divestments

UPM's strategy is to grow businesses with strong long-term fundamentals and sustainable competitive advantage. This may result in acquisitions of new businesses or divestments of existing businesses or parts thereof. Carrying out corporate mergers, acquisitions and divestments involves risks relating to the successful implementation of a divestment and the ability to integrate and manage acquired businesses, systems, culture and personnel successfully. In addition, the cost of an acquisition may prove high and/or the anticipated economies of scale or synergies may not materialise. Hidden liabilities of an acquired company (e.g., competition law liabilities) may also constitute a significant risk in relation to potential acquisitions.

UPM may divest operations or assets to focus on strategic areas. Any future divestments may be affected by many factors that are beyond UPM's control, such as the availability of financing to potential buyers, interest rates, acquirers' capacity, and regulatory approval processes, and divestments may also expose UPM to indemnity claims. Furthermore, divestments may involve additional costs due to historical and unaccounted liabilities. The profitability of corporate acquisitions and divestments may differ from UPM's expectations.

Operational risks

Fluctuations in the prices of major inputs as well as changes in their availability

The main inputs required in the manufacturing of UPM's products are wood, fibre, chemicals, energy and water. The prices for many of these major production inputs have been volatile in the recent years and are expected to remain volatile for the foreseeable future, which may have an effect on the general profitability of the industries in which UPM operates. Climate change may contribute to the increase of the price volatility of UPM's major production inputs. Also, any changes in the current forestry practices and level of harvesting due to negative public opinion towards harvesting could have an effect on the raw material supply and may increase the cost of wood.

Governmental protection and trade protection measures, amplified by Russia's war in Ukraine and the economic sanctions imposed as a response, could also have an effect on the price and availability of raw materials as countries may, for example, enact further export ban policies to protect forests or to bolster their domestic industries, which could have a material effect on the cost and availability of raw materials for UPM. It is also uncertain how the EU energy policies may affect the availability and costs of fibre and energy. Significant increases in the prices of UPM's major inputs could increase UPM's operating expenses.

Supplier and subcontractor network and raw materials procurement

UPM's business operations depend on a large number of suppliers and contractors. The majority of UPM's need of wood is covered by suppliers, and other production inputs, such as chemicals, fillers and recovered paper, are fully obtained from suppliers. Disruptions in the supply of key inputs or transportation services could have a significant effect on manufacturing operations. This could, for example, result in interruption or downscaling of production, change in the product mix or increased costs resulting from price increases for critical inputs or transportation services as well as shifts in the availability and price of wood. Due to Russia's war in Ukraine, the EU has imposed bans on wood exports and imports and transportation operations directly applying to sourcing of wood and other raw materials from Russia. Supplier consolidation could also limit the number of suppliers from

which UPM would be able to source its production inputs and could materially affect the prices paid by UPM for these inputs.

The UPM Supplier and Third Party Code defines the minimum level of performance that UPM requires from its suppliers and third-party intermediaries. UPM carries out supplier risk assessments on, for example, operational, financial, quality and responsibility perspectives. Based on the risk assessment, selected suppliers' activities are evaluated in more detail through annual surveys, supplier audits and joint development plans. If any non-conformities are discovered, the supplier is required to take corrective measures, which UPM follows up on. Some contracts may also be discontinued due to the seriousness of the finding or insufficient corrective measures.

Management and execution of large investment projects

Investment projects in UPM's businesses are often large and take one or more years to complete. Participation in large projects involves risks, such as cost overruns or delays, shortage of labour, financial distress of suppliers, or accidents as well as non-achievement of the economic targets set for the investment. Currently, UPM's largest ongoing investment project is the construction of a new world-class pulp mill in Uruguay, which includes other related investments as well (port, Free Trade Zone infra and housing). Particular to this project is its size, complexity with a number of interconnected sub-projects as well as the level of cooperation with permit and other authorities. Additionally, the second largest ongoing project is the construction of a biochemicals refinery in Germany. This project involves the development of new business concepts and technologies.

UPM is responsible for many projects in several of its countries of operation at any given time. All projects involve technical and operational risks, and projects require continuous operational planning, steering and supervision, quality control, input procurement, scheduling as well as resource and cost monitoring. Managing several projects requires that UPM has sufficient resources and efficient processes. Port congestion issues, transportation bottlenecks, accidents in transit, and rising logistics costs, all of which could be resulting from external events or market conditions beyond the control of UPM, may have an effect on the execution or profitability of investment projects. The COVID-19 pandemic and the required additional health and safety measures have also added a new challenge to large investment projects. UPM's transformative pulp project in Uruguay and biochemicals project in Germany are proceeding with strict health and safety controls, but despite these efforts, some changes to the detailed timeline of the projects may occur due to containment measures or infections affecting project workers, suppliers or infrastructure.

Unavailability of information systems as well as cybersecurity breaches

UPM's production and business operations depend on the availability of supporting information systems and network services. Unplanned interruptions in UPM's or a supplier's critical information system services, loss of critical, financial or personal data due to reasons beyond UPM's or its suppliers' control, such as power cuts, software or telecommunication errors or other major disasters, such as fires or natural disasters, as well as user errors by UPM's own personnel or suppliers, can potentially cause major damage to UPM's businesses and disruptions to the continuity of operations.

UPM's or its suppliers' information systems may be exposed to various cybersecurity risks. Malicious cyber intrusion could cause leakage of sensitive information, violation of data privacy regulations, theft of intellectual property, production outages and damage to UPM's reputation.

Litigation and compliance

UPM operates globally in a large number of jurisdictions and complex regulatory frameworks. UPM may from time to time be involved in litigation and other similar proceedings or it could become subject to various claims and actions based on various grounds.

On a global scale, enforcement activities and jurisdictional reach regarding competition issues and anti-corruption have increased. Also, the recent development of Renewable Energy Sources Act (EEG) related lawsuits in Germany for alleged non-payment of EEG based surcharges may have an adverse impact on UPM, albeit UPM is not currently a party to any such lawsuits. Russia's war in Ukraine triggered many countries to impose several sanctions packages which may increase the risk of investigations, litigations or claims associated with alleged sanctions violations, or retaliatory litigation in Russia. The UPM Code of Conduct sets the standards of responsible behaviour and it 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 also measures and publishes information on its environmental, social and governance matters, for which there is an increasing risk of investigation or litigation from activist or other stakeholders on alleged misrepresentation. UPM has significant manufacturing operations or sourcing in several developing countries, some of which are perceived as highly corrupt or corrupt 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 licences requiring governmental approval. Breaches of applicable laws and regulations or corporate policies by UPM employees may lead to legal processes, sanctions and fines as well as reputational damages effecting UPM's operations. For example, In October 2021 the European Commission conducted an unannounced inspection at UPM's premises. According to the Commission's press release on 12th October 2021, the Commission has concerns that the inspected companies in the wood pulp sector may have violated EU antitrust rules that prohibit cartels and restrictive business practices. Commission states that the unannounced inspections are a preliminary step in an investigation into suspected anticompetitive practices, and the fact that the Commission carries out such inspections does not mean that the companies are guilty of anti-competitive behaviour nor does it prejudge the outcome of the investigation itself. UPM continues to support the Commission with any investigation activity that may follow.

Industrial actions

UPM is subject to risk of industrial actions, which could disrupt its business operations or the business operations of its stakeholders. Uncertainty may increase in the Finnish labour market amid the announcement of the Finnish Forest Industries Federation in fall 2020 to transfer collective bargaining to companies. For example, in the beginning of 2022, members of the Paperworkers' Union, the Finnish Electrical Workers' Union and the Trade Union Pro started strikes at UPM mills in Jämsänkoski, Kouvola, Lappeenranta, Pietarsaari, Rauma, Tampere and Valkeakoski, Finland. Any strike or other industrial action in UPM's business operations or related sectors could have an effect on UPM's business operations. For example, industrial actions in the transport sector or among other stakeholders important to UPM, may disrupt UPM's operations. Additionally, public dissatisfaction with UPM's labour-related decisions may, in extreme cases, lead to unanticipated boycotts or disruptions at its facilities or construction sites.

A natural disaster, fire, accident or other calamity at UPM's production facilities

UPM operates a significant number of production facilities globally that are exposed to risks related to environment, fires, natural events, machinery breakdowns, site security and occupational health and safety risks. If UPM's production facilities were to experience a major accident or were forced to shut down or curtail production due to such unforeseen events, such as a leak or spill due to malfunction or human error, this could cause major interruptions in UPM's operations and result in significant costs in order to clean up and repair any potential damages to the production plant and the surrounding areas. Any failure to maintain high levels of safety management could also result in physical injury, sickness (such as a COVID-19 infection) or liability to UPM's employees, contractors or third parties. These risks are managed through established management procedures, health and safety precautions and loss prevention programmes. UPM's insurance programme provides coverage for insurable hazard risks, subject to insurance terms and conditions.

Forests and plantations

UPM's plantations and forests may be affected by the impacts of climate change, which include more frequent and severe extreme weather conditions such as heavy rainfall, storms, floods and drought. Climate change is expected to have the biggest physical effect on UPM's forest lands in Finland, where temperatures are expected to rise more significantly and rapidly compared with other countries where UPM owns forest. Although forest growth will likely accelerate, particularly in Finland, due to the longer growing season, extreme weather conditions will intensify, presenting new risks. The increase of droughts and forest fires are estimated to pose the most significant risks for UPM's forests and plantations. Also, damages caused by insects and tree diseases are becoming increasingly common, which could have an effect on the value of UPM's forest assets. Should these risks materialise, they could harm UPM's forest and plantations resulting in production interruption and additional costs.

Strategic partners

UPM collaborates with many partners. For example, product development in the biofuels, bioenergy or biochemicals increases the importance of partnerships in the search for new products and businesses or higher efficiency. Partnerships may, however, create risks to UPM's profitability, for example, through changes occurring within the partner entity or changes in how the partnership operates. UPM is also subject to the risk that its strategic partners do not comply with UPM's Code of Conduct with anti-corruption, competition law, HR practices, human rights, responsible sourcing and environmental matters.

Partnership arrangements may also be too rigid to enable timely changes required, for example, in connection with changes in the market conditions or the economy. UPM's partners may have different targets with respect to the business of the partnerships. As UPM may not have sole control over strategic direction and operational output of these entities, its partners may have the right to make certain decisions on key business matters with which UPM does not agree. In some cases, strategic partners may choose not to continue partnerships that they have with UPM. Russia's war in Ukraine and the resulting adverse economic conditions may cause financial stress to a strategic partner and trigger unexpected negotiation or other processes causing delays or cost increases for UPM.

Intellectual property rights of third parties

Molecular bioproducts form one of UPM's three strategic focus areas for growth. Initiatives within this strategic focus area are technology-intensive and require increasing investments in such technologies either through internal development or through third party licences or technological partnerships. In addition to UPM's own IPR portfolio, UPM licences certain technologies developed by third parties. Evaluating the rights related to the third party technologies UPM uses or intends to use is increasingly challenging. Licensing third party technology exposes UPM to such risks as the increase of overall licensing costs, loss of negotiation power, the validity of such licensing arrangements and potential infringement claims, which could restrict UPM's ability to use certain technologies, prevent the delivery of UPM's products and/or result in costly and time-consuming litigation. Risk related to IPR claims and disputes relating to technological partnerships have been assessed to increase.

Building capabilities to growth areas

The success of UPM's business largely depends on the ability to build and retain the necessary new capabilities required for future growth. UPM is continuously developing its employee experience, leadership culture, evaluating its recruitment, compensation policies and career development opportunities and taking measures to attract and retain diversely skilled personnel and individuals with rare and pivotal specialist knowledge for current and future growth areas.

Financial risks

Financial risks are described in consolidated financial statements 2022.

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
Counterparty risk	6.2 Derivatives and hedge accounting

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.

To steer 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 62). The focus areas cover economic, social and environmental responsibility. Mitigation of and adaptation to climate change is becoming more important all the time, and it is relevant for UPM throughout the whole value chain: land use, sourcing, production and products. Thus, climate-related targets have been established for all of these areas. In 2022, the importance of biodiversity was reflected in UPM's broader approach towards biodiversity and establishing it as an own area of focus.

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.

Connecting sustainability performance to financing demonstrates the importance of responsible business practices to UPM's long term value creation. UPM's revolving credit facility is linked to the long-term

biodiversity and climate targets, and three green bonds have been issued since 2020. Since January 2022, responsibility-related measures have been included in UPM's management remuneration.

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.

Since 2003, UPM is 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, the environment and anti-corruption. In 2022, UPM joined the UN Global Compact's Living Wage Think Lab.

Regarding climate change UPM committed to the Science Based Targets (SBT) initiative in 2017 and received validation of its tightened CO₂ targets in 2020. To further strengthen its climate approach, UPM committed to the UN's Business Ambition for the 1.5°C pledge and joined The Climate Pledge to reach the targets set by the Paris Agreement by 2040.

UPM follows the Finnish Corporate Governance Code issued by the Securities Market Association and complies with all of its recommendations.

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 practices are the foundation of all of UPM's businesses and create long-term value for both UPM and its stakeholders. The UPM Code of Conduct emphasises UPM's commitment to business integrity and responsible business operations, manifesting the company's guiding principles.

The UPM Code of Conduct is approved by the Board of Directors as UPM's highest governance body. It is complemented by more detailed policies approved by the Board of Directors and rules or statements approved by the Group Executive Team, business areas or global functions. These policies, rules and statements cover such topics as treasury, taxes, disclosures, insider matters, anti-corruption, competition law, confidentiality, human resources, responsibility, forestry, information security and data protection, and safety.

UPM expects 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 requirements are defined in the UPM Supplier and Third Party Code, latest updates effective as of beginning of 2020.

The UPM Code of Conduct was last updated in 2022.

Roles of the group management and functions in leading 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. The non-financial information in this Report of the Board of Directors is reviewed by the Board as part of the approval process. In addition, the Audit Committee oversees procedures for treatment of complaints and concerns received by the company, anonymous or otherwise. As 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.

In line with its main duties and responsibilities, the Board reviewed and approved strategic plans during its strategy session in May 2022. The main focus areas of the UPM Biofore strategy continue to be

performance, growth, innovation, responsibility and portfolio development. This strategy is enhanced by the UPM purpose: We create a future beyond fossils (read more on pages 20-21). An essential part of the Board's annual strategy work is to review and assess strategic and operational risks and opportunities (see UPM Corporate Governance Statement 2022). These risks and opportunities and their impact on operations and strategy are described on pages 32-33.

In 2022, the Board decided to set measures related to environmental, social and governance (ESG) themes in the Company's performance share plan (PSP), one of its long-term incentive plans. They decided to set three distinct ESG performance measures and the total weighting of these measures accounts for 20% of all measures.

The Group Executive Team, headed by the President and CEO, is responsible for the management of corporate responsibility, including possible impacts on economy, environment and people, determining courses of action and guiding development work. In practice, corporate responsibility work takes place in businesses and functions, and in the group's Responsibility team, which co-ordinates the projects carried out by businesses and functions.

UPM Legal Function and its Compliance team manage legal compliance programmes and arrange related training at regular intervals for 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. Reliable long-term deliveries, product and service quality, financial sustainability of suppliers, social and environmental responsibility and product safety are the key factors when selecting and evaluating suppliers.

While executing strategies, UPM and its business areas, functions and production units are exposed to a number of financial and non-financial risks and opportunities. Each business area, function and unit is responsible for identifying, measuring and managing 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.

Management of non-financial matters

UPM's responsible thinking starts with anticipating, mitigating and managing risks, and extends to creating a 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. Since 2018, all production sites have a certified ISO 14001 environmental management system. Nearly all production sites and wood sourcing operations implemented integrated management systems for environmental protection, quality management and occupational health and safety in accordance with ISO 14001, ISO 9001 and ISO 45001 standards. All pulp and paper mills in the EU, as well as the UPM Fray Bentos pulp mill in Uruguay and the UPM Changshu paper mill in China, also adhere to the EU's Eco-Management and Audit Scheme (EMAS). Many of the sites also have energy management systems certified under ISO 50001 or the Finnish ETJ+ system, and food safety management systems certified under ISO 22000, if relevant.

Should stakeholders have any concerns or suspect misconduct, they are encouraged to contact UPM or to use the UPM Report Misconduct channel. The service is available on the corporate website for both the company's employees and external stakeholders. Operated by an independent external service provider, the channel is accessible in over 40 languages, 24/7. In 2022, 54 (66) cases were reported either through the UPM Report Misconduct channel or directly to Internal Audit or the Compliance team. 9 (9) of these cases related to alleged discrimination or harassment. 8 (18) cases led to disciplinary action including warnings and terminations of employment.

Reporting framework used

For its Group-level sustainability reporting UPM follows the Global Reporting Initiative's (GRI) Sustainability Reporting Standards, the Task Force on Climate-related Financial Disclosures (TCFD) as well as the AA 1000 AccountAbility Principles Standard. The respective information is assured by an independent third-party, PricewaterhouseCoopers, Oy (pages 116-117).

Committed to anti-corruption

The UPM Code of Conduct underlines the company's zero tolerance attitude towards corruption and bribery in any form. UPM Anti-Corruption Rules explain prohibited conduct and expected ethical behaviour in further detail.

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 the relevant authorities. Some of the countries where UPM operates are perceived as highly corrupt or corrupt 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 licences requiring governmental approval.

Due diligence of suppliers and third parties with whom UPM does business is an essential part of UPM's anti-corruption compliance programme. UPM requires that due diligence is performed before entering into or renewing any contract with a third party that 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. UPM also has corresponding due diligence procedures for joint ventures, including mergers and acquisitions.

UPM has a dedicated anti-corruption e-learning platform. The anti-corruption training covers all white-collar employees. In 2022, the company organised tailored anti-corruption training workshops for selected target groups across the company and performed risk-based compliance reviews in selected jurisdictions and operations.

Respect for human rights

UPM is committed to respecting and promoting human rights in line with the United Nations Guiding Principles on Business and Human Rights. UPM has assessed all its operations and activities and has identified the potential human rights issues and impacts. When 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.

UPM reviews its human rights risks as part of the UPM compliance process quarterly. The assessment of salient human rights issues on a business area level as well as the integration of the process to unit specific management systems continued. The focus was on catching up with the developments in our business landscape and operational environments and on identifying any gaps in our mitigation activities. As a result of the 2022 assessments, contractor management was selected as one of the focus areas going forward. UPM also continued to publish a report of UPM's Human Rights Responsibility.

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 requirements for suppliers are defined in the UPM Supplier and Third Party Code. A number of additional requirements are in place for the 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 identifies its supply chains with a high risk of potential negative environmental and social impacts. These responsibility-related high risk suppliers are determined by the country of origin, sourced material or service, and the UPM supply chain ESG risk register which holds UPM's view on company and business area relevant risks on people and the environment. UPM also uses EcoVadis and other assessments, supplier audits and joint development plans to carry out more detailed evaluations of suppliers' activities.

In 2022, UPM updated its supplier assessment criteria and supplier audit questionnaire, and also started a renewal of its Responsible Sourcing Framework with the aim of improving supply chain resilience and risk management.

UPM continued its co-operation with Together for Sustainability (TfS), a chemical industry initiative that promotes and improves sustainability practices within the supply chains. In 2022, UPM conducted some 520 (340) EcoVadis environmental and social risk assessments and 121 (124) supplier audits. In addition, about 360 (300) contractor reviews with a focus on working conditions were carried out.

Social and employee-related matters

UPM's responsibility focus areas in social and employee-related matters are: learning and development, responsible leadership, diversity and inclusion, fair rewarding as well as safe and healthy working environment.

UPM is committed to active employee participation and consultation, organised in accordance with international and national rules and regulations. After the Finnish Forest Industries Federation resigned from collective bargaining, the terms of employment are agreed between forest products companies and trade unions. UPM has agreed business-specific collective labour agreements in Finland (page 67).

UPM aims to empower and engage employees at all levels through responsible leadership. UPM encourages its employees to pursue professional growth, expects development and supports them in learning skills and developing them 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. In 2022, UPM implemented gender pay equity review process closing the unexplained gender pay gap and carried out a living wage review process to make sure that salaries are sufficient everywhere. Greater female representation in professional and managerial roles has been in focus for different organisations.

In its People Strategy, UPM focused on leadership and creating a safe, inclusive and diverse working environment, as well as aiming higher in performance and ensuring the growth of our people. The aim is to create a unique, positive UPM experience and to develop future ways of working and collaborating, supported by attractive culture, space and technology. In 2022, UPM continued with its programme to develop the UPM experience and ways of working. The enabling

performance approach by strengthening feedback culture, agile goal setting and frequent manager-employee discussions is being further strengthened. Development programmes to support growth and performance were continued and implemented virtually. To further develop inclusive leadership and culture, UPM continued to train leaders and launched a digital learning to all UPMers on LGBTIQ+ inclusion in workplace.

UPM promotes employees' health and wellbeing. 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. Proactively thinking about the safety of employees and contractors remained an important focus area in 2022. The safety and wellbeing of our employees during the global pandemic has been the key priority. The requirements concerning process safety have been clarified with a new safety standard and process safety has been in focus especially in the new investment projects of the biofuel and biochemical businesses.

Product stewardship

The majority of UPM's products are made from renewable raw materials and are recyclable. UPM products help to mitigate climate change by replacing fossil-based products with bio-based renewable alternatives. Product stewardship covers the entire lifecycle of all UPM products from the development phase to the end-use and beyond.

In 2022, the new Sustainable Product Design concept was further tested on several product development cases with UPM businesses. The approach applies lifecycle thinking and lifecycle assessment data, both of which are integrated in sustainable product design practices. During the process, the whole raw material chain, production and distribution efficiency, sustainable use and circularity are considered.

UPM provides product declarations to provide customers with easy access to information concerning the products' environmental and product safety aspects or the wood origin. Together with a number of paper and chemical companies the exchange of information in the supply chain was improved. This facilitated a pre-assessment of chemical use and to ensure compliance with legislations and ecolabels.

Most UPM products are certified with widely recognised ecolabels, such as the EU ecolabel and national ecolabels for graphic paper or ISCC and RSB certification for biofuels, biocomposites and labels.

All UPM pulp mills, UPM Raflatac sites, UPM Specialty Papers' production lines and UPM Kymi paper mill have implemented food management systems in accordance with ISO 22000. The respective products are designed and produced to meet food packaging requirements.

In 2022, we modernised our chemical database to improve access to advanced reporting and control features.

Environment

UPM's responsibility focus areas in environmental matters are forests, biodiversity, water, waste and climate. 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 third-party-verified FSC™ and PEFC chain of custody certification covers all sites using wood raw materials. This ensures that the wood is legally sourced from sustainably managed forests. All UPM-owned forests are certified, or in the process of certification if acquired recently.

UPM is continuously working to improve biodiversity in its forests. Since 2022, biodiversity-related activities in Finland, Uruguay and the U.S. have been incorporated in UPM's new Forest Action programme. The new programme covers not only biodiversity and climate but also sustainability criteria related to water, soil and social aspects. In 2022, the importance of biodiversity was also reflected in UPM's broader approach towards biodiversity to also cover other areas beside forests, e. g. streams and mill sites, and in establishing it as an own focus area.

All of UPM's production plants are located in areas with low and medium basin risk where there is sufficient water available. A comprehensive water risk analysis has provided 2030 and 2050 scenarios of water risks, based on climate and socio-economic changes to enable us to understand and prepare for future water risks and opportunities. The water used by UPM plants comes from rivers, lakes or groundwater resources. UPM uses water responsibly in terms of the company's water usage and effluent quality. If the price of raw water were to increase by EUR 0.01 per cubic metre, it would mean additional water costs of approximately EUR 4 million annually. In 2022, wastewater volume increased by 3% per tonne of paper and by 15% per tonne of pulp. As Finnish pulp and paper mills went on strike in early 2022, effluent treatment plants had to be kept in operation with low capacity while production was ceased, leading to an increase of wastewater volume per tonne of product.

Circular bioeconomy is at the core of our operations. We have developed innovative ways to reduce and recover waste and to use side streams, residues and recovered materials. For example, tall oil is used for the production of UPM BioVerno renewable diesel and naphtha and ash is utilised in soil stabilisation, cement industry or as raw material for paper filler production. Regulatory changes may have an impact on the options for waste or residue use, either by restricting the end uses and thus causing higher costs for alternative solutions, or by creating new opportunities. In 2022, 90 (89)% of UPM's process waste was recycled or recovered, of which 21 (21)% is energy recovery.

In 2022, UPM's environmental investments totalled EUR 11 million (5 million). The largest investment was for the improvement of one fibre line's brown stock washing at UPM Kaukas pulp mill to reduce the COD load of wastewater. UPM's environmental costs, which were mainly attributable to effluent treatment and waste management, totalled EUR 123 million (111 million), including depreciation.

The company-wide Clean Run concept, launched in 2012, aims to improve UPM's environmental performance by bringing environmental issues to the forefront of everyday work. All sites systematically follow up any deviations, proactively report observations and near misses, carry out walks and discussions, and compile detailed risk assessments. Approximately 1,400 (1,400) environmental walks were organised and 2,100 (2,500) preventive environmental observations and near misses were reported in 2022.

In 2022, the number of environmental non-conformances decreased by 3 to a total of 22 (25) deviations from permit, contractual or other

obligations. 10 cases were related to air, 9 to water, 2 to soil and 1 to noise. All deviations were reported to the authorities and, where relevant, to local stakeholders. Appropriate measures were taken to normalise the situation, and will be taken to prevent similar occurrences. No major environmental incidents occurred at UPM production plants in 2022 and UPM was not required to pay any significant fines due to environmental non-conformances.

Climate

The management of climate change related issues is integrated into the management of other non-financial issues and is reported to the Board depending on the context and matter. For example: 1) risks are reported to the Board by CFO, 2) related compliance and regulatory issues are briefed quarterly to the Audit Committee (Board) by the Compliance Officer, 3) annual progress on 2030 responsibility targets is reported by EVP Stakeholder Relations or 4) if there are specific climate-related topics, then the responsible topic owner briefs the Board. Additionally, major climate-related issues such as scenario analyses, commitments and UPM's overall approach of acting through forests, emission reductions in production and supply chain and through climate-positive products are reported directly to UPM management bodies led by CEO.

UPM's position and resilience in different climate scenarios (IPCC RCP 2.6, RCP 4.5, RCP 8.5, IEA B2DS, IEA NPS and IEA CPS) have been evaluated for the businesses and functions from both physical and transitional angles, involving expertise from scientific community. Generally, in low- and medium-emission scenarios the transition impacts play a bigger role and UPM is well positioned as its business portfolio allows for flexibility regarding recognised risks and opportunities. In the high-emission scenario physical impacts dominate with severe consequences not only for UPM but for the ecosystems and societies across the globe.

UPM's main target related to climate change is reducing fossil CO₂ emissions (scope 1 and 2) by 65% from 2015 levels by 2030. This target was validated by the Science-Based Targets initiative to be aligned with the 1.5° C pathway according to the Paris agreement. In 2022, fossil CO₂ emissions (scope 1 and 2) summed up to 4.5 (5.0) million tonnes, which is a decrease of 11% compared to 2021.

Further targets related to climate change are reducing fossil CO₂ emissions from supply chain (Scope 3) by 30% from 2018 levels by 2030, climate-positive land use and developing climate-positive product portfolio. Concerning land use, forestry and product portfolio, UPM has engaged with scientific partners in order to gain credible data and approaches.

UPM favours the use of renewable and other carbon-neutral energy sources. Biomass-based fuels make up 65% (70%) of fuels used by UPM worldwide. If UPM needed to buy certificates to cover its whole direct fossil CO₂ emissions, and if the price of CO₂ certificates were to rise by EUR 10 per tonne, it would mean additional costs of approximately EUR 23 million annually.

In 2022, UPM finalised a study on climate-related substitution and carbon storage effects of our products with the Finnish SYKE and the German IFEU institutes and we joined the pilot testing phase of the GHG Protocol Land Sector and Removals Guidance. This development work will help defining UPM's approach for net-zero emissions

UPM climate related disclosures according to TCFD (Task Force on Climate-related Financial Disclosures) are presented in the UPM annual report as follows:

REQUIREMENTS	PAGES
GOVERNANCE	
a) The role of the Board in overseeing climate-related issues	Page 137-138, paragraph "Roles of the group management and functions in leading non-financial matters"
b) The role of management in assessing and managing climate-related issues	Page 137-138, paragraph "Roles of the group management and functions in leading non-financial matters"
STRATEGY	
a) The climate related risks and opportunities over the short, medium and long term	Pages 132-136, chapter "Risks" Pages 32-33, chapter "Risks and opportunities" Pages 10-13, chapter "Beyond fossils"
b) The impact of climate-related risks and opportunities on business, strategy and financial planning	Pages 32-33, chapter "Risks and opportunities" Pages 10-13, chapter "Beyond fossils" Page 132 paragraph "Climate change", 136 paragraph "Forest and plantations"
c) The resilience of strategy, taking into consideration climate-related scenarios	Page 140, paragraph "Climate" Pages 10-13, chapter "Beyond fossils"
RISK MANAGEMENT	
a) Processes for identifying climate-related risks	Page 132, paragraph "Risk management" Page 137-138, paragraph "Roles of the group management and functions in leading non-financial matters"
b) Processes for managing climate-related risks	Page 132, paragraph "Risk management" Page 137-138, paragraph "Roles of the group management and functions in leading non-financial matters"
c) How processes for identifying, assessing, and managing climate-related risks are integrated into overall risk management	Page 132, paragraph "Risk management" Pages 106-108, chapter "Governance"
METRICS AND TARGETS	
a) Metrics used to assess climate-related risks and opportunities	Pages 14–15, "Key figures 2022"
b) Scope 1, Scope 2 and Scope 3 emissions, and related risks	Page 140, paragraph "Climate" Page 88, graph "Sources of UPM's greenhouse gas emissions"
c) Targets used to manage climate-related risks and opportunities and performance against targets	Page 149, table "Material non-financial topics and key performance indicators" Pages 30-31, table "UPM Responsibility targets"

CapEx of taxonomy-eligible activities (excluding nuclear and fossil gas related activities)

Economic activities	Code(s)	Absolute CapEx	Proportion of CapEx %	Substantial contribution criteria					DNSH criteria ('Does Not Significantly Harm')					Taxonomy aligned proportion of CapEx, year 2022	Taxonomy aligned proportion of CapEx, year 2021	Category (enabling activity = E)	Category ('transitional activity' = T)	
				Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Climate change mitigation	Climate change adaptation	Water and marine resources					Circular economy
A. TAXONOMY-ELIGIBLE ACTIVITIES		EURm	%	%													E	T
A.1. Environmentally sustainable activities (Taxonomy-aligned)																		
1.1. Afforestation	A2.1	7	0%	100%													E	
1.3. Forest management	A2.1, A2.2, A2.3	79	5%	100%													E	
3.6 Manufacture of other low carbon technologies	C22	314	19%	100%													E	
4.5. Electricity generation from hydropower	D35.1.1	8	0%	100%													E	
4.13. Manufacture of biogas and biofuels for use in transport	D35.2.1	16	1%	100%													E	
4.20. Cogeneration of heat/cool and power from bioenergy	D35.1.1, D35.3	0	0%	100%													E	
9.1. Close to market research, development and innovation	M72.1	1	0%	100%													E	
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		424	26%	100%														
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																		
6.10 Sea and coastal freight water transport, vessels for port operations and auxiliary activities	H50.2	59	4%															
CapEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		59	4%															
Total (A.1 + A.2)		483	29%														88%	88%
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																		
CapEx of Taxonomy-non-eligible activities (B)		1,173	71%															
Total (A + B)		1,656	100%															

CapEx of Taxonomy-non-eligible activities (B) includes the eligible and aligned nuclear related activities

OpEx of taxonomy-eligible activities (excluding nuclear and fossil gas related activities)

Economic activities	Code(s)	Absolute OpEx	Proportion of OpEx %	Substantial contribution criteria					DNSH criteria ('Does Not Significantly Harm')					Taxonomy aligned proportion of OpEx, year 2022	Taxonomy aligned proportion of OpEx, year 2021	Category (enabling activity = E)	Category ('transitional activity' = T)	
				Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Climate change mitigation	Climate change adaptation	Water and marine resources					Circular economy
A. TAXONOMY-ELIGIBLE ACTIVITIES		EURm	%	%													E	T
A.1. Environmentally sustainable activities (Taxonomy-aligned)																		
1.3. Forest management	A2.1, A2.2, A2.3	22	3%	100%													E	
4.5. Electricity generation from hydropower	D35.1.1	4	1%	100%													E	
4.13. Manufacture of biogas and biofuels for use in transport	D35.2.1	8	1%	100%													E	
4.20. Cogeneration of heat/cool and power from bioenergy	D35.1.1, D35.3	23	3%	100%													E	
9.1. Close to market research, development and innovation	M72.1	12	2%	100%													E	
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		69	11%	100%														
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																		
6.10 Sea and coastal freight water transport, vessels for port operations and auxiliary activities	H50.2	0	0%															
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		0	0%															
Total (A.1 + A.2)		69	11%														100%	100%
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																		
OpEx of Taxonomy-non-eligible activities (B)		582	89%															
Total (A + B)		650	100%															

OpEx of Taxonomy-non-eligible activities (B) includes the eligible and aligned nuclear related activities

Nuclear and fossil gas related templates

Template 1 Nuclear and fossil gas related activities

Row	Nuclear energy related activities	
1.	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	NO
2.	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	YES
3.	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	YES
Fossil gas related activities		
4.	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	NO
5.	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	NO
6.	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	NO

Template 2 Taxonomy-aligned economic activities (denominator)

Row	Economic activities	Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
2.	4.27. Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies	34	0 %	34	0 %	—	— %
3.	4.28. Electricity generation from nuclear energy in existing installations	266	2 %	266	2 %	—	— %
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows above in the denominator of Turnover	597	5 %	597	5 %	—	— %
8.	Total Turnover	11,720	100 %	11,720	100 %	—	— %

Row	Economic activities	Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
3.	4.28. Electricity generation from nuclear energy in existing installations	41	6 %	41	6 %	—	— %
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows above in the denominator of OpEx	69	11 %	69	11 %	—	— %
8.	Total OpEx	650	100 %	650	100 %	—	— %

Template 3 Taxonomy-aligned economic activities (numerator)

Row	Economic activities	Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
2.	4.27. Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies	34	4 %	34	4 %	—	— %
3.	4.28. Electricity generation from nuclear energy in existing installations	266	30 %	266	30 %	—	— %
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to above in the numerator of Turnover	597	67 %	597	67 %	—	— %
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the Turnover	896	100 %	896	100 %	—	— %

Row	Economic activities	Amount and proportion					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
3.	4.28. Electricity generation from nuclear energy in existing installations	41	37 %	41	37 %	—	— %
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows above in the numerator of OpEx	69	63 %	69	63 %	—	— %
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the OpEx	109	100 %	109	100 %	—	— %

Accounting Policy

UPM consolidated financial statements that are prepared in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS as adopted by the EU) and IFRIC Interpretations. UPM has calculated the KPIs using the financial information presented in group consolidated financial statements 2022. The definitions of CapEx and OpEx key performance indicators are based on group interpretation of definitions set out in the Disclosures Delegated Act.

Turnover

UPM has calculated turnover, as defined in Disclosures Delegated Act, based on the same accounting principles that apply for revenue in IFRS, i.e., covering all amounts derived from the sale of products and services in the course of ordinary activities. Total turnover corresponds to total sales as reported in group consolidated financial statements. Refer to Accounting policy in consolidated financial statements **Note 2.2. Sales**. Taxonomy-eligible and -aligned turnover include only revenue from sales of products and services generated from activities that are included in the Taxonomy. The majority of UPM's products and services contributing to the turnover are not included in the EU Taxonomy. In determining the eligible and aligned turnover any specific fragments of production inputs, such as use of sustainable raw material or energy, have not been included in the eligible turnover if the main activity is not included in the Taxonomy.

UPM's Taxonomy-eligible turnover includes sales of wood and wood-based biomass such as logs, pulpwood and forest residues from UPM's

own and leased forests to third party customers (other sources of wood excluded from the eligible turnover), sales of forestry services to private forestry owners, sales of energy generated from hydropower, sales of wood-based renewable diesel and naphtha for transport and petrochemicals, sales of heat and power generated from biomass in combined heat and power plants and revenues from leased vessels. Regarding the power plants, the portion of the fossil fuels has been excluded from the turnover. Apart from the sales of forestry services to private forest owners and revenues from leased vessels, all the UPM's eligible turnover is also Taxonomy-aligned.

CapEx

UPM has included in CapEx, as defined in Disclosures Delegated Act, additions to tangible and intangible assets, before any depreciations, impairments, amortisation charges and fair valuations during the financial year, as accounted for in accordance with IAS 16 Property, Plant and Equipment, IAS 38 Intangible assets, IAS 41 Agriculture and IFRS 16 Leases. CapEx corresponds to cash payments to acquire fixed assets in the **Consolidated cash flow statement** adjusted with amounts accrued but not paid at the end of reporting period, and additions to leased assets. Refer to line items Capital expenditure and Additions to forest assets in Consolidated cash flow statement and **Note 5.2. Leases** in UPM consolidated financial statements 2022.

Taxonomy-eligible CapEx includes purchased and leased land for afforestation, purchased forest land, capitalised forest regeneration costs during the growth cycle, capitalised investments in new

biochemicals refinery, capitalised investments in hydropower plants, capitalised investments in biofuels biorefinery and other capitalised development costs of Taxonomy-eligible activities towards a future beyond fossils. Apart from the CapEx related to investments on leased vessels, all the UPM's eligible CapEx is also Taxonomy-aligned. Capital expenditure presented in the UPM Annual report within Other financial information differs from Taxonomy-CapEx as it does not include additions to forest assets and leased assets.

OpEx
UPM has included in OpEx, as defined in Disclosures Delegated Act, research and development costs as accounted for in accordance IAS 38 Intangible assets, short term lease expenses as accounted for in accordance IFRS 16 Leases, and costs of day-to-day servicing (i.e., repairs and maintenance) of property, plant and equipment as accounted for in accordance IAS 16. Costs of day-to-day servicing of property, plant and equipment include direct salaries of maintenance personnel, maintenance materials and maintenance services outsourced. In addition, as UPM owns a significant amount of forest assets, it considers forest management and support services as day-to-day servicing of assets as defined in EU Disclosures Delegated Act. OpEx is included in consolidated income statement line item Costs and expenses, refer **Note 2.3. Operating expenses and other operating income.**

Research and development costs included in Taxonomy-eligible OpEx relate to technologies and products dedicated to the reduction of GHG emissions. These costs relate to Taxonomy-eligible activities 1.3, 3.6 and 4.13 and include mainly new biochemicals biorefinery and next generation biofuels refinery R&D costs. Day-to-day servicing of property, plant and equipment included in Taxonomy-eligible OpEx includes maintenance costs of hydropower and biofuels production facilities and costs related to combined heat power plants and leased vessels. Costs of day-to-day servicing of forest assets included in Taxonomy-eligible OpEx relate to forestry infrastructure maintenance, forest fire fighting, protection and environmental activities whereas forest regeneration costs, e.g., planting, growing of seedlings and operation of nurseries, are included in CapEx. All the above-mentioned Taxonomy-eligible OpEx apart from the costs related to leased vessels are also Taxonomy-aligned.

Nuclear and Gas related activities

UPM has reported separately its activities related to Nuclear and Gas as defined in the Complementary Climate Delegated Act (2022/1214). The assessment is based on the comprehensive study made by Teollisuuden Voima Oyj (TVO) which is in control of the nuclear operations where UPM has shareholdings via Pohjolan Voima Oyj (PVO), refer to **Note 4.3 Energy shareholdings.**

Taxonomy-eligible turnover from nuclear related activities includes UPM's sales to external customers related to existing nuclear power plants (Olkiluoto 1 & 2, activity 4.28) and the new constructed power plant (Olkiluoto 3, activity 4.27) which is in the test production phase. Taxonomy-eligible OpEx in activity 4.27 includes, as defined in Disclosures Delegated Act, UPM's share of day-to-day servicing costs related to property, plant and equipment in the existing nuclear power plants Olkiluoto 1 & 2. UPM is not reporting any CapEx related to the nuclear activities as due to the nature of its shareholding ownership in PVO, investments related nuclear are not included in the total UPM's Capital expenditure as presented in the UPM Annual report. UPM did not recognise any gas related activities as defined in the Disclosures and Complementary Climate Delegated Act. All the reported nuclear activities and respective KPIs are both Taxonomy-eligible and Taxonomy-aligned.

Material non-financial topics and key performance indicators

TOPIC	MANAGEMENT	KEY PERFORMANCE INDICATOR	2022 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 for all employees and anti-bribery training to all salaried employees.	100% coverage of participation in UPM Code of Conduct training (continuous)	97% (98%) of active employees completed the new training for the UPM Code of Conduct since September 2022.
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	121 (124) supplier audits were conducted based on identified risks, including human rights, social and environmental topics. In addition, about 360 (300) contractor reviews with focus on working conditions were carried out.
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. These supplier requirements are defined in the UPM Supplier and Third Party Code.	80% of total supplier spend covered by UPM Supplier and Third Party Code (continuous)	88% (86%) of supplier spend covered by UPM Supplier and Third-Party Code.
Responsible leadership	UPM continuously develops leadership capabilities, management teams and working environments. UPM measures work environments, team work and leadership with an annual engagement survey. UPM's global leadership development portfolio develops capabilities to lead oneself, lead people and lead business. Programmes address, e.g., inspiring and purposeful leadership, coaching, conversation and feedback skills, resilience and leading in complexity.	Employee engagement clearly above benchmark by 2030	In the Employee Engagement Survey average score of 70 (68). This is 5 (9) points below the global external benchmark.
Learning and development	UPM has a systematic process for goal setting and development planning for all employees globally to ensure high performance and continuous professional development.	Goal setting discussions are held and development plans created for employees, completion rate 100% by 2030	83% (88%) of employees had completed individual goal settings or annual discussions. 58% (70%) had a development plan documented.
Safe and healthy working environment	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 Total recordable injury frequency (TRIF) <2 by 2030, including contractors	3 (0) fatal accidents, 5 (3) serious accidents TRIF was 6.4 (6.3) for UPM workforce and 5.9 (7.2) including contractors.
Diversity and inclusion	UPM wants to develop organisational culture and local workplace to ensure an 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.	UPM is among top 10% companies by 2030 on employees' sense of belonging at UPM	In the Employee Engagement Survey, question about belonging average score of 68 (67). This is 12 (13) points below the benchmark of top 10% companies.
Fair rewarding	UPM's rewarding and recognition philosophy is to reward high performance. We aim to ensure fair, equitable and competitive rewarding for all employees. In addition to competitive, robust and performance based rewarding practices, we have yearly review processes ensuring the gender pay equity and employees' pay meeting at least a living wage locally. UPM ensures that employees have sufficient information to understand what their rewarding comprises and how they can influence on its development.	Ensure gender pay equity for all employees by implementing yearly review process to identify and close unexplained pay gaps	Company-wide review done in 2022 and pay adjustments implemented to close identified statistically significant unexplained gaps related to gender.
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	87% (84%) of UPM sales were 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. Strengthened targets for scope 1 and 2 to be in line with the commitment to Science Based Targets and 1.5° pledge.	Fossil CO ₂ emissions from its own combustion and purchased electricity (Scope 1 and 2) reduced by 65% by 2030 (compared to 2015)	Fossil CO ₂ emissions reduced by 34% compared to 2015 and 11% compared to 2021.
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 by 30% by 2030 (compared to 2008)	13% reduction in wastewater volume achieved since 2008 for the UPM average product.

TOPIC	MANAGEMENT	KEY PERFORMANCE INDICATOR	2022 RESULTS
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 sent to landfills or to incineration without energy recovery by 2030	90% (89%) of all UPM's process waste was recovered and recycled. The total amount of waste to landfills decreased by 40% compared to 2021.
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	86% (84%) of all wood used by UPM is sourced from certified forests.
Biodiversity	UPM aims to improve biodiversity with tangible actions for maximising positive impacts and mitigating possible negative impacts on land, in stream waters or in mill operations.	Positive impact on forest biodiversity in Finland (continuous)	Overall positive development measured, all subindicators positive

Material risks and their management is described on pages 132-137 of the Report of Board of Directors and in the Annual Report on pages 32-33. Information on the company's risk management system is available on the corporate website in the governance section and in the Corporate Governance Statement 2022, which is also available as a separate report on the corporate website 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 upm.com.

Research and development

Innovating for the future

Innovation and R&D programmes are essential in the development of new products and technologies. Research and development expenses cover the development of new technologies, businesses and processes. In 2022, UPM spent EUR 414 (266) million on research and development, which accounted 81.5% (21.3%) of UPM's operating cash flow. In addition to direct R&D expenditure of EUR 55 (46) million, the figure includes negative operating cash flow and capital expenditure in developing businesses, transformative business prospects and digitalisation projects.

The patents, trademarks and intellectual property rights protecting our innovations supports the journey from innovation to business. We have more than 3,000 patents and patent applications, and nearly 1,400 trademarks globally.

Licensing innovations and technologies provides an excellent basis for value creation with customers and technology partners. As an example, at the end of 2022, UPM Biochemicals owned 592 patents and patent applications and another 433 patents and patent applications were held by partners, covering technology and products throughout the value chain.

Extensive partner network

Our close-knit global partner network is comprised of customers, universities, research organisations, suppliers and start-up companies. Collaboration speeds up the development and launch of new business solutions.

Our network includes the Circular Bio-based Europe Joint Undertaking (BBI) and the European Chemical Industry Council (CEFIC). We are a part of the Renewable Carbon Initiative (RCI) and a member of the 4evergreen alliance, an initiative created by CEPI to raise the overall recycling rate of fibre-based packaging to 90% by 2030. We also joined EUROOPEN, the European association that strives towards carbon neutrality of the packaging value chain.

We want to take part in the developments that reduce greenhouse gas emissions. In 2022, we actively participated in Hydrogen Cluster Finland, the EU's Clean Hydrogen Alliance and participated in the Roundtable on Clean Hydrogen in industrial applications.

Our focus in 2022

Implementing sustainable product design concept

Our 2030 responsibility targets and our contribution to the UN SDGs are integrated into our R&D activities and product development. We want our products to create value for our stakeholders during the whole product lifecycle.

We started to implement the sustainable product design concept and worked on cases for new product development to form solid sustainability value propositions. At UPM Specialty Papers, the concept was successfully used from development to the new packaging paper launch. The new concept will be adopted gradually in all of our businesses.

Our approach applies lifecycle thinking and lifecycle assessment data, both of which are incorporated in sustainable product design practices. We use different sustainability tools, such as Life Cycle Assessments (LCAs), and biodegradability and recyclability testing in product development. LCAs are a good tool to support businesses in sustainability communication.

Innovating climate-positive products

Our biochemicals biorefinery under construction in Leuna, Germany, will enable a switch from fossil raw materials to wood-based alternatives in textiles, plastics, PET bottles, packaging as well as pharma and cosmetics products. We introduced UPM BioPura™, renewable monoethylene glycols (bMEG) produced from carbon-neutral feedstocks.

We are in the basic engineering phase of a next-generation biofuels biorefinery. This biorefinery would produce high-quality renewable fuels, including sustainable jet fuel. The products would significantly reduce the carbon footprint of road transport and aviation, as well as replace fossil raw materials with chemical and plastic alternatives.

We are also examining new ways to utilise renewable fibre-based materials for textiles, nonwovens, hygiene products, labels and flexible packaging for example. We also look into opportunities provided by green hydrogen and biogenic CO2.

Expanding R&D infrastructure

UPM's four Biofore Base research centres accelerate the development of bio-based products. The new Leuna Biofore Base in Germany works in connection with the upcoming biochemicals refinery and specialises in developing new molecular bioproducts. The centres focus on research, piloting and analytics enabling seamless collaboration with customers, value chain partners and research organisations such as universities.

They work closely with UPM's mills, businesses and business-specific research centres in various countries.

UPM's first forestry research centre specialising in eucalyptus plantations began operations in Paysandú, Uruguay. The centre's research work is mainly focused on developing genetic materials with high productivity, optimal wood quality and tolerance to the pests and diseases that can affect plantations. The new centre contains state-of-the-art laboratories and equipment, as well as specific greenhouses and nurseries for various research and development purposes.

Developing R&D competences

R&D supports our growth and responsibility targets globally and enhance technology-triggered business opportunities and protect performance in existing businesses. The strong focus is on the growth businesses and close collaboration with customers and production.

We continuously develop our competences for the future needs of our businesses. Competence development is essential for the entire organisation, including both technical capabilities and ways of working. We focused especially on our digi and data and chemistry capabilities. We also started an apprenticeship training to educate new laboratory technicians and piloting plant operators for our growing needs in these areas. In addition to internal competence development, we collaborate with universities and vocational schools to enhance mutual learning, for example through the Aalto International Talent mentoring programme.

UPM Biochemicals - ramping up new business

The world's first industrial-scale biorefinery in Leuna is rapidly taking shape, while a robust business platform is almost complete and new customer partnerships confirm a promising commercial future.

Manufacturers in multiple sectors must reduce their carbon footprints urgently. UPM's new generation of biochemicals, sourced from sustainably managed forests, will enable brands to redefine their net zero targets, significantly reduce their scope 3 emissions and switch out of fossil-based chemical feedstocks for good. Our biochemicals will support the transition of the chemicals industry towards a renewable circular bioeconomy.

The EUR 750 million-investment at Leuna is rapidly taking shape, in anticipation for start-up by the end of 2023. The biorefinery will be the first industrial-scale facility of its type ever built, requiring precision in every detail of planning and construction.

The biorefinery will convert solid wood into next generation biochemicals: bio-monoethylene glycol (BioMEG) and renewable functional fillers. In addition, the biorefinery will produce bio-monoethylene glycols (BioMPG) and industrial sugars.

After confirming in January 2022 that the completion of the biorefinery would be delayed, we successfully navigated the challenges stemming from the global supply chain disruptions.

Substantial progress has been made on-site: the concrete foundations have been laid; the huge pipe rack that will bear the grid for utilities has been built and the first structures are almost complete. [SPU 1]

Along with developing the facility, we are preparing the business to become fully operational. We have hired and started training the operations personnel and established reliable supply chains.

We have also extended our feedstock sourcing network, resulting in the first deliveries of wood on site in November. This has enabled us to begin testing our wood handling and processing operations. The networks we have built with partners in the forest value chain have helped us to address the benefits of wood use in wider policy discussions.

We took important steps to bring our products to global markets. We presented our lignin-based Renewable Functional Filler (RFF) solutions, UPM Biomotion™, at the world's biggest rubber industry trade

fair (DKT IRC) in Nuremberg, further strengthened our distributor network.

We were ranked by the European Rubber Journal as the most important sustainability project in the elastomers and rubber industry. Our renewable monoethylene glycols (bMEG), UPM BioPura™, were shortlisted by Packaging Europe magazine as one of the standout innovations for its 2022 Sustainability Awards.

We also announced commercial partnerships for UPM BioPura that will transform the carbon footprint of value chains in different industries. For manufacturers like Dongsung Chemical (a supplier to global footwear brands) and Haertol (a leading engine and battery coolant producer), this is an opportunity to both advance their net zero commitments and achieve a competitive advantage in their global markets, where demand for sustainable products is increasing.

In 2022 we also staffed our research and application development laboratories, ensuring high quality, continuous process optimisation and ongoing research and development activities around our portfolio of biochemicals.

While fully focusing on completing the project and ramping up the business, we have also built the fundamentals for further growth in Biochemicals. We have brought together a team of experts to assess and study future applications for biochemicals. We are exploring opportunities to address needs in additional chemical value chains, utilising side-stream products or based on the technological platform we are now completing.

A heightened focus on reduced carbon emissions means the demand for renewable materials will continue to increase. We are actively working to optimise processes and material streams to further reduce emissions, seeking carbon neutrality - or even carbon negativity - of the products produced in our biorefinery.

The sustainable sourcing of biomass is a vital factor for our commercial partners. The wood used to produce UPM's renewable biochemicals is 100% certified and sourced from regional beechwood forests in and around Leuna, conserving biodiversity and natural ecosystems. All the wood used is fully traceable and supported by a verified third-party chain of custody.

UPM Biomedicals - advancing biomedical innovations

UPM Biomedicals is at the forefront of innovation and commercialisation, with a particular focus on life science and clinical applications.

UPM Biomedicals develops and supplies innovative and sustainable wood-based biomedical products for medical and life science applications. The main component in our products is high-quality nanocellulose, refined from birch wood. All products are animal-free.

We actively collaborate with universities, research centres and key industrial partners in the fields of high-throughput drug screening, personalised medicine, cell therapies, 3D bioprinting, tissue engineering and advanced wound care. More than 520 patents and patent applications protect our existing and future products.

In life sciences, our main products are GrowDex®, a range of hydrogels for 3D cell culturing, and GrowDase™, an enzyme to release living cells from the gel. The nanocellulose ensures excellent compatibility with even the most demanding cells, such as stem cells and patient-derived cells.

In 2022, we completed a pilot study of GrowDex use in a cell-based model of a liver. Liver models are used in testing the toxicity of almost every new pharmaceutical candidate. The first mini-livers and other mini-organs are currently growing in UPM's own cell laboratory to better support our customers and product development team.

GrowInk™ is a range of bioinks for 3D bioprinting, used in areas like cancer research, where models of tumours can be printed to test

their response to different treatments. The ultimate goal is to print organs or tissues that could, in the future, be transplanted into patients. In 2022, we continued to supply nanocellulose to Cellink.

In the clinical field, many Finnish healthcare professionals and hospitals already use our CE-marked FibDex® wound dressings. The products are also being piloted in selected university hospitals in the Nordic countries and in Germany. In 2022, we launched a new clinical investigation for superficial dermal burns led by experienced plastic surgeons in the university hospitals of Uppsala and Linköping in Sweden.

UPM Biocomposites - the best in class

UPM Biocomposites is creating circular economy solutions through the manufacture of innovative composite materials and decking products. The materials are based on our own research and development.

UPM ProFi utilises European post-consumer plastic waste and post-industrial label waste to manufacture high quality composite decking. The label production side streams come from UPM Raflatac and its customers, with the waste collected and delivered to Germany where the composite decking is manufactured. We also utilise recycled plastic from European post-consumer waste in the manufacturing process.

The UPM ProFi Piazza product range is made with up to 75% recycled materials and offers best-in-class performance. We are a member of the EU Circular Plastics Alliance, which aims to increase the EU market for recycled plastics to 10 million tonnes by 2025.

In 2022, the end of the COVID-19 pandemic lockdowns and the uncertainty surrounding construction, as well as continued consumer uncertainty, were reflected in UPM ProFi's sales. However, we managed to increase market shares in Central Europe, where we stand out thanks to the responsibility and recyclability of our locally produced products. The UPM ProFi Piazza product range was expanded.

UPM Formi creates and manufactures wood-based biocomposites, enabling a reduction in the carbon footprint of the end product by up to 80% when compared to similar products made from fossil-based materials. The composite materials are suitable for various end uses, including kitchenware, personal care and acoustic devices. Products comply with food safety standards and other similar quality requirements.

Business growth continued in 2022 with our customers launching new products on the market, from storage boxes to design objects. Together with new and existing customers, we developed and piloted new end-use areas for the material. Commercial interest was reflected in the strong demand for almost 100% biobased UPM Formi EcoAce.

R&D's role in different businesses

BUSINESS AREA	DESCRIPTION
UPM Fibres	<p>In 2022, UPM saw a clear benefit of having research expertise in several continents. Our global R&D presence in Asia, Europe and the Americas, enabled us to work faster and better with our customers and partners to find and implement required solutions. By having a local presence at a global scale we were able to implement solutions even during the exceptional COVID-19 pandemic.</p> <p>Several developments were made to improve operational reliability, safety and environmental performance at our pulp mills. To further strengthen our strategy and commitment to developing sustainable and high-quality eucalyptus plantations for pulp production, we opened a new forestry research centre in Paysandú, Uruguay. The centre's research work focuses mainly on developing genetic materials with high productivity, improved wood quality and good tolerance to the main pests and diseases that can affect plantation operations.</p> <p>After a period of solution development stage for our second state-of-the-art eucalyptus pulp mill scheduled to start operating in Uruguay by the end of the Q1 2023, more emphasis was placed on developing and piloting the first stages of our next fibre based and by-products growth concepts for our pulp mills. In doing so, we saw clear synergies and advantages in having in-house businesses that focus on replacing fossil materials with renewable solutions. It allows us to make our customers more successful faster by designing and implementing solutions based on our by-products in a range of industries and applications.</p>
UPM Energy	<p>The focus was on improving the cost-competitiveness and environmental performance of hydropower production assets and on developing competencies and business operations related to the optimisation of industrial energy consumption and demand-side flexibility. UPM Energy participated in several research programmes and undertook development work with the aim of improving UPM's power generation and consumption operations in a changing electricity market, as well as developing means to mitigate the impact of hydro power operations on rivers and migratory fish.</p>
UPM Raflatac	<p>UPM Raflatac product development in Strategic Business Units and in Global R&D continues to support UPM's sustainable development goals and commitments in self-adhesive label materials. Packaging recyclability, reduction of raw materials and new renewable raw materials are core elements in all UPM Raflatac's R&D projects supporting UPM's beyond fossils strategy. Limited availability of raw materials has been a challenge in recent years and this has been offset by approving alternative solutions. Continuous improvements in quality and cost efficiency remain essential to product and process development. The AMC acquisition brings new technologies and products which will further strengthen the technical competencies in self-adhesive materials. This will enable new opportunities for future product development.</p>
UPM Specialty Papers	<p>R&D and product development initiatives aim to enable high performance and efficiency in the value chain and to develop fibre-based alternatives for non-renewable materials. These initiatives also support growth targets by driving the innovation of products for new applications. We added a new heat-sealable barrier paper to our portfolio. Looking towards the future, we continue to focus on co-creating sustainable packaging papers for increasingly demanding end-uses, together with the packaging value network; we currently have several ongoing co-creation initiatives supported by our excellent R&D infrastructure including Northern European and Asian R&D centres. For example, together with machine manufacturer BOBST and specialty chemicals manufacturer Michelman, we launched a ground-breaking packaging solution for foods with long shelf life.</p> <p>UPM Specialty Papers continues to develop release liner base papers to further improve efficiency and minimise the environmental impact of the value chain. For example, our downgauging initiatives support our customers' material efficiency targets. We are also driving an industry-wide design-for-recycling approach across the label and tape value chains by harmonising release liner shades.</p>
UPM Communication Papers	<p>The Research & Development Centre in Lappeenranta, Finland and the Central European Support Team in Augsburg, Germany continued to focus on investigating fibre concepts for various paper grades. The teams have been optimising recovered paper (RCP) supply by quality studies and development of a quality simulation model. UPM Communication Papers participated in projects and association activities to keep RCP recyclable, e. g. in the 4evergreen project and in the INGEDE. Furthermore, our R&D teams provided support to optimise the deinking process with the aim of minimising material losses, and reducing energy and the water consumption.</p> <p>Product portfolio development focused on the needs of key customer groups, as well as broadening the approach to address new and profitable end uses.</p> <p>In the area of energy, the focus was on technological innovations that help minimise energy needs at the production sites. Paper mills also developed further intelligent operations to enable increasing demand-side management towards the electricity markets and networks to support system stability and decrease emissions at peak times.</p> <p>In terms of operations efficiency, our R&D efforts concentrated on improving the efficiency of several mills for pinpointed efficiency supporting actions as well as safety-improving areas.</p> <p>Digital solutions were developed, built and tested to optimise RCF delivery flows and machine performance measurement, as well as improve order information machine reading.</p> <p>Contributions from the R&D teams contributed to meeting the 2030 targets in the areas of energy, water consumption, effluent treatment and resource efficiency.</p>
UPM Plywood	<p>UPM Plywood product management and development provides competitive products within selected end-use areas in collaboration with our customers, superior technical expertise and support for customers, and support for the commercialisation of newly developed products and applications. An example would be further expanding the use of lignin-based WISA BioBond gluing solution to new product lines.</p>
Other operations UPM Biofuels	<p>Collaboration for the development of new applications for renewable plastics based on UPM BioVerno naphtha continued. Piloting, research and process development continued to take place at the UPM Biorefinery Development Centre (BrDC) and with external partners.</p> <p>UPM also studied and tested the use of several new innovative feedstocks that meet sustainability criteria, such as wood residues and feedstocks from carbon farming for our possible growth plans.</p>

Information on shares

Shares

UPM has one class of shares. Each share entitles the holder to one vote at the General Meeting of UPM.

On 31 December 2022, 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 2022, 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.

In 2022, UPM shares worth a total of EUR 9,680 million (8,435 million) were traded on the Nasdaq Helsinki stock exchange. This is estimated to represent more than 60% of the total trading volume in UPM shares. The highest listing was EUR 37.14 in December and the lowest was EUR 24.85 in March.

Authorisations held by the Board of Directors

The Annual General Meeting held on 29 March 2022 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 29 March 2022 authorised the Board of Directors to decide on the issuance of new shares, the transfer of treasury shares and the issuance of special rights entitling to shares in proportion to the shareholders' existing holdings in the Company, or in a directed share issue, deviating from the shareholder's pre-emptive subscription right. The Board of Directors may also decide on a share issue without payment to the Company itself. The aggregate maximum number of new shares that may be issued and treasury shares that may be transferred is 25,000,000, including the number of shares that can be received on the basis of special rights. The authorisation will be valid for 18 months 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.

Changes in number of shares

	2022	2021	2020	2019	2018
Number of shares 1 January	533,735,699	533,735,699	533,735,699	533,735,699	533,735,699
Number of shares at 31 December	533,735,699	533,735,699	533,735,699	533,735,699	533,735,699

Major shareholders at 31 December 2022

	NUMBER OF SHARES	HOLDING %
Varma Mutual Pension Insurance Company	10,065,404	1.89
Ilmarinen Mutual Pension Insurance Company	8,331,000	1.56
ELO Mutual Pension Insurance Company	4,148,000	0.78
The Society of Swedish Literature in Finland	2,617,070	0.49
The State Pension Fund	2,600,000	0.49
Holding Manutas Oy	2,500,000	0.47
OP-Suomi Investment fund	2,060,190	0.39
Mandatum Life Insurance Company	1,801,493	0.34
SECURITY TRADING OY	1,750,000	0.33
Kymin Osakeyhtiön 100-vuotissäätiö	1,696,360	0.32
Nominees & Registered foreign owners	363,421,356	68.09
Others	132,744,826	24.87
Total	533,735,699	100.00

Shareholders by category at 31 December, %

	2022	2021	2020	2019	2018
Companies	2.6	2.9	2.7	2.3	2.1
Financial institutions and insurance companies	3.6	3.7	3.8	3.0	2.9
Public bodies	5.3	5.8	6.0	5.7	6.8
Non-profit organisations	4.5	4.6	4.7	4.6	4.4
Households	16.0	15.8	15.6	15.2	15.0
Non-Finnish nationals	68.1	67.2	67.1	69.1	68.7
Total	100.0	100.0	100.0	100.0	100.0

Share distribution at 31 December 2022

SIZE OF SHAREHOLDINGS	NUMBER OF SHARE-HOLDERS	% OF SHARE-HOLDERS	NUMBER OF SHARES, MILLION	% OF SHARES
1 – 100	56,083	42.47	2.4	0.5
101 – 1,000	58,198	44.07	22.2	4.2
1,001 – 10,000	16,430	12.44	43.7	8.2
10,001 – 100,000	1,233	0.93	29.7	5.6
100,001 –	123	0.09	74.4	13.9
Total	132,067	100.00	172.5	32.3
Nominee-registered			361.2	67.7
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 upm.com/investors.

Adjusted share related indicators

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Earnings per share (EPS), EUR	2.86	2.41	1.05	1.99	2.80	1.82	1.65	1.72	0.96	0.63
Comparable EPS, EUR	3.09	2.22	1.37	2.07	2.24	1.88	1.65	1.38	1.20	0.91
Equity per share, EUR	23.44	20.34	17.53	18.87	18.36	16.24	15.43	14.89	14.02	14.08
Dividend per share, EUR ¹⁾	1.50	1.30	1.30	1.30	1.30	1.15	0.95	0.75	0.70	0.60
Dividend to earnings ratio, %	52.4	53.9	123.7	65.4	46.4	63.0	57.6	43.6	72.9	95.2
Dividend to operating cash flow, %	158	55	69	38	52	42	30	34	30	43
Dividend to comparable EPS, %	49	59	95	63	58	61	58	54	58	66
Effective dividend yield, %	4.3	3.9	4.3	4.2	5.9	4.4	4.1	4.4	5.1	4.9
P/E ratio	12.2	13.9	29.0	15.5	7.9	14.2	14.1	10.0	14.2	19.5
Operating cash flow per share, EUR	0.95	2.34	1.89	3.46	2.49	2.74	3.16	2.22	2.33	1.39
Dividend distribution, EURm ¹⁾	800	693	693	693	693	613	507	400	373	317
Share price at 31 Dec., EUR	34.93	33.46	30.47	30.91	22.15	25.91	23.34	17.23	13.62	12.28
Lowest quotation, EUR	24.85	29.11	20.31	21.10	21.69	20.82	13.71	13.19	10.07	7.30
Highest quotation, EUR	37.14	35.37	31.50	31.49	34.70	26.69	23.41	19.26	13.99	13.02
Average quotation for the period, EUR	32.50	32.15	26.09	25.73	28.86	23.89	17.51	16.37	12.26	9.42
Market capitalisation, EURm	18,629	17,845	16,250	16,485	11,813	13,818	12,452	9,192	7,266	6,497
Shares traded, EURm ²⁾	9,680	8,435	9,921	9,695	9,980	8,460	6,749	7,469	6,233	5,308
Shares traded (1,000)	297,879	262,377	380,237	376,801	345,822	354,053	385,355	456,168	508,318	563,382
Shares traded, % of all shares	55.9	49.2	71.3	70.7	64.8	66.4	72.2	85.5	95.6	106.7
Number of shares, average (1,000)	533,324	533,324	533,324	533,324	533,324	533,415	533,505	533,505	531,574	527,818
Number of shares at the end of period (1,000)	533,736	533,736	533,736	533,736	533,736	533,736	533,736	533,736	533,736	529,302
of which treasury shares (1,000)	412	412	412	412	412	412	231	231	231	231

¹⁾ 2022 proposal

²⁾ Trading on the Nasdaq Helsinki Main Market. Treasury shares bought by the company are included in shares traded.

The definitions of adjusted 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.
Dividend to comparable EPS, %	Dividend per share as a percentage of comparable earnings 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.

Board of Directors' proposal for the distribution of profit

The Board of Directors proposes to the Annual General Meeting of UPM-Kymmene Corporation to be held on 12 April 2023 that an aggregate dividend of EUR 1.50 per share be paid based on the balance sheet to be adopted for the financial year ending 31 December 2022, and that the remaining portion of the distributable funds be retained in the Company's unrestricted shareholders' equity. The Board proposes that the dividend be paid in two instalments.

The first dividend instalment, EUR 0.75 per share, is proposed to be paid to shareholders registered in the Company's register of shareholders maintained by Euroclear Finland Oy on the record date for the first dividend instalment 14 April 2023. The Board proposes that the payment date for the first dividend instalment would be on 21 April 2023.

The second dividend instalment, EUR 0.75 per share, is proposed to be paid to shareholders registered in the Company's register of shareholders maintained by Euroclear Finland Oy on the record date for the second dividend instalment 26 October 2023. The Board proposes that the payment date for the second dividend instalment would be on 2 November 2023.

If the payment of the dividend is prevented due to applicable law, regulation or unexpected circumstances, the Board will resolve, as soon as practically possible, on a new record date and payment date.

On the date of the dividend proposal, 2 February 2023, the registered number of the Company's 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 800.0 million.

On 31 December 2022, the distributable funds of the parent company were EUR 2,415,624,457.82. The loss of the parent company for the period was EUR 189,734,449.30. 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 2022

Helsinki, 2 February 2023

Björn Wahlroos
Chair

Henrik Ehrnrooth

Topi Manner

Emma FitzGerald

Jari Gustafsson

Piia-Noora Kauppi

Marjan Oudeman

Martin à Porta

Kim Wahl

Jussi Pesonen
President and CEO

Financial Statements 2022

Consolidated income statement and statement of comprehensive income	159
Consolidated balance sheet	160
Consolidated statement of changes in equity	161
Consolidated cash flow statement	162
Notes to the consolidated financial statements	164
1. Basis for reporting	164
1.1 Corporate information	164
1.2 Basis of preparation	164
1.3 Consolidation principles	165
1.4 Foreign currency translation	166
1.5 Changes in accounting policies	166
2. Business performance	167
2.1 Business areas	167
2.2 Sales	172
2.3 Operating expenses and other operating income	173
2.4 Earnings per share and dividend	175
3. Employee rewards	176
3.1 Employee costs	176
3.2 Key management personnel	176
3.3 Share-based payments	177
3.4 Retirement benefit obligations	179
4. Capital employed	182
4.1 Property, plant and equipment	183
4.2 Forest assets	185
4.3 Energy shareholdings	185
4.4 Goodwill and other intangible assets	187
4.5 Provisions	189
4.6 Working capital	190
5. Capital structure	192
5.1 Capital management	192
5.2 Net debt	195
5.3 Financial assets and liabilities by category	200
5.4 Financial income and expenses	203
5.5 Share capital and reserves	203
6. Risk management	205
6.1 Financial risk management	205
6.2 Derivatives and hedge accounting	207
7. Income tax	211
7.1 Tax on profit for the year	211
7.2 Deferred tax	211
8. Group structure	213
8.1 Business acquisitions and disposals	213
8.2 Principal subsidiaries and joint operations	214
8.3 Related party transactions	216
8.4 Assets held for sale	216
9. Unrecognised items	216
9.1 Commitments and contingencies	216
9.2 Litigation	216
9.3 Events after balance sheet date	217
10. Other notes	217
10.1 Forthcoming new standards, amendments and accounting policy changes	217
Parent company accounts	218

Consolidated financial statements, IFRS

Consolidated income statement

EURm	NOTE	2022	2021
Sales	2.1, 2.2	11,720	9,814
Other operating income	2.3	231	254
Costs and expenses	2.3	-9,470	-8,104
Change in fair value of forest assets and wood harvested	4.2	12	111
Share of results of associated companies and joint ventures		4	2
Depreciation, amortisation and impairment charges	2.3, 4.1, 4.4	-522	-515
Operating profit		1,974	1,562
Exchange rate and fair value gains and losses	5.4	25	-3
Interest and other finance costs, net	5.4	-55	-12
Profit before tax		1,944	1,548
Income taxes	7.1	-388	-240
Profit for the period		1,556	1,307
Attributable to:			
Owners of the parent company		1,526	1,286
Non-controlling interests	8.1	31	22
		1,556	1,307
Earnings per share for profit attributable to owners of the parent company			
Basic earnings per share, EUR	2.4	2.86	2.41
Diluted earnings per share, EUR	2.4	2.86	2.41

Consolidated statement of comprehensive income

EURm	NOTE	2022	2021
Profit for the period		1,556	1,307
Other comprehensive income for the period, net of tax			
Items that will not be reclassified to income statement:			
Actuarial gains and losses on defined benefit plans		192	96
Changes in fair value of energy shareholdings		1,051	632
Items that may be reclassified subsequently to income statement:			
Translation differences		150	337
Net investment hedge		-15	-21
Cash flow hedges		-531	-127
Other comprehensive income for the period, net of tax	7.2	847	918
Total comprehensive income for the period		2,403	2,225
Attributable to:			
Owners of the parent company		2,358	2,194
Non-controlling interests		45	31
		2,403	2,225

The notes are integral part of these consolidated financial statements.

Consolidated balance sheet

EURm	NOTE	2022	2021
ASSETS			
Goodwill	4.4	282	237
Other intangible assets	4.4	553	366
Property, plant and equipment	4.1	6,733	5,569
Leased assets	5.2	713	608
Forest assets	4.2	2,442	2,328
Energy shareholdings	4.3	3,652	2,579
Other non-current financial assets	5.3	70	133
Deferred tax assets	7.2	485	466
Net retirement benefit assets	3.4	1	79
Investments in associates and joint ventures		27	33
Other non-current assets		20	20
Non-current assets		14,977	12,420
Inventories	4.6	2,289	1,594
Trade and other receivables	4.6, 5.3	2,696	2,024
Other current financial assets	5.3	118	139
Income tax receivables		61	40
Cash and cash equivalents	5.1, 5.3	2,067	1,460
Current assets		7,230	5,257
Assets		22,207	17,676
EQUITY AND LIABILITIES			
Share capital	5.5	890	890
Treasury shares		-2	-2
Translation reserve		449	329
Other reserves	5.5	2,460	1,938
Reserve for invested non-restricted equity	5.5	1,273	1,273
Retained earnings		7,433	6,419
Equity attributable to owners of the parent company		12,502	10,846
Non-controlling interests	8.1	376	261
Equity		12,879	11,106
Deferred tax liabilities	7.2	636	596
Net retirement benefit liabilities	3.4	527	676
Provisions	4.5	134	155
Non-current debt	5.2, 5.3	4,476	2,566
Other non-current financial liabilities	5.3	103	109
Non-current liabilities		5,876	4,102
Current debt	5.2, 5.3	558	86
Trade and other payables	4.6, 5.3	2,720	2,254
Other current financial liabilities	5.3	102	95
Income tax payables		73	32
Current liabilities		3,452	2,468
Liabilities		9,329	6,570
Equity and liabilities		22,207	17,676

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 2022	890	-2	329	1,938	1,273	6,419	10,846	261	11,106
Profit for the period	—	—	—	—	—	1,526	1,526	31	1,556
Translation differences	—	—	136	—	—	—	136	14	150
Cash flow hedges - reclassified to income statement, net of tax	—	—	—	376	—	—	376	—	376
Cash flow hedges - reclassified to PPE	—	—	—	25	—	—	25	2	27
Cash flow hedges - change in fair value, net of tax	—	—	—	-932	—	—	-932	-2	-934
Net investment hedge, net of tax	—	—	-15	—	—	—	-15	—	-15
Energy shareholdings - changes in fair value, net of tax	—	—	—	1,050	—	1	1,051	—	1,051
Actuarial gains and losses on defined benefit plans, net of tax	—	—	—	—	—	192	192	—	192
Total comprehensive income for the period	—	—	121	519	—	1,718	2,358	45	2,403
Share-based payments, net of tax	—	—	—	3	—	-10	-7	—	-7
Dividend distribution	—	—	—	—	—	-693	-693	-27	-721
Other items	—	—	—	—	—	-1	-1	—	-1
Contributions by non-controlling interests	—	—	—	—	—	—	—	98	98
Total transactions with owners for the period	—	—	—	3	—	-704	-701	70	-631
Total equity at 31 December 2022	890	-2	449	2,460	1,273	7,433	12,502	376	12,879
Value at 1 January 2021	890	-2	25	1,430	1,273	5,735	9,351	162	9,513
Profit for the period	—	—	—	—	—	1,286	1,286	22	1,307
Translation differences	—	—	325	—	—	—	325	13	337
Cash flow hedges - reclassified to income statement, net of tax	—	—	—	63	—	—	63	—	63
Cash flow hedges - reclassified to PPE	—	—	—	-14	—	—	-14	-1	-16
Cash flow hedges - change in fair value, net of tax	—	—	—	-172	—	—	-172	-2	-174
Net investment hedge, net of tax	—	—	-21	—	—	—	-21	—	-21
Energy shareholdings - changes in fair value, net of tax	—	—	—	632	—	1	632	—	632
Actuarial gains and losses on defined benefit plans, net of tax	—	—	—	—	—	96	96	—	96
Total comprehensive income for the period	—	—	304	508	—	1,382	2,194	31	2,225
Share-based payments, net of tax	—	—	—	-1	—	-6	-6	—	-6
Dividend distribution	—	—	—	—	—	-693	-693	-13	-706
Other items	—	—	—	—	—	—	—	-1	—
Contributions by non-controlling interests	—	—	—	—	—	—	—	82	82
Total transactions with owners for the period	—	—	—	-1	—	-698	-699	68	-632
Total equity at 31 December 2021	890	-2	329	1,938	1,273	6,419	10,846	261	11,106

» Refer Note 5.5 Share capital and reserves, for further information.

Consolidated cash flow statement

EURm	2022	2021
Cash flows from operating activities		
Profit for the period	1,556	1,307
Adjustments ¹⁾	35	356
Interest received	8	1
Interest paid	-43	-26
Dividends received	3	2
Other financial items, net	-52	-2
Income taxes paid ⁴⁾	-313	-275
Change in working capital ³⁾	-687	-115
Operating cash flow	508	1,250
Cash flows from investing activities		
Capital expenditure	-1,398	-1,432
Additions to forest assets	-79	-89
Acquisition of businesses and subsidiaries, net of cash acquired	-138	0
Proceeds from sale of property, plant and equipment and intangible assets, net of tax ⁴⁾	41	17
Proceeds from sale of forest assets, net of tax ⁴⁾	7	6
Proceeds from disposal of businesses and subsidiaries and advances received	15	157
Proceeds from disposal of shares in associates and joint ventures	11	0
Proceeds from disposal of energy shareholdings	2	1
Net cash flows from net investment hedges	-47	9
Change in other non-current assets	3	6
Investing cash flow	-1,585	-1,323
Cash flows from financing activities		
Proceeds from non-current debt	4,402	600
Payments of non-current debt	-2,550	-16
Lease repayments	-91	-84
Change in current liabilities	439	0
Net cash flows from derivatives	20	34
Dividends paid to owners of the parent company	-693	-693
Dividends paid to non-controlling interests	-27	-12
Contributions paid by non-controlling interests	97	82
Change in investment funds	99	-100
Other financing cash flow	-9	-5
Financing cash flow	1,687	-194
Change in cash and cash equivalents	610	-268
Cash and cash equivalents at the beginning of the period	1,460	1,720
Exchange rate effect on cash and cash equivalents	-3	8
Change in cash and cash equivalents	610	-268
Cash and cash equivalents at the end of the period	2,067	1,460

¹⁾ Adjustments

EURm	2022	2021
Change in fair value of forest assets and wood harvested	-12	-111
Share of results of associated companies and joint ventures	-4	-2
Depreciation, amortisation and impairment charges	522	515
Capital gains and losses on sale of non-current assets	-35	-146
Financial income and expenses	30	15
Income taxes	388	240
Utilised provisions	-52	-85
Non-cash changes in provisions	7	1
Other adjustments ²⁾	-808	-70
Total	35	356

²⁾ 2022 other adjustments include energy hedging derivative market value payments.

³⁾ Change in working capital

EURm	2022	2021
Inventories	-665	-271
Receivables included in working capital	-400	-445
Liabilities included in working capital	378	601
Total	-687	-115

⁴⁾ Total income taxes paid in 2022 amounted to EUR 315 million (276 million). Income taxes paid related to investing activities are presented in investing cash flow.

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 "the group") is a global forest-based bioindustry group. UPM's large product range covers pulp, graphic and specialty papers, selfadhesive 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 2 February 2023. 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, 2021. Figures presented in these financial statements are rounded and therefore the sum of individual figures might deviate from the presented total figure.

In accordance with the European Single Electronic Format (ESEF) reporting requirements, UPM has published the Board of Directors' report and the financial statements as an XHTML file as its official financial statements. In line with the ESEF requirements, the primary statements of the consolidated financial statements and notes have been labelled with XBRL tags. XBRL tags within the ESEF financial statements

are not audited. The group has also voluntarily published its financial statements in a PDF format. The consolidated financial statements have been prepared in two languages, of which the Finnish version is official and the English translation is non-official.



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

Impact of COVID-19 on the financial statements

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

The group expects that it will continue to operate and meet its liabilities as they fall due. UPM has a strong financial position. Net debt in the balance sheet amounted to EUR 2,374 million on 31 December 2022. Cash, investment funds, and unused committed credit facilities amounted to EUR 6.4 billion. The facilities and UPM's outstanding debt have no financial covenants.

Accounting implications of the effects of the Russia's war in Ukraine

The group has assessed the balance sheet impact of Russia's war in Ukraine and the related sanctions imposed on Russia, by considering indicators of impairment of goodwill and other intangible assets, recoverable amount of property, plant and equipment, recoverability of deferred tax assets, valuation of inventories, and collectability of trade receivables. The expectations of future cash flows have been revised to reflect changed economic environment.

Due to the significant uncertainties related to operations in Russia and Ukraine, UPM recognised a write off of all operating assets and uninsured receivables locating or relating to operations in these countries in Q1 2022. Impairment of fixed assets, inventories and other receivables amounting to EUR 95 million was reported as items affecting comparability. In addition, in Q1 the group increased the general provision for expected credit losses on trade receivables by EUR 17 million, which is impacting comparable EBIT. At the end of 2022, the

impairment was EUR 80 million and the credit loss provision was EUR 8 million.

For the time being, UPM businesses have suspended deliveries to Russia as well as wood sourcing in and from Russia. UPM has also suspended the UPM Chudovo plywood mill operations following carefully the legislation in Russia and with due consideration of local employees, customers, and stakeholders.

The group expects that it will continue to operate and meet its liabilities as they fall due. » Refer Note 2.1 Business Areas and Note 4.6 Working capital for financial information on implications of Russia's war in Ukraine.

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

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is a contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

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 but no control. Significant influence is the power to participate in the financial and operating policy decisions without the power to control or jointly control those policies. 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. Receivables and liabilities denominated in foreign currencies outstanding on the balance sheet date are translated into the functional currency using the balance sheet date exchange rate. 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.

1.5 Changes in accounting policies

The group has reviewed IFRS standard amendments effective on periods starting 1 January 2022. The amendments effective as of 1 January 2022 did not have any impact on the group's financial statements.

Change in the composition of reportable segments

The group has changed its reportable segments composition by moving the UPM Biofuels business into Other Operations on 1 January 2022.

UPM has formed a new business unit by combining UPM Biofuels, UPM Biochemicals, UPM Biomedicals and UPM Biocomposites businesses. The aim is to speed up business growth and to leverage the capabilities and competences across projects efficiently. This unit has inherited the name UPM Biorefining and is reported as part of Other operations. UPM Pulp and UPM Timber priorly reported under UPM Biorefining are reported as UPM Fibres business area from 1 January 2022.

Following the change, Other Operations include UPM Forest, UPM Biofuels, UPM Biochemicals, UPM Biomedicals and UPM Biocomposites businesses as well as group services. The change has impacted KPIs of UPM Biorefining (1.1.2022 UPM Fibres) reportable segment and Other Operations. The comparative periods have been restated according to the new reporting principles. The reporting change has no impact on group financial result or balance sheet.

UPM Biorefining (1.1.2022 UPM Fibres)

2021	UPM Biorefining as published	UPM Fibres restated
Sales EURm	2,945	2,794
Comparable EBITDA, EURm	1,016	961
% of sales	34.5	34.4
Change in fair value of forest assets and wood harvested, EURm	-.9	-.9
Share of results of associated companies and joint ventures, EURm	2	2
Depreciation, amortisation and impairment charges, EURm	-191	-173
Operating profit, EURm	817	781
% of sales	27.8	27.9
Comparable EBIT, EURm	817	781
% of sales	27.8	27.9
Capital employed (average), EURm	4,437	4,277
Comparable ROCE, %	18.4	18.3

Other operations

2021	As published	Restated
Sales EURm	280	483
Comparable EBITDA, EURm	-19	36
Change in fair value of forest assets and wood harvested, EURm	120	120
Depreciation, amortisation and impairment charges, EURm	-25	-44
Operating profit, EURm	75	112
Items affecting comparability in operating profit, EURm	-1	-1
Comparable EBIT, EURm	76	113
Capital employed (average), EURm	1,992	2,152
Comparable ROCE, %	3.8	5.2

2. Business performance

Sales

EUR **11,720 m**
(EUR 9,814m)

Comparable EBIT

EUR **2,096 m**
(EUR 1,471m)

Comparable ROE

14.0 %
(11.7%)

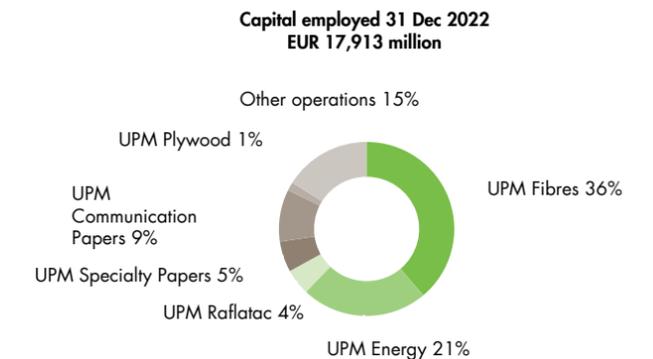
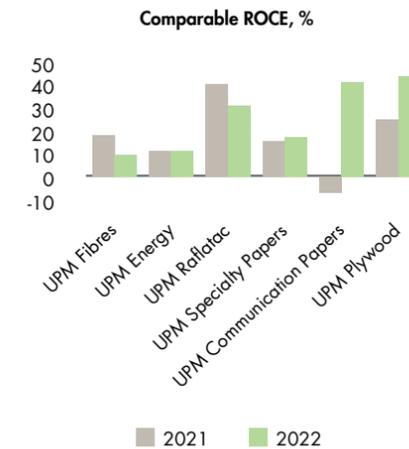
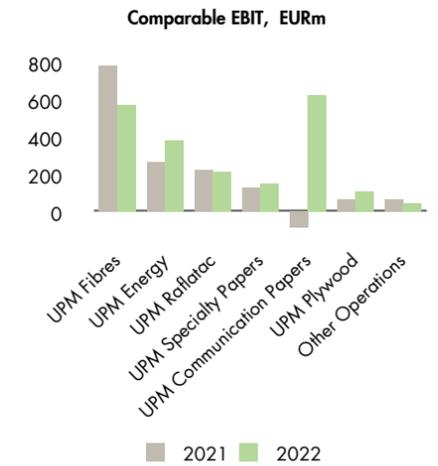
2.1 Business areas

UPM business portfolio consist of six competitive businesses with strong market positions. UPM reports financial information for the following business areas (segments): UPM Fibres, UPM Energy, UPM Raflatac, UPM Specialty Papers, UPM Communication Papers, 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. 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.



The goods and services included in sales revenue of each business area are presented in below table:

BUSINESS AREA	DESCRIPTION AND PRODUCTS
UPM Fibres	UPM Fibres consists of UPM Pulp and UPM Timber business units. UPM Pulp offers a versatile range of responsibly-produced pulp grades suitable for a wide range of end uses such as tissue, specialty and packaging papers, graphic papers and board. UPM Timber offers certified sawn timber for joinery, packaging, furniture, planing and construction end-use segments.
UPM Energy	UPM Energy generates cost-competitive, zero-carbon electricity. Operations also include physical electricity and financial portfolio management as well as services to industrial electricity consumers and producers.
UPM Raflatac	UPM Raflatac offers innovative and sustainable self-adhesive label materials for branding and promotion, information and functional labelling in the food, beverage, personal care, pharmaceutical and logistics segments, for example.
UPM Specialty Papers	UPM Specialty Papers offers labelling and packaging materials as well as office and graphic papers for labelling, commercial siliconising, packaging, office use and printing.
UPM Communication Papers	UPM Communication Papers offers an extensive product range of sustainably produced graphic papers for advertising and publishing as well as home and office uses.
UPM Plywood	UPM Plywood offers high quality WISA® plywood and veneer products for construction, vehicle flooring, LNG shipbuilding, parquet manufacturing and other industrial applications.
Other operations	Other operations include UPM Forest, UPM Biofuels, UPM Biochemicals-, UPM Biomedicals-, UPM Biocomposites- business units and group services. UPM Forest secures competitive wood and biomass for UPM businesses and manages UPM-owned and privately-owned forests in North Europe. In addition, UPM offers forestry services to forest owners and forest investors. UPM 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 the petrochemical industry. UPM Biochemicals offers innovative wood-based biochemicals for replacing fossil-based raw materials in various applications such as textiles, PET bottles, packaging, cosmetics, pharmaceuticals, detergents, rubbers and resins. UPM Biomedicals is the forerunner in producing nanofibrillar cellulose for clinical and life science applications in the field of drug screening, personalised medicine, advanced cell therapies, 3D bioprinting, tissue engineering and wound care. UPM Biocomposites is a pioneer in circular economy offering composite decking materials based on both recycled consumer and industrial waste. The product range also includes composite materials made from renewable fibres and polymers to replace fossil-based plastics.

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 2022

EURm, OR AS INDICATED	UPM FIBRES	UPM ENERGY	UPM RAFLATAC	UPM SPECIALTY PAPERS	UPM COM PAPERS	UPM PLYWOOD	OTHER OPERATIONS	ELIMINATIONS AND RECONCILIATIONS ²⁾	GROUP
External sales	2,052	343	1,981	1,423	4,792	518	608	2	11,720
Internal sales	652	390	0	254	73	21	26	-1,416	—
Total sales	2,704	734	1,982	1,677	4,866	539	634	-1,415	11,720
Comparable EBIT	570	381	214	153	619	109	81	-31	2,096
Items affecting comparability in operating profit	-53	—	-11	—	12	-65	-16	13	-122
Operating profit	517	381	203	153	631	44	64	-18	1,974
Finance costs, net									-30
Income taxes									-388
Profit for the period									1,556
Operating assets ¹⁾	6,888	4,068	995	1,316	2,245	297	3,153	-657	18,304
Deferred tax assets									485
Other non-operating assets									82
Other financial assets									3,336
Total assets									22,207
Operating liabilities ¹⁾	510	240	201	379	649	47	448	-596	1,878
Deferred tax liabilities									636
Other liabilities									733
Other financial liabilities									6,081
Total liabilities									9,329
Other items									
Change in fair value of forest assets and wood harvested	11	—	—	—	—	—	2	—	12
Share of results of associates and joint ventures	3	—	—	—	3	—	-2	—	4
Depreciation and amortisation	-187	-7	-37	-77	-81	-23	-45	—	-457
Impairment charges	—	—	-4	—	1	-43	-19	—	-65
Capital employed, 31 December	6,378	3,827	793	937	1,596	250	2,705	1,426	17,913
Average capital employed	5,867	3,286	681	889	1,506	247	2,577	784	15,836
Capital expenditure	1,005	8	175	18	57	9	283	1	1,555
Capital expenditure, excluding acquisitions and shares	1,005	8	18	18	57	9	283	1	1,399
Comparable ROCE, %	9.7	11.6	31.5	17.2	41.1	44.3	3.1	—	13.6
Personnel, 31 December	2,688	79	3,319	1,959	6,289	1,982	921	—	17,236

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 changes in fair value of unrealised cash flow and commodity hedges that are not allocated to segments.

» Refer Other financial information on 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 2021

EURm, OR AS INDICATED	UPM FIBRES ³⁾	UPM ENERGY	UPM RAFLATAC	UPM SPECIALTY PAPERS	UPM COM PAPERS	UPM PLYWOOD	OTHER OPERATIONS ³⁾	ELIMINATIONS AND RECONCILIATIONS ²⁾	GROUP
External sales	2,092	290	1,671	1,275	3,536	471	474	5	9,814
Internal sales	702	236	—	207	41	21	9	-1,215	—
Total sales	2,794	526	1,671	1,482	3,577	492	483	-1,210	9,814
Comparable EBIT	781	270	223	135	-79	72	113	-42	1,471
Items affecting comparability in operating profit	—	—	-1	—	93	8	-1	-9	91
Operating profit	781	270	222	135	14	80	112	-50	1,562
Finance costs, net									-15
Income taxes									-240
Profit for the period									1,307
Operating assets ¹⁾	5,393	2,932	768	1,169	1,903	333	2,666	-528	14,635
Deferred tax assets									466
Other non-operating assets									139
Other financial assets									2,436
Total assets									17,676
Operating liabilities ¹⁾	402	140	193	265	737	43	409	-479	1,710
Deferred tax liabilities									596
Other liabilities									863
Other financial liabilities									3,400
Total liabilities									6,570
Other items									
Change in fair value of forest assets and wood harvested	-9	—	—	—	—	—	120	—	111
Share of results of associates and joint ventures	2	—	—	—	—	—	—	—	2
Depreciation and amortisation	-172	-7	-36	-75	-103	-27	-43	—	-463
Impairment charges	—	—	—	—	-52	1	-1	—	-52
Capital employed, 31 December	4,991	2,792	575	903	1,165	290	2,257	785	13,759
Average capital employed	4,277	2,375	553	864	1,275	286	2,152	874	12,657
Capital expenditure	1,180	12	25	12	56	14	184	-1	1,483
Capital expenditure, excluding acquisitions and shares	1,180	7	25	12	56	14	183	-1	1,477
Comparable ROCE, %	18.3	11.4	40.2	15.6	-6.2	25.1	5.2	—	11.7
Personnel, 31 December	2,558	72	3,016	1,918	6,422	2,196	784	—	16,966

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 the changes in fair value of unrealised cash flow and commodity hedges that are not allocated to segments.

³⁾ On 1 January 2022, UPM has changed its reportable segments composition by moving the UPM Biofuels business into Other Operations. The comparative periods have been restated according to the new reporting principles. » [Refer Note 1.5 Changes in accounting policies](#) for more information.

» [Refer Other financial information](#) on 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	2022	2021
In operating profit		
Impairment charges	-80	-52
Restructuring charges	-15	11
Change in fair value of unrealised cash flow and commodity hedges	13	-8
Capital gains and losses on sale of non-current assets	34	140
Other items	-74	—
Total	-122	91
Total in profit before tax	-122	91
In income taxes		
Taxes related to items affecting comparability	9	12
Tax provisions	-10	—
Total	-1	12
Total in profit for the period	-122	103

In 2022, items affecting comparability include EUR 80 million impairment charges of assets impacted by Russia's war in Ukraine. Other items include EUR 69 million settlement loss resulting from replacement of a defined benefit pension plan in Finland with defined contribution plan. Tax provisions relate to tax dispute.

In 2021, items affecting comparability relate mainly to UPM Communication Papers and include a capital gain on sale of shares of Shotton Mill Ltd amounting to EUR 133 million and impairment charges of newsprint related fixed assets amounting to EUR 50 million.



Accounting policies

Certain non-operational or non-cash valuation transactions with significant income statement impact are considered as items affecting comparability and reported separately to reflect the underlying business performance and to enhance comparability from period to period. The group applies relevant IFRS standards to such transactions.

Total assets and capital expenditure by country

EURm	Assets		Capital expenditure	
	2022	2021	2022	2021
Finland	12,478	9,889	82	83
Germany	1,946	1,521	468	204
Uruguay	5,364	4,046	980	1,159
China	680	711	4	7
United States	660	412	9	5
United Kingdom	108	148	1	1
Austria	96	101	1	2
Russia	31	137	—	2
Poland	179	155	6	16
Estonia	55	51	2	1
France	37	33	1	1
Other EU countries	65	53	—	—
Other European countries	40	27	—	1
Rest of world	467	392	2	1
Total	22,207	17,676	1,555	1,483

Sales by destination country

EURm	2022	2021
Finland	973	1,046
Germany	2,032	1,395
United States	1,623	1,089
United Kingdom	676	617
China	1,165	1,058
France	501	378
Uruguay	56	63
Poland	402	336
Austria	194	151
Russia	37	194
Other EU countries	2,033	1,651
Other European countries	388	352
Rest of world	1,639	1,482
Total	11,720	9,814

2.2 Sales

UPM generates revenue mainly from the sale of goods, i.e. several types of products.

The majority of UPM's revenue comes from sales of graphic and specialty papers to publishers, retailers, printing houses, merchants and distributors, converters and label stock manufacturers; sales of self-adhesive label materials to label printers and brand owners and sales of pulp products to tissue, board, specialty and graphic paper producers. The revenue comprises also sales of energy, biofuels, sawn timber and plywood products and a very limited amount of services not related to sale of goods.

UPM sells a proportion of its products to several major customers. The largest customer in terms of sales represented approximately 3% (2%) of UPM's sales and the ten largest customers represented approximately 15% (15%) of such sales.

The group disaggregates its external sales by business area, because this depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. Sales by 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. The goods and services included in sales revenue of each business area are presented in below tables.

» [Refer Note 2.1](#) Business areas for information on UPM products.

External sales by major products

BUSINESS AREA	BUSINESS	2022	2021
EUR million			
UPM Fibres	UPM Pulp, UPM Timber	2,052	2,092
UPM Energy	UPM Energy	343	290
UPM Raflatac	UPM Raflatac	1,981	1,671
UPM Specialty Papers	UPM Specialty Papers	1,423	1,275
UPM Communication Papers	UPM Communication Papers	4,792	3,536
UPM Plywood	UPM Plywood	518	471
Other operations	UPM Forest, UPM Biofuels, UPM Biochemicals, UPM Biomedicals, UPM Biocomposites	608	474
Eliminations and reconciliations		2	5
Total		11,720	9,814

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

Sales by business area

EURm	2022	2021	CHANGE
UPM Fibres	2,704	2,794	-3 %
UPM Energy	734	526	40 %
UPM Raflatac	1,982	1,671	19 %
UPM Specialty Papers	1,677	1,482	13 %
UPM Communication Papers	4,866	3,577	36 %
UPM Plywood	539	492	9 %
Other operations	634	483	31 %
Eliminations	-1,415	-1,210	-
Total	11,720	9,814	19 %

Effect of a 10% change in prices on operating profit for the year

EURm	2022	2021
Papers in UPM Communication Papers	464	336
Fine and specialty papers in UPM Specialty Papers	139	126
Label materials in UPM Raflatac	198	167
Plywood	51	46
Sawn timber	48	49
Chemical pulp (net effect)	46	65

The figures above illustrate the effects on the operating profit of years 2022 and 2021 only. 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 sales prices.



Accounting policies

Sales of goods

UPM's performance obligation in the contracts with customers consists of providing the goods specified in the contracts. Revenue from UPM's product sales is recognised when performance obligation is satisfied, which takes place at point in time when control of the good has been transferred to the customer. In UPM's customer contracts the transfer of control and thus timing of revenue recognition is largely dependent on delivery terms. Group terms of delivery are based on Incoterms 2020, the official rules for interpretation of trade terms issued by the International Chamber of Commerce. Major part of the sales contracts is 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. Revenue and the corresponding receivable are recorded at the point in time 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 of carriage (FCA), revenue is recorded at the time of shipment. For sales transactions designated as Carriage paid to (CPT) or Carriage and Insurance Paid to (CIP), the portion of revenue relating to goods is recorded at the time of loading and the portion of revenue relating to delivery services over time when the service has been performed.

UPM sells energy to NordPool electricity market. Revenue is recognised when electricity is transmitted over time.

Sales of services

UPM provides forest expertise and contracting services to woodland and forestry owners and freight services (free space on group's vessels sold as freight services). Revenues from services are recorded over time when the service has been performed. Sales of services is very limited and thus the group does not report it separately.

Revenue recognition

The group recognises revenue as an amount equal to the price specified in the customer contract net of any sales taxes, cash flow hedging results of sales in foreign currency, hedges of energy sales and variable consideration, when applicable. Variable consideration is defined as any variability that may occur between the sales price and the amount UPM expects to receive. The variable consideration includes mainly cash discounts and volume rebates that encourage the customer to take

specific volumes in a given timescale. In addition, 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. The amount of variable consideration is recognised as a refund liability when some of the amount received is expected to be refunded to the customer. Customer rebates payable to customers in relation to sales made until the end of the reporting period and expected quality claims are estimated using the expected value method, and revenue is only recognised to the extent that it is highly probable that a significant reversal will not occur. A refund liability is included in trade and other payables.

Receivables are recognised when the goods are delivered, and the consideration is unconditional except for the passage of time. For most of UPM's customer contracts the period between the transfer of goods or services to customers and the receipt of payment is less than 12 months. For these contracts the group has elected to use the practical expedient not to adjust revenue for the effect of financing components.

Advance payments received from customers are recognised as contract liability. UPM does not have any contract assets arising from contracts with customers.

» [Refer Note 4.6](#) Working capital for information on contract liabilities and refund liabilities.

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	2022	2021
Costs and expenses		
Raw materials, consumables and goods	6,260	5,446
Employee costs ¹⁾	1,181	1,094
Other operating costs and expenses ²⁾	1,028	670
Delivery costs and other external charges	1,001	894
Total	9,470	8,104

¹⁾ » [Refer Note 3](#) Employee rewards, for further information.

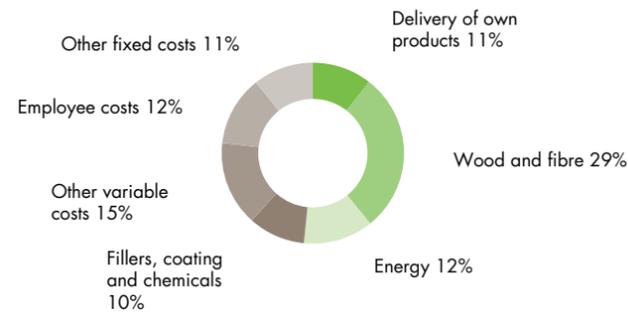
²⁾ Distribution of other operating costs and expense

EURm	2022	2021
Rents and lease expenses	29	25
Emission expenses ¹⁾	70	-106
Losses on sale of non-current assets	1	0
Credit losses	9	-5
Maintenance and other operating expenses ²⁾	919	756
Total	1,028	670

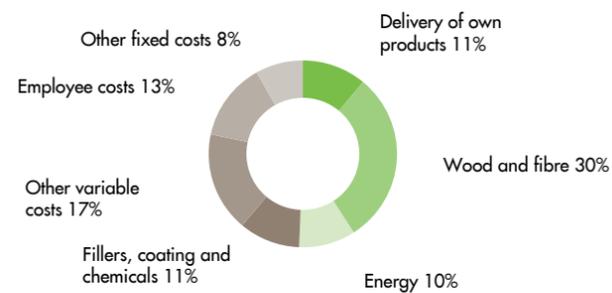
¹⁾ Emission expenses include losses on sales of emission rights EUR 2 (gains 1.44) million.

²⁾ Other operating expenses include, among others, energy as well as expenses related to services and group's administration.

Cost structure 2022
EUR 9,470 million



Cost structure 2021
EUR 8,104 million



EUR 122 million (22 million) relates to Finland, EUR 74 million (46 million) to Germany, EUR 8 million (1 million) to Austria and EUR 4 million (5 million) to UK.

Other operating income

EURm	2022	2021
Gains on sale of non-current assets	37	147
Rental income	12	13
Emission rights received	208	75
Derivatives, non-qualifying hedges	3	-22
Exchange rate gains and losses	-47	-5
Other	17	47
Total	231	254

In 2021, gains on sale of non-current assets include an EUR 133 million gain from the disposal of Shotton Mill Ltd.

Emission rights

The group has recognised EUR 208 million (75 million) of income in Other operating income and EUR 70 million of expense (106 million of income) under Other operating costs and expenses relating to CO₂ emissions. The liability to cover the obligation to return emission rights amounted to EUR 53 million (39 million) and is recognised in provisions. The emission rights recognised in intangible assets are specified below:

EURm	2022	2021
Carrying value, at 1 January	104	95
Emission rights received and purchased	231	86
Deliveries and disposals	-100	-78
Carrying value, at 31 December	235	104
Accumulated costs	236	105
Accumulated impairments	-1	-1
Carrying value, at 31 December	235	104

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 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. A government grant can also become receivable by the group as compensation for expenses incurred in a previous period. Such a grant is recognised in profit or loss of the period in which it becomes receivable.

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 represents 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

On 2 February 2023, UPM's Board of Directors revised the company's dividend policy to be based on earnings instead of cash flow. According to new dividend policy, the company aims to pay attractive dividends, targeting at least half of the comparable earnings per share over time. » Refer Note 9.3 Events after the balance sheet date.

The dividend paid in 2022 were EUR 693 million (EUR 1.30 per share) which is 55% of the operating cash flow per share and in 2021 EUR 693 million (EUR 1.30 per share). The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 800 million, EUR 1.50 per share, will be paid in respect of 2022. The proposed dividend represents 49% of UPM's comparable earnings per share for the year 2022.

Earnings per share

EURm	2022	2021
Profit attributable to owners of the parent company, EURm	1,526	1,286
Weighted average no. of shares (1,000)	533,324	533,324
Basic earnings per share, EUR	2.86	2.41
Diluted earnings per share, EUR	2.86	2.41

Accounting policies

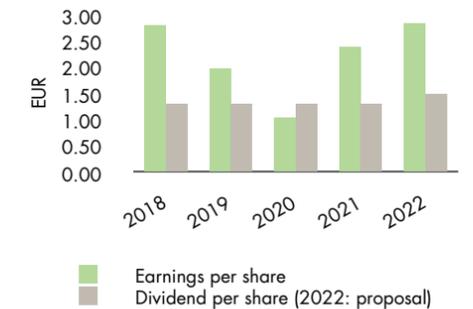
Earnings per share

Earnings per share (EPS) is the amount of profit for the period attributable to each 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 2022 and 2021.

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.

Earnings and dividend per share



Auditor's fees

EURm	2022	2021
Audit fee	4.0	3.4
Audit related services	0.2	0.2
Tax services	0.3	0.4
Other services	0.1	0.2
Total	4.6	4.2

In 2022, auditor's fees include EUR 0.2 (0.2) million related to audit services, EUR 0.0 (0.0) million related tax services and EUR 0.1 (0.2) million related to other services paid to PwC Oy.

Research and development costs

The research and development costs included in operating expenses were EUR 55 million (46 million) in 2022. The focus was on new technologies and developing businesses.

Government grants

In 2022, government grants recognised as deduction of operating expenses totalled to EUR 10 million (9 million) of which EUR 8 million (3 million) relates to Finland. EUR 1 million (4 million) is related to COVID relief in Austria. In addition, the group received emission rights from governments amounting to EUR 208 million (75 million) of which

3. Employee rewards

3.1 Employee costs

EURm	2022	2021
Salaries and fees	901	877
Share-based payments	16	13
Pension and other post-employment benefits, defined benefit plans ¹⁾	77	16
Pension costs, defined contribution plans	93	95
Other indirect employee costs ²⁾	94	93
Total	1,181	1,094

¹⁾ 2022 includes EUR 69 million settlement loss related to replacement of a defined benefit pension plan in Finland with defined contribution plan.

²⁾ Other indirect employee expenses primarily include other statutory social expenses, excluding pension expenses.

3.2 Key management personnel

The remuneration of the Chair of the Board of Directors was resolved to be raised so that the Chair of the Board was paid an annual base fee of EUR 200,000. The remuneration of the Deputy Chair of the Board and the other members of the Board remained unchanged, and the Deputy Chair of the Board was paid an annual base fee of EUR 140,000 and other members of the Board EUR 115,000.

The annual base fee was paid in company shares and cash so that approximately 40% of the fee was paid in the company shares purchased on the Board members' behalf, and the rest in cash. The company paid any costs and transfer tax related to the purchase of the company shares.

The Chair of Audit Committee received annual committee fee of EUR 35,000 and Chair of Nomination and Governance Committee EUR 20,000. The remuneration of the Chair of Remuneration Committee was resolved to be raised to EUR 27,500. The members of Audit Committee received annual committee fee of EUR 15,000 and members of other committees EUR 10,000. The annual committee fees were paid in cash.

In 2022, 2,489 (2,383) company shares were purchased to the Chair, 1,742 (1,710) to the Deputy Chair and 1,431 (1,405) 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 (EUR 1,000)	
	2022	2021	2022	2021	2022	2021
Board members						
Björn Wahlroos, Chair	273,189	270,700	200	195	20	20
Berndt Brunow, Deputy Chair ¹⁾	—	316,462	—	140	—	10
Henrik Ehrnrooth, Deputy Chair	14,461	12,719	140	115	10	20
Emma FitzGerald	4,644	8,213	115	115	10	25
Jari Gustafsson	2,836	1,405	115	115	15	15
Piia-Noora Kauppi	24,035	22,604	115	115	10	10
Topi Manner ²⁾	1,431	—	115	—	10	—
Marjan Oudeman	9,594	8,163	115	115	15	15
Martin à Porta	24,844	20,413	115	115	28	10
Kim Wahl	25,949	24,518	115	115	35	35
Total	380,983	685,197	1,145	1,140	153	160

¹⁾ Berndt Brunow stepped down from the Board in 2022

²⁾ Topi Manner was elected as a new director to the Board in 2022

Salaries and benefits paid to the President and CEO and the Group Executive Team

EUR 1,000	President and CEO Jussi Pesonen		Other members of Group Executive Team ¹⁾	
	2022	2021	2022	2021
Salaries	1,153	1,093	4,140	3,958
Short-term incentives	1,309	708	2,739	2,054
Share rewards	2,997	1,902	9,347	5,979
Benefits	28	31	135	142
Total	5,486	3,734	16,361	12,132

¹⁾ 11 members in 2022 and 2021.

In 2022, costs under the Finnish statutory pension scheme for the President and CEO amounted to EUR 458,000 (329,000) and payments under the voluntary pension plan amounted to EUR 1,000,000 (1,200,000).

In 2022, costs under the Finnish and German statutory pension schemes for Group Executive Team (GET) members (excluding the President and CEO) amounted to EUR 941,000 (860,000) and payments under the voluntary pension plan amounted to EUR 987,000 (1,035,000).

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.

In 2022 and 2021, the short-term incentives are based on the company's Short-Term Incentive Plan and they are paid annually in cash. The amount of the incentive is linked to the executive's position and achievement of annually set targets. The maximum incentives amount to a total of 110% of the annual base salary to the Business Area Executives and to a total of 90% 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 3.6 million (3.8 million).

According to the service agreement, the President and CEO would have been entitled to retire in November 2020 at the age of 60 but at the request of the company's Board of Directors, the President and CEO has decided to continue in his position. However, UPM's President and CEO Jussi Pesonen has announced that he will exercise his right to retire from UPM during 2024.

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 schemes: 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 the President and CEO and other Group Executive Team (GET) members as well as other selected members of the management. Under the PSP 2020–2022 and 2021–2023 UPM shares are awarded based on total shareholder return during a three-year earning period. Total shareholder return takes into account share price appreciation and paid dividends. The performance measures for the PSP 2022–2024 comprise the total shareholder return (80% weighting) and selected environmental, social and governance related (ESG) measures, which are reduction of fossil

The President and CEO has a voluntary pension benefit in addition to the Finnish statutory pension scheme. The President and CEO's voluntary pension benefit was arranged through a defined benefit plan until the end of November 2020. The last contribution to the defined benefit plan was made in 2020. Under the defined benefit plan, the target pension was 60% of the average indexed earnings from the last ten full calendar years of employment calculated according to the Finnish statutory pension scheme. The income of the President and CEO's defined benefit pension plan in 2022 was EUR 0.5 million (1.3 million in 2021). The plan assets amounted to EUR 10.8 million (15.0 million) and the obligation amounted to EUR 9.6 million (12.8 million).

As of December 2020, the voluntary pension benefit is arranged through a defined contribution plan. First contribution to the defined contribution plan took place in 2021.

The retirement age of other members of the Group Executive Team is 63. Other Group Executive Team members are under defined contribution plans.

Should the company or the President and CEO give notice of termination of the service agreement, no severance pay will be paid in addition to the salary for the 12-month notice period. For GET members, 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 a GET member 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 service agreement within three months and each GET member within one month from closing the takeover and shall receive compensation equivalent to 24 months' base salary.

CO2 emissions from UPM's own combustion and purchased electricity by 65% by 2030 from 2015 level (10% weighting), achievement of a net positive impact on biodiversity in the Company's own forests in Finland (5% weighting) and achievement of gender pay equity (5% weighting). In all plans, the earned shares are delivered after the earning period has ended.

PERFORMANCE SHARE PLANS	PSP 2019-2021	PSP 2020-2022	PSP 2021-2023	PSP 2022-2024
No. of participants at 31 December 2022	26	25	26	28
Actual achievement	97.31 %	100 %	—	—
Max no. of shares to be delivered ¹⁾				
to the President and CEO	91,541	85,589	83,272	80,870
to other members of GET	285,463	272,500	275,700	295,000
to other selected members of management	180,901	160,200	176,100	189,500
Total max no. of shares to be delivered	557,905	518,289	535,072	565,370
Share delivery (year)	2022	2023	2024	2025
Earning criteria (weighting)	Total shareholder return (100%)	Total shareholder return (100%)	Total shareholder return (100%)	Total shareholder return (80%) ESG (20%)

¹⁾ For PSP 2019–2021 and PSP 2020–2022, the gross number of shares actually earned.

Deferred Bonus Plan

The Deferred Bonus Plan (DBP) is targeted at other selected key employees 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 2019	DBP 2020	DBP 2021	DBP 2022
No. of participants (at grant)	390	393	428	451
No. of participants (at 31 December 2022)	334	330	378	423
Max no. of shares to be delivered (at grant)	460,000	429,558	459,912	487,130
Estimated no. of shares to be delivered at 31 December 2022 ¹⁾	180,334	141,642	362,295	395,908
Share delivery (year)	2022	2023	2024	2025
Earning criteria	Group/Business Area EBITDA	Group/Business Area EBITDA	Group/Business Area EBITDA	Group/Business Area EBITDA

¹⁾ For DBP 2019 and DBP 2020, 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.



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. The group classifies the transactions with net settlement features for tax obligations as equity-settled in its entirety. 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:

EURm	2022					2021				
	FINLAND	UK	GERMANY	OTHER COUNTRIES	TOTAL	FINLAND	UK	GERMANY	OTHER COUNTRIES	TOTAL
Present value of funded obligations	27	316	30	11	384	577	542	39	15	1,174
Fair value of plan assets	-26	-300	-2	-11	-340	-632	-565	-2	-15	-1,214
Deficit (+)/surplus (-)	0	16	27	0	44	-55	-23	36	—	-40
Present value of unfunded obligations	—	—	414	52	466	—	—	548	68	616
Net defined benefit liability (+)/asset (-)	0	16	442	52	510	-55	-23	585	68	576
Net retirement benefit asset in the balance sheet	-1	—	—	—	-1	-56	-23	—	—	-79
Net retirement benefit liability in the balance sheet ¹⁾	1	16	442	52	511	2	—	585	68	655

¹⁾ Net retirement benefit liability in the balance sheet includes other long-term employee benefits of EUR 16 million (21 million) in 2022.

Approximately 15% (24%) of UPM's employees are active members of defined benefit arrangement plans. In 2022, the most significant defined benefit plan in Finland (UPM Sellutehtaiden eläkesäätiö) was replaced with defined contribution arrangement. Following the replacement, UPM's most significant defined benefit arrangements are in the UK and in Germany. The group has defined benefit obligations also in Austria, Holland, France, Canada and in the US.

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.

Group's Finnish employees are mainly insured with an insurance company and these arrangements qualify as defined contributions plans. At the end of 2021, approximately 21% of group's Finnish employees were insured with TyEL foundation (UPM Sellutehtaiden eläkesäätiö), that is classified as a defined benefit plan. In 2022, the TyEL foundation was replaced with defined contribution arrangement. The assets and liabilities of the plan were transferred to the insurance company and the

group recognised EUR 69 million settlement loss in the income statement. The cash received on the settlement amounted to EUR 128 million.

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 2022			Pension and other post-employment benefits 2021		
	PRESENT VALUE OF OBLIGATION	FAIR VALUE OF PLAN ASSETS	NET DEFINED BENEFIT LIABILITY/ (ASSET)	PRESENT VALUE OF OBLIGATION	FAIR VALUE OF PLAN ASSETS	NET DEFINED BENEFIT LIABILITY/ (ASSET)
Carrying value, at 1 January	1,790	-1,214	576	1,859	-1,140	719
Current service cost	11	—	11	15	—	15
Past service cost	-1	—	-1	-2	—	-2
Gains and losses arising from settlements ¹⁾	62	—	62	—	—	—
Interest expense (+) income (-)	18	-13	5	12	-9	3
Total included in employee costs (Note 3.1)	90	-13	77	25	-9	16
Actuarial gains and losses arising from changes in demographic assumptions	—	—	—	-12	—	-12
Actuarial gains and losses arising from changes in financial assumptions	-562	—	-562	-58	—	-58
Actuarial gains and losses arising from experience adjustments	50	—	50	4	—	4
Return on plan assets, excluding amounts included in interest expense (+) income (-)	—	263	263	—	-62	-62
Total rereasurement gains (-) and losses (+) included in other comprehensive income	-512	263	-249	-66	-62	-128
Benefits paid	-59	59	—	-64	64	—
Settlements paid	-431	431	—	-4	3	-1
Contributions by the employer	—	104	104	—	-33	-33
Translation differences	-29	30	1	39	-36	3
Carrying value, at 31 December	850	-340	511	1,790	-1,214	576

¹⁾ In 2022, gains and losses on settlement relate to replacement of a defined benefit pension plan in Finland with defined contribution plan.

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 UK. The asset values of UK arrangements constitute 88% 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 14 years (18 years) at the end of 2022.

Inflation risk

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 15 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 the UK, 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 7 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 the UK by EUR 11 million and in Germany by EUR 16 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		UK		GERMANY		OTHER COUNTRIES	
	2022	2021	2022	2021	2022	2021	2022	2021
Discount rate %	3.25	0.80	4.80	1.90	3.32	0.82	3.67	1.11
Inflation rate %	2.53	2.03	3.25	3.40	2.00	1.70	2.51	2.00
Rate of salary increase %	2.23	2.01	—	—	2.50	2.50	2.87	2.58
Rate of pension increase %	1.77	1.02	3.15	3.25	2.00	1.70	1.13	1.13
Expected average remaining working years of participants	1.9	15.3	9.5	10.1	8.0	8.2	9.0	8.9

EURm	0.5% INCREASE		0.5% DECREASE	
	2022	2021	2022	2021
Discount rate %	-52	-145	57	162
Rate of salary increase %	7	13	-7	-12
Rate of pension increase %	39	81	-38	-80
Life expectancy +1 year	29	78	—	—

A negative change indicates a decrease in the defined benefit obligation. A positive change indicates an increase in the defined benefit obligation.

Plan assets by categories at 31 December

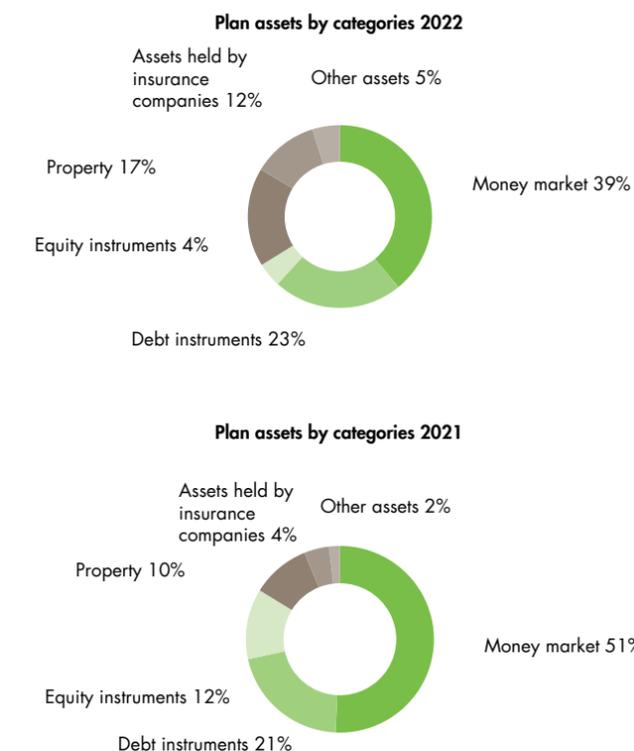
EURm	2022		2021	
	Quoted	Unquoted	Quoted	Unquoted
Money market	97	36	478	138
Debt instruments	—	77	—	253
Equity instruments	—	15	92	56
Property	—	59	—	123
Assets held by insurance companies	—	39	—	52
Other assets	—	16	—	23
Total	97	243	570	644

In 2022 plan assets include the company's ordinary shares with a fair value of EUR 0 million (0 million).

In 2023 contributions of EUR 27 million are expected to be paid to group's defined benefit plans. In 2022 contributions of EUR 24 million were paid to group's defined benefit plans and cash received from settlements amounted to EUR 128 million.

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.





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	2022	2021
Property, plant and equipment	6,733	5,569
Leased assets	713	608
Forest assets	2,442	2,328
Energy shareholdings	3,652	2,579
Goodwill and other intangible assets	834	603
Operating working capital	2,026	1,204
Provisions	-134	-155
Net retirement benefit assets and liabilities	-526	-597
Cash and cash equivalents	2,067	1,460
Other assets and liabilities	257	290
Net deferred tax assets and liabilities	-151	-130
Total	17,913	13,759

4.1 Property, plant and equipment

EURm	LAND AND WATER AREAS	BUILDINGS	MACHINERY AND EQUIPMENT	OTHER TANGIBLE ASSETS	CONSTRUCTION IN PROGRESS	TOTAL
2022						
Accumulated costs	902	3,707	13,163	866	2,993	21,628
Accumulated depreciation and impairments	-2	-2,653	-11,526	-718	—	-14,895
Carrying value, at 31 December	900	1,054	1,638	148	2,993	6,733
Carrying value, at 1 January	857	848	1,674	122	2,069	5,569
Additions	5	1	7	1	1,353	1,366
Companies acquired	3	26	20	—	6	56
Disposals	-3	-4	-1	-1	—	-9
Depreciation	—	-75	-266	-17	—	-357
Impairment	—	-10	-37	-5	—	-52
Reclassifications	—	260	235	45	-540	1
Reclassifications to assets held for sale	—	—	—	—	—	—
Translation differences	39	8	4	2	106	159
Carrying value, at 31 December	900	1,054	1,638	148	2,993	6,733
2021						
Accumulated costs	859	3,452	13,136	834	2,069	20,349
Accumulated depreciation and impairments	-2	-2,604	-11,462	-712	—	-14,780
Carrying value, at 31 December	857	848	1,674	122	2,069	5,569
Carrying value, at 1 January	757	846	1,864	125	724	4,316
Additions	58	2	5	2	1,448	1,515
Disposals	-3	-3	-4	-1	—	-12
Depreciation	—	-71	-280	-17	—	-368
Impairment	—	-12	-38	-1	—	-52
Reclassifications	—	60	80	9	-150	-2
Reclassifications to assets held for sale	—	-3	-11	—	—	-13
Translation differences	44	29	58	6	47	185
Carrying value, at 31 December	857	848	1,674	122	2,069	5,569

Capital expenditure

Capital expenditure, excluding acquisitions and shares, amounted to EUR 1,399 million (1,477 million) in 2022.

In December 2021, UPM announced that it would invest EUR 10 million in the development of UPM Plywood's plywood mill in Joensuu, Finland. The investment includes new production lines, new workspaces and 720 square metres of completely new production space. The investment will be completed by the end of 2023.

In January 2020, UPM announced that it would invest in a 220,000 tonnes next-generation biochemicals biorefinery in Leuna, Germany. The facility is scheduled to start up by the end of 2023, and the total investment estimate is EUR 750 million.

In January 2019 UPM announced that it would invest in the refurbishment of the Kuusankoski hydropower plant in Finland. The average annual production of the Kuusankoski plant is expected to increase from the current 180 GWh to 195 GWh. The investment will be completed in Q1 2023.

In July 2019, UPM announced that it would invest in a 2.1 million tonne greenfield eucalyptus pulp mill near Paso de los Toros, central Uruguay. Additionally, UPM will invest in port operations in Montevideo and in local investments outside the mill fence. The mill is scheduled to start up by the end of Q1 2023, and the total investment estimate is USD 3.47 billion.

In October 2019 UPM announced that it would invest EUR 95 million in a Combined-Heat-Power (CHP) plant at the UPM Nordland paper mill in Germany. The plant was connected to the grid in Q3 2022.

Capitalised borrowing costs

In 2022, the borrowing costs capitalised as part of non-current assets amounted to EUR 20 million (9 million). Amortisation of capitalised borrowing costs was EUR 1 million (2 million) and the average interest rate used 0.79% (0.73%), which represents the average costs to finance the projects. In 2022, capitalised borrowing costs were mainly related to the construction of the new pulp mill in Uruguay.

Government grants

In 2022, government grants recognised as deduction of non-current assets totalled to EUR 15 million (0 million). Grants relate mainly to the biochemicals biorefinery investment in Leuna.

Major capital commitments at 31 December

EURm	2022	2021
New biorefinery / Germany	257	315
New pulp mill / Uruguay	493	1,406
Renovation and modernisation / Kuusankoski hydro power plant	6	10
Mill development / Plywood Joensuu	4	8

Impairment losses

In 2022, impairment charges relate to property, plant and equipment impacted by Russia's war in Ukraine. Due to the significant uncertainties related to operations in Russia and Ukraine, UPM recognised a write off of all property, plant and equipment as well as operating assets and uninsured receivables locating or relating to operations in these countries.

In December 2021, UPM conducted an impairment test of UPM Communication Papers fixed assets. The costs of pulp, recycled fibre, logistics and energy increased significantly in 2021 and high production costs continue to challenge the operations in the foreseeable future. Fair value less cost to sell method was used in the calculation with an inflation rate of 2.0%, negative sales growth rate of 5.4% in real terms, and a post-tax discount rate of 6.7%. As a result of the test calculation, UPM recognised impairment charges of EUR 50 million related to newsprint property, plant and equipment.

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 straightline 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. The value of forest assets, i.e. standing trees, amounted to EUR 2,442 million (2,328 million) at the end of 2022.

EURm	2022	2021
Carrying value, at 1 January	2,328	2,077
Additions	79	104
Disposals	-16	-6
Wood harvested	-143	-98
Net change in fair value	153	206
Translation differences	40	44
Carrying value, at 31 December	2,442	2,328

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 amounting to EUR 12 million (111 million) in 2022. In 2021, the increase in fair value was impacted by increased forest growth and higher stumpage price estimates used in valuation.

Forest assets

EURm	2022	2021
Forest assets in Finland	1,702	1,678
Forest assets in Uruguay	724	633
Forest assets in United States	15	17
Carrying value, at 31 December	2,442	2,328

Forest land

Forest land is included in land and water areas within property, plant and equipment. » Refer Note 4.1 Property, Plant and equipment. At the end of 2022, carrying value of own forest land amounted to EUR 736 million (EUR 694 million) and leased forest land EUR 243 million (EUR 219 million).

UPM's own and leased forest land areas are summarised in below table.

1,000 ha	FOREST LAND	PRO-DUCTIVE FOREST LAND	FORESTED LAND
Finland	522	430	422
Uruguay	305	182	176
Uruguay, leased land	167	136	130
United States	76	55	55
Total	1,070	802	783

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. Own land is stated at cost whereas leased land is valued at cost less accumulated depreciation.

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 considering existing, sustainable harvesting plans and assessments regarding growth, timber prices, harvesting and silviculture costs and selling expenses. 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 judgement 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 costs related to future risks. 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 future forest growth and environmental restrictions.

The pre-tax discount rate used to determine the fair value of the Finnish forests in 2022 was 8.0% (7.0%) and for Uruguayan plantations 11.0% (9.9%). A decrease (increase) of one percentage point in discount rate would increase (decrease) the fair value of forest assets by approximately EUR 257 million (270 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 3,652 million (2,579 million) at the end of 2022. 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.

In 2020, UPM issued a shareholder loan of EUR 47 million without a maturity date to PVO. Embedded into the loan terms is a right to issue new shares in the PVO B2 series against the remaining, unpaid nominal of the loan starting from 2021. The loan is valued at fair value and is taken into account as a part of the total fair valuation of the PVO B2 series valuation. In addition, in 2020 UPM issued a similar loan commitment of EUR 123 million to PVO, where also a right to issue new PVO B2 shares is embedded starting from 2023. The commitment matures at the end of 2023.

Energy shareholdings

	Number of shares	Group holding %	Carrying value, EURm	
			2022	2021
Pohjolan Voima Oyj, A series	8,176,191	61.24	584	473
Pohjolan Voima Oyj, B series	4,140,132	58.11	2,016	1,219
Pohjolan Voima Oyj, B2 series	2,869,819	51.22	454	424
Kemijoki Oy	179,189	7.33	442	327
Länsi-Suomen Voima Oy	10,220	51.10	150	131
Other	—	—	5	6
Carrying value, at 31 December			3,652	2,579

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 is constructing one new nuclear power plant in Olkiluoto (Olkiluoto 3), Finland. Olkiluoto 3 has proceeded to its test production phase. 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.

Changes in energy shareholdings

EURm	2022	2021
Carrying value, at 1 January	2,579	1,936
Disposals	-2	-1
Changes in fair value recognised in other comprehensive income	1,074	643
Carrying value, at 31 December	3,652	2,579

 Accounting policies

The group has made an irrevocable election to designate its energy shareholdings as equity instruments where changes in fair value are recognised through OCI. The shareholdings are not held for trading as the group has an intention to hold the investments for the long term. Purchases of energy shareholdings are initially and subsequently measured at fair value through other comprehensive income, net of tax if applicable, with only dividend income recognised through profit and loss. Initial fair value is acquisition cost including transaction costs. Upon disposal of the investment, the accumulated fair value changes in equity are not recycled to the income statement but instead, are reclassified from the fair value reserve to retained earnings.

The fair value of energy shareholdings is a level 3 measure in 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.

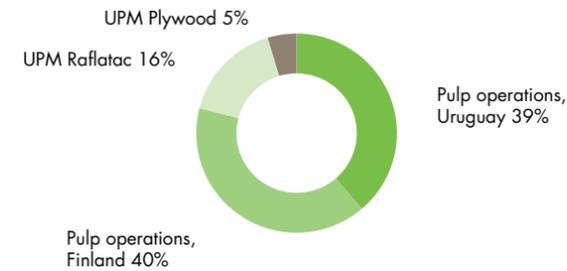
The electricity price estimate is based on future electricity forward prices and a simulation of the Finnish area electricity price. A change of 5% in the electricity price used in the model would change the total value of the assets by EUR 390 (370) million. The discount rate of 7.13% (5.08%) used in the valuation model is determined using the weighted average cost of capital method. A change of 0.5% percentage points in the discount rate would change the estimated fair value of the assets by approximately EUR 230 (330) million.

Other uncertainties and risk factors in the value of the assets relate to start-up schedule of the fixed price turn-key Olkiluoto 3 EPR nuclear power plant project. UPM's indirect share of the capacity of Olkiluoto 3 EPR is approximately 31%, through its PVO B2 shares. Changes in regulatory environment or taxation also have an impact on the value of the energy generating assets. For example, temporary profit tax on the electricity sector applicable in 2023 according to Finnish Government's law proposal.

4.4 Goodwill and other intangible assets

The group's goodwill mainly relates to pulp operations in Finland and Uruguay belonging to UPM Fibres business area. In 2022, the group's goodwill and other intangible assets increased mainly as a result of the company acquisition of AMC AG in UPM Raflatac business area. [Refer Note 8.1](#) Business acquisitions and disposals for further information.

Goodwill by business area 2022



Goodwill by business area

EURm	2022	2021
Pulp operations Uruguay	109	102
Pulp operations Finland	113	113
UPM Raflatac	46	7
UPM Plywood	13	13
Other operations	1	1
Total	282	237

Goodwill

EURm	2022	2021
Carrying value, at 1 January	237	229
Companies acquired	38	—
Translation differences	6	8
Carrying value, at 31 December	282	237

Other intangible assets

EURm	INTANGIBLE RIGHTS	SOFTWARE AND OTHER INTANGIBLE ASSETS	TOTAL
2022			
Accumulated costs	482	614	1,096
Accumulated amortisation and impairments	-285	-494	-779
Carrying value, at 31 December	198	120	317
Carrying value, at 1 January	198	64	262
Additions	3	11	14
Companies acquired	—	62	62
Amortisation	-3	-17	-21
Reclassifications	—	—	1
Carrying value, at 31 December	198	120	317
Emission rights, carrying value ¹⁾			235
Carrying value including emission rights, at 31 December			553
2021			
Accumulated costs	477	541	1,018
Accumulated amortisation and impairments	-279	-477	-756
Carrying value, at 31 December	198	64	262
Carrying value, at 1 January	199	69	267
Additions	3	13	15
Amortisation	-3	-18	-21
Reclassifications	—	1	1
Carrying value, at 31 December	198	64	262
Emission rights, carrying value ¹⁾			104
Carrying value including emission rights, at 31 December			366

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 2022.

Water rights of hydropower plants belonging to UPM Energy and reported in intangible rights amounted EUR 189 million at the end of 2022 and 2021. The values of water rights were tested based on expected future cash flows of each separate hydro power plant.

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	10.84 % (2021: 9.41 %)	Pulp price, wood costs
Pulp operations Uruguay	Value in use	10 years + terminal value	9.30 % (2021: 7.50 %)	Pulp price, wood costs
UPM Raflatac	Value in use	10 years + terminal value	9.48 % (2021: 8.22 %)	Product prices, cost development
UPM Plywood	Value in use	10 years + terminal value	15.77 % (2021: 13.01 %)	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.

**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.

Goodwill impairment tests were carried out for pulp operations in Finland and Uruguay, belonging to UPM Fibres business area, UPM Raflatac business area and UPM Plywood business area.

The 2022 impairment tests did not result in a recognition of any impairment.

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
2022						
Provisions at 1 January	24	36	30	39	26	155
Provisions made during the year	5	11	11	69	21	117
Provisions utilised during the year	-12	-23	-1	-54	-30	-121
Unused provisions reversed	-3	-2	-11	—	-2	-18
Reclassifications	—	—	—	—	—	—
Translation differences	—	—	—	—	—	—
Provisions at 31 December	14	22	29	53	15	134
Non-current						64
Current						70
Total						134
2021						
Provisions at 1 January	52	91	29	21	28	222
Provisions made during the year	5	6	2	41	11	64
Provisions utilised during the year	-22	-53	-1	-21	-10	-107
Unused provisions reversed	-11	-8	-1	-2	-2	-25
Reclassifications	—	—	—	—	—	—
Translation differences	—	—	—	—	—	1
Provisions at 31 December	24	36	30	39	26	155
Non-current						68
Current						88
Total						155

UPM has undergone several restructuring 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 2022 and 2021, restructuring and termination provisions relate mainly to capacity closures and optimisation of operations in UPM Communication Papers business area. In 2022 and 2021, there were no significant additions to restructuring and termination provisions.

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. In 2022, the group recognised EUR 8 million additional environmental provision related to prior capacity closures in Finland.

Other provisions are mainly attributable to onerous contracts and will be incurred over a period longer than one year. In 2022, additions to other provisions include EUR 10 relating to tax dispute.

Provisions for emissions include liability to cover the obligation to return emission rights. The group possesses emission rights amounting to EUR 235 million (104 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, trade payables and advances received which are presented separately below. The performance obligations related to advances received are typically fulfilled within 12 months of receipt of the advance. UPM is focusing on working capital efficiency and targeting a sustainable and permanent reduction in operating working capital.

Operating working capital

EURm	2022	2021
Inventories	2,289	1,594
Trade receivables	1,614	1,320
Trade payables	-1,855	-1,697
Advances received	-23	-14
Total	2,026	1,204

Inventories

EURm	2022	2021
Raw materials and consumables	1,128	794
Work in progress	11	6
Finished products and goods	1,116	769
Advance payments	34	25
Total	2,289	1,594

Trade and other receivables

EURm	2022	2021
Trade receivables		
Trade receivables	1,647	1,345
Loss allowance provision	-32	-25
Total trade receivables	1,614	1,320
Prepayments and accrued income		
Personnel expenses	2	5
Interest income	1	0
Energy and other excise taxes	15	20
Other items	158	175
Total prepayments and accrued income	176	200
Other receivables		
VAT and other indirect taxes receivable	326	166
Cash collaterals	500	292
Other receivables	80	47
Total other receivables	906	504
Total	2,696	2,024

Trade receivables ageing

EURm	2022			2021		
	TRADE RECEIVABLES	LOSS ALLOWANCE PROVISION	TRADE RECEIVABLES, NET OF PROVISION	TRADE RECEIVABLES	LOSS ALLOWANCE PROVISION	TRADE RECEIVABLES, NET OF PROVISION
Undue	1,471	-1	1,470	1,005	-5	1,000
Past due up to 30 days	114	-1	114	314	-1	313
Past due 31-90 days	19	-3	16	6	-1	5
Past due over 90 days	42	-28	14	20	-19	2
Total	1,647	-32	1,614	1,345	-25	1,320

Trade and other payables

EURm	2022	2021
Accrued expenses and deferred income		
Personnel expenses	184	191
Interest expenses	21	9
Indirect taxes	17	13
Customer rebates	130	119
Customer claims	7	6
Other items	169	111
Total accrued expenses and deferred income	528	449
Advances received	23	14
Trade payables	1,855	1,697
Other current liabilities	314	94
Total	2,720	2,254



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. The group has trade credit insurances to protect accounts receivables from significant credit losses. 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 17% (15%) of the trade receivables as at 31 December 2022 – i.e., approximately EUR 269 million (200 million).

In 2022, trade receivables amounting to EUR 2 million (5 million) were subject to permanent write-off and the loss was recognised under other costs and expenses. In accordance with the group's accounting policy, trade receivables are permanently written off when there is no reasonable expectation of recovery. In addition, due to the significant uncertainties related to operations in Russia and Ukraine, the group increased the general provision for expected credit losses on trade

receivables, and impaired inventories and other receivables. As at 31 December 2022, the credit loss provision related to operations in Russia was EUR 8 million, impairment related to inventories EUR 10 million and impairment related to other receivables EUR 5 million.



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 and other receivables

Trade receivables arising from selling goods and services in the normal course of business are recognised initially at transaction price and subsequently at amortised cost less loss allowance provision. No element of financing is deemed present as the sales are made with a credit term of 14–60 days, which is consistent with market practice.

The group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables. The group has recognised two types of provisions for trade receivables – a general provision for lifetime expected credit losses and a provision for specified individual trade receivables, both of which are charged to the income statement. The group uses a provision matrix for estimating lifetime expected credit losses where trade receivables are segregated by businesses. The provision matrix is based on historical observed default rates, adjusted by forward looking information. It takes into account trade credit insurances, payment profile of customers and the factor that as debts get older they are more likely not to be paid. Additionally, the group recognises a provision individually for outstanding trade receivables where specific debtor information is available. In these cases there must be objective evidence that the group will not be able to collect all amounts due according to the original terms of the receivables.

Trade receivables are permanently written off when there is no reasonable expectation of recovery. The customer entering into bankruptcy or liquidation proceedings or finalising such proceedings, or entering into debt-restructuring are considered indicators that the trade receivables are no longer expected to be recovered. 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.

Other receivables consist mainly of cash collaterals pledged for commodity contracts and interest rate futures. The fair value equals to the amount of cash pledged as collateral. The cash collaterals cover the counterparties' losses in case UPM is unable to meet its obligations.

Trade and other 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.

The group is recognising refund liability for expected volume and other discounts arising from contracts with customers. Customer rebates include mainly volume discounts and are recognised as equal to an amount which is most likely to be paid to the customer. The carrying amount of expected customer rebates is updated at each reporting date, using the latest forecast data available.

Customer claims relating to quality complaints are accounted for as revenue related refund liability. Expected customer claims are estimated based on historical data and the amount of refund liability is updated at each reporting date. Customer claims and customer rebates are typically expected to realise within the next 12 months.

Advances received are recognised as contract liability until the performance obligation is fulfilled.

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	Free cash flow
EUR 2,374 m (EUR 647m)	EUR -1,077 m (EUR -74m)

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.

UPM's capital

EURm	2022	2021
Equity attributable to owners of the parent company	12,502	10,846
Non-controlling interest	376	261
Total equity	12,879	11,106
Non-current debt	4,476	2,566
Current debt	558	86
Total debt	5,034	2,652
Total capitalisation	17,913	13,759
Total debt	5,034	2,652
Less: Interest-bearing financial assets and investment funds	2,660	2,006
Net debt	2,374	647
Gearing ratio, % ¹⁾	18	6
Net debt to EBITDA ¹⁾	0.94	0.35

¹⁾ Refer » [Other financial information](#) on Alternative performance measures.



Liquidity and refinancing risk

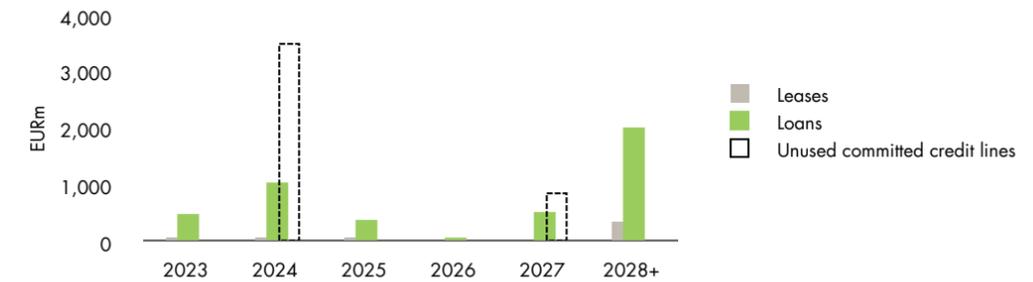
Under all circumstances, UPM seeks to maintain adequate liquidity, which depends on a number of factors, such as the availability of cash flows from operations and access to additional debt and equity financing. UPM aims to ensure sufficient liquidity by means of efficient cash management and restricting financial investments to investment types that can readily be converted into cash and by keeping a sufficient amount of unused committed credit lines or cash as a reserve. UPM aims to minimise refinancing risks by ensuring a balanced loan portfolio maturing schedule and sufficiently long maturities. The average loan maturity at 31 December 2022 was 4.6 years (7.3 years).

Liquidity and refinancing

EURm	2022	2021
Cash at bank	1,632	1,313
Cash equivalents	434	146
Investment funds	1	100
Committed credit lines	5,709	909
of which used	-1,378	—
Loan commitments	-123	-123
Used uncommitted credit lines	-444	-2
Long-term loan repayment cash flow	-94	-77
Liquidity	5,738	2,267

Cash and cash equivalents comprise cash in hand, deposits held at banks and with original maturities of three months or less. Investment funds comprise fund investments with a redemption period of less than 12 months. Commercial papers and utilized bank overdrafts are included in used uncommitted credit lines and presented within current debt in the balance sheet. In 2022 or 2021, no impairment and no expected credit losses were recognised in profit or loss for loan receivables or cash and cash equivalents.

Repayments of debt and maturities of unused committed credit lines at the end of 2022



Maturity table of debt at the end of 2022

EURm	2023	2024	2025	2026	2027	2028+	TOTAL
Bonds	—	—	—	—	352	1,750	2,102
Loans from financial institutions	9	1,001	337	34	134	99	1,613
Lease liabilities	84	75	80	49	36	343	668
Other loans	1	—	—	—	—	151	152
Current loans	444	—	—	—	—	—	444
Principal payments	538	1,076	417	83	521	2,343	4,978
Interest payments	70	69	66	63	61	128	458

The difference between the above nominal values and carrying value of total debt arise from fair value adjustments and discounting decreasing carrying value by EUR 80 million and other non-cash adjustments decreasing carrying value by EUR 24 million.

Maturity table of debt at the end of 2021

EURm	2022	2023	2024	2025	2026	2027+	TOTAL
Bonds	—	—	—	—	—	1,581	1,581
Loans from financial institutions	6	8	19	34	31	122	219
Lease liabilities	70	69	62	67	31	275	574
Other loans	1	—	—	—	—	163	164
Current loans	2	—	—	—	—	—	2
Principal payments	79	76	81	101	62	2,141	2,540
Interest payments	45	45	44	44	43	107	328

The difference between the above nominal values and carrying value of total debt arise from fair value adjustments increasing carrying value by EUR 104 million and other non-cash adjustments decreasing carrying value by EUR 22 million.

Maturity table of derivatives included in net debt and guarantees at the end of 2022

EURm	2023	2024	2025	2026	2027	2028+	TOTAL
Net settled interest rate swaps							
Net inflow	3	6	8	9	9	—	35
Net outflow	-24	-28	-26	-25	-25	-25	-153
Gross settled derivatives							
Gross currency swaps							
Total inflow	7	7	7	7	7	160	197
Total outflow	-7	-7	-6	-6	-6	-175	-208
Forward foreign exchange contracts							
Total inflow	625	—	—	—	—	—	625
Total outflow	-623	—	—	—	—	—	-623
Guarantees	2	—	—	—	—	—	2

Maturity table of derivatives included in net debt and guarantees at the end of 2021

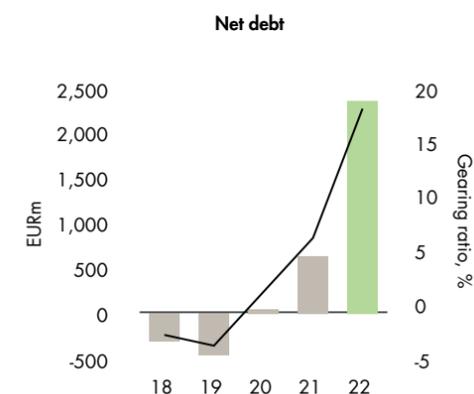
EURm	2022	2023	2024	2025	2026	2027+	TOTAL
Net settled interest rate swaps							
Net inflow	20	16	14	14	14	14	92
Net outflow	—	-1	-3	-4	-5	-11	-25
Gross settled derivatives							
Gross currency swaps							
Total inflow	7	7	7	7	7	178	213
Total outflow	-1	-1	-2	-2	-2	-171	-178
Forward foreign exchange contracts							
Total inflow	574	—	—	—	—	—	574
Total outflow	-574	—	—	—	—	—	-574
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. In 2022, net debt increased by EUR 1,728 million. Net debt totalled EUR 2,374 million (647 million) at the end of 2022. Net debt has been impacted by energy hedging derivative market value payments, which are driven by the increase in energy futures prices and volatility in the energy markets.

In October 2020 UPM established a EUR 3 billion Euro Medium Term Note (EMTN) programme and launched a Green Finance Framework. The independent second opinion concerning the framework was provided by CICERO Shades of Green. UPM's framework was rated with the highest-grade, CICERO Dark Green.

In May 2022, UPM successfully issued its third Green Bond under its EMTN (Euro Medium Term Note) programme and Green Finance Framework. The EUR 500 million bond matures in May 2029 and pays a fixed coupon of 2.25%. There are no financial covenants connected to this or the previously issued bonds. The net proceeds from the bonds are used for financing and/or refinancing Eligible Projects and Assets under UPM's Green Finance Framework. All issued euro bonds are listed on the Irish Stock Exchange plc, trading as Euronext Dublin.



Net debt

EURm	2022	2021
Bonds	1,974	1,624
Loans from financial institutions	1,604	213
Lease liabilities	583	504
Derivatives	137	23
Other loans	179	201
Non-current debt	4,476	2,566
Repayments of non-current debt	9	7
Repayments of lease liabilities	84	70
Derivatives	24	8
Other liabilities	441	2
Current debt	558	86
Total debt	5,034	2,652
Loan receivables	4	4
Derivatives	61	126
Other receivables	19	19
Non-current interest-bearing assets	84	148
Loan receivables	0	3
Derivatives	9	4
Other receivables	500	292
Investment funds	1	100
Cash and cash equivalents	2,067	1,460
Current interest-bearing assets	2,576	1,858
Total interest-bearing assets	2,660	2,006
Net debt	2,374	647


Accounting policies
Debt

Debt comprising of bonds, bank and pension loans, lease liabilities 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 2022

Reported in financing activities in cash flow statement

EURm	NON-CURRENT LOANS INCL. REPAYMENTS	LEASE LIABILITIES	CURRENT LOANS	NET DERIVA- TIVES	INVEST- MENT FUNDS	OTHER FINANCIAL ASSETS	CASH AND CASH EQUIVALENTS	NET DEBT
Carrying value, at 1 January	2,046	574	2	-99	-100	-317	-1,460	647
Change in net debt, cash								
Proceeds from non-current debt	4,402	—	—	—	—	—	—	4,402
Payments of non-current debt	-2,550	—	—	—	—	—	—	-2,550
Lease repayments	—	-91	—	—	—	—	—	-91
Change in current liabilities	—	—	439	—	—	—	—	439
Net cash flows from derivatives	—	—	—	20	—	—	—	20
Transaction costs and discounts in operating cash flow	-5	—	—	—	—	—	—	-5
Change in other financial assets in operating cash flow	—	—	—	—	—	-208	—	-208
Change in other financial assets in investing cash flow	—	—	—	—	—	2	—	2
Change in investment funds	—	—	—	—	99	—	—	99
Change in cash and cash equivalents	—	—	—	—	—	—	-610	-610
	1,847	-91	439	20	99	-206	-610	1,499
Change in net debt, non-cash								
Companies acquired	22	—	—	—	—	—	—	22
New contracts and subsequent additions	—	171	—	—	—	—	—	171
Lease liability reassessments	—	-5	—	—	—	—	—	-5
Fair value gains and losses	-180	—	—	169	—	—	—	-11
Exchange gains and losses	28	18	—	—	—	—	3	49
Effective interest rate adjustment	3	—	—	—	—	—	—	3
	-127	184	—	169	—	—	3	229
Carrying value, at 31 December	3,766	668	441	90	-1	-523	-2,067	2,374

Change in net debt 2021

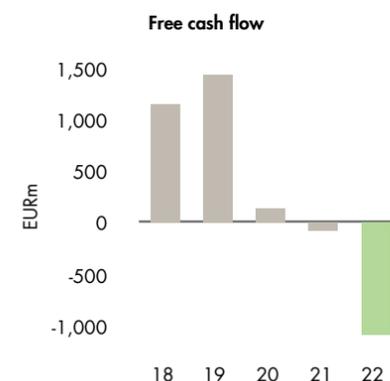
Reported in financing activities in cash flow statement

EURm	CURRENT LOANS INCL. REPAYMENTS	LEASE LIABILITIES	CURRENT LOANS	NET DERIVA- TIVES	INVEST- MENT FUNDS	OTHER FINANCIAL ASSETS	CASH AND CASH EQUIVALENTS	NET DEBT
Carrying value, at 1 January	1,489	544	2	-161	—	-97	-1,720	56
Change in net debt, cash								
Proceeds from non-current debt	600	—	—	—	—	—	—	600
Payments of non-current debt	-16	—	—	—	—	—	—	-16
Lease repayments	—	-84	—	—	—	—	—	-84
Change in current liabilities	—	—	—	—	—	—	—	—
Net cash flows from derivatives	—	—	—	34	—	—	—	34
Transaction costs and discounts in operating cash flow	-7	—	—	—	—	—	—	-7
Change in other financial assets in operating cash flow	—	—	—	—	—	-224	—	-224
Change in other financial assets in investing cash flow	—	—	—	—	—	5	—	5
Change in investment funds	—	—	—	—	-100	—	—	-100
Change in cash and cash equivalents	—	—	—	—	—	—	268	268
	577	-84	—	34	-100	-219	268	476
Change in net debt, non-cash								
New contracts and subsequent additions	10	93	—	—	—	—	—	103
Lease liability reassessments	—	1	—	—	—	—	—	1
Fair value gains and losses	-53	—	—	28	—	—	—	-25
Exchange gains and losses	21	21	—	—	—	—	-8	33
Effective interest rate adjustment	3	—	—	—	—	—	—	3
	-20	115	—	28	—	—	-8	114
Carrying value, at 31 December	2,046	574	2	-99	-100	-317	-1,460	647

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.

EURm	2022	2021
Operating cash flow	508	1,250
Investing cash flow	-1,585	-1,323
Free cash flow	-1,077	-74
Dividends paid to owners of the parent company	-693	-693
Dividends paid to non-controlling interests	-27	-12
Contributions paid by non-controlling interests	97	82
Other financing cash flow	-9	-5
Transaction costs and discounts in operating cash flow	5	7
Change in other financial assets in operating cash flow	208	224
Change in other financial assets in investing cash flow	-2	-5
Change in net debt, cash	1,499	476
Change in net debt, non-cash	229	114
Change in net debt	1,728	590
Opening net debt	647	56
Closing net debt	2,374	647

**Bonds**

FIXED RATE PERIOD	INTEREST RATE, %	CURRENCY	NOMINAL VALUE ISSUED, MILLION	CARRYING VALUE 2022 EURm	CARRYING VALUE 2021 EURm
1997-2027	7.450	USD	375	378	413
2020-2028	0.125	EUR	750	605	718
2021-2031	0.500	EUR	500	494	494
2022-2029	2.250	EUR	500	496	—
Value, at 31 December				1,974	1,624
Current portion				—	—
Non-current portion				1,974	1,624

Leases

Leases of property, plant and equipment where UPM, as a lessee, obtains substantially all of the economic benefits from the use of the identified asset and where UPM has the right to direct the use of the identified asset, are classified as leases. Approximately 34% (36%) of leased assets recognised on the balance sheet consists of land areas in Uruguay, which the group uses for eucalyptus plantations. Approximately 24% (30%) of the leased assets on the balance sheet consist of five power plants. UPM uses the energy generated by these plants for its own production. In addition, the group has leased one waste water treatment plant as well as several warehouses, terminals, offices, railcars and vessels. UPM also leases some production machinery and equipment like forklifts and vehicles that are insignificant to the total leased assets portfolio.

In 2022, additions to lease assets relate mainly to biochemicals refinery utilities in Leuna and new vessels for sea transportation in Europe. Impairment charges in 2022 relate to assets impacted by the Russia's war in Ukraine. Due to the significant uncertainties related to operations in Russia and Ukraine, UPM recognised a write off of all leased assets locating or relating to operations in these countries.

In 2022, the total cash outflow for leased assets was EUR 91 (84) million. The expenses related to short-term leases recognised in the income statement in 2022 amounted to EUR 3 (3) million. The group had no significant variable lease payments in 2022.

The lease commitments for leases not commenced at year-end 31 December 2022 totalled approximately EUR 245 (409) million, which are mostly related to long-term charter agreements, railway service agreement in Uruguay and service agreements related waste water treatment and other utilities in Leuna, Germany.

Changes in leased assets

	LAND AREAS	BUILDINGS	MACHINERY AND EQUIPMENT	OTHER LEASED ASSETS	ADVANCE PAYMENTS ¹⁾	TOTAL
2022						
Carrying value, at 1 January	252	264	80	8	4	608
New contracts and subsequent additions	24	18	127	—	8	178
Business acquisitions	—	—	—	—	—	—
Reassessments and disposals	8	—	-8	—	—	—
Depreciations	-16	-34	-29	—	—	-80
Impairments	—	-3	-7	-2	—	-12
Reclassifications	—	—	5	-5	—	-1
Translation differences	15	2	1	—	—	18
Carrying value, at 31 December	283	247	169	1	13	713
2021						
Carrying value, at 1 January	214	245	86	12	4	561
New contracts and subsequent additions	30	47	13	5	4	98
Reassessments and disposals	4	-1	—	—	—	3
Depreciations	-13	-31	-21	-8	—	-74
Impairments	—	—	—	—	—	—
Reclassifications	—	2	—	—	-2	—
Translation differences	18	2	2	—	—	21
Carrying value, at 31 December	252	264	80	8	4	608

¹⁾ Advance payments for leases not commenced at the year end reporting date 31 December.

Accounting policies

Leases**The group as a lessee**

UPM assesses whether a contract is or contains a lease at inception of the contract. This assessment involves the exercise of judgment about whether it depends on a specified asset, whether UPM obtains substantially all the economic benefits from the use of that asset, and whether UPM has the right to direct the use of the asset.

The group recognises a leased asset and a lease liability at the lease commencement date, except for short-term leases. UPM applies this to all asset classes. Short-term leases are leases that, at the commencement date, have a lease term of 12 months or less. A lease that contains a purchase option is not a short-term lease. UPM recognises lease payments of short-term leases as an expense on a straight-line basis over the lease term.

The lease term is determined as the non-cancellable period of the lease taking into consideration the options to extend and terminate if it is reasonably certain that the group will exercise the extension option or will not exercise the termination option. If the contract is for an indefinite period of time and the group and the lessor both have a right to terminate the contract within a short notice period (12 months or less) without a significant economic penalties and termination cash payments, the contract is considered to be a short-term.

The lease liability is recognised at the commencement date and measured at the present value of the lease payments to be paid during the lease term. The group uses, as a basis, discount rate implicit in the lease and if that rate cannot be readily determined, UPM uses

incremental borrowing rate which comprises of currency and lease term-based reference rate and specific credit spread as well as other specific terms and conditions of a lease. Lease payments can include fixed payments, variable payments that depend on an index or rate and extension option payments or purchase options if it is reasonably certain that the group will exercise them. The lease liability is subsequently measured at amortised cost using the effective interest rate method and remeasured (with corresponding adjustment to the related leased asset) when there is a change in future lease payments due to renegotiation, changes of an index or rate or reassessment of options.

Leased asset comprises the initial lease liability, initial direct costs and the obligations to refurbish the asset, less any incentives granted by the lessors. The leased asset is subsequently valued at cost less accumulated depreciation and impairment losses. Remeasurement takes place in case lease liability is remeasured and change in cash flows is based on contract terms that have been included in the original contract. The leased asset is depreciated over the shorter of the asset's useful life and the lease term. The leased asset is subject to testing for impairment if there is an indicator for impairment, as for own assets.

The group has elected to separate non-lease components such as service components and other variable components and account them for as expenses, if they can be separated from the leased asset. However, the group does not separate non-lease components from the lease contracts of company cars.

The group does not apply portfolio approach of leases with similar characteristics.

Leased assets are presented in the balance sheet as a separate financial statement line item. Lease liabilities are presented as part of non-current debt and current debt line items in the balance sheet. Lease liabilities are part of net debt calculation of the group. Short-term lease payments are reported as rents and lease expenses. Variable lease

payments are recognised within the operating costs and expenses based on the nature of the payment. The interest expense on the lease liability is recognised as a component of finance costs in income statement. In cash flow statement, payments for the principal portion of the lease liability are recognised as financing cash flow while payments for interest portion of lease liability, short-term leases, and variable amounts not included in the measurement of the lease liability, are classified within operating cash flow.

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, bank overdrafts and derivatives.

Classification of financial assets into different measurement categories depends on the contractual cash flow characteristics and the business model for managing the financial asset. The measurement category of each financial asset is determined at inception. Financial

The group as a lessor

At inception of a lease contract, the group makes an assessment whether the lease is a finance lease or an operating lease. If the lease transfers substantially all of the risks and rewards incidental to ownership of the asset, it is considered to be a finance lease; if not, the lease is considered to be an operating lease. The group has only a minor amount of operating lease contracts, whereby the lease payments are recognised on a straight-line basis over the term of the lease.

assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right in all circumstances 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 are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred, and the group has transferred substantially all the risks and rewards of ownership.

Financial assets and liabilities by category at the end of 2022

EURm	FAIR VALUE THROUGH PROFIT AND LOSS	EQUITY INSTRUMENTS AT FAIR VALUE THROUGH OCI	DERIVATIVES UNDER HEDGE ACCOUNTING	FINANCIAL ASSETS AND LIABILITIES AT AMORTISED COST	TOTAL
Energy shareholdings	–	3,652	–	–	3,652
Other non-current financial assets					
Loans and receivables	–	–	–	8	8
Derivatives	–	–	62	–	63
	–	–	62	8	70
Trade and other receivables	–	–	–	2,696	2,696
Other current financial assets					
Derivatives	17	–	100	–	117
Investment funds	1	–	–	–	1
	18	–	100	–	118
Cash and cash equivalents	–	–	–	2,067	2,067
Total financial assets	18	3,652	162	4,771	8,602
Non-current debt					
Interest-bearing liabilities	–	–	–	4,340	4,340
Derivatives	–	–	137	–	137
	–	–	137	4,340	4,476
Other non-current financial liabilities					
Other liabilities ¹⁾	–	–	–	90	90
Derivatives	–	–	13	–	13
	–	–	13	90	103
Current debt					
Interest-bearing liabilities	–	–	–	534	534
Derivatives	24	–	–	–	24
	24	–	–	534	558
Trade and other payables	–	–	–	2,720	2,720
Other current financial liabilities					
Derivatives	14	–	88	–	102
	14	–	88	–	102
Total financial liabilities	37	–	238	7,683	7,959

¹⁾ Consists mainly of non-current advances received and a put liability that is not estimated to mature within 12 months.

Financial assets and liabilities by category at the end of 2021

EURm	FAIR VALUE THROUGH PROFIT AND LOSS	EQUITY INSTRUMENTS AT FAIR VALUE THROUGH OCI	DERIVATIVES UNDER HEDGE ACCOUNTING	FINANCIAL ASSETS AND LIABILITIES AT AMORTISED COST	TOTAL
Energy shareholdings	–	2,579	–	–	2,579
Other non-current financial assets					
Loans and receivables	–	–	–	8	8
Derivatives	–	–	126	–	126
	–	–	126	8	133
Trade and other receivables	–	–	–	2,024	2,024
Other current financial assets					
Loans and receivables	–	–	–	3	3
Derivatives	13	–	23	–	36
Investment funds	100	–	–	–	100
	113	–	23	3	139
Cash and cash equivalents	–	–	–	1,460	1,460
Total financial assets	113	2,579	149	3,494	6,335
Non-current debt					
Interest-bearing liabilities	–	–	–	2,543	2,543
Derivatives	–	–	23	–	23
	–	–	23	2,543	2,566
Other non-current financial liabilities					
Other liabilities ¹⁾	–	–	–	107	107
Derivatives	–	–	2	–	2
	–	–	2	107	109
Current debt					
Loans	–	–	–	79	79
Derivatives	8	–	–	–	8
	8	–	–	79	86
Trade and other payables	–	–	–	2,254	2,254
Other current financial liabilities					
Derivatives	12	–	83	–	95
	12	–	83	–	95
Total financial liabilities	20	–	108	4,982	5,111

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 3,607 million (2,573 million) at the end of 2022. For quoted bonds, the fair values are based on the quoted market value as of 31 December. At the end of 2022, 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	2022				2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets								
Investment funds	—	1	—	1	—	100	—	100
Derivatives, non-qualifying hedges	—	17	—	17	—	13	—	13
Derivatives under hedge accounting	12	150	—	162	1	148	—	149
Energy shareholdings	—	—	3,652	3,652	—	—	2,579	2,579
Total	12	168	3,652	3,832	1	261	2,579	2,841
Financial liabilities								
Derivatives, non-qualifying hedges	—	37	—	37	—	20	—	20
Derivatives under hedge accounting	46	192	—	238	6	102	—	108
Total	46	229	—	275	6	122	—	128

There have been no transfers between levels in 2022 and 2021.

Accounting policies

Fair value through profit or loss

This category includes derivatives that do not qualify for hedge accounting and investment funds. They are measured at fair value and any gains or losses from subsequent measurement are recognised in the income statement.

Equity instruments at fair value through OCI

This category includes mainly UPM's energy shareholdings. These assets are measured at fair value through other comprehensive income.

Financial assets at amortised cost

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, and cash and cash equivalents. They are included in non-current assets unless they mature within 12 months of the balance sheet date. Cash and cash equivalents are always classified as current assets. 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. As soon as a loan receivable or cash and cash equivalents are originated or purchased, a loss allowance for 12-month expected credit losses are recognised in profit or loss. If credit risk increases significantly, full lifetime expected credit losses are recognised in profit or loss. In the comparison period, loan receivables were impaired if the carrying amount exceeded the estimated recoverable amount. The credit loss model applied to trade receivables is described in » [Note 4.6 Working capital](#).

Derivatives under hedge accounting

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. For investment funds, the valuation is based on quoted prices (unadjusted) for identical assets in markets that are not active. For 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 quoted forward prices on the balance sheet date.

An embedded derivative that is by nature a foreign currency forward contract is valued 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	2022	2021
Exchange rate gains and losses		
Derivatives	8	26
Exchange gains and losses on financial liabilities measured at amortised costs	-37	-21
Exchange gains and losses on financial assets measured at amortised costs	22	-7
Other exchange rate gains and losses	29	0
	22	-1
Fair value changes		
Fair value gains and losses on derivatives designated as fair value hedges	-177	-55
Fair value adjustment of debt attributable to interest rate risk	180	53
	3	-1
Total	25	-3
Interest and other finance income and costs, net		
Interest expense on lease liabilities	-14	-12
Interest expense on other financial liabilities measured at amortised cost	-49	-35
Interest income on derivatives	26	31
Interest income on loans, receivables and cash	9	1
Other financial income and expenses, net	-27	2
	-55	-12
Total	-30	-15

Net gains and losses on derivatives included in the operating profit

EURm	2022	2021
Cash flow hedges reclassified from hedging reserve	-475	-79
Non-qualifying hedges	3	-22
Total	-472	-102

Foreign exchange gains and losses in the operating profit excluding non-qualifying hedges

EURm	2022	2021
Sales	-59	6
Other operating income	-47	-5
Total	-106	1

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. At 31 December 2022, 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

	2022	2021
Number of shares (1,000)	533,736	533,736
Share capital, EURm	890	890

Treasury shares

At 31 December 2022, the company held 411,653 (411,653) of its own shares, 0.08% (0.08%) of the total number of shares.

Reserves

EURm	2022	2021
Fair value reserve	3,062	2,012
Hedging reserve	-627	-96
Share-based payments reserve	25	21
Total other reserves	2,460	1,938
Reserve for invested non-restricted equity	1,273	1,273
Translation reserve	449	329
Total reserves	4,182	3,539

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 recycled only within equity upon the disposal of the asset.

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 and the cost of hedging when recognised in OCI. 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. In 2022, a gain of EUR 5 million (9) was reclassified from the hedging reserve to other financial income and expenses as a result of inefficiency.

Hedging reserve

EURm	CURRENCY CASH FLOW HEDGES	ELECTRICITY PURCHASE AND SALES HEDGES	COST OF HEDGING	TAX	TOTAL
2022					
Hedging reserve, at 1 January	-32	-84	-1	22	-96
Amounts reclassified to profit and loss	65	401	4	-94	376
Amounts reclassified to acquisition cost of a fixed assets	24	—	1	—	25
Change in fair value of hedging instruments recognised in OCI	-15	-1,131	-15	228	-932
Hedging reserve, at 31 December	42	-814	-11	155	-627

EURm	CURRENCY CASH FLOW HEDGES	ELECTRICITY PURCHASE AND SALES HEDGES	COST OF HEDGING	TAX	TOTAL
2021					
Hedging reserve, at 1 January	57	-26	-2	-1	28
Amounts reclassified to profit and loss	-5	85	-1	-16	63
Amounts reclassified to acquisition cost of a fixed assets	-14	—	—	—	-14
Change in fair value of hedging instruments recognised in OCI	-70	-143	2	38	-172
Hedging reserve, at 31 December	-32	-84	-1	22	-96

Share-based payments reserve

The share-based payments reserve is used to recognise the fair value at the grant date of the share incentive plans, Performance Share Plan and Deferred Bonus Plan, over their vesting period.

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. There were no reclassifications from the translation reserve to profit or loss during the period resulting from inefficiency of net investment hedges.



Accounting policies

Transaction costs directly relating to the issue of new shares or share options 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 which 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.



Foreign exchange risk

As a consequence of the global nature of its business, UPM is exposed to risks associated with changes in exchange rates, primarily with respect to USD, GBP and UYU. Foreign exchange risk arises from contracted and expected commercial future payment flows (transaction exposure), changes in value of recognised assets and liabilities denominated in foreign currency and 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 earnings and in the group's balance sheet. 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. Transaction risk arises from the changes in currency rates of highly probable transactions, which are expected to take place in currencies other than the functional currency of the entity. 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 2022, 51% (49%) of the forecast 12-month currency flow was hedged.

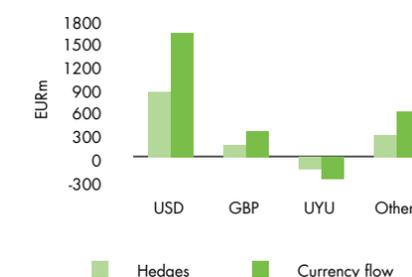
The group enters into external forward contracts, which are designated at group level as hedges of foreign exchange risk of specific future foreign currency flows. Cash flow hedge accounting is applied when possible. If hedge accounting is not possible, fair value changes of the hedging instrument are recognised through profit and loss immediately.

At the end of 2022, UPM's estimated net risk currency flow for the next 12 months was EUR 2,291 million (1,886 million).

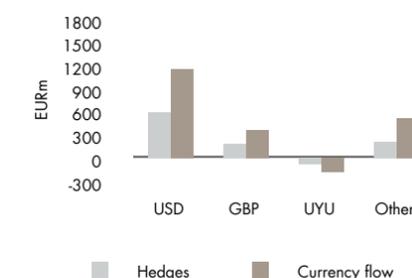
The weighted hedging rate by currency against EUR were USD 1.05, UYU 46.18 and GBP 0.87.

In addition to commercial foreign currency flow, the group has hedged risk currency flow related to investments. Cash flow or fair value hedge accounting is applied. At the end of 2022 the hedged net risk currency flow was EUR 141 million (EUR 360 million).

12 months net risk currency flow and hedges 2022



12 months net risk currency flow and hedges 2021



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. UPM aims to fully hedge this balance sheet translation exposure, however, UPM might have unhedged balance sheet exposures within the limits set in group Treasury Policy.

At 31 December 2022 the unhedged balance sheet exposures in net of interest-bearing assets and liabilities amounted to EUR 8 million (9 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 and UPM aims to fully hedge the net exposure in main currencies. The nominal values of the hedging instruments in net of accounts payable and receivable hedging were EUR 410 million (352 million). Hedge accounting is not applied and all fair value changes of hedging instruments are recognised through profit and loss immediately.

UPM's net investments in foreign subsidiaries are also 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 2022, part of the foreign exchange risk associated with the net investments was hedged, major ones in China and Uruguay, and net investment hedge accounting has been applied. The average

weighted hedging rate of these hedges against EUR were China CNY 7.29 and Uruguay USD 1.08.

Derivatives used for hedging translation risks are external forward contracts, cross currency swaps and currency options.

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.

EURm	Profit before tax		Equity	
	2022	2021	2022	2021
EUR strengthens by 10%				
USD	1	2	97	97
GBP	—	—	17	19
UYU	—	—	-15	-12
JPY	-1	—	8	9
EUR weakens by 10%				
USD	-1	-2	-97	-97
GBP	—	—	-17	-19
UYU	—	—	15	12
JPY	1	—	-8	-9

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 hedge commercial flows or investments and 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. UPM has decided to deviate from its policy target and extend the duration of net debt. At 31 December 2022 the duration of net debt was 45 months. The group uses interest rate derivatives, such as interest rate swaps, interest rate futures and cross currency swaps, to change net debt duration.

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, investment funds, interest bearing assets and liabilities and 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. Table excludes leasing transactions.

Nominal values of the group's net debt by currency including derivatives

EURbn	2022	2021
USD	0.5	0.4
EUR	1.8	0.2
GBP	-0.2	-0.2
Others	-0.3	-0.3
Total	1.8	0.1

Most of the interest rate derivatives hedging interest on long-term debt meet the requirement of fair value hedge accounting.

Interest rate risk sensitivity

The following table illustrates the effect to profit before tax mainly as a result of changes in interest expense on floating rate debt.

EURm	Profit before tax	
	2022	2021
Interest rate of net debt 100 basis points higher	-24	-11
Interest rate of net debt 100 basis points lower	24	11

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.
- Cash balances are excluded.
- Investment funds are excluded.
- Leasing transactions are excluded.
- 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.
- 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 the price of electricity consumption and production. Electricity prices rely on weather, fossil fuel and emissions allowance prices as well as the balance of supply and demand. The group's sensitivity to electricity market price is dependent on the electricity production and consumption levels and the hedging levels. The inherent price risks arise from the daily sales and purchases of electricity from the power market with spot prices, and the hedging objective is to reduce the earnings volatility that arises from electricity prices.

UPM considers Nordic system and electricity price area differential (EPAD) for Finland products perfect hedges for corresponding electricity price risk components in Finland. The components of electricity price risk in the Nordic power market are hedged by entering into System and EPAD electricity derivative contracts, mostly Nasdaq Commodities futures and bilateral forwards. System and EPAD prices are considered as separately identifiable and reliably measurable risk components in electricity sales and purchase contracts as well as in the hedging instruments, as a quoted price is available. Fair value changes of designated system and EPAD derivatives are offsetting electricity sales and purchase price changes. The share of system component covers approximately 80-90% and the share of EPAD component covers 10-20% of the changes in electricity sales and purchase prices.

The electricity price risk in the Central European power market is hedged by entering into European Electricity Exchange futures. Products used for hedging hedge the entire price risk for the underlying price area.

The time frame hedged has historically been approximately rolling 5 years. Hedging level has been typically higher for the nearest years and lower for the latter years. Hedging level for a certain year has historically varied between 0-80%. UPM constantly updates its electricity production and consumption forecasts. Hedging level is calculated based on the most recent available information about the electricity production and consumption forecast.

The group applies cash flow hedge accounting for the hedging relationships when it hedges its electricity price risk. In small amounts, 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.

EURm	EFFECT	2022	2021
+/- EUR 5/MWh in electricity forward quotations			
Effect on profit before tax	+/-	0.1	0.1
Effect on equity	+/-	93.0	115.9

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 recognised assets or liabilities or a firm commitment (fair value hedge), hedges of highly probable forecasted transactions (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 ongoing 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. Cost of hedging, meaning forward points of derivative forward contracts accounted as cash flow hedges, is recognised as a part of the hedging reserve. 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).

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.

In currency cash flow hedging, the hedging instrument is made in the same currency as the hedged item and hence the fair value change of the hedging instrument are expected to effectively offset the fair value

changes generated by the hedged items. Thereby the hedge ratio between the instrument and the cash flow is 1:1. Ineffectiveness may arise in the highly unlikely case that the forecasted cash flows are no longer expected to occur. Ineffectiveness can also occur in a situation where the hedging instrument with an appropriate maturity is not available in the market for the whole duration of the hedged item. Then the terms of the hedging instrument and the hedged item don't fully match, which causes minor ineffectiveness. There are no other significant sources of ineffectiveness that can reasonably be expected to take place.

Ineffectiveness in electricity price hedges may arise in the highly unlikely case that the forecasted cash flows are no longer expected to occur. Ineffectiveness may also arise in case EPAD prices remained negative for a longer period of time, but considering historical price development UPM considers this scenario to be highly unlikely.

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.

The hedging instrument is always made in the same currency as the hedged investment, hence the hedge ratio in net investment hedging is 1:1. For hedging of net investments, ineffectiveness may only arise in the highly unlikely situation where the hedged item is disposed or sold during the duration of the hedging instrument.

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 prospectively highly effective 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.

Ineffectiveness in fair value hedge of fixed interest risk may arise in case of early redemption of such debt, which is hedged under fair value hedge accounting. The group has not recognised other significant sources of ineffectiveness that can reasonably be expected to take place.

The group applies fair value hedge accounting also for hedging firm commitment of a purchase in foreign currency. The currency changes of the hedging instrument are recorded through profit and loss in financial items, until they are recognised as a part of the acquisition cost of a fixed asset.



Financial counterparty risk

The financial instruments the group has agreed with banks and financial institutions contain an element of risk of the counterparties being unable 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.

Effect of IBOR reform and significant assumptions

Group's risk exposure that is directly affected by the IBOR reform is fair value hedge accounting of long-term fixed-rate debt for changes in fair value attributable to USD LIBOR which is the current benchmark interest rate. USD LIBOR is currently expected to be published until June 2023. Group currently has only few contracts which reference USD LIBOR and extend beyond June 2023. Group oversees the IBOR transition and follows ISDA and other market guidelines on effects of these changes to UPM's contracts. In fair value hedging relationships, fair value for both the hedged item and hedging instrument is calculated with identical rate. Therefore no ineffectiveness is expected.

Net fair values of derivatives

EURm	Positive fair values	Negative fair values	Net fair values	Positive fair values	Negative fair values	Net fair values
	2022			2021		
Foreign exchange risk						
Forward foreign exchange contracts						
Cash flow hedges	67	-34	33	21	-53	-31
Net investment hedge	2	-2	—	2	-27	-25
Non-qualifying hedges	16	-15	—	11	-13	-2
Cross currency swaps						
Non-qualifying hedges	—	-16	-16	—	-4	-4
Derivatives hedging foreign exchange risk	85	-68	18	33	-97	-63
Interest rate risk						
Interest rate swaps						
Fair value hedges	30	-137	-107	86	-23	63
Non-qualifying hedges	—	-2	-2	2	—	2
Cross currency swaps						
Fair value hedges	31	—	31	40	—	40
Non-qualifying hedges	—	—	—	—	—	—
Derivatives hedging interest risk	62	-139	-77	128	-23	105
Commodity risk						
Electricity sales						
Cash flow hedges	19	-54	-35	—	-6	-6
Non-qualifying hedges	—	-2	-2	—	—	—
Electricity purchase						
Cash flow hedges	12	-11	1	1	—	—
Other commodities						
Non-qualifying hedges	1	-1	—	—	-3	-2
Derivatives hedging commodity risk	32	-69	-36	1	-9	-8
Total	179	-275	-96	162	-128	34

No derivatives are subject to offsetting in the group's financial statements. All derivatives are under ISDA or similar master netting agreement.

Nominal amounts of derivatives

EURm	2022	2021
Interest rate futures	1,969	2,280
Interest rate swaps	1,102	1,081
Forward foreign exchange contracts	3,913	3,550
Currency options	—	—
Cross currency swaps	149	161
Commodity contracts	1,744	1,508

Cash collaterals pledged for commodity contracts and interest rate futures totalled EUR 500 (292) million of which EUR 498 (291) million relate to commodity contracts and EUR 2 (1) million to interest rate futures. Cash collaterals are included in Other receivables. » Refer Note 4.6 Working capital.

Net fair values of derivatives calculated by counterparty

EURm	POSITIVE FAIR VALUES	NEGATIVE FAIR VALUES	NET FAIR VALUES
2022	88	-185	-96
2021	124	-90	34

Timing of nominal amounts of derivatives 2022

	Within 1 year	Between 1–5 years	Later than 5 years	Total
EURm	2022			
Foreign exchange risk				
Forward foreign exchange contracts				
Cash flow hedges	2,597	18	–	2,615
Net investment hedge	365	–	–	365
Non-qualifying hedges	928	5	–	934
Cross currency swaps				
Non-qualifying hedges	–	–	149	149
Interest rate risk				
Interest rate swaps				
Fair value hedges	–	352	750	1,102
Cross currency swaps				
Fair value hedges	–	–	149	149
Interest rate futures				
Non-qualifying hedges	1,969	–	–	1,969
Commodity risk				
Electricity sales				
Cash flow hedges	968	393	–	1,361
Non-qualifying hedges	5	1	–	6
Electricity purchase				
Cash flow hedges	244	40	–	283
Other commodities				
Non-qualifying hedges	93	–	–	93

Timing of nominal amounts of derivatives 2021

	Within 1 year	Between 1–5 years	Later than 5 years	Total
EURm	2021			
Foreign exchange risk				
Forward foreign exchange contracts				
Cash flow hedges	2,196	90	–	2,286
Net investment hedge	392	–	–	392
Non-qualifying hedges	864	8	–	872
Cross currency swaps				
Non-qualifying hedges	–	–	161	161
Interest rate risk				
Interest rate swaps				
Fair value hedges	–	–	1,081	1,081
Non-qualifying hedges	–	–	–	–
Cross currency swaps				
Fair value hedges	–	–	161	161
Interest rate futures				
Non-qualifying hedges	2,190	89	–	2,280
Commodity risk				
Electricity sales				
Cash flow hedges	612	335	–	947
Non-qualifying hedges	–	2	–	2
Electricity purchase				
Cash flow hedges	397	108	–	505
Other commodities				
Non-qualifying hedges	54	–	–	54

The nominals of cross currency swaps are included in both foreign exchange risk and interest rate risk.

7. Income tax

7.1 Tax on profit for the year

Income tax

In 2022, tax on profit for the year amounted to EUR 388 million (240 million). The effective tax rate was 19.9% (15.5%). In 2022 and 2021, the effective tax rate was affected by the income not subject to tax from subsidiaries operating in tax free zone and German tax rate that is higher than in Finland. In 2021, effective tax rate was also impacted by tax exempt capital gain on the sale of shares of Shotton Mill Ltd.

Income tax

EURm	2022	2021
Current tax expense	344	273
Change in deferred taxes	44	-32
Total	388	240

Tax rate reconciliation

EURm	2022	2021
Profit before tax	1,944	1,548
Computed tax at Finnish statutory rate of 20%	389	310
Difference between Finnish and foreign rates	62	-16
Tax-exempt income	-99	-90
Non-deductible expenses	11	6
Withholding taxes	0	4
Tax loss with no tax benefit	19	18
Results of associates	-1	0
Change in tax legislation	1	2
Change in recoverability of deferred tax assets	9	13
Utilisation of previously unrecognised tax losses	-9	-3
Other items	7	-3
Total income taxes	388	240
Effective tax rate, %	19.9 %	15.5 %



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.

The Finnish Government has published in December 2022 the law proposal for a temporary profit tax on the electricity sector. The proposed tax would be 30% of the companies' net profits generated from the electricity business in Finland in fiscal year 2023 exceeding 10% annual return on shareholder's equity of the electricity business (in addition to standard 20 % corporate income tax rate on profits generated from electricity operations). According to the proposal, internal electricity business profits would not be taken into account when calculating the taxable net profit for the temporary profit tax. UPM Energy is the second largest electricity producer in Finland and in the scope of the proposed temporary profit tax. The tax would become payable in early 2024. However, the financial impact would depend on the results of the electricity business and energy market development.

In December 2022, EU member states reached agreement to implement at EU level the minimum taxation component, known as Pillar 2, of the OECD's reform of international taxation. The entities in scope will be liable to pay a top-up tax for the difference between their GloBE effective tax rate per jurisdiction and the 15% minimum rate. The EU currently has plans to implement the rules in member states in 2023 with an effective date for accounting periods starting on or after 31 December 2023. The rules have no impact on current or deferred taxes for financial reporting period ending on 31 December 2022 as Pillar 2 requirements have not been substantively enacted in any of the territories in which it operates. UPM is currently evaluating Pillar 2 requirements and legislation in the jurisdictions that are likely to be impacted.

7.2 Deferred tax

EURm	2022	2021	2020
Deferred tax assets			
Intangible assets and property, plant and equipment	86	83	77
Inventories	86	53	38
Retirement benefit liabilities and provisions	88	127	156
Other temporary differences	475	269	163
Tax losses and tax credits carried forward	167	230	157
Offset against liabilities	-417	-297	-170
Total	485	466	421
Deferred tax liabilities			
Intangible assets and property, plant and equipment	-335	-261	-245
Forest assets	-423	-398	-352
Retirement benefit assets	-2	-17	-5
Other temporary differences	-294	-217	-132
Offset against assets	417	297	170
Total	-636	-596	-564
Net deferred tax assets (liabilities)	-151	-130	-143

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	2022	2021
Carrying value, at 1 January	-130	-143
Charged to income statement	-44	32
Charged to other comprehensive income	58	-15
Companies acquired	-26	—
Exchange rate adjustments	-9	-4
Net deferred tax assets (liabilities)	-151	-130

Tax charge to other comprehensive income

EURm	2022			2021		
	Before tax	Tax	After tax	Before tax	Tax	After tax
Actuarial gains and losses on defined benefit plans	249	-57	192	128	-32	96
Energy shareholdings	1,074	-23	1,051	643	-11	632
Translation differences	150	—	150	337	—	337
Cash flow hedges	-665	134	-531	-149	22	-127
Net investment hedges	-19	4	-15	-27	5	-21
Total	789	58	847	933	-15	918



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 2022, net operating loss carry-forwards for which the group has recognised a deferred tax asset amounted to EUR 584 million (802 million), of which EUR 514 million (717 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 890 million (843 million) in 2022. These net operating loss carry-forwards are mainly attributable to certain German and French subsidiaries and do not expire. In addition, the group has not recognised deferred tax assets on loss carry-forwards relating to closed Miramichi paper mill due to only minor operations in Canada. These loss carry-forwards expire at different times by the end of 2029.

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 2022, UPM sold its 33,09 % holding in the associated company Encore Ympäristöpalvelut Oy, and made several minor sales of equity investments accounted at fair value through OCI. In 2021, UPM permanently closed paper production at its Shotton newsprint mill site in North Wales, United Kingdom. The site and all related assets were sold to Eren Paper Ltd, a subsidiary of Modern Karton Sanayi Ve Ticaret A.Ş., the containerboard and corrugated packaging business of the Turkish industrial conglomerate Eren Holding ("Eren"), thereby closing the transaction announced in May 2021. Net cash arising from disposal was EUR 157 million and gain on disposal was EUR 133 million. UPM also made several minor sales of equity investments accounted at fair value through OCI.

In 2022, UPM made a minor investment in ASK Altpapier Sortierung Kinsau GmbH by acquiring the full share capital of the company, and made several minor investments in equity investments accounted at fair value through OCI. In 2021, UPM purchased an additional 20.23% share in the joint operation Alholmens Kraft, increasing UPM's ownership from 29.77% to 50.00%. UPM also made a minor investment in Infraleuna GmbH which is an equity investment accounted at fair value through OCI.

Business combinations

On 15 September 2022, UPM Raflatac completed the acquisition of AMC AG (Advanced Methods of Coating). The acquisition announced in May 2022 was closed after regulatory clearances. AMC AG employs more than 300 people and has two production sites in Northern Germany, in Kaltenkirchen and in Hagenow. UPM Raflatac expects to realize significant synergies through the acquisition.

If the transaction had occurred on 1 January 2022, UPM's sales for January–December 2022 would have been EUR 11,794 million and profit for the period EUR 1,558 million. These amounts have been calculated using the Group's accounting policies and by adjusting the results of the subsidiaries to reflect the depreciation, amortisation and expenses that would have been charged assuming application of fair value adjustments to other intangible assets, property, plant and equipment and inventories from 1 January 2022, together with the consequential tax effects.

Goodwill arising from the acquisition is mainly attributable to the expected synergies and skilful assembled workforce. Details of the purchase consideration, the net assets acquired and goodwill are as follows:

EURm	
Cash paid	150
Total purchase consideration	150

EURm	15 SEP 2022
Customer relationships	42
Trademarks	9
Technology	11
Other intangible assets	0
Property, plant and equipment	56
Leased assets	0
Inventories	20
Trade and other receivables	22
Income tax receivables	0
Cash and cash equivalents	12
Total assets	172
Deferred tax liabilities	26
Non-current debt	20
Current debt	2
Trade and other payables	10
Income tax payables	2
Total liabilities	60
Net identifiable assets acquired	112
Net assets belonging to non-controlling interest	0
Goodwill arising from acquisition	38

The fair value of trade and other receivables included trade receivables with a fair value of EUR 21 million. At the date of acquisition, the gross contractual amount for trade receivables was EUR 21 million, of which EUR 0 million was expected to be uncollectible.

Acquisition-related costs of EUR 5 million are included in other operating expenses and are reported as items affecting comparability in UPM Raflatac business area and Other operations.

Information on the amounts of revenue and profit or loss of the acquiree since the acquisition date included in the consolidated income statement for the reporting period is not disclosed because it would be impracticable. The acquired business has been included in the group since 15 September 2022, and the effects of the revenues and profit or loss thereof are not considered material for disclosure purposes.

The fair values of net identifiable assets acquired are provisional and dependent on final fair valuations.

Transactions with non-controlling interests

In 2022, UPM acquired a holding with a minor non-controlling interest as a part of the acquisition of AMC AG. » [Refer Note 8.1](#) Business acquisitions and disposals. In 2021, UPM made a minor acquisition of an additional 24% holding of its subsidiary Jyvä-Helmi Oy from a non-controlling shareholder.

**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.

The assets, liabilities, income and expenses of subsidiaries with non-controlling interests are consolidated line by line into the UPM consolidated financial statements. The proportion of the profit for the period, as well as the accumulated share of total equity belonging to non-controlling interests are presented separately in the consolidated income statement and consolidated balance sheet.

8.2 Principal subsidiaries and joint operations

SUBSIDIARIES	COUNTRY OF INCORPORATION	HOLDING % 2022	HOLDING % 2021
Blandin Paper Company	US	100.00	100.00
Blanvira S.A.	UY	91.00	91.00
Cuecar S.A.	UY	91.00	91.00
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
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
Print Inform Japan K.K. ¹⁾	JP	80.00	—
PT UPM Raflatac Indonesia	ID	100.00	100.00
Rhein Papier GmbH	DE	100.00	100.00
SERPRI S.A. Unipersonal ¹⁾	DE	100.00	—
Steyrer-mühl Sägewerksgesellschaft m.b.H. Nfg KG	AT	100.00	100.00
Tebetur S.A.	UY	91.00	91.00
Tile Forestal S.A.	UY	91.00	91.00
UPM (China) Co., Ltd	CN	100.00	100.00
UPM (Vietnam) Ltd	VN	100.00	100.00
UPM AG	CH	100.00	100.00
UPM Asia Pacific Pte. Ltd	SG	100.00	100.00
UPM Biochemicals GmbH	DE	100.00	100.00
UPM Biochemicals Sales GmbH	DE	100.00	100.00
UPM Biofuels S.A.	UY	100.00	100.00
UPM Communication Papers Oy	FI	100.00	100.00
UPM Energy Oy	FI	100.00	100.00
UPM France S.A.S.	FR	100.00	100.00
UPM Fray Bentos S.A.	UY	100.00	100.00
UPM GmbH	DE	100.00	100.00
UPM OÜ	EE	100.00	100.00
UPM Plywood Oy	FI	100.00	100.00
UPM Pulp Sales Oy	FI	100.00	100.00
UPM Raflatac (China) Co., Ltd.	CN	100.00	100.00

SUBSIDIARIES	COUNTRY OF INCORPORATION	HOLDING % 2022	HOLDING % 2021
UPM Raflatac (S) Pte Ltd	SG	100.00	100.00
UPM Raflatac (UK) Limited	GB	100.00	100.00
UPM Raflatac Chile SpA	CL	100.00	100.00
UPM Raflatac Co., Ltd	TH	100.00	100.00
UPM Raflatac GmbH ¹⁾	DE	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 Specialty Papers Oy	FI	100.00	100.00
UPM Sähkösiirto Oy	FI	100.00	100.00
UPM Trading (Shanghai) Co	CN	100.00	100.00
UPM-Kymmene (Korea) Ltd	KO	100.00	100.00
UPM-Kymmene (UK) Ltd	GB	100.00	100.00
UPM-Kymmene Austria GmbH	AT	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	100.00	100.00
UPM-Kymmene Otepää OÜ	EE	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 Sp. z o.o.	PL	100.00	100.00
UPM-Kymmene S.r.l.	IT	100.00	100.00
Uruwood S.A.	UY	93.25	93.09
Werla Insurance Company Ltd	MT	100.00	100.00

¹⁾ In 2022, UPM completed the acquisition of AMC AG. After the acquisition, AMC AG's corporate form and legal company name have been changed to UPM Raflatac GmbH. Print Inform Japan K.K. and SERPRI S.A. Unipersonal have also been acquired as a part of the AMC AG acquisition. » [Refer Note 8.1](#) Business acquisitions and disposals.

JOINT OPERATIONS	COUNTRY OF INCORPORATION	HOLDING % 2022	HOLDING % 2021
Oy Alholmens Kraft Ab (Pohjolan Voima Oyj, G series and direct ownership)	FI	50.00	50.00
EEVG Entsorgungs- und Energieverwertungsgesellschaft m.b.H.	AT	50.00	50.00
Järvi-Suomen Voima Oy	FI	50.00	50.00
Kaukaan Voima Oy (Pohjolan Voima Oyj, G9 series)	FI	54.00	54.00
Kymin Voima Oy (Pohjolan Voima Oyj, G2 series)	FI	76.00	76.00
Madison Paper Industries	US	50.00	50.00
Rauman Biovoima Oy (Pohjolan Voima Oyj, 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 2022 or 2021.

For information concerning shares held by members of the Board of Directors 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

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. In Finland, the group has organised its producer's responsibility of recovered paper collection through Encore Ympäristöpalvelut Oy. In October 2022, UPM has sold its ownership in Encore Ympäristöpalvelut Oy.

Transactions with associates and joint ventures are presented in the table below. The group has no individually material associates or joint ventures.

EURm	2022	2021
Dividends received	3	2
Purchases of raw materials and services	57	69
Loan receivables	5	5
Trade and other receivables	1	2
Trade and other payables	7	9

Subsidiaries and joint operations

» [Refer Note 8.2](#) Principal subsidiaries and joint operations.

Pension Funds

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 6 million (6 million) to the defined benefit sections of the Scheme in 2022. The fair value of the UK defined benefit fund assets at 31 December 2022 was EUR 300 million (565 million), of which 5% was invested in equity instruments, 26% in debt instruments, 20% in property, 44% money market and 5% in other investments.

At the end of 2021, pensions for about 21% of the group's Finnish employees were arranged through the TyEL foundation, UPM Sellutehtaiden eläkesäätiö, which is a separate legal entity. In 2022, the foundation was replaced with defined contribution arrangement and the assets and liabilities of the plan were transferred to the insurance company. In 2022, the contributions paid by UPM to the TyEL foundation amounted to EUR 0 (18) million. Cash received from settlements amounted to EUR 128 million. The fair value of foundation assets at 31 December 2022 was EUR 0 (597) million.

8.4 Assets held for sale

No assets were classified as held for sale at the end of 2022 or 2021.



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	2022	2021
On behalf of others		
Guarantees	2	2
Other own commitments		
Leasing commitments for the next 12 months in accordance with IFRS 16	2	4
Other commitments	219	213
Total	223	220

The lease commitments for leases not commenced at the end of 2022 totals approximately EUR 245 million, which are mostly related to long-term charter agreements, railway service agreement in Uruguay and service agreements related to waste water treatment and other utilities in Leuna, Germany. Such lease commitments at the end of 2021 amounted to EUR 409 million.

9.2 Litigation

Contingent liabilities

The group is defendant or plaintiff in a number of legal proceedings incidental to its operations. These lawsuits primarily involve claims arising from commercial law issues.

Group companies

The Group's management is not aware of any significant litigation at the end of 2022.

In October 2021, the European Commission conducted an unannounced inspection at UPM's premises. According to the Commission's press release on 12 October, the Commission has concerns that the inspected companies in the wood pulp sector may have violated EU antitrust rules that prohibit cartels and restrictive business practices. The Commission states that the unannounced inspections are a preliminary step in an investigation into suspected

anticompetitive practices, and the fact that the Commission carries out such inspections does not mean that the companies are guilty of anti-competitive behaviour nor does it prejudice the outcome of the investigation itself. UPM takes any suspected violation of antitrust rules very seriously and has a compliance programme in place to mitigate the risk of such violations. For example, all employees and executives are required to take training on the UPM Code of Conduct, which includes a section regarding antitrust compliance. In addition, UPM has also in place a specific training programme regarding antitrust rules which covers approximately 3,000 employees and executives.

9.3 Events after the balance sheet date

On 2 February 2023, UPM's Board of Directors revised the company's dividend policy to be based on earnings instead of cash flow. This aligns the dividend policy with the company's transformative growth strategy. According to the new policy, UPM aims to pay attractive dividends, targeting at least half of the comparable earnings per share over time.

10. Other notes

10.1 Forthcoming new standards, amendments and accounting policy changes

Certain new accounting standard amendments and interpretations have been published that come into effect only after the reporting period started on 1 January 2022. These standards and amendments are not expected to have a material impact on the group in the current or future reporting periods and on foreseeable future transactions and have not been early adopted.

Parent company accounts

(Finnish Accounting Standards, FAS)

Income statement

EURm	NOTE	2022	2021
Sales	1	2,414	2,542
Change in inventories of finished goods and work in progress		15	-2
Production for own use		2	2
Other operating income	2	81	114
Materials and services			
Raw materials and consumables purchased		-1,449	-1,505
Change in inventories		-98	16
External charges		-6	-6
		-1,553	-1,495
Personnel expenses			
Salaries and fees		-194	-211
Indirect employee costs			
Pension costs		95	-31
Other indirect employee costs		-7	-7
	3	-106	-248
Depreciation, amortisation and impairment charges			
Depreciation and amortisation		-117	-123
Impairment charges on non-current assets		0	-2
	4	-117	-124
Other operating expenses	5	-289	-238
Operating profit		446	551
Financial income and expenses			
Income from non-current assets			
Dividend income from group companies		293	288
Interest income from group companies		16	5
Other interest and financial income			
Other interest income from group companies		63	25
Other interest income from other companies		6	1
Other financial income from group companies		77	0
Other financial income from other companies		0	6
Impairment charges on investments		-62	0
Interest and other financial expenses			
Interest expenses to group companies		-35	-10
Interest expenses to other companies		-43	-10
Other financial expenses to group companies		-3	-20
Other financial expenses to other companies		-858	-255
		-547	30
Profit (loss) before closing entries and tax		-101	581
Closing entries			
Depreciation difference		19	22
Group contributions granted		-24	-19
		-5	3
Income taxes	6	-84	-115
Profit (Loss) for the period		-190	469

Balance sheet

EURm	NOTE	2022	2021
ASSETS			
Non-current assets			
Intangible assets			
Intangible rights		5	5
Other intangible assets		32	46
Advance payments		22	11
	7	60	62
Tangible assets			
Land and water areas		746	718
Buildings		178	196
Machinery and equipment		453	514
Other tangible assets		19	21
Advance payments and construction in progress		21	13
	8	1,418	1,462
Investments			
Holdings in group companies		5,834	4,610
Holdings in participating interest companies		5	5
Other shares and holdings		3	3
Receivables from group companies		930	786
Receivables from participating interest companies		3	3
	9	6,774	5,408
Total non-current assets		8,252	6,932
Current assets			
Inventories			
Raw materials and consumables		272	176
Finished products and goods		33	17
Advance payments		32	24
		337	217
Receivables			
Current receivables			
Trade receivables		57	32
Receivables from group companies		2,581	1,678
Receivables from participating interest companies		17	10
Other current receivables		490	271
Prepayments and accrued income		23	26
	10	3,167	2,017
Other current financial assets		1	100
Cash and cash equivalents		1,840	1,296
Total current assets		5,345	3,629
Assets		13,598	10,561

EURm	NOTE	2022	2021
EQUITY AND LIABILITIES			
Equity			
Share capital		890	890
Revaluation reserve		140	141
Reserve for invested non-restricted equity		1,273	1,273
Retained earnings		1,333	1,557
Profit (Loss) for the period		-190	469
Total equity	11	3,445	4,330
Accumulated depreciation difference			
		398	417
Provisions			
Termination provisions		2	3
Other provisions		297	149
	12	299	152
LIABILITIES			
Non-current liabilities			
Bonds		2,102	1,581
Loans from financial institutions		1,578	200
Payables to group companies		160	153
Other non-current liabilities		149	161
	13	3,988	2,095
Current liabilities			
Advances received		1	0
Trade payables		454	335
Payables to group companies		4,334	2,873
Payables to participating interest companies		3	1
Other current liabilities		573	259
Accrued expenses and deferred income		103	98
	14	5,467	3,566
Total liabilities		9,455	5,661
Equity and liabilities		13,598	10,561

Cash flow statement

EURm	2022	2021
Cash flows from operating activities		
Profit before closing entries and tax	-101	581
Financial income and expenses	547	-281
Adjustments to operating profit ¹⁾	231	64
Change in working capital ²⁾	-1,156	-639
Interest received	87	31
Interest paid	-69	-22
Dividends received	293	288
Other financial items	-758	18
Income taxes paid ³⁾	-84	-109
Operating cash flow	-1,010	-68
Cash flows from investing activities		
Investments in tangible and intangible assets	-79	-46
Investments in shares and holdings	-1,285	-829
Proceeds from sale of intangible and tangible assets	17	11
Proceeds from disposal of shares and holdings	1	4
Change in other non-current receivables	-143	-72
Investing cash flow	-1,490	-932
Cash flows from financing activities		
Proceeds from non-current liabilities	4,493	620
Payments of non-current liabilities	-2,627	-35
Change in current liabilities	1,794	943
Dividends paid	-693	-693
Group contributions, net	-19	-19
Other items	97	-101
Financing cash flow	3,044	715
Cash and cash equivalents at beginning of period	1,296	1,582
Change in cash and cash equivalents	545	-286
Cash and cash equivalents at end of period	1,840	1,296

Notes to cash flow statement

¹⁾ Adjustments to operating profit

EURm	2022	2021
Depreciation, amortisation and impairment charges	181	124
Capital gains and losses on sale of non-current assets	-13	-4
Change in provisions	63	-56
Total	231	64

²⁾ Change in working capital

EURm	2022	2021
Inventories	-121	-23
Current receivables	-1,143	-857
Current non-interest-bearing liabilities	108	241
Total	-1,156	-639

³⁾ Income taxes related to sale of assets are presented in investing cash flow.

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 financial derivatives and forest assets and recognition of defined benefit obligations, share-based payments, lease agreements 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.

Foreign currency translation

Receivables and liabilities denominated in foreign currencies outstanding on the balance sheet date and other commitments are translated into euro currency using the balance sheet date exchange rate. Exchange rate differences arising from the valuation of trade receivables are recognised in sales and exchange rate differences on trade payables in purchases. Exchange differences arising from the measurement of other receivables and liabilities are recognised in financial items.

Tangible and intangible assets

Tangible and intangible assets are stated at cost less accumulated depreciation and amortisation according to plan and impairments. Emission rights are recognised using net approach. Depreciation and amortization according to plan is recorded on a straight-line basis over the expected useful lives of the assets as follows:

Land and water areas, no depreciation	
Intangible assets	5 – 10 years
Buildings	20 – 50 years
Light machinery and equipment	5 – 10 years
Heavy machinery	15 – 20 years
Power plants	20 – 30 years
Other tangible assets	5 – 20 years

Forest assets are recognised as tangible assets within land and water areas at historical cost and revaluation. No systematic depreciation or changes in value due to felling is recognised.

Investments

Investments are stated at cost less impairments.

Inventories

Inventories are stated at cost or the lower of replacement cost and probable selling price. Costs are measured using FIFO-method. In addition to variable costs, the cost of inventories includes a portion of the fixed costs of acquisition and manufacturing.

Revaluations

The balance sheet value of land includes revaluations. No new revaluations are made and the balance sheet value of land is considered to be below their fair value.

Leases

Lease payments of lease contracts are recognised in other operating expenses over the lease term. Lease payments due in future years under lease contracts are presented as off-balance sheet items.

Provisions

Provisions include foreseeable future expenses and losses to which the company is committed, the realization of which is probable and the amount can be reliably estimated, e.g. pension and environmental liabilities and termination and restructuring costs. Changes in provisions are recognised in income statement within particular cost items.

Sales

Sales include sales revenue from actual operations less indirect taxes, discounts, claims and exchange rate differences on net cash flow hedges and trade receivables.

Research and development costs

Research and development costs are expensed in the year in which they are incurred.

Pensions

In Finland employers are obliged to insure their employees for statutory benefits, as determined in Employee's Pension Act (TyEL). The mandatory pensions are arranged mainly through pension insurance companies. Contributions to pension insurance companies are charged to the income statement in the period to which the contributions relate. Pension obligations of own pension funds are fully funded.

Share-based payments

Share based compensation is recognized as an expense in the income statement over the earnings period and the related liability is booked to the balance sheet.

Closing entries

Parent company closing entries consists of the change in the depreciation difference and group contributions granted to group companies. The accumulated depreciation difference in the parent company has not been divided into equity and deferred tax liability.

Income taxes

Income taxes presented in the income statement consist of accrued taxes for the financial year and tax adjustments for prior years. The parent company has not recognised deferred tax assets and liabilities in the balance sheet, but presents the information in the notes.

Derivatives

Realised results of derivative contracts and negative fair value of open derivative contracts are recognised in the income statement. Negative fair value of open derivative contracts that are not settled in cash is recognised as a provision in the balance sheet. Hedge accounting is not applied. Income and expenses of balance sheet hedging and forward foreign exchange contracts hedging commercial foreign currency flow of group companies are recognised in financial items. Income and expenses of commodity derivatives are recognised in operating profit. Income and expenses of commodity derivative contracts of group companies are recognized in financial items.

Majority of financial derivative contracts of the group are made by the parent company. All contracts are made with external counterparties except internal derivatives which are used to manage foreign currency and interest rate exposure.

Financial risks, fair values and maturities of the group external derivatives are disclosed in » Note 6.1 Financial risk management and in » Note 6.2 Derivatives and hedge accounting.

Changes in accounting policies

Service charges from group companies

The classification of service charges from group companies has been changed in the income statement of UPM-Kymmene Corporation during the fiscal year. Some of the service income previously presented in UPM-Kymmene Corporation's income statement as "Other operating expenses" as netting items are now presented as "Other operating income" in the income statement. In 1 January – 31 December 2021, the reclassified income totalled EUR 57 million. The service income subject to reclassification relate to services that are internally produced by the entity and are further charged from group companies. These charges are now presented in Other operating income which describes the nature of the activity more precisely.

Derivatives

The classification of derivative contracts of group companies has been changed in the income statement of UPM-Kymmene Corporation during the fiscal year. The provision on unrealised negative fair value and realised result of forward foreign exchange contracts hedging commercial foreign currency flow of group companies were previously presented in "Sales". Provision for unrealised negative fair value and realised result of commodity derivatives of group companies were previously presented in "Materials and services". These derivatives are now presented in the income statement in "Financial income and expenses".

The income statement and notes to the financial statement of the comparison year 2021 are now changed to reflect the classification changes. These changes do not have any effect to equity or the balance sheet. This accounting policy change's effect to income statement in 2021:

EURm	Note	Published 1.1.-31.12 .2021	Changes	Adjusted 1.1.-31.12 .2021
Sales	1	2,554	-12	2,542
Materials and services		-1,757	262	-1,505
Financial income and expenses		281	-251	30
Profit for the period		469	0	469

1. Sales

Sales by business area

EURm	2022	2021
UPM Fibres	1,973	2,120
Other operations	440	422
Total	2,414	2,542

Sales by destination

EURm	2022	2021
Finland	2,342	2,474
Other EU countries	46	38
Other countries	26	30
Total	2,414	2,542

2. Other operating income

EURm	2022	2021
Gains on sale of non-current assets	13	10
Rental income	9	10
Other	59	95
Total	81	114

3. Personnel expenses

EURm	2022	2021
Salaries and fees of the President and CEO, and members of the Board of Directors ¹⁾	7	5
Other salaries and fees	187	206
Pension costs ²⁾	-95	31
Other indirect employee costs	7	7
Total	106	248

¹⁾ » Refer Note 3.2 Key management personnel

²⁾ Pension expenses in 2022 include pension fund excess return of EUR 123 million from UPM Sellutehtaiden eläkesäätiö.

Personnel

EURm	2022	2021
Total average	2,765	2,815

4. Depreciation, amortisation and impairment charges

EURm	2022	2021
Intangible rights	2	2
Other intangible assets	13	16
Buildings	17	18
Machinery and equipment	82	85
Other tangible assets	3	3
Total	117	124

5. Other operating expenses

EURm	2022	2021
Rents and lease expenses	13	13
Maintenance expenses	118	86
Other operating expenses ¹⁾	159	139
Total	289	238

¹⁾ The research and development costs in operating expenses were EUR 25 million (9 million) and auditor's fee EUR 2.9 million (2.7 million). In personnel expenses the research and development costs were EUR 16 million (20 million).

6. Income taxes

EURm	2022	2021
Tax expense for the period	74	114
Tax expense for the previous periods	10	1
Total	84	115

7. Intangible assets

EURm	INTANGIBLE RIGHTS	OTHER INTANGIBLE ASSETS	ADVANCE PAYMENTS	TOTAL
2022				
Accumulated costs	22	293	22	337
Accumulated amortisation and impairments	-18	-260	—	-278
Carrying value, at 31 December	5	32	22	60
Carrying value, at 1 January	5	46	11	62
Additions	2	—	12	13
Disposals	—	—	—	—
Amortisation	-2	-13	—	-16
Carrying value, at 31 December	5	32	22	60
2021				
Accumulated costs	21	293	11	325
Accumulated amortisation and impairments	-16	-247	—	-263
Carrying value, at 31 December	5	46	11	62
Carrying value, at 1 January	5	59	3	67
Additions	2	3	8	13
Amortisation	-2	-16	—	-18
Reclassifications	—	—	—	—
Carrying value, at 31 December	5	46	11	62

Deferred tax assets and liabilities ¹⁾

EURm	2022	2021
Deferred tax assets		
Provisions	58	92
Share-based payments	3	2
Other temporary differences	176	1
Total	236	95
Deferred tax liabilities		
Accumulated depreciation difference	80	83
Revaluations of land areas	60	60
Total	139	143

¹⁾ The parent company has not recognised deferred tax assets and liabilities in the balance sheet. Deferred tax assets and liabilities are calculated based on temporary differences between the carrying and taxable values of assets and liabilities.

8. Tangible assets

EURm	LAND AND WATER AREAS	BUILDINGS	MACHINERY AND EQUIPMENT	OTHER TANGIBLE ASSETS	ADVANCE PAYMENTS AND CONSTRUCTION IN PROGRESS	TOTAL
2022						
Accumulated costs	449	570	2,230	139	21	3,409
Accumulated depreciation and impairments	—	-392	-1,777	-120	—	-2,289
Revaluations	298	—	—	—	—	298
Carrying value, at 31 December	746	178	453	19	21	1,418
Carrying value, at 1 January	718	196	514	21	13	1,462
Additions	33	—	13	—	18	66
Disposals	-3	-2	-1	—	—	-6
Depreciations	—	-17	-82	-3	—	-102
Reclassifications	—	1	9	—	-10	—
Changes in revaluations	-2	—	—	—	—	-2
Carrying value, at 31 December	746	178	453	19	21	1,418
2021						
Accumulated costs	419	599	2,251	145	13	3,426
Accumulated depreciation and impairments	—	-403	-1,737	-123	—	-2,263
Revaluations	299	—	—	—	—	299
Carrying value, at 31 December	718	196	514	21	13	1,462
Carrying value, at 1 January	719	212	579	24	7	1,541
Additions	1	3	11	—	19	33
Disposals	-1	-2	—	-2	—	-6
Depreciations	—	-18	-83	-3	—	-104
Reclassifications	—	2	9	2	-12	—
Changes in revaluations	—	—	—	—	—	—
Carrying value, at 31 December	718	196	514	21	13	1,462

9. 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
2022							
Accumulated costs	7,310	5	3	930	3	—	8,251
Accumulated value adjustments	-1,476	—	—	—	—	—	-1,476
Carrying value, at 31 December	5,834	5	3	930	3	—	6,774
Carrying value, at 1 January	4,610	5	3	786	3	—	5,408
Additions	1,285	—	—	332	3	—	1,620
Disposals	—	—	—	-188	-3	—	-191
Value adjustments ¹⁾	-62	—	—	—	—	—	-62
Carrying value, at 31 December	5,834	5	3	930	3	—	6,774
2021							
Accumulated costs	6,024	5	3	786	3	—	6,822
Accumulated value adjustments	-1,414	—	—	—	—	—	-1,414
Carrying value, at 31 December	4,610	5	3	786	3	—	5,408
Carrying value, at 1 January	3,788	5	3	716	4	—	4,516
Additions	829	—	—	104	2	—	935
Disposals	-8	—	—	-34	-2	—	-44
Value adjustments ¹⁾	1	—	—	—	—	—	1
Carrying value, at 31 December	4,610	5	3	786	3	—	5,408

¹⁾ Value adjustments are shown in financial expenses

10. Current receivables

EURm	RECEIVABLES FROM GROUP COMPANIES	RECEIVABLES FROM PARTICIPATING INTEREST COMPANIES	RECEIVABLES FROM OTHERS	TOTAL
2022				
Trade receivables	783	17	57	857
Loan receivables ¹⁾	1,795	—	—	1,795
Prepayments and accrued income ²⁾	2	—	23	25
Other current receivables	—	—	490	490
Carrying value, at 31 December	2,581	17	570	3,167
2021				
Trade receivables	559	9	32	601
Loan receivables ¹⁾	1,114	—	—	1,114
Prepayments and accrued income ²⁾	4	—	26	30
Other current receivables	—	—	271	271
Carrying value, at 31 December	1,678	10	330	2,017

¹⁾ There were no loans granted to the company's President and CEO and members of the Board of Directors at 31 December 2022 and 2021.

²⁾ Prepayments and accrued income

EURm	2022	2021
Energy taxes	—	—
Interest income	10	11
Exchange gains and losses	—	10
Income taxes	10	7
Other items	5	2
Carrying value, at 31 December	25	30

11. Equity

EURm	SHARE CAPITAL	REVALUATION RESERVE	RESERVE FOR INVESTED NON-RESTRICTED EQUITY	RETAINED EARNINGS	PROFIT/LOSS FOR THE PERIOD	TOTAL SHAREHOLDER'S EQUITY
2022						
Carrying value, at 1 January	890	141	1,273	1,557	469	4,330
Transfer of profit from previous year	—	—	—	469	-469	—
Profit for period	—	—	—	—	-190	-190
Dividend distribution	—	—	—	-693	—	-693
Changes in revaluations	—	-2	—	—	—	-2
Other changes	—	—	—	-1	—	-1
Carrying value, at 31 December	890	140	1,273	1,333	-190	3,445
2021						
Carrying value, at 1 January	890	142	1,273	2,002	249	4,555
Transfer of profit from previous year	—	—	—	249	-249	—
Profit for period	—	—	—	—	469	469
Dividend distribution	—	—	—	-693	—	-693
Changes in revaluations	—	—	—	—	—	—
Other changes	—	—	—	—	—	—
Carrying value, at 31 December	890	142	1,273	1,557	469	4,330

EURm	2022	2021
Distributable funds		
Reserve for invested non-restricted equity	1,273	1,273
Retained earnings from previous years	1,333	1,557
Profit (Loss) for the period	-190	469
Total distributable funds at 31 December	2,416	3,299

12. Provisions

EURm	RESTRUCTURING	TERMINATION	ENVIRONMENTAL	OTHER ¹⁾	TOTAL
2022					
Provisions at 1 January	3	3	9	137	152
Provisions made during the year	—	—	2	149	151
Provisions utilised during the year	—	—	—	-1	-1
Unused provisions reversed	—	—	-2	—	-3
Carrying value, at 31 December	3	2	8	286	299
2021					
Provisions at 1 January	3	5	8	172	187
Provisions made during the year	—	1	1	13	15
Provisions utilised during the year	—	-2	—	—	-2
Unused provisions reversed	—	-1	—	-47	-48
Carrying value, at 31 December	3	3	9	137	152

¹⁾ Other provisions are attributable to onerous contracts and negative fair values of financial derivatives. At the end of 2022 the negative fair value in other provisions of EUR 8 million (3 million) is attributable to one group internal cross currency swap and EUR 10 million (13 million) to group internal foreign currency forwards.

13. Non-current liabilities

EURm	2022	2021
Bonds	2,102	1,581
Loans from financial institutions	1,578	200
Payables to group companies	160	153
Other non-current liabilities	149	161
Carrying value, at 31 December	3,988	2,095

Maturity in 2028 (in 2027) or later

EURm	2022	2021
Bonds	1,750	1,581
Loans from financial institutions	92	123
Other non-current liabilities	149	161
Total	1,992	1,865

Bonds

FIXED RATE PERIOD	INTEREST RATE, %	CURRENCY	NOMINAL VALUE ISSUED, MILLION	CARRYING VALUE 2022, EURm	CARRYING VALUE 2021, EURm
1997–2027	7.450	USD	375	352	331
2020–2028	0.125	EUR	750	750	750
2021–2031	0.500	EUR	500	500	500
2022–2029	2.250	EUR	500	500	—
Carrying value, at 31 December				2,102	1,581
Non-current portion				2,102	1,581

14. Current liabilities

EURm	PAYABLES TO GROUP COMPANIES	PAYABLES TO PARTICIPATING INTEREST COMPANIES	PAYABLES TO OTHERS	TOTAL
2022				
Advances received	—	—	1	1
Trade payables	137	3	454	594
Accrued expenses and deferred income ¹⁾	1	—	103	104
Other current liabilities	4,196	—	573	4,769
Carrying value, at 31 December	4,334	3	1,130	5,467
2021				
Trade payables	165	1	335	501
Accrued expenses and deferred income ¹⁾	12	—	98	110
Other current liabilities	2,696	—	259	2,955
Carrying value, at 31 December	2,873	1	692	3,566

¹⁾ Accrued expenses and deferred income

EURm	2022	2021
Personnel expenses	84	80
Interest expenses	17	6
Exchange gains and losses	—	23
Other items	3	1
Carrying value, at 31 December	104	110

15. Commitments

EURm	2022	2021
Guarantees		
Guarantees for loans on behalf of group companies	—	1
Other guarantees on behalf of group companies	28	36
Other commitments		
Leasing commitments, due within 12 months	18	11
Leasing commitments, due after 12 months	89	39
Other commitments	51	53
Total	187	140

In addition, the parent company acts as a guarantor on behalf of other companies belonging to the group. Majority of such commitments relate to major investment projects and can end up payable by the parent company in case group companies are unable to manage their obligations. » [Refer Note 4.1](#) Property, plant and equipment for information about major investment projects.

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.

16. Shares and holdings owned by parent company

SUBSIDIARIES	COUNTRY OF INCORPORATION	HOLDING %
Astronaut RUS Holdings Oy ¹⁾	FI	99.62
Myllykoski Oyj	FI	100.00
Repola Investment Oy	FI	100.00
Suurijärven Huolto Oy	FI	65.44
Unicarta Oy	FI	100.00
UPM (Vietnam) Limited	VN	100.00
UPM AG	CH	100.00
UPM Asia Pacific Pte. Ltd.	SG	100.00
UPM B.V.	NL	100.00
UPM Biochemicals GmbH	DE	100.00

SUBSIDIARIES	COUNTRY OF INCORPORATION	HOLDING %
UPM Bulgaria EOOD	BG	100.00
UPM Communication Papers Oy	FI	100.00
UPM Energy Oy	FI	100.00
UPM India Private Limited	IN	100.00
UPM Kft.	HU	100.00
UPM Manufatura e Comércio de Produtos Florestais Ltda.	BR	100.00
UPM NV	BE	100.00
UPM OÜ	EE	100.00
UPM Plywood Oy	FI	100.00
UPM Pulp Oy	FI	100.00
UPM Pulp Sales Oy	FI	100.00
UPM Raflatac Canada Holdings Inc.	CA	100.00
UPM Raflatac NZ Limited	NZ	100.00
UPM Raflatac Oy	FI	100.00
UPM Raflatac S.r.l.	AR	27.80
UPM Romania S.R.L	RO	100.00
UPM Silvesta Oy	FI	100.00
UPM Specialty Papers Oy	FI	100.00
UPM Wood Materials (UK) Ltd	UK	100.00
UPM-Kymmene (HK) Ltd.	CN/HK	100.00
UPM-Kymmene (Korea) Ltd	KR	100.00
UPM-Kymmene (UK) Holdings Limited	UK	100.00
UPM-Kymmene A/S	DK	100.00
UPM-Kymmene AB	SE	100.00
UPM-Kymmene B.V.	NL	100.00
UPM-Kymmene Beteiligungs GmbH	DE	100.00
UPM-Kymmene Comercializacao de Papel Ltda	PT	100.00
UPM-Kymmene d.o.o.	SI	100.00
UPM-Kymmene Groupe S.A.	FR	100.00
UPM-Kymmene Grundstücksverwaltung GmbH	DE	100.00
UPM-Kymmene Hellas Ltd	GR	100.00
UPM-Kymmene India Private Limited	IN	100.00
UPM-Kymmene Investment Inc.	US	100.00
UPM-Kymmene Japan K.K.	JP	100.00
UPM-Kymmene Pty Limited	AU	100.00
UPM-Kymmene S.A.	ES	100.00
UPM-Kymmene S.r.l.	IT	100.00
UPM-Kymmene s.r.o.	CZ	100.00
UPM-Kymmene Seven Seas Oy	FI	100.00
UPM-Kymmene Slovakia s.r.o.	SK	100.00
Werla Insurance Company Ltd	MT	100.00

¹⁾ UPM-Kymmene RUS Holdings Oy corporate form and legal company name has changed to Astronaut RUS holdings Oy as of 30.12.2022.

PARTICIPATING INTEREST COMPANIES	COUNTRY OF INCORPORATION	HOLDING %
Kiinteistö Oy Joutsan Rantatie 3	FI	25.43
Metsäteho Oy	FI	23.95
Oy Keskuslaboratorio - Centrallaboratorium Ab	FI	38.65
Perkaus Oy	FI	33.33
Rönnäsin Kiinteistöhuolto Oy	FI	28.41
Steveco Oy	FI	34.32

Group subsidiaries and joint operations are disclosed in » [Note 8.2.](#)



Auditor's Report (Translation of 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 position and financial performance and cash flows 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 2022. The financial statements comprise:

- the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies
- the parent company's balance sheet, income statement, cash flow statement 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



- Overall group materiality: € 95 million, which represents approximately 5 % of the the profit before tax.

- 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.

- Valuation of forest assets
- Valuation of energy shareholdings

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.

Overall group materiality	€ 95 million (previous year € 77 million)
How we determined it	Approximately 5% of the 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 approximately 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-Kymmene 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
<p>Valuation of forest assets</p> <p>Refer to note 4.2. in the consolidated financial statements for the related disclosures.</p> <p>The group owns and leases total of a 1 070 thousand hectares of forests and plantations in Finland, the United States and Uruguay. The value of the forest assets, i.e. standing trees, amount to € 2 442 million at 31 December 2022. 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. Young saplings and land are valued at cost. Main factors used in the valuation are estimates for growth and wood harvested, stumpage prices and discount rates.</p> <p>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.</p>	<p>In testing the valuation of forest assets, in conjunction with our valuation specialists we:</p> <ul style="list-style-type: none"> – 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 to note 4.3. in the consolidated financial statements for the related disclosures.

The energy shareholdings amounted to € 3 652 million at 31 December 2022. 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, the start-up schedule of the nuclear power plant unit Olkiluoto 3, and the temporary profit tax on the electricity sector applicable in 2023 according to Finnish Government's law proposal.

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.

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 a 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 to 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 about 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 with 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 27 years. The Company arranged the latest audit tendering process in 2013. Authorised Public Accountant (KHT) Mikko Nieminen has acted as the responsible auditor since 4 April 2019, 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 the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon. We have obtained the report of the Board of Directors prior to the date of this auditor's report and the Annual Report is expected to be made available to us after that date.

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 on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this 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 2023

PricewaterhouseCoopers Oy
Authorised Public Accountants

Mikko Nieminen
Authorised Public Accountant (KHT)

Other financial information

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. Gains on sale of energy shareholdings are not recorded to the income statement from 2018 onwards.
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 Fibres, UPM Specialty Papers and UPM Communication Papers 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 comparable EBITDA
Equity to assets ratio, %	Equity expressed as a percentage of total assets less advances received.

Reconciliation of key figures to IFRS (Quarterly key figures are unaudited)

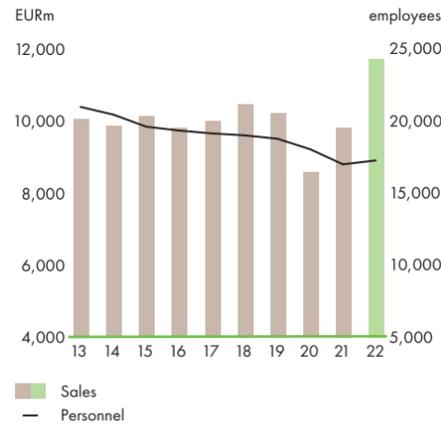
EURm, OR AS INDICATED	Q4/22	Q3/22	Q2/22	Q1/22	Q4/21	Q3/21	Q2/21	Q1/21	Q1-Q4/22	Q1-Q4/21
Items affecting comparability										
Impairment charges	5	7	4	-95	-52	1	0	-1	-80	-52
Restructuring charges	-15	-6	5	0	0	5	2	4	-15	11
Change in fair value of unrealised cash flow and commodity hedges	14	3	-4	0	0	0	-5	-3	13	-8
Capital gains and losses on sale of non-current assets	13	2	18	1	7	134	0	0	34	140
Other non-operational items	5	-5	-74	0	0	0	0	0	-74	0
Total items affecting comparability in operating profit	22	2	-52	-94	-46	140	-3	0	-122	91
Tax provisions	0	-10	0	0	0	0	0	0	-10	0
Taxes relating to items affecting comparability	-8	1	15	1	13	-1	1	0	9	12
Items affecting comparability in taxes	-8	-9	15	1	13	-1	1	0	-1	12
Items affecting comparability, total	14	-7	-37	-93	-33	139	-3	0	-122	103
Comparable EBITDA										
Operating profit	675	781	335	183	415	564	304	279	1,974	1,562
Depreciation, amortisation and impairment charges excluding items affecting comparability	119	114	113	111	113	116	118	116	457	463
Change in fair value of forest assets and wood harvested excluding items affecting comparability	-12	3	8	-12	-103	-5	2	-5	-12	-111
Share of result of associates and joint ventures	-1	-2	-2	1	-1	-1	-1	0	-4	-2
Items affecting comparability in operating profit	-22	-2	52	94	46	-140	3	-	122	-91
Comparable EBITDA	759	894	506	377	470	535	426	389	2,536	1,821
% of sales	23.5	26.1	19.7	15.0	17.6	21.2	17.9	17.4	21.6	18.6
Comparable EBIT										
Operating profit	675	781	335	183	415	564	304	279	1,974	1,562
Items affecting comparability in operating profit	-22	-2	52	94	46	-140	3	-	122	-91
Comparable EBIT	653	779	387	277	461	424	307	279	2,096	1,471
% of sales	20.2	22.8	15.1	11.0	17.2	16.8	12.9	12.5	17.9	15.0
Comparable profit before tax										
Profit before tax	638	766	361	179	420	558	298	272	1,944	1,548
Items affecting comparability in operating profit	-22	-2	52	94	46	-140	3	-	122	-91
Comparable profit before tax	616	764	413	273	466	418	301	272	2,066	1,457
Comparable ROCE, %										
Comparable profit before tax	616	764	413	273	466	418	301	272	2,066	1,457
Interest expenses and other financial expenses	34	20	9	21	6	6	7	7	85	26
Capital employed, average	17,983	16,845	14,738	13,799	13,399	12,633	12,080	11,744	15,836	12,657
Comparable ROCE, %	14.5	18.6	11.5	8.5	14.1	13.4	10.2	9.5	13.6	11.7
Comparable profit for the period										
Profit for the period	503	622	292	139	340	497	243	227	1,556	1,307
Items affecting comparability, total	-14	7	37	93	33	-139	3	-	122	-103
Comparable profit for the period	489	629	329	232	373	359	246	228	1,679	1,204
Comparable EPS, EUR										
Comparable profit for the period	489	629	329	232	373	359	246	228	1,679	1,204
Profit attributable to non-controlling interest	-5	-11	-9	-5	-5	-9	-4	-3	-31	-22
Average number of shares basic (1,000)	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324	533,324
Comparable EPS, EUR	0.91	1.16	0.60	0.42	0.69	0.66	0.45	0.42	3.09	2.22
Comparable ROE, %										
Comparable profit for the period	489	629	329	232	373	359	246	228	1,679	1,204
Total equity, average	12,589	11,799	11,167	11,071	10,760	10,011	9,454	9,407	11,992	10,310
Comparable ROE, %	15.5	21.3	11.8	8.4	13.8	14.3	10.4	9.7	14.0	11.7

Financial information 2013–2022

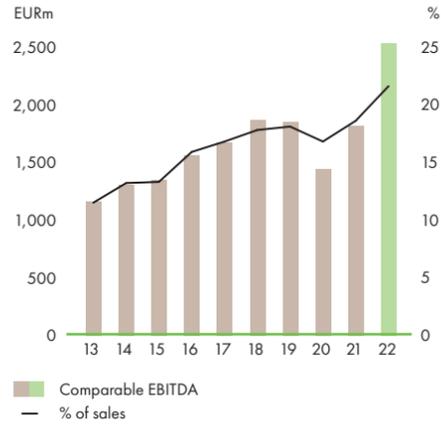
EURm, OR AS INDICATED	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Income statement										
Sales	11,720	9,814	8,580	10,238	10,483	10,010	9,812	10,138	9,868	10,054
Comparable EBITDA	2,536	1,821	1,442	1,851	1,868	1,677	1,560	1,350	1,306	1,161
% of sales	21.6	18.6	16.8	18.1	17.8	16.8	15.9	13.3	13.2	11.5
Operating profit	1,974	1,562	761	1,344	1,895	1,259	1,135	1,142	674	548
% of sales	16.8	15.9	8.9	13.1	18.1	12.6	11.6	11.3	6.8	5.5
Comparable EBIT	2,096	1,471	948	1,404	1,513	1,292	1,143	916	866	683
% of sales	17.9	15.0	11.1	13.7	14.4	12.9	11.6	9.0	8.8	6.8
Profit before tax	1,944	1,548	737	1,307	1,839	1,186	1,080	1,075	667	475
% of sales	16.6	15.8	8.6	12.8	17.5	11.9	11.0	10.6	6.8	4.7
Comparable profit before tax	2,066	1,457	924	1,367	1,457	1,218	1,089	849	793	610
% of sales	17.6	14.8	10.8	13.4	13.9	12.2	11.1	8.4	8.0	6.1
Profit for the period	1,556	1,307	568	1,073	1,496	974	880	916	512	335
% of sales	13.3	13.3	6.6	10.5	14.3	9.7	9.0	9.0	5.2	3.3
Comparable profit for the period	1,679	1,204	737	1,119	1,194	1,004	879	734	638	479
% of sales	14.3	12.3	8.6	10.9	11.4	10.0	9.0	7.2	6.5	4.8
Balance sheet										
Non-current assets	14,977	12,420	10,149	10,140	9,501	9,144	9,715	10,259	10,269	10,487
Inventories	2,289	1,594	1,285	1,367	1,642	1,311	1,346	1,376	1,356	1,327
Other current assets	4,941	3,662	3,424	3,215	2,853	2,612	2,850	2,558	2,570	2,785
Total assets	22,207	17,676	14,858	14,722	13,996	13,067	13,911	14,193	14,195	14,599
Total equity	12,879	11,106	9,513	10,175	9,797	8,663	8,237	7,944	7,480	7,455
Non-current liabilities	5,876	4,102	3,606	2,730	2,194	2,254	3,364	4,328	4,717	5,019
Current liabilities	3,452	2,468	1,740	1,818	2,005	2,150	2,309	1,921	1,998	2,125
Total equity and liabilities	22,207	17,676	14,858	14,722	13,996	13,067	13,911	14,193	14,195	14,599
Capital employed at year end	17,913	13,759	11,555	11,474	10,575	9,777	10,657	11,010	10,944	11,583
Capital expenditure	1,555	1,483	903	378	303	329	325	520	411	362
% of sales	13.3	15.1	10.5	3.7	2.9	3.3	3.3	5.1	4.2	3.6
Capital expenditure excluding acquisitions and shares	1,399	1,477	902	378	303	303	325	486	375	329
% of sales	11.9	15.1	10.5	3.7	2.9	3.0	3.3	4.8	3.8	3.3
Cash flow and net debt										
Operating cash flow	508	1,250	1,005	1,847	1,330	1,460	1,686	1,185	1,241	735
Free cash flow	-1,077	-74	126	1,432	1,131	1,336	1,424	750	994	438
Net debt	2,374	647	56	-453	-311	174	1,131	2,100	2,401	3,040
Key figures										
Return on capital employed (ROCE), %	12.8	12.4	6.7	12.3	18.4	12.5	10.5	10.3	6.5	4.8
Comparable ROCE, %	13.6	11.7	8.3	12.8	14.6	12.8	10.6	8.3	7.6	6.0
Return on equity (ROE), %	13.0	12.7	5.8	10.7	16.2	11.5	10.9	11.9	6.9	4.5
Comparable ROE, %	14.0	11.7	7.5	11.2	12.9	11.9	10.9	9.5	8.5	6.4
Gearing ratio, %	18	6	1	-4	-3	2	14	26	32	41
Net debt to EBITDA	0.94	0.35	0.04	-0.24	-0.17	0.10	0.73	1.56	1.84	2.62
Equity to assets ratio, %	58.1	62.9	64.1	69.2	70.1	66.6	59.4	56.1	52.7	51.1
Personnel										
Personnel at year end	17,236	16,966	18,014	18,742	18,978	19,111	19,310	19,578	20,414	20,950
Deliveries										
Pulp (1,000 t)	2,761	3,724	3,664	3,715	3,468	3,595	3,419	3,224	3,287	3,163
Electricity (GWh)	9,442	9,300	9,168	8,619	8,608	8,127	8,782	8,966	8,721	8,925
Papers, total (1,000 t)	6,135	7,486	7,062	8,326	8,996	9,430	9,613	9,771	10,028	10,288
Plywood (1,000 m3)	616	738	683	739	791	811	764	740	731	737
Sawn timber (1,000 m3)	1,538	1,610	1,604	1,741	1,719	1,728	1,751	1,731	1,609	1,661

Financial information 2013–2022

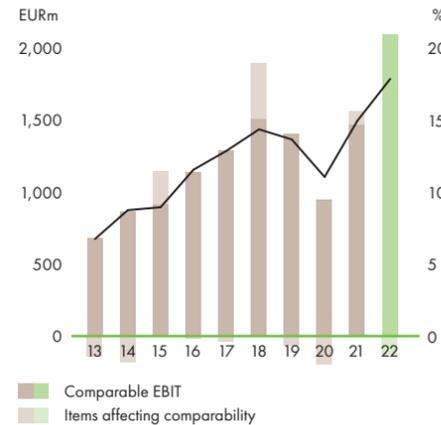
Sales and personnel



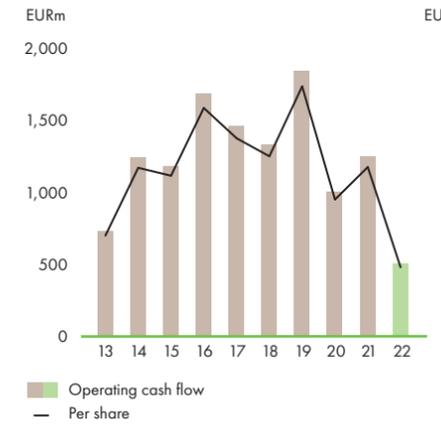
Comparable EBITDA



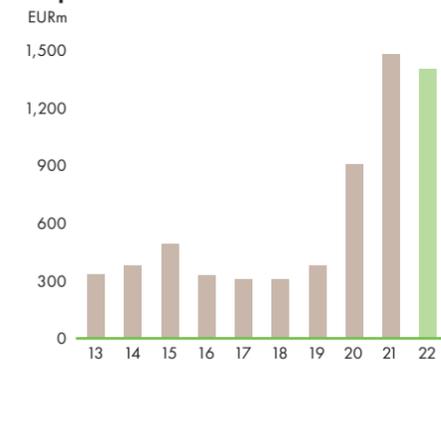
Comparable EBIT



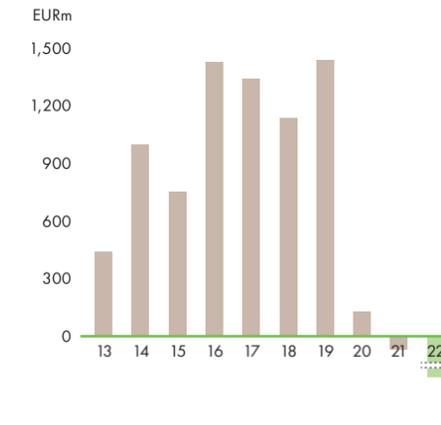
Operating cash flow



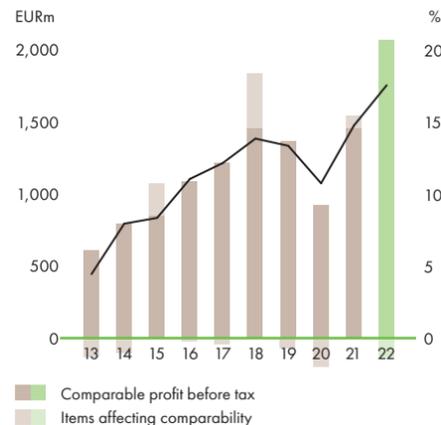
Capital expenditure excluding acquisitions and shares



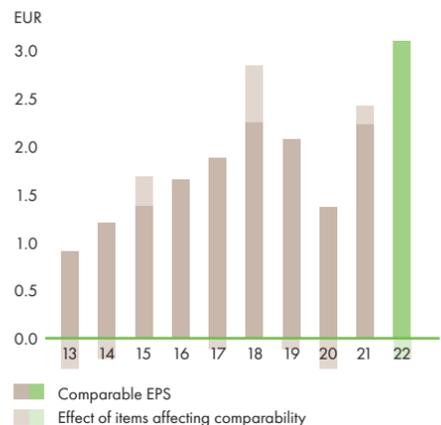
Free cash flow



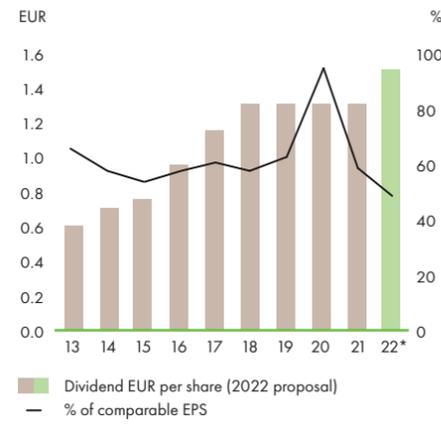
Comparable profit before tax



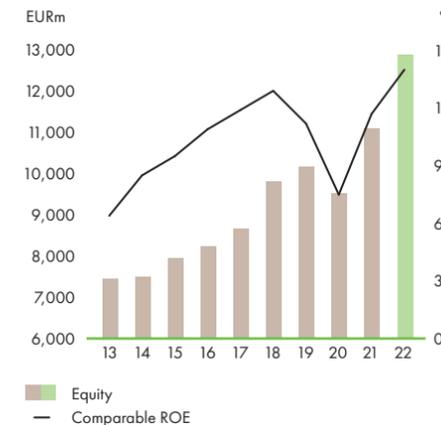
Comparable earnings per share



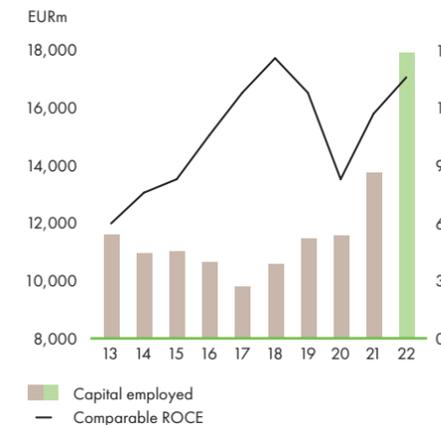
Dividend per share



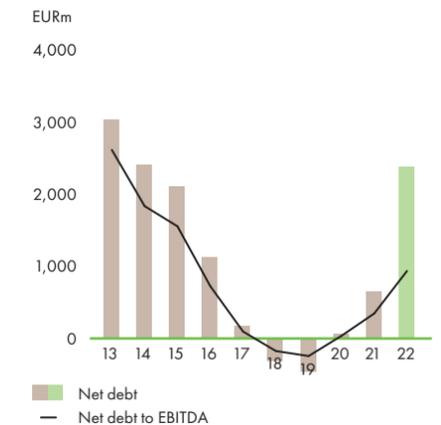
Equity and comparable ROE



Capital employed and comparable ROCE

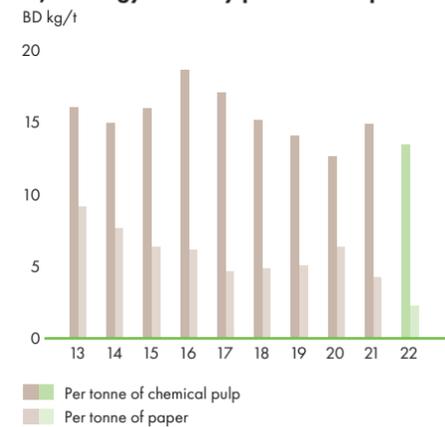


Net debt and net debt to EBITDA

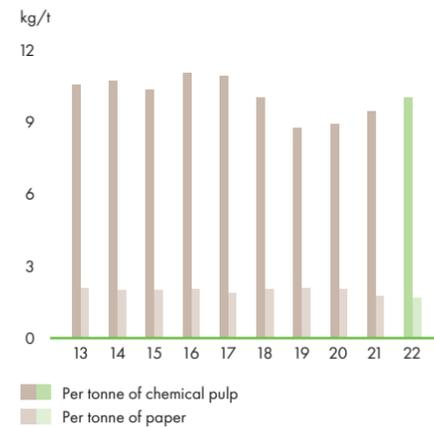


More on responsibility

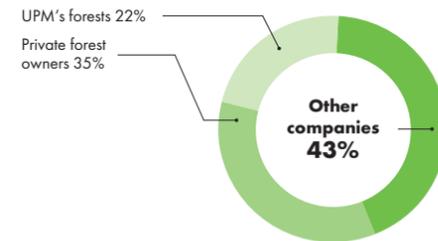
Solid waste to landfills and to incineration w/o energy recovery per tonne of product



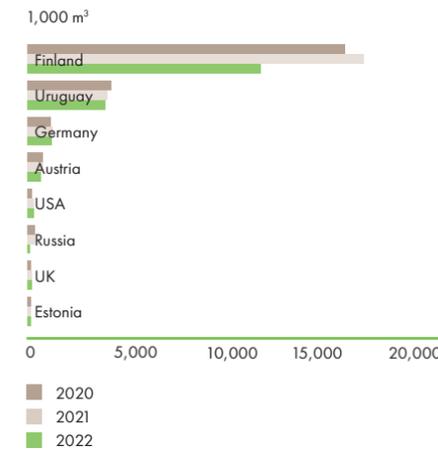
UPM's COD load per tonne of product



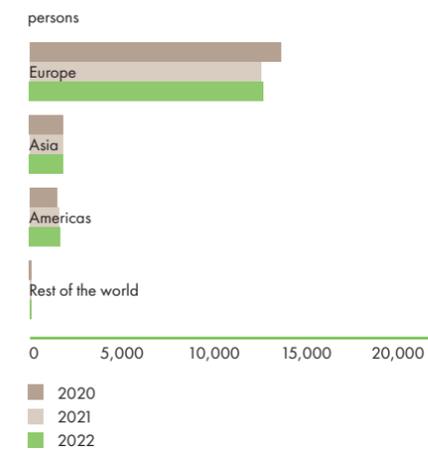
Sources of wood to UPM mills 2022



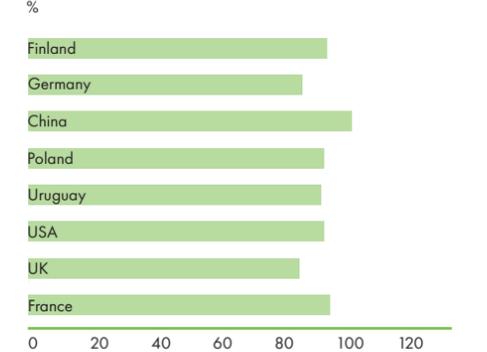
Wood deliveries to UPM mills



UPM employees by region

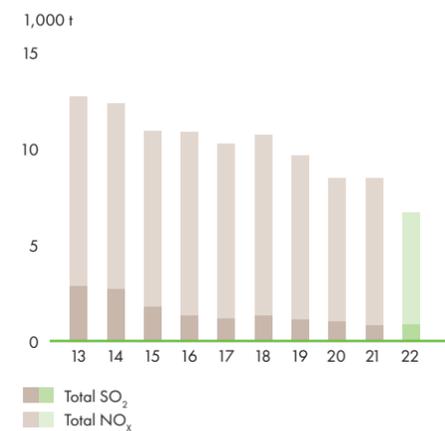


Ratio of female to male salaries weighted basic salary 2022



The ratio is calculated by comparing weighted average of basic salaries of women to men on the same job grade, for the eight biggest countries in terms of salaried employees. These countries cover 90% of UPM's total number of salaried employees.

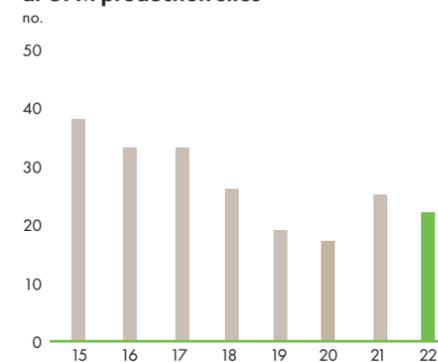
UPM's acidifying flue gases



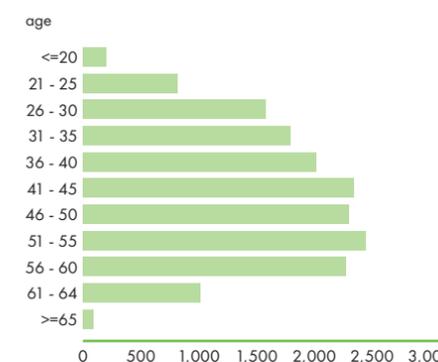
Electricity sourcing



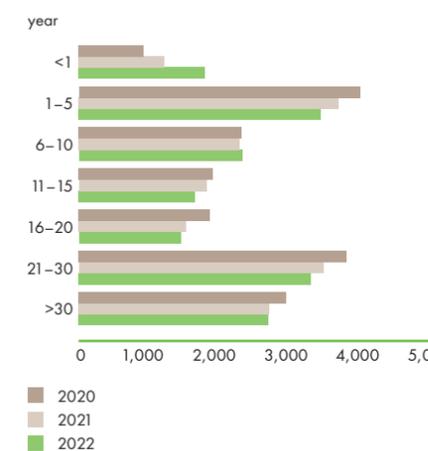
Environmental deviations at UPM production sites



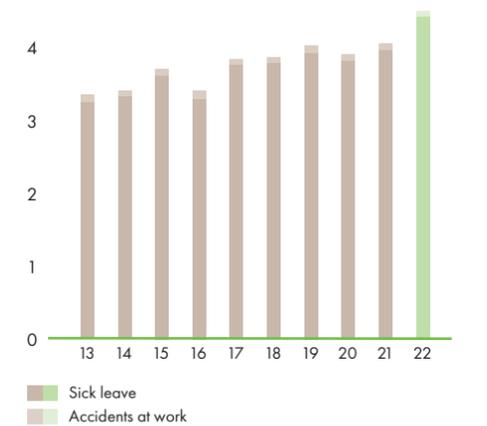
Age structure of UPM employees 2022



Employees' years of service with UPM



Absenteeism rate



Global operations, strong market positions

Our 17,200 people work in 44 countries across six continents. With our head office in Finland, our most important markets are in Europe, Asia and North America.

UPM FIBRES

- A versatile range of chemical pulp for many growing end uses with annual production capacity of 5.8 million tonnes produced in Finland and in Uruguay
- Annual capacities in tonnes by mills: UPM Paso de los Toros 2.1 million; UPM Fray Bentos 1.3 million; UPM Kymi 870,000 tonnes; UPM Pietarsaari 800,000 and UPM Kaukas 700,000
- 504,800 ha of own and leased plantations in Uruguay
- Certified sawn timber with annual capacity of 1.4 million cubic metres, produced at four sawmills in Finland

Pulp mills

Finland: UPM Kaukas (Lappeenranta), UPM Kymi (Kouvola) and UPM Pietarsaari

Uruguay: UPM Fray Bentos, UPM Paso de los Toros (completed in Q1 2023) and certified eucalyptus plantations

Sawmills

Finland: UPM Alholma (Pietarsaari), UPM Kaukas (Lappeenranta), UPM Korkeakoski (Juupajoki) and UPM Seikku (Pori)

Market position

#3 Bleached market pulp globally

UPM ENERGY

- Cost competitive low-emission electricity generation in Finland consisting of hydro, nuclear and thermal power
- The total electricity generation capacity is 1,471 MW, including UPM's own hydropower plants and shareholdings in other energy companies
- Approx. 31% share in the OL3 nuclear power plant unit through the shareholding in PVO
- Market agility and optimisation services for industrial consumers
- Largest shareholdings:
 - 47.69% of Pohjolan Voima Oy (PVO), which is a majority shareholder (58.5%) in Teollisuuden Voima Oyj (TVO)
 - 19% of Kemijoki Oy's hydropower shares

Hydropower plants:

Finland: Harjavalta, Kallioinen (Sotkamo), Kaltimo (Joensuu), Katerma (Kuhmo), Keltti (Kouvola), Kuusankoski (Kouvola), Tyrvää (Sastamala), Voikkaa (Kouvola) and Äetsä

Market position

#2 in Finland

UPM RAFLATAC

- Self-adhesive label materials for promotion, information and functional product and information labelling
- 12 factories and 24 slitting and distribution terminals in all continents

Labelstock factories

China: Changshu
 Finland: Tampere
 France: Nancy
 Germany: Hagenow and Kaltenkirchen
 Malaysia: Johor
 Poland: Kobierzyce (Wroclaw) and Nowa Wieś (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
 Chile: Santiago
 China: Guangzhou and Tianjin
 India: Bangalore and Navi Mumbai
 Indonesia: Jakarta
 Italy: Osnago
 México: Ciudad de México and Guadalajara
 New Zealand: Auckland
 South Africa: Cape Town and Johannesburg
 South Korea: Suwon-Si
 Spain: Barcelona
 Thailand: Bangkok
 Turkey: Istanbul
 Ukraine: Kiev
 USA: Dallas, TX, Ontario, CA and Vancouver, WA
 Vietnam: Bien Hoa City

Market position

#2 globally

UPM SPECIALTY PAPERS

- Labelling materials, release liner base papers, flexible packaging papers, office and graphic papers
- Total annual production capacity of 2.0 million tonnes

Paper mills

China: UPM Changshu
 Germany: UPM Nordland Papier (Dörpen)
 Finland: UPM Jämsänkoski (Jämsä) and UPM Tervasaari (Valkeakoski)

Market position

#1 Labelling materials and release liner base papers globally

#1 High-quality office paper segment in China

UPM COMMUNICATION PAPERS

- Magazine paper, newsprint and fine papers for a wide range of end uses
- Annual paper production capacity of 6.0 million tonnes, manufactured in 13 paper mills
- Capacities: Annual production capacity of 3.2 million tonnes of magazine papers, 1.0 million tonnes of newsprint and 1.8 million tonnes of fine papers
- The combined heat and power (CHP) plants operating on paper mill sites included in the business area

Paper mills

Austria: UPM Steyrermühl (until the end of 2023)
 Finland: UPM Jämsänkoski (Jämsä), UPM Kaukas (Lappeenranta), UPM Kymi (Kouvola) and UPM Rauma
 Germany: UPM Augsburg, UPM Ettringen, UPM Hürth, UPM Nordland Papier (Dörpen), UPM Plattling and UPM Schongau
 United Kingdom: UPM Caledonian Paper (Irvine)
 USA: UPM Blandin (Grand Rapids, MN)

Market position

#1 in Europe

UPM PLYWOOD

- High-end plywood and veneer products mainly for construction, vehicle flooring, LNG shipbuilding and parquet manufacturing as well as other industrial end uses
- Active production capacity at the end of the year 805,000 cubic metres

Plywood mills

Estonia: UPM Otepää
 Finland: UPM Joensuu, UPM Pellos (3 mills, Ristiina, Mikkeli) and UPM Savonlinna
 Russia: UPM Chudovo (operations suspended)

Veneer mill

Finland: UPM Kalso (Vuohijärvi, Kouvola)

Market position

#1 High and mid segments in Europe

#1 LNG plywood globally

OTHER OPERATIONS

- UPM Forest: Purchasing wood and biomass in 17 countries, 522,000 ha of own forest land in Finland and 76,000 ha in the USA, offering forestry services to private forest owners in Finland
- UPM Biofuels: Wood-based renewable diesel and naphtha with the annual capacity of 130,000 t produced
- UPM Biochemicals: Glycols, lignin products, glycols, renewable functional fillers
- UPM Biomedicals: Wood-based biomedical products for medical and life science applications
- UPM Biocomposites: UPM ProFi decking materials made of recycled plastic waste and UPM Formi composite material to replace fossil-based plastics

Biofuels

Finland: UPM Lappeenranta Biorefinery

Biochemicals

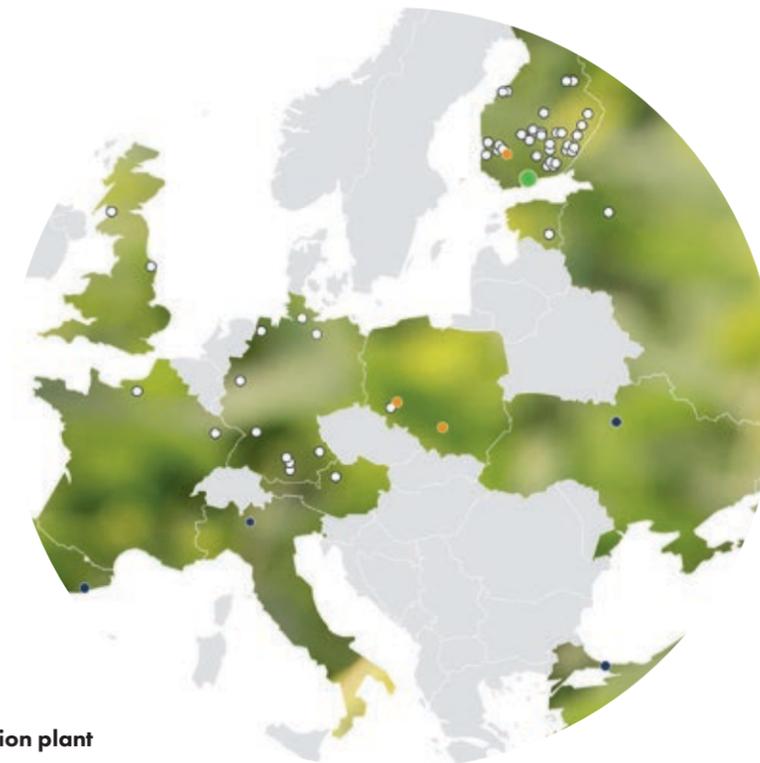
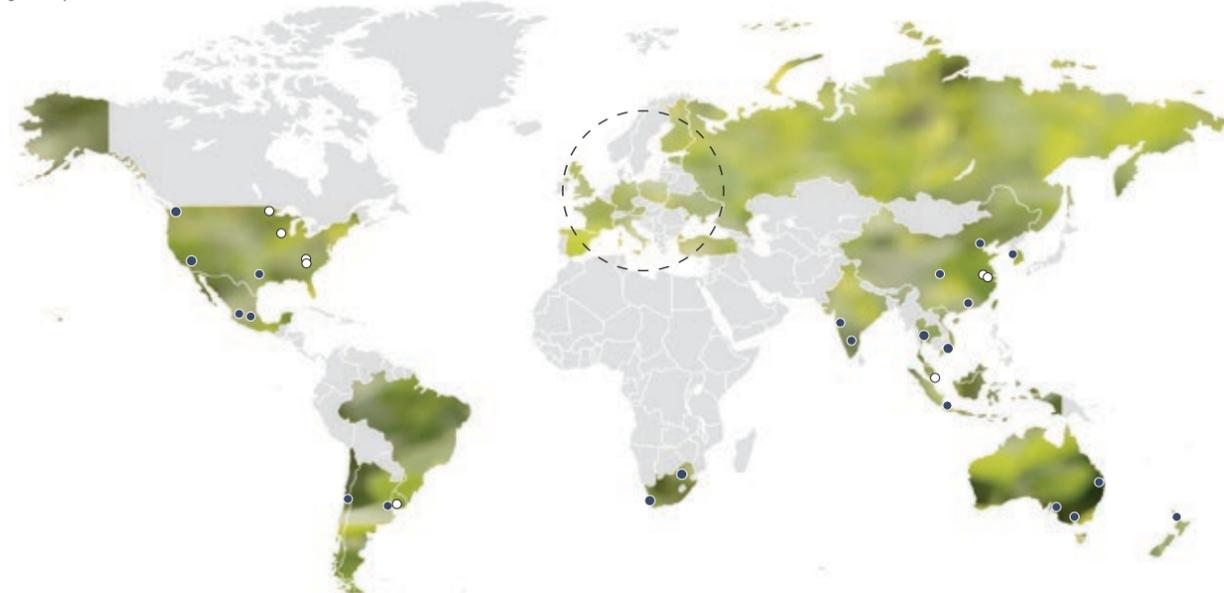
Germany: Biochemicals refinery, Leuna (completed in 2023)

Biomedicals

Finland: Biomedicum research and educational centre, Helsinki

Biocomposites mills

Finland: UPM Lahti
 Germany: UPM Bruchsal (Karlsruhe)



- Production plant
- Slitting and distribution terminal
- Group Head Office
- Other business hubs



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TAKING RESPONSIBILITY TO NEW HEIGHTS



FOREST
ACTION

Annual General Meeting

UPM-Kymmene Corporation's AGM will be held on Wednesday, 12 April 2023 at 14:00 EEST at Messukeskus, Messuaukio 1, Helsinki, Finland. Detailed instructions for shareholders are available on the corporate website at

➤ www.upm.com/agm2023

DIVIDEND

The Board proposes to the Annual General Meeting that a dividend of EUR 1.50 per share be paid for the 2022 financial year. The Board proposes the dividend to be paid in two instalments. The first dividend instalment of EUR 0.75 per share is proposed to be paid to the shareholders who are registered in the company's shareholders' register held by Euroclear Finland Ltd on the dividend record date 14 April March 2023. The Board proposes that the first dividend instalment be paid on 21 April 2023. The second dividend instalment of EUR 0.75 per share is proposed to be paid to the shareholders who are registered in the company's shareholders' register held by Euroclear Finland Ltd on the dividend record date 26 October March 2023. The Board proposes that the second dividend instalment be paid on 2 November 2023.

FINANCIAL REPORTS IN 2023

UPM will publish the financial reports in 2023 as follows:

- UPM Interim Report for January–March (Q1) on 25 April 2023
- UPM Half Year Financial Report for January–June (Q1–Q2) on 25 July 2023
- UPM Interim Report for January–September (Q1–Q3) on 24 October 2023

➤ Read more on the global forest responsibility programme Forest Action on page 82.

➤ www.upm.com/responsibility

