



# UPM Biofore Beyond Fossils

Investor presentation  
May 2023

UPM **BIOFORE** - BEYOND FOSSILS

# This is UPM

**SALES 2022**  
**EUR 11.7 BILLION**

Wood-based  
raw materials



Low-carbon  
energy

## BUSINESSES:

- UPM FIBRES
- UPM ENERGY
- UPM RAFLATAC
- UPM SPECIALTY PAPERS
- UPM COMMUNICATION PAPERS
- UPM PLYWOOD
- UPM BIOREFINING

**55**  
production  
plants



**17,200**  
employees in  
44 countries

## RENEWABLE AND RECYCLABLE PRODUCTS FOR:

-  PACKAGING
-  LABELLING
-  TRANSPORTATION
-  ELECTRIFICATION
-  CONSTRUCTION
-  COMMUNICATION
-  TISSUE AND  
HYGIENE PRODUCTS
-  MANUFACTURING
-  BIOPLASTICS
-  BIOMEDICALS

**10,500**  
customers



**170**  
million end-users  
globally

# Our businesses



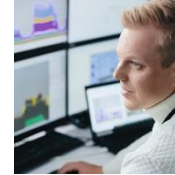
**UPM Pulp**  
A versatile range of chemical pulp for many growing end uses



**UPM Timber**  
Certified sawn timber for joinery, packaging, furniture, planing and construction



**UPM Forest**  
Sourcing wood raw material for sustainable and recyclable products



**UPM Energy**  
Zero-emission electricity generation of hydro, nuclear and thermal power



**UPM Raflatac**  
Self-adhesive paper and film products incl. label materials, graphics solutions and removable self-adhesive products.



**UPM Specialty Papers**  
Labelling materials, release base papers, flexible packaging papers, office and graphic papers



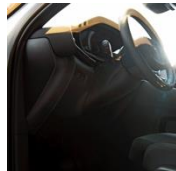
**UPM Communication Papers**  
Magazine paper, newsprint and fine papers for a wide range of end uses



**UPM Plywood**  
Plywood and veneer products for construction, vehicle flooring and LNG shipbuilding



**UPM Biofuels**  
Wood-based renewable diesel and naphtha



**UPM Biochemicals**  
Glycols, lignin products, renewable functional fillers



**UPM Biomedicals**  
Wood-based biomedical products for medical and life science applications



**UPM Biocomposites**  
Composite decking materials and wood-based biocomposites

# Biofore strategy

Biofore strategy drives our transformation as a frontrunner in biomaterials.

We seek sustainable growth by enabling our customers and consumers to make more sustainable choices.

High performance, innovations and world-leading responsibility are our cornerstones. We create a future beyond fossils.

## A FUTURE BEYOND FOSSILS

### GROWTH

- We respond to megatrends and meet 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

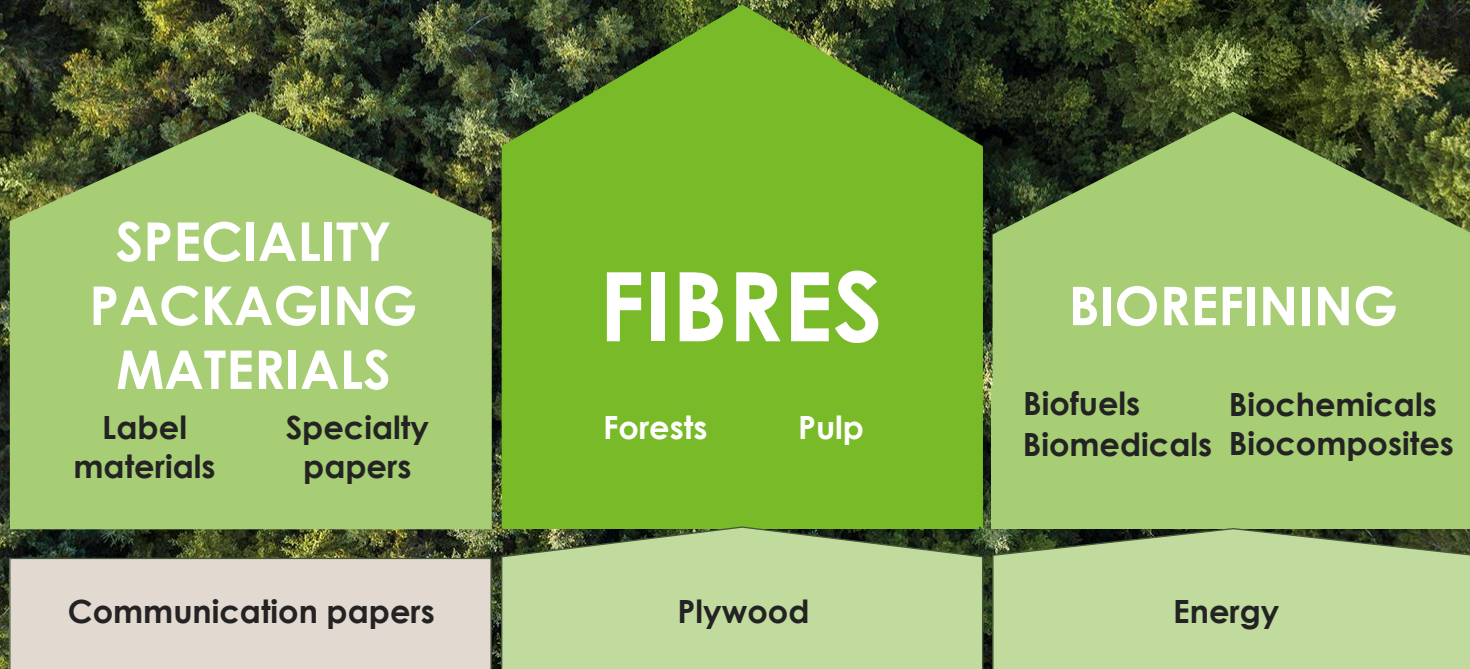
### VALUES

Trust and be trusted

Achieve together

Renew with courage

# Long-term value creation driven by our spearheads for growth



# Our climate commitment



## WE ACT THROUGH FORESTS

Committed to climate-positive forestry and enhancing biodiversity



## WE ACT THROUGH EMISSION REDUCTIONS

-65% from own CO<sub>2</sub> emissions  
-30% from CO<sub>2</sub> emissions of supply chain



## WE ACT THROUGH PRODUCTS

Innovative products  
Scientifically verifying the climate impact of all our products



**BUSINESS AMBITION FOR 1.5°C**   **OUR ONLY FUTURE**

**THE Paris...  
CLIMATE 10 years  
PLEDGE Early**

# Towards net-zero emissions (UPM 2022)



## WE ACT THROUGH FORESTS

**-2,3**

MtCO<sub>2</sub>eq

**Carbon sink**

Trees and soil

**Long-term  
carbon storage**

Trees and soil

## WE ACT THROUGH EMISSION REDUCTIONS

**+4,5**

MtCO<sub>2</sub>

**Own  
emissions**

Scope 1 ja 2

**+5,0**

MtCO<sub>2</sub>

**Value chain  
emissions**

Scope 3

## WE ACT THROUGH PRODUCTS

**-2,0**

MtCO<sub>2</sub>

**Fossil  
energy  
substitution**

**+1,6**

MtCO<sub>2</sub>

**Temporary  
carbon storage**

Wood-based  
products

**-5,8**

MtCO<sub>2</sub>

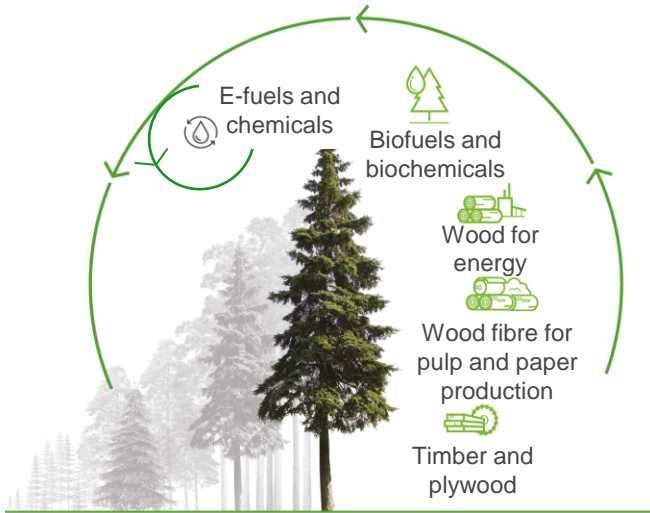
**Fossil-based  
products  
substitution**

BIO

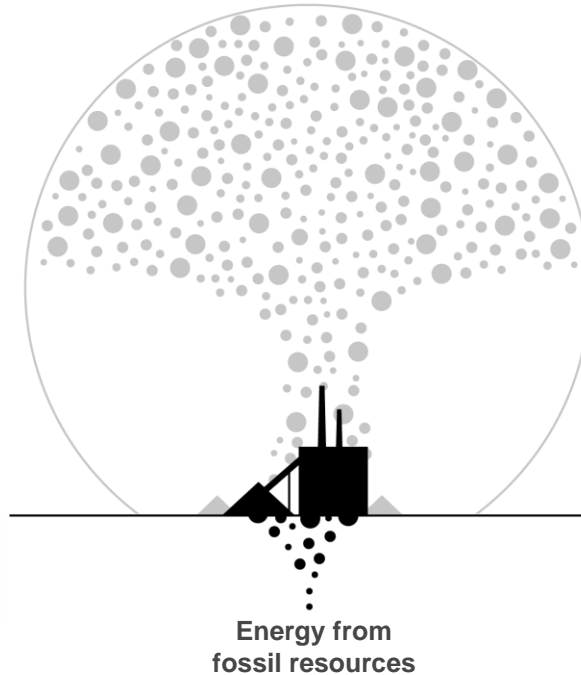
# Bioeconomy offers a sustainable alternative to fossil-based economy



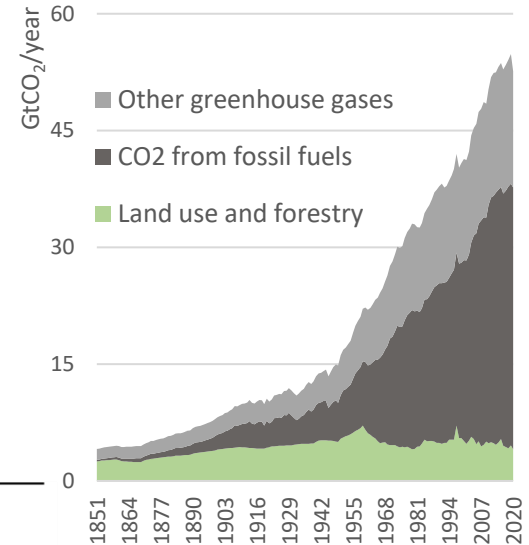
Biomass use is not increasing  
CO<sub>2</sub> to carbon cycle



Use of fossil resources  
increases CO<sub>2</sub> amount



Use of fossils has increased  
global CO<sub>2</sub>-emissions



Source: IEA, Our World in Data





# Leader in responsibility

Member of  
**Dow Jones  
Sustainability Indices**  
Powered by the S&P Global CSA

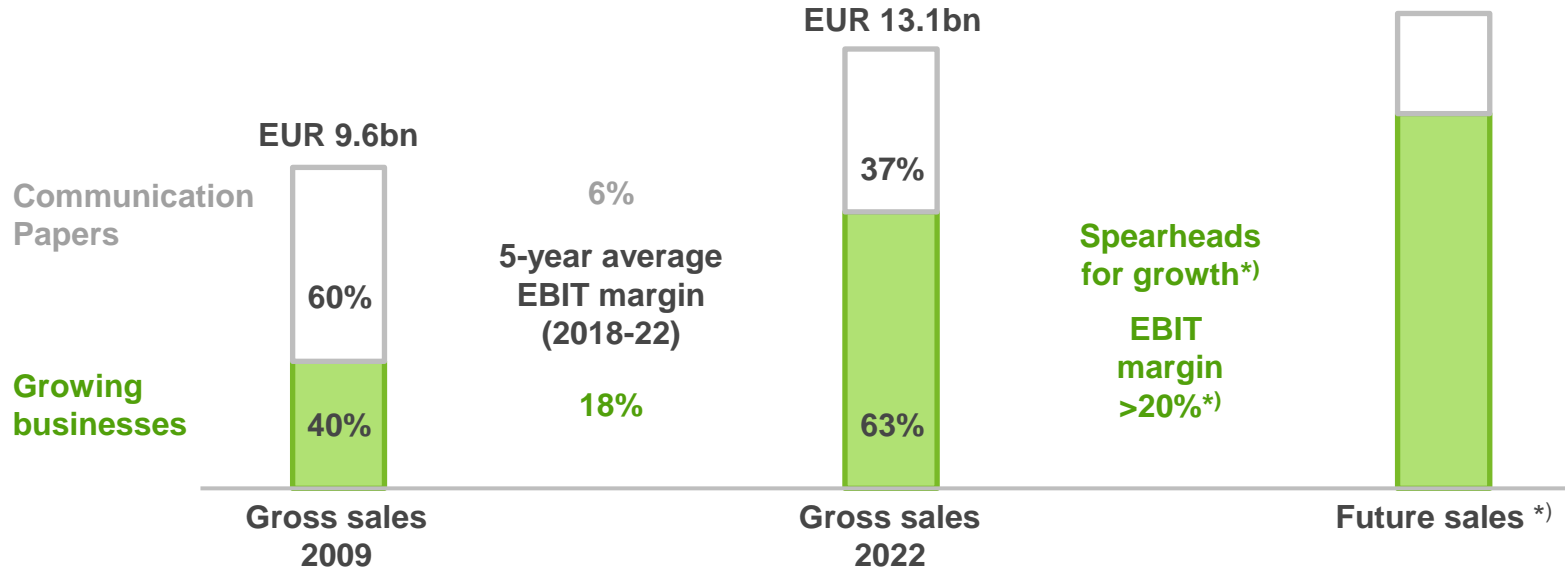
**MSCI**  
ESG RATINGS

AAA

CCC B BB BBB A AA **AAA**



# Transformation in growth phase – business mix drives earnings and shareholder value

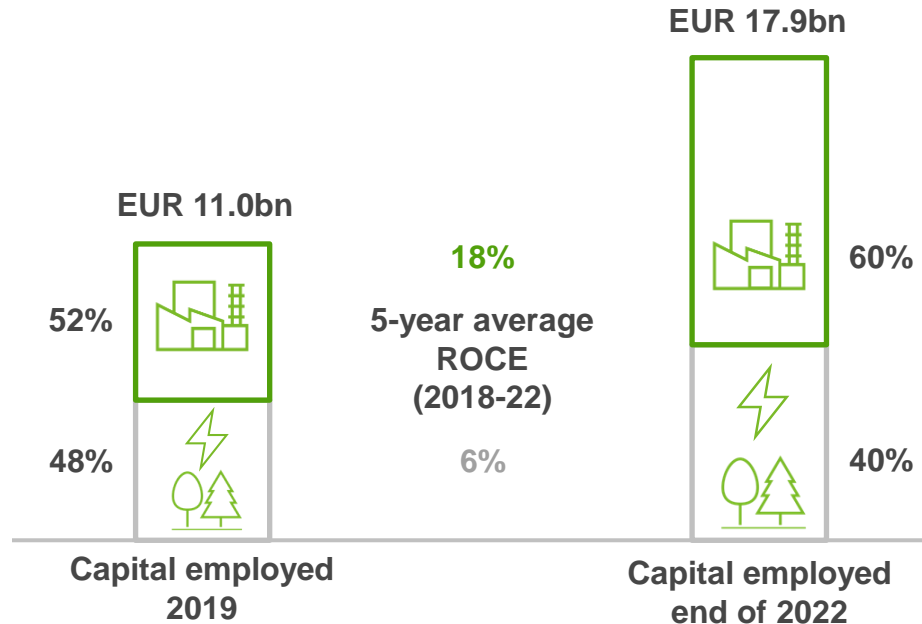


# Growth investments have increased capital employed, significant earnings potential as they start to contribute

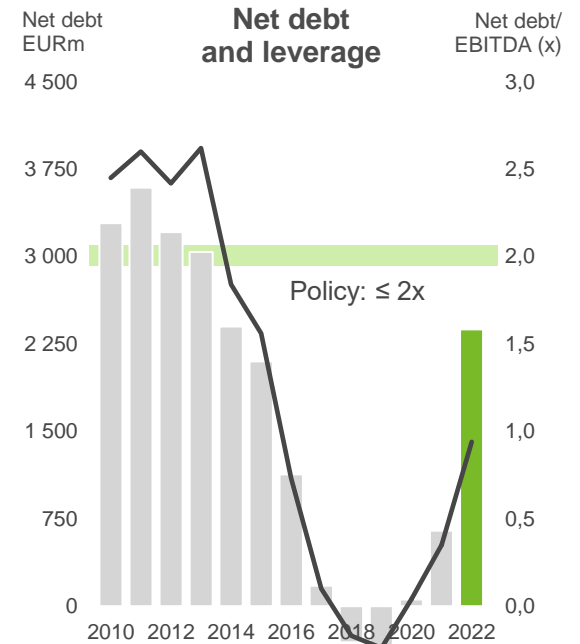
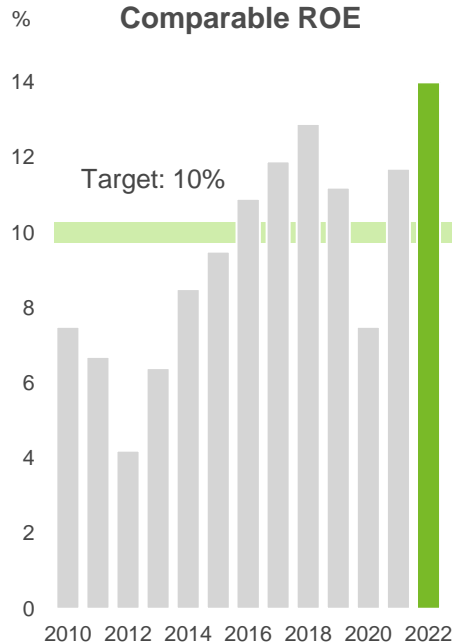
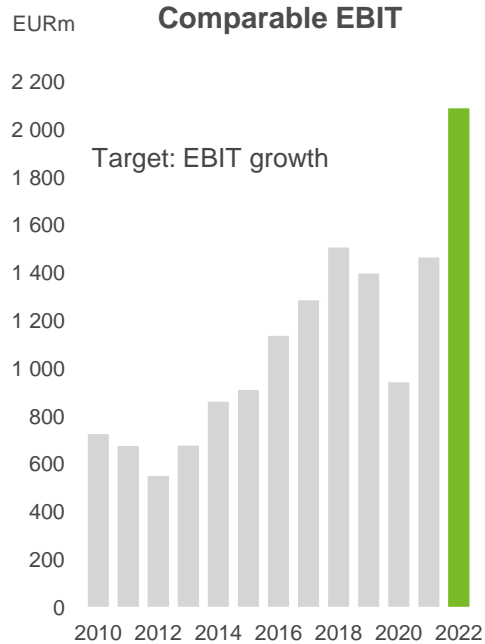


**Industrial operations:**  
Further growth,  
attractive return targets

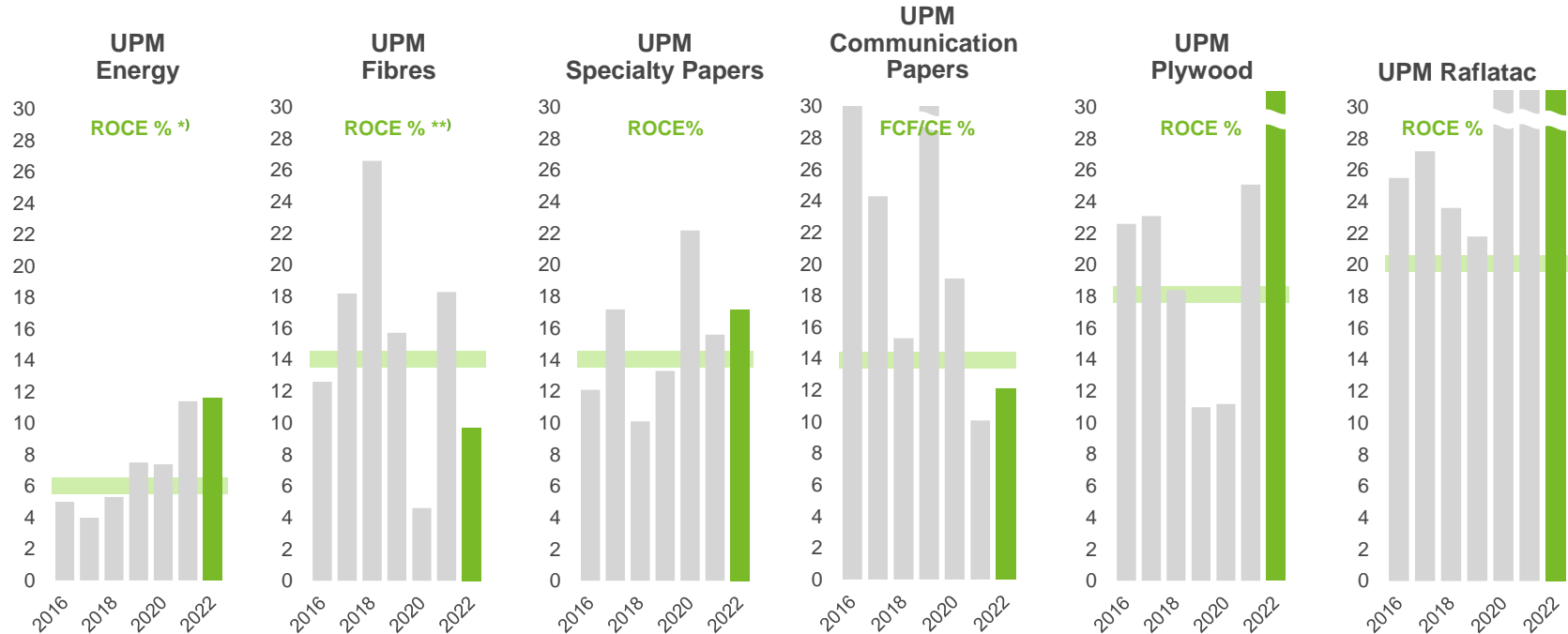
Forest and energy assets:  
Sustainable value creation



# New record in annual earnings



# Business area long-term return targets



\*) shareholdings in UPM Energy valued at fair value

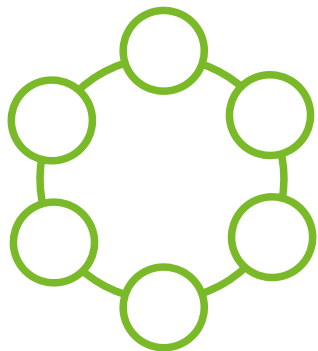
\*\*) Year 2021 restated, UPM Biofuels moved into Other Operations as of 1 January 2022.

Long-term return target

# 5-year capital allocation for 2018-2022



**Performance focus**  
Strong operating cash flow



**Attractive dividend**  
EUR 3.4bn

**High return investments**  
EUR 4.6bn

**Strong balance sheet**  
Net debt increase EUR 2.2bn

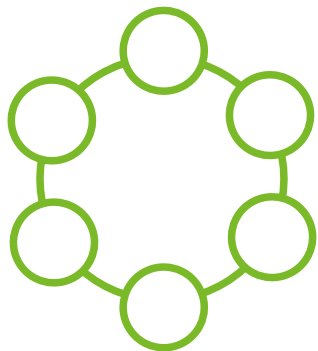
**Net debt/  
EBITDA  
< 2x**

Net debt / EBITDA  
**0.94x**  
at the end of 2022

# Illustrative capital allocation\*) for the next 5 years (2023-2027)



**Performance focus**  
Strong operating cash flow



**Attractive dividend**  
EUR ~4–4.5bn

**High return investments**  
EUR ~3.5–4.5bn

**Strong balance sheet**



Maintain headroom

\*) This is not a forecast

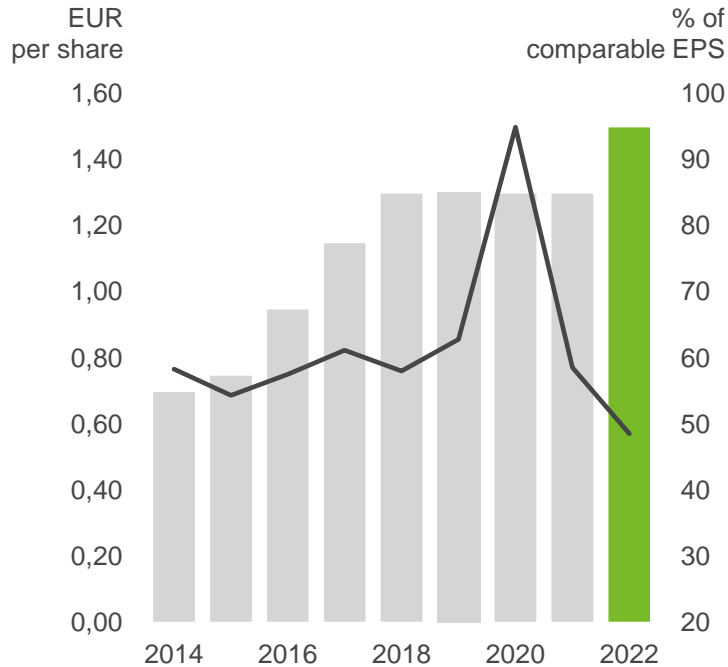
# Dividend policy and capital allocation



- **UPM aims to pay attractive dividends, targeting at least half of the comparable earnings per share over time.**
- UPM plans to allocate capital to
  - *Invest to grow the company and its earnings.* UPM targets growth in comparable EBIT and comparable return on equity exceeding 10%.
  - *Pay attractive dividend.* The targeted earnings growth drives dividend growth over time.
  - *Maintain a strong balance sheet.* Net debt to EBITDA ratio to be less than 2.
  - *Share buybacks.* They are a complementing tool that may be used relative to investment opportunities and company valuation.



# Dividend: 15% increase to EUR 1.50 per share



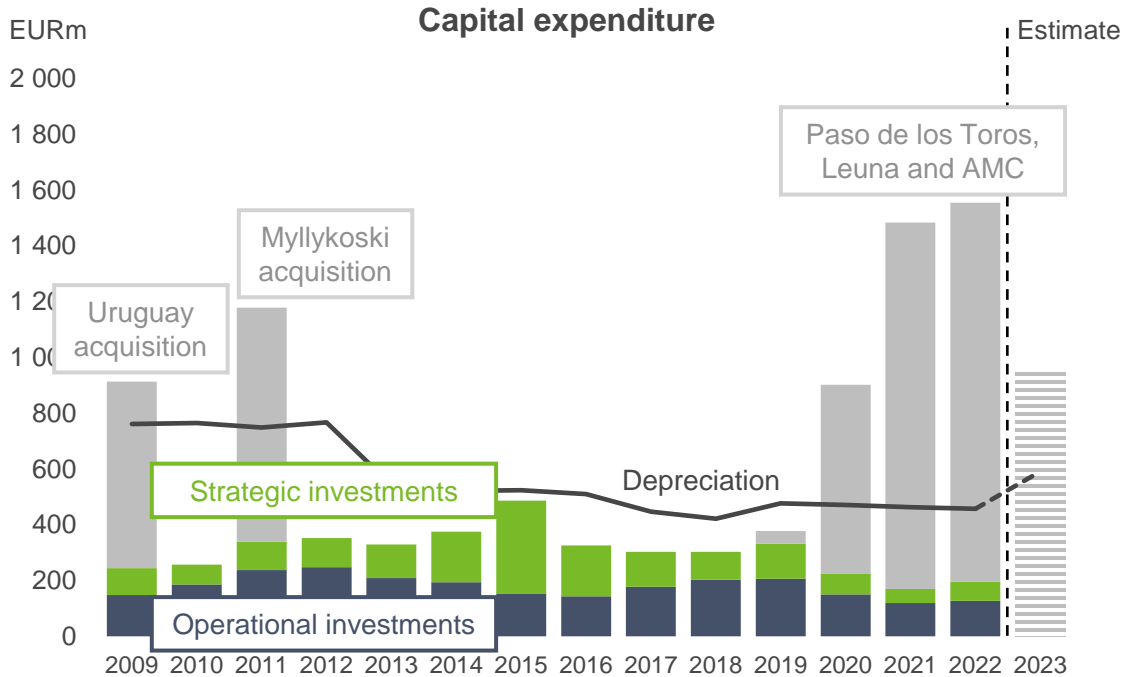
## Dividend policy

- UPM aims to pay attractive dividends, targeting at least half of the comparable earnings per share over time

## Dividend for 2022

- EUR 1.50 (1.30) per share, totalling EUR 800m
- 49% of 2022 comparable EPS

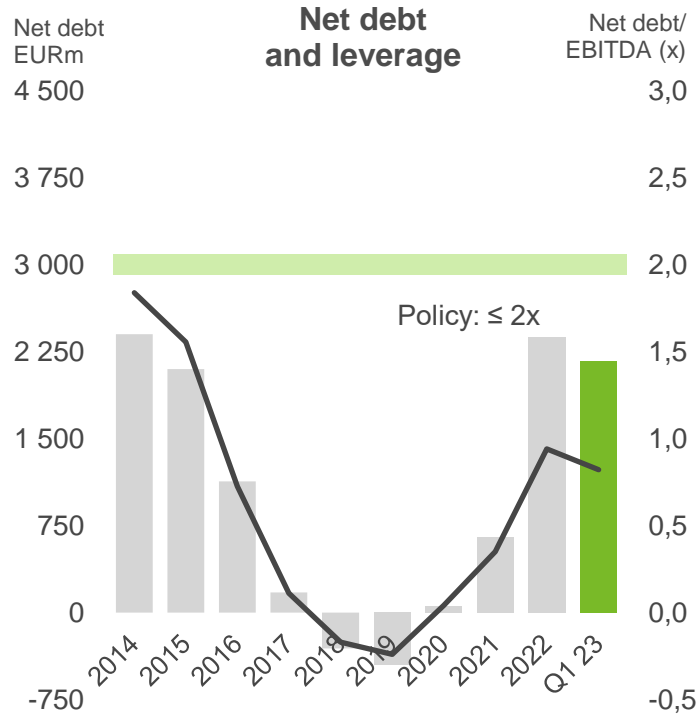
# Transformative growth projects in the most intensive phase in 2021-2022



## Capex estimate for 2023

- Total EUR 950m
- Includes EUR 750m on the transformative growth projects, pulp in Uruguay and biochemicals in Germany
- Operational investment needs consistently low

# Strong financial position

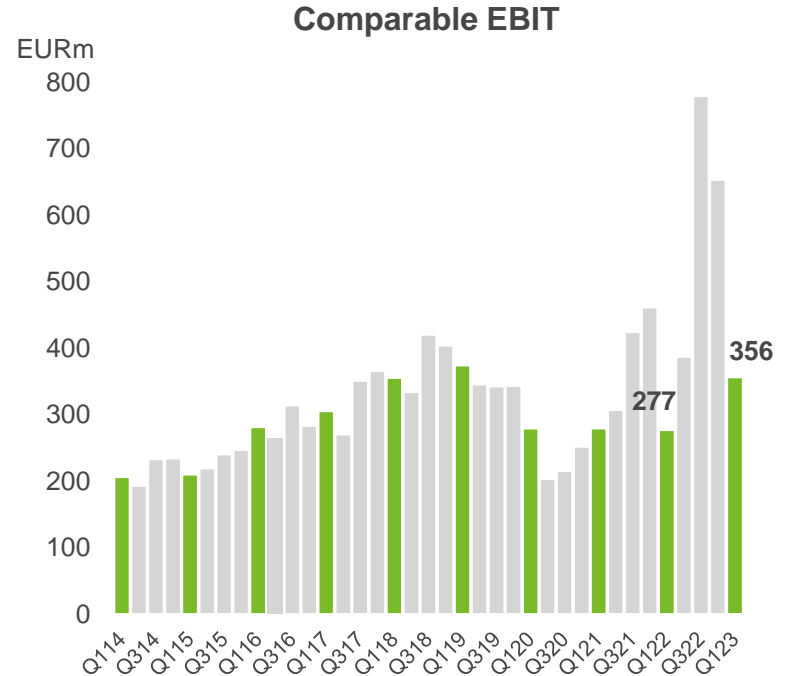


- Net debt EUR 2,167m at the end of Q1 2023
- Net debt / EBITDA 0.82
- Cash funds and committed credit facilities EUR 6.7bn at the end of Q1 2023
- No financial covenants

# Q1 2023: solid Q1 result underpinned by strong margins, two transformative projects completed



- Sales increased by 11% to EUR 2,787m (2,507m in Q1 2022)
- Comparable EBIT grew by 29% to EUR 356m, 12.8% of sales (277m, 11.0%)
- Operating cash flow was EUR 714m (12m), supported by cash inflow from energy hedges
- Unit margins on high level – delivery volumes impacted by destocking in various product value chains
- UPM Paso de los Toros started production, OL3 nuclear power plant unit started regular electricity production

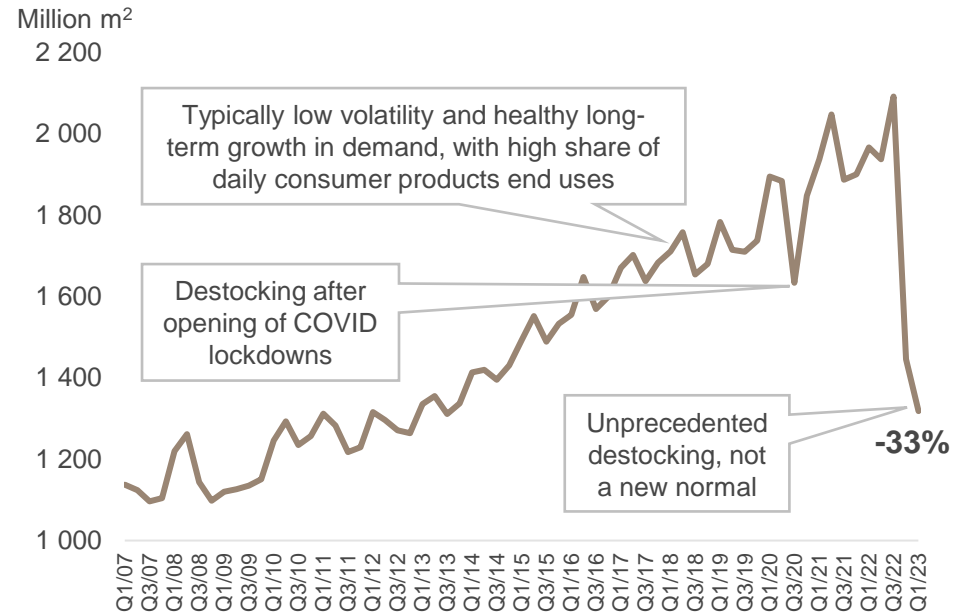


# Focus on margin management during short-term lack of volumes



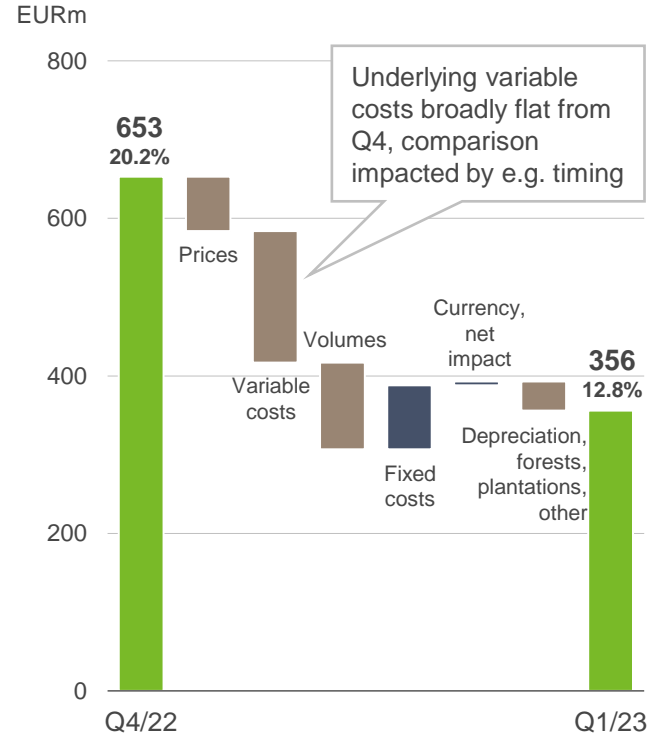
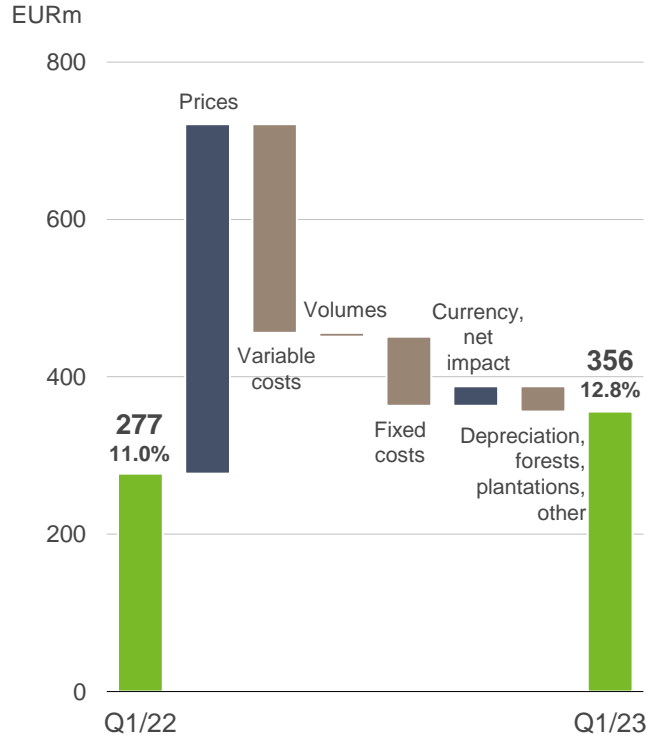
- Q1 market shipments in most products substantially below long-term trends due to destocking in the value chains
- UPM weighted average deliveries / capacity was about 70% in Q1 2023
- The impact of destocking is expected to phase out in the coming months
- The long-term growth prospects remain unchanged and attractive
- We continue to focus on margins
- Many variable costs have passed their peak but the benefit is yet to materialise in our results

Example: market shipments of self-adhesive label materials in Europe impacted by destocking



Source: FINAT

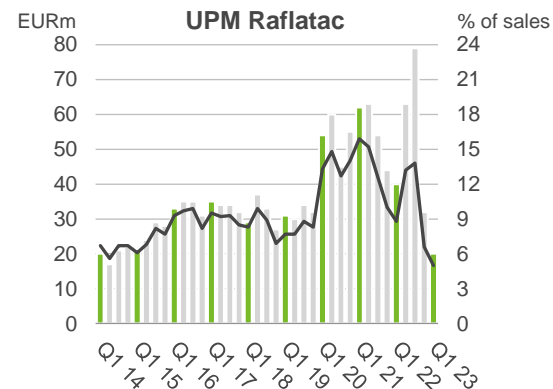
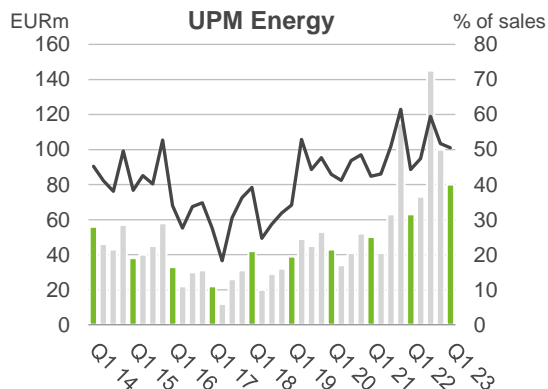
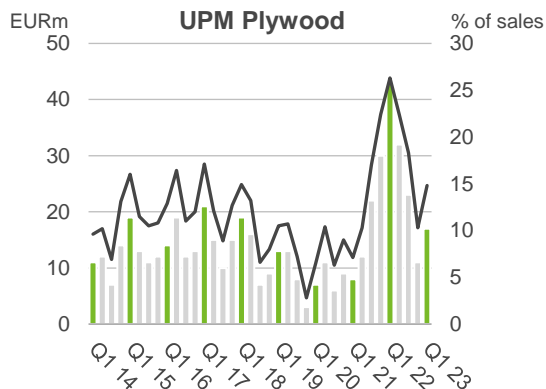
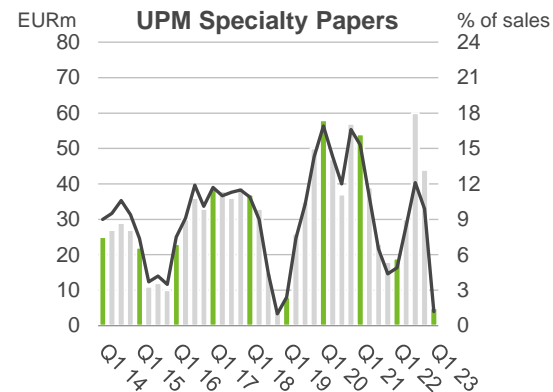
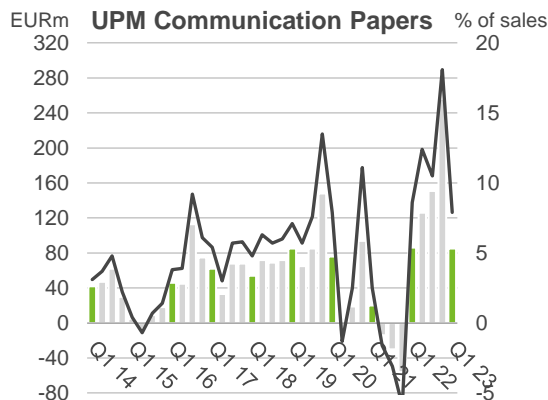
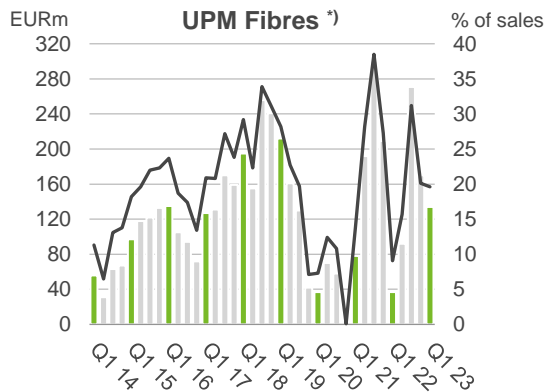
# Comparable EBIT in Q1 2023





UPM

# Comparable EBIT by business area



# Outlook for 2023



STOCK EXCHANGE RELEASE 11.5.2023

UPM lowers its outlook for 2023. Comparable EBIT in H1 2023 is now expected to decrease from H1 2022. Full-year 2023 comparable EBIT is expected to decrease from 2022.

Earlier, UPM expected comparable EBIT to increase in H1 2023 from H1 2022, and 2023 to be another year of strong financial performance.

Destocking in the various product value chains has continued to hold back delivery volumes in most UPM's businesses, resulting in slower recovery of volumes than earlier expected. In addition, chemical pulp prices have fallen faster than expected, towards estimated bottom-of-the-cycle price levels. Finally, as indicated earlier, UPM has high maintenance activity during Q2 2023.

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, as well as the phasing out of the destocking in the product value chains as the year progresses.

UPM continues to focus on margin management during the short-term lack of volumes. Many variable cost items have started to decrease, as expected, although the cost benefit of lower pulp prices to UPM's two paper businesses comes with the normal delay.

For reference, UPM's previous 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. In H1 2023, 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.

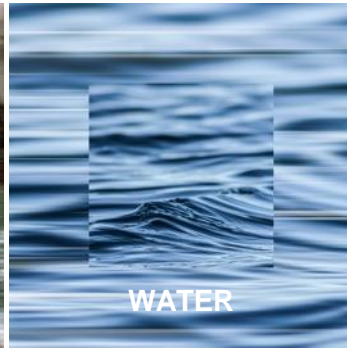
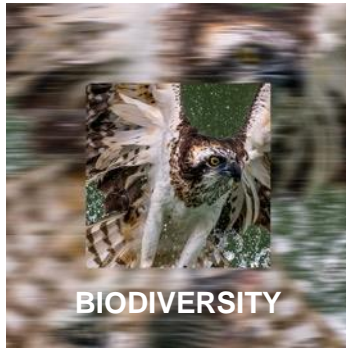
Year 2023 is starting with high cost level for many inputs, while the lower demand is exerting pressure on product prices. However, several input costs have also progressed past their peak. UPM will continue to manage margins with product pricing, by optimising its product and market mix and by taking 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."



# FOREST ACTION

The **UPM Forest Action** programme takes a holistic view, covering the five fundamentals of responsible forestry:

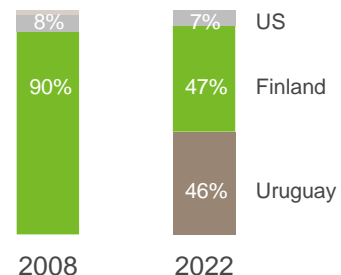


# Developing our forest assets

## UPM forests and plantations

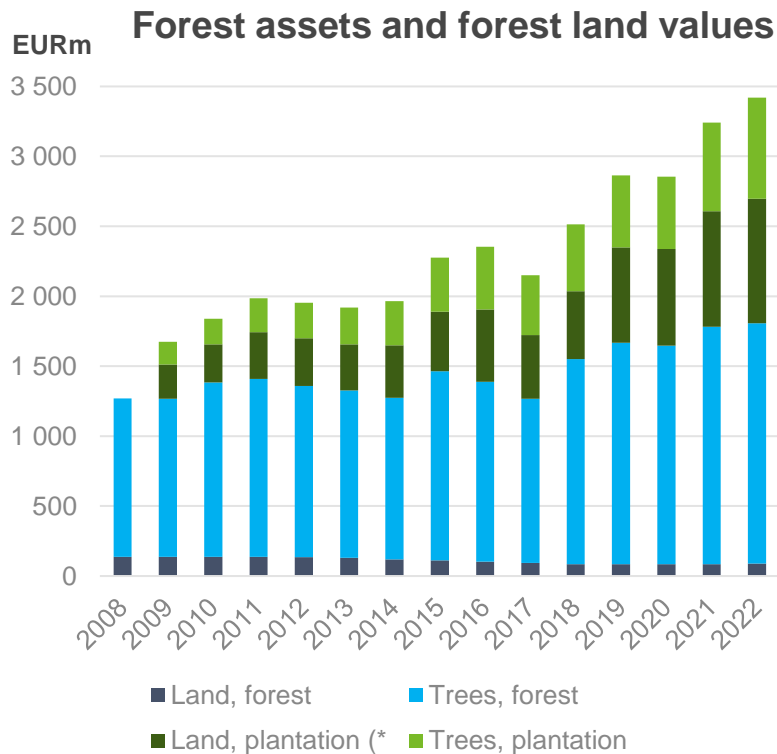
	2008	2022
Forest and plantation land (own and leased) (1,000 ha)	1,012	1,070
Forest growth (million m <sup>3</sup> )	4.3	6.7
Wood sourced from UPM forests and plantations (million m <sup>3</sup> )	2.2	4.5
Value of forests and plantations, including land (EURm)	1,270	3,421

## Area distribution



- Climate-positive forestry and maintenance of carbon sinks
- Investing in strategic forest assets in Uruguay
- Productivity with active management and nurseries
- Enhancing biodiversity

# Active forest strategy – UPM’s forest assets are increasingly productive and valuable



## Uruguay plantations

“fast turnover, low inventory”

- Value EUR 1.6bn
- Continuous productivity improvement (pulp tonnes/ha)
- Investing in strategic forest assets

## Finland and other northern forests

“slow turnover, high inventory”

- Value EUR 1.8bn (+43% since 2008, EUR/ha +140% since 2008)
- Decreased area (-42% since 2008), focusing on forests close to mills
- Improved growth (m<sup>3</sup>/ha)
- Trend price (EUR/m<sup>3</sup>)

# New business in wood-based biochemicals

Responding to strongly growing demand for sustainable solutions



Industrial scale biorefinery in Leuna, Germany



Alternatives to fossil materials in various consumer-driven end-uses



EUR 750 million investment  
Total annual capacity of 220,000 tonnes



Scheduled to start up by the end of 2023



# UPM Leuna biochemical refinery taking shape



# Renewable product range



- **Bio-monoethylene glycol (bMEG)**  
for textiles, PET bottles, packaging, deicing fluids
- **Renewable functional fillers**  
for rubber applications as a sustainable, light-weight and high-purity alternative to carbon black and silica
- **Bio-monopropylene glycol (bMPG)**  
for composites, pharma, cosmetics, detergents
- **Industrial sugars**  
for various applications in chemicals industry



# Large growth markets – unique sustainability value



- The global glycols market is more than 30 million tonnes, with expected annual growth of approx. 4%
- The global market of carbon black and silica is more than 15 million tonnes, with expected annual growth of approx. 3%
- Current market supply based on non-renewable raw materials
- Customers increasingly committed to sustainable solutions
- UPM's renewable raw material and new technologies provide significant reduction in carbon footprint
- UPM biochemicals fit directly into customers' processes and the existing recycling infrastructure

# UPM Paso de los Toros will grow UPM Pulp by over 50%



Highly competitive cash cost of  
USD 280 per delivered tonne of pulp



Pulp mill and deep seaport  
terminal in Montevideo  
Jobs and other opportunities  
for the residents of the region



Pulp is used in tissue,  
specialty and packaging  
papers, for example



USD 3.47 billion investment  
Total annual capacity  
of 2.1 million tonnes of  
eucalyptus pulp



Started up in April

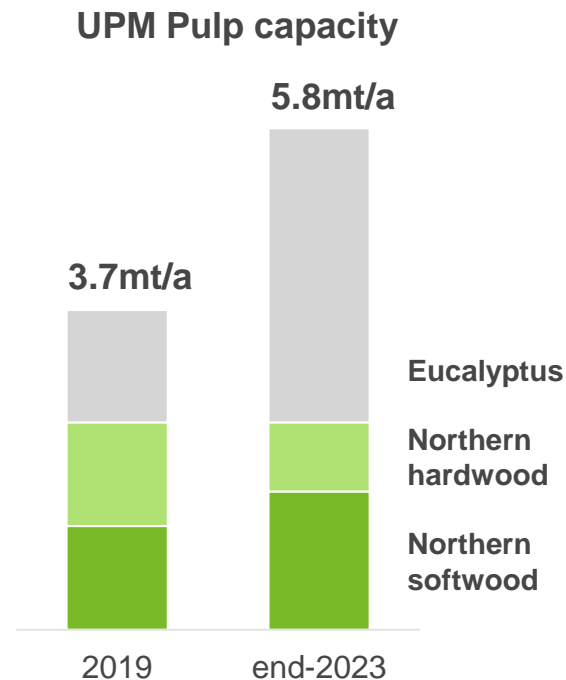




# Transformative step in UPM's pulp business and in UPM's future earnings



- Significant step for UPM's future earnings
  - One of the most competitive mills in the world
  - Expected cash cost level of USD 280 per delivered tonne of pulp\*)
  - Attractive returns in various market scenarios
  - Carefully prepared to ensure long-term competitiveness and to minimise risks both in the project phase and during continuous operations
- Step change in UPM's pulp business



UPM Fibres

# Competitive wood supply



Eucalyptus availability secured through UPM's own and leased plantations and wood sourcing agreements with private partners

UPM's own, leased and managed plantations in Uruguay cover 504,773 hectares, supplying both UPM Fray Bentos and the new Paso de los Toros mill

30 years experience of sustainably managed and productive plantations

Status: Expansion ready



# Efficient logistics set-up



USD 280 million investment to a **deep sea pulp terminal** in Montevideo port

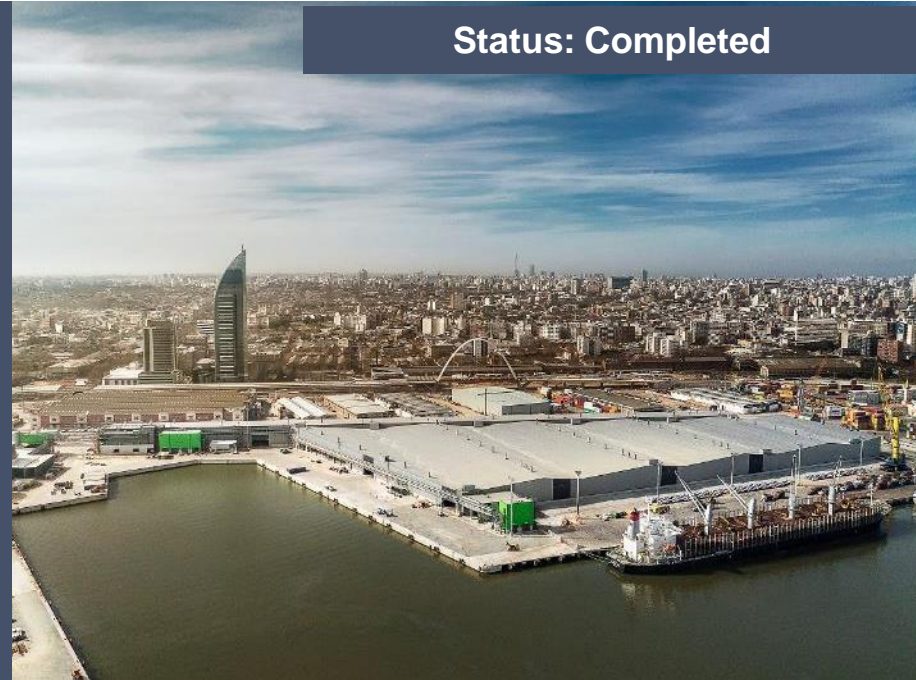
- Direct rail access from the mill with 4-6 trains/day + 1 chemical train/day to the mill
  - Operating 24/7
  - >50,000 m warehouse for ~2 million pulp tonnes
  - Deep sea port with 100 pulp ships a year
- ➔ **Direct, efficient access to global markets**

Railway modernisation

- Public-private-partnership agreement by the government and the construction company

Road improvements

Status: Completed



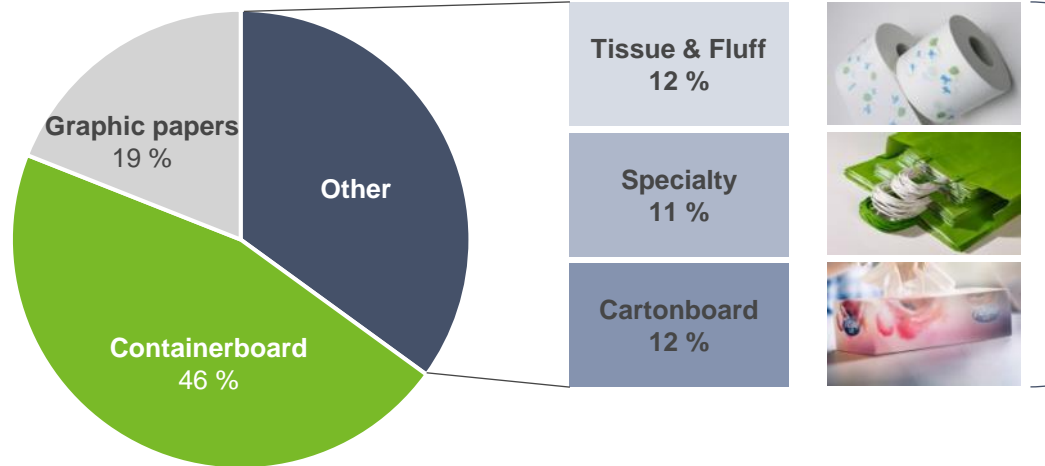
# Market pulp consumed in growing end-uses – alternative white fibre demand overcoming graphical paper decline



↓ **Graphic papers**  
Based on white fibre



↑ Growing end-uses of white fibre



Based on  
65% white fibre  
35% brown fibre

↑ **Containerboard**  
Based on brown fibre

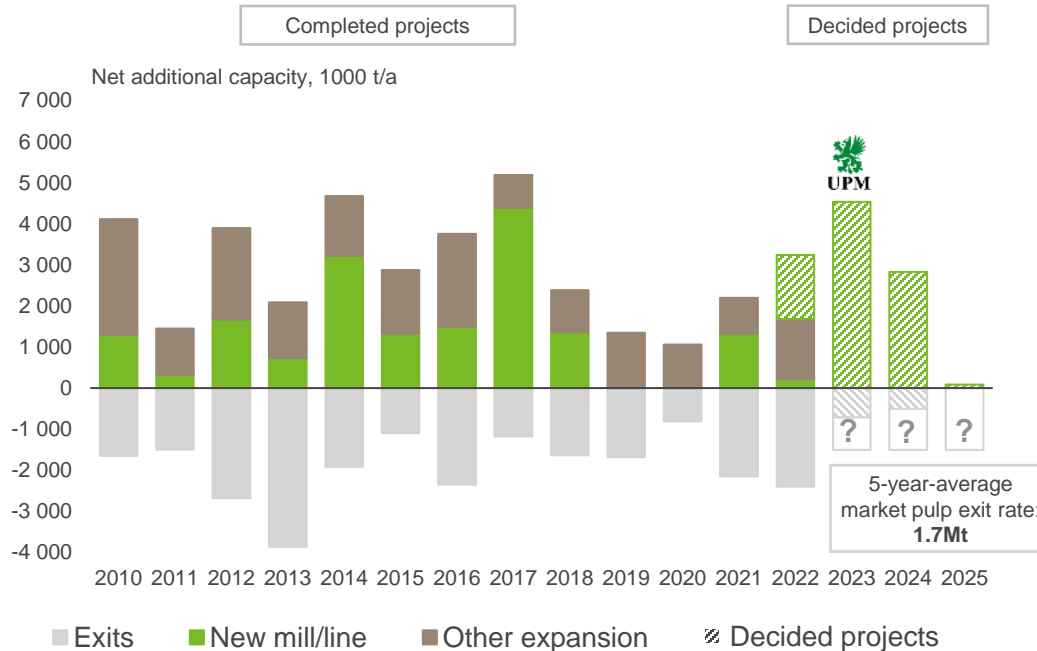


**Total fibre consumption (2020): 421 million tonnes**

# Moderate numbers of decided projects in the short-term and expansion mainly in BHKP



## Entry of bleached market pulp capacity



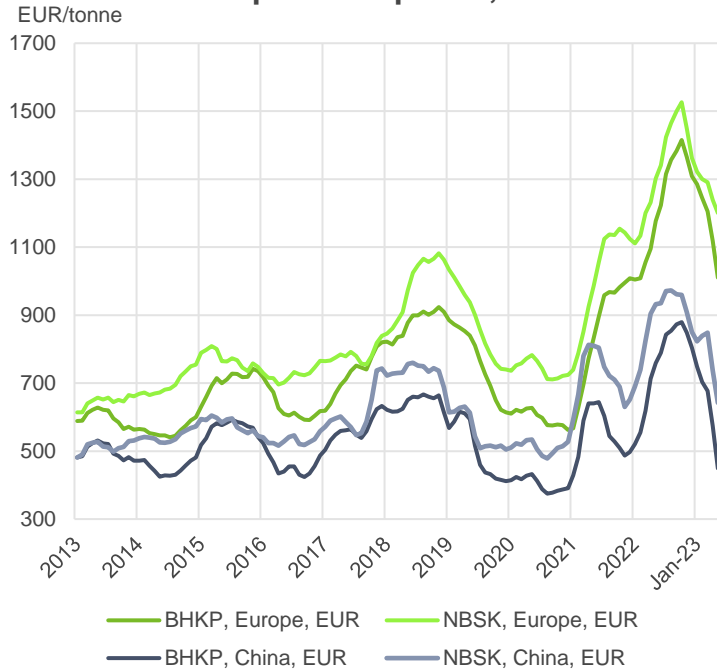
Note: including BHKP, BSKP, excluding fluff and dissolving

# UPM Fibres

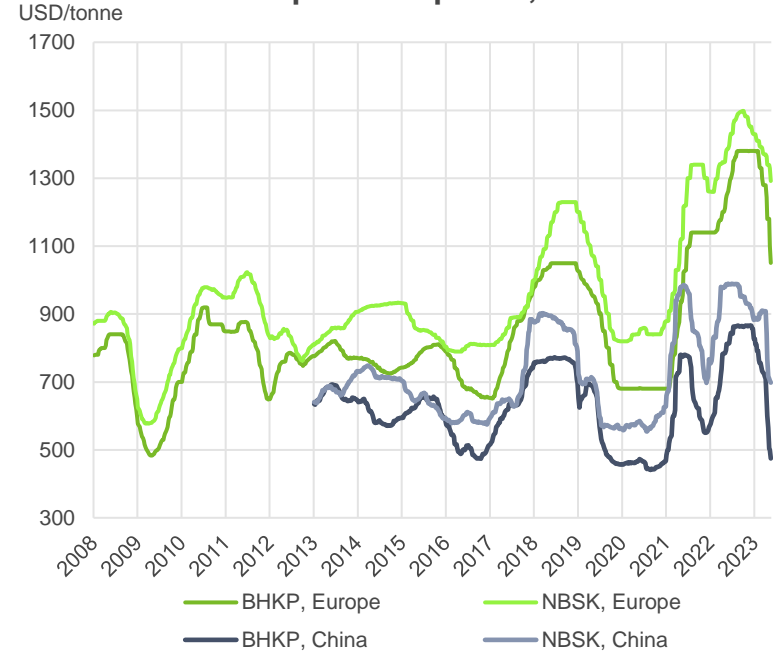
## Chemical pulp market prices



### Pulp market prices, EUR



### Pulp market prices, USD



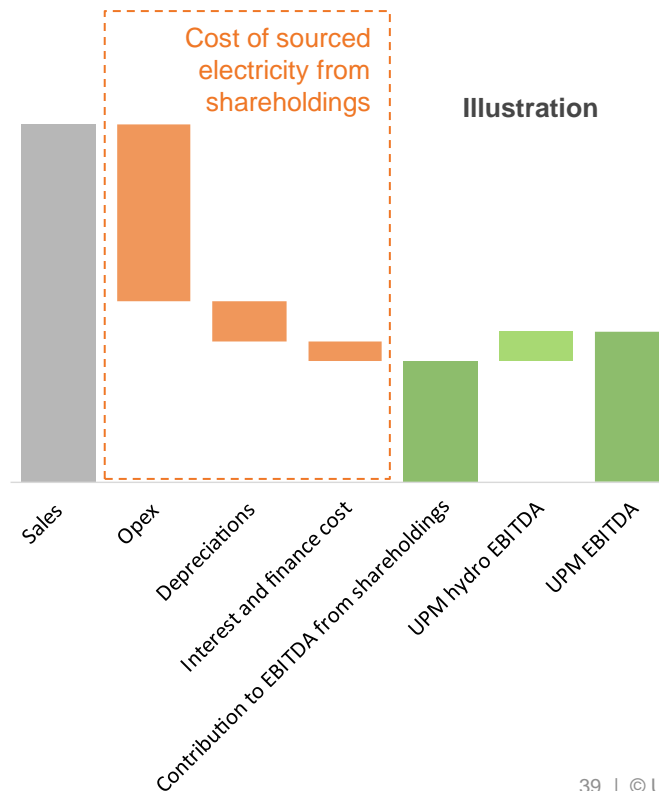
Source: FOEX Indexes Ltd

# UPM Energy

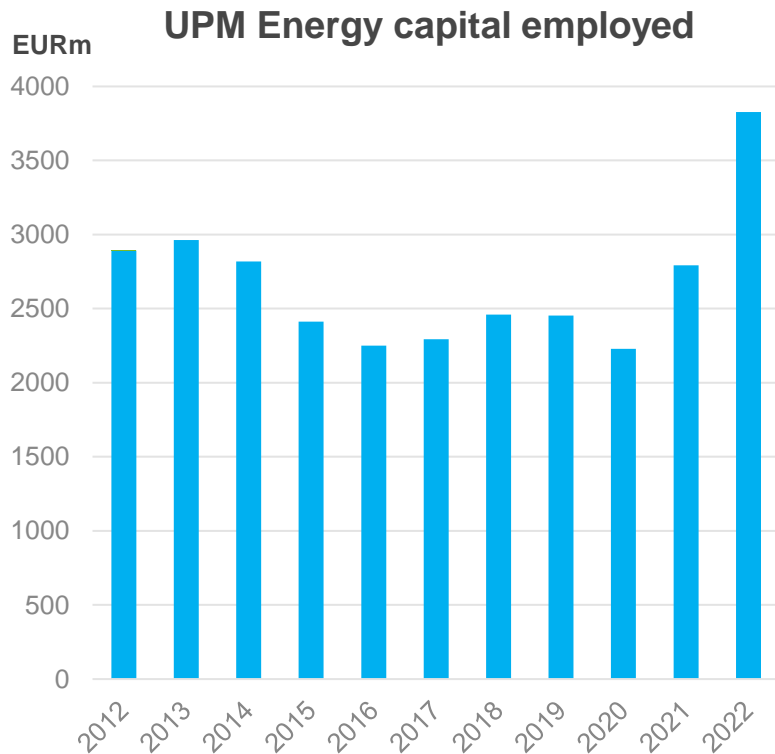


UPM Energy's power generation	MW	EURm
Hydropower holdings	552	1,014
Nuclear power OL1 and OL2	588	1,666
Nuclear power OL3 (PTO 03/2023)	494	312
Thermal power	133	1
UPM Energy's shareholdings in total, valued at fair value	1,765	2,993
UPM own hydropower assets	170	
UPM Energy's in total (incl. OL3)	1,936	
UPM Energy capital employed		3,291

UPM Energy sources electricity from part owned energy companies at full cost (cost-price principle, mankala principle)



# UPM Energy's assets are competitive, CO<sub>2</sub>-free and increasingly valuable



## Hydropower

- Flexible generation, crucial to balance the volatile system
- Renewable, CO<sub>2</sub>-free
- Value EUR 1.3bn

## Nuclear power

- Reliable baseload generation
- CO<sub>2</sub>-free
- Unique and safe solution for final disposal of spent fuel
- Value EUR 2.5bn



UPM Energy

# OL3 started regular electricity production

We create a future beyond fossils: OL3 will grow UPM Energy's carbon free electricity generation by nearly 50%

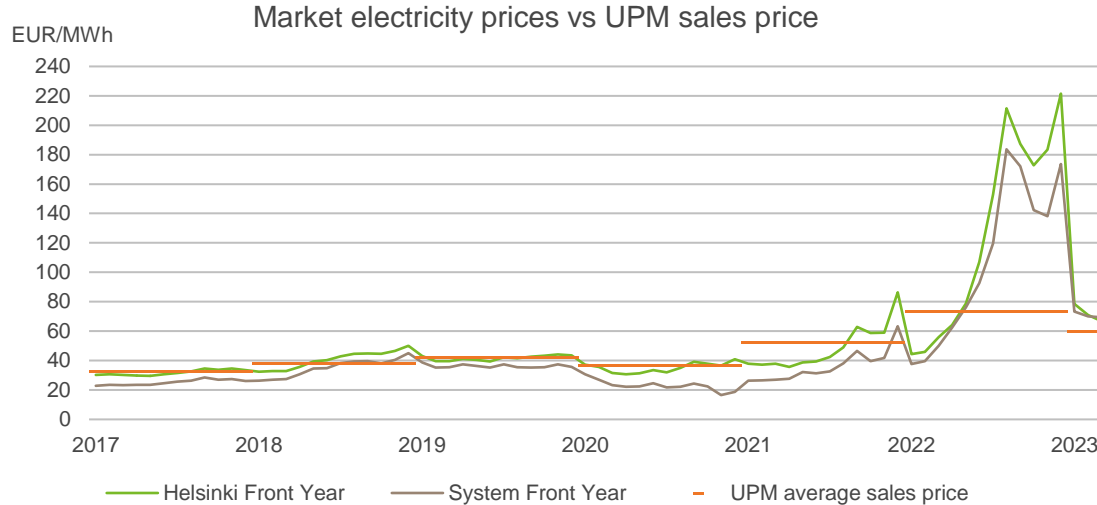
Reliable CO<sub>2</sub>-free baseload energy to support the electrification of the society

Finland's electricity self-sufficiency significantly improved, carbon neutral generation to about 90%

UPM's agile and competitive energy business platform opens growth opportunities in the green transition



# Cost efficient generation enables robust profitability in changing market environment



UPM Energy profitability	2018	2019	2020	2021	2022	Q123
Comparable EBIT, EURm	123	185	171	270	381	80
% of sales	31.5	44.4	45.0	51.3	52.0	50.5

# Self adhesive labels in various end-uses



Food



Wine, spirits & beverage



Pharmaceuticals



Personal care



Home care



Durables



Transport & logistics



Industrial Chemical



Retail



A4 & cut-size



Security & brand protection



Tyre

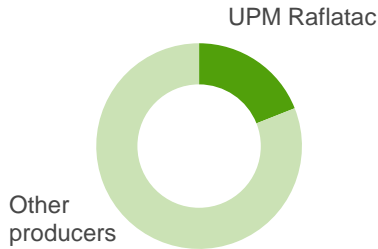
# UPM Raflatac

## The self-adhesive labelstock market

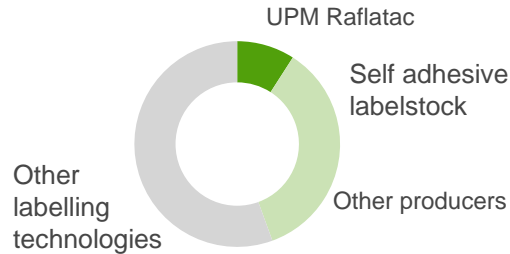
- >EUR 10bn global market
- ~3-4% p.a. growth
- Private consumption driven
- Largest of the labelling technologies
- <25% of total self adhesive materials markets



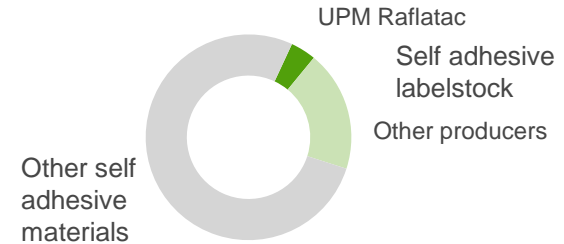
**Self-adhesive labelstock market**



**All labelling technologies**



**All self adhesive materials**



# The labelstock markets have solid long term demand growth trends – short term can be more volatile



The long term demand growth outlook remains a solid 3-4% p.a.

However in the short term the demand changes can be more dynamic

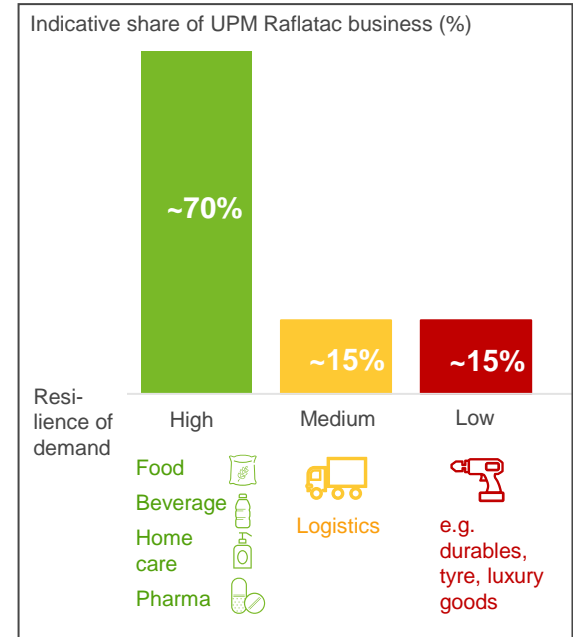
The demand of UPM Raflatac's end use portfolio is relatively resilient

Growth drivers

- Packaging unit growth in Food, Personal Care, Beverage
- E-Commerce growth & parcel logistics
- Niche segments (e.g. pharmaceuticals)
- Further trends benefitting labelstock: **sustainability**, wet glue substitution

Impact to labelstock demand

- Consumer **stockpiling**
- Lockdowns**
- Value chain **inventory cycle**
- Private consumption changes**



# UPM Specialty Papers

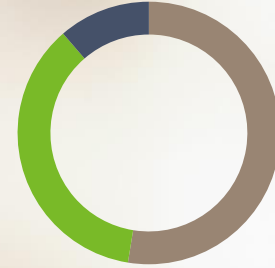


Sales  
1,677 M€  
in 2022

EBITDA  
230 M€  
in 2022

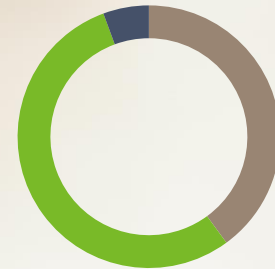
ROCE  
17.2%  
in 2022

## Sales by market\*



■ APAC ■ EMEIA ■ North America & LATAM

## Sales by product\*



■ Fine ■ Label & release ■ Packaging

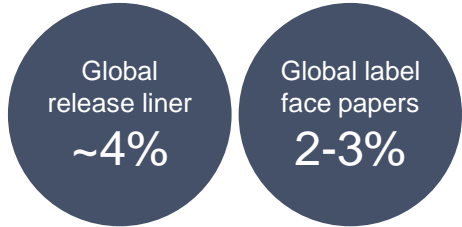
\*2021 figures

# Growth expected to continue in main markets



## LABEL & RELEASE

Market development forecast,  
CAGR 2021-2026

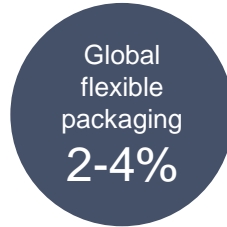


### UPM Specialty Paper

Leading position in growing global label and release paper markets



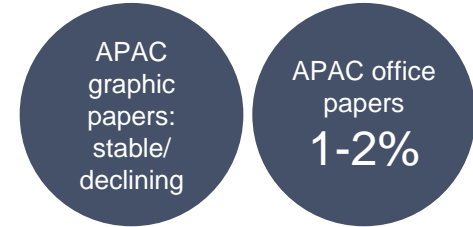
## PACKAGING PAPERS



Selective approach in consumer packaging area. Well positioned for future growth.



## APAC FINE PAPERS



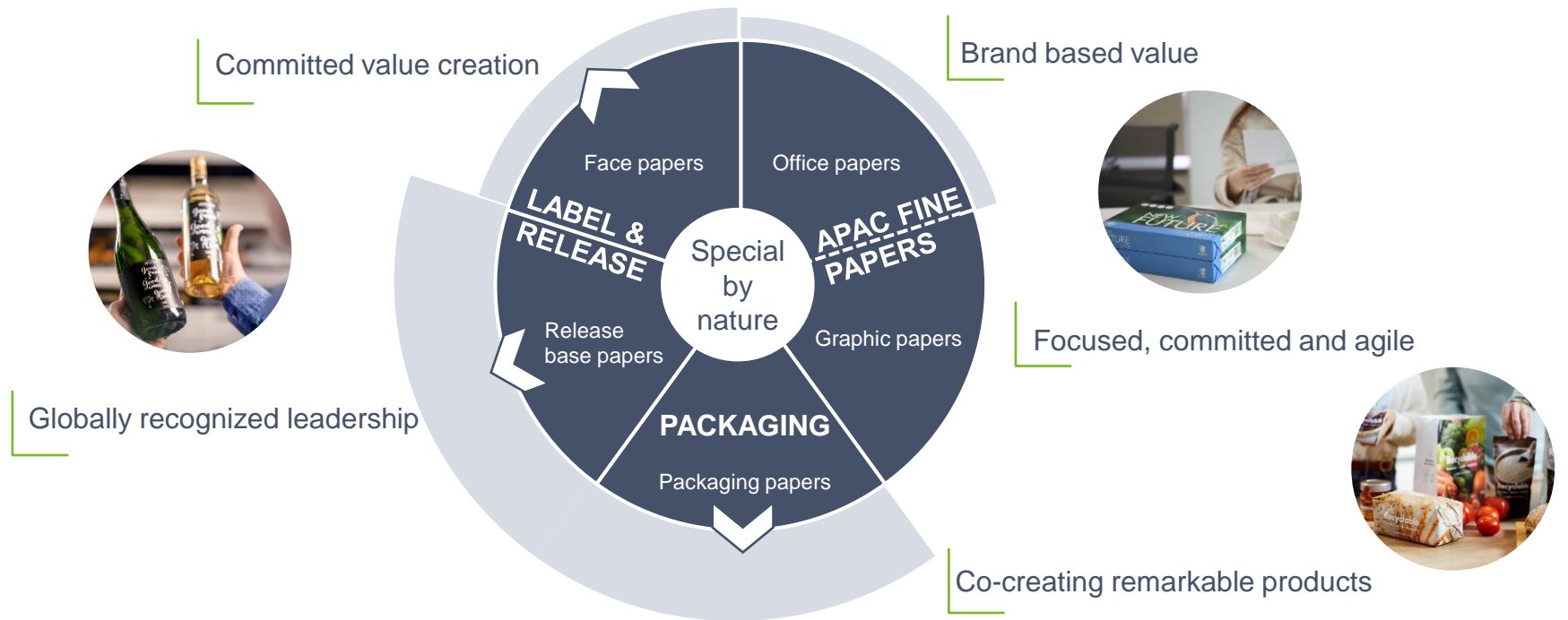
One of the leading players in office papers, focused niche player in graphic papers



Source: AWA, Pira, UPM

# UPM Specialty Papers **GROWTH STRATEGY**

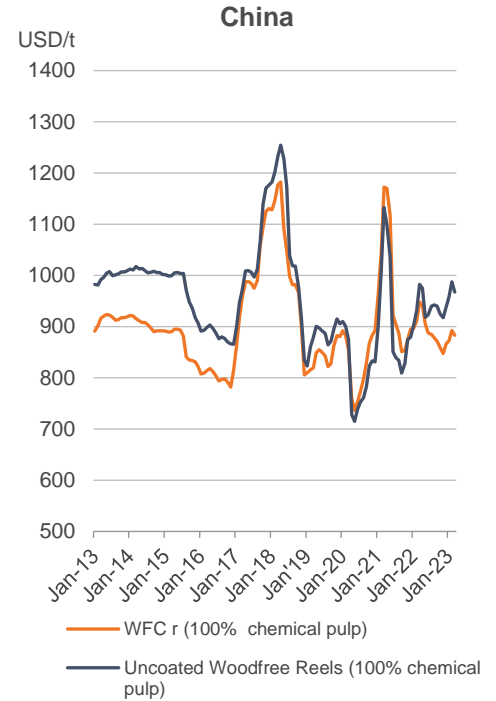
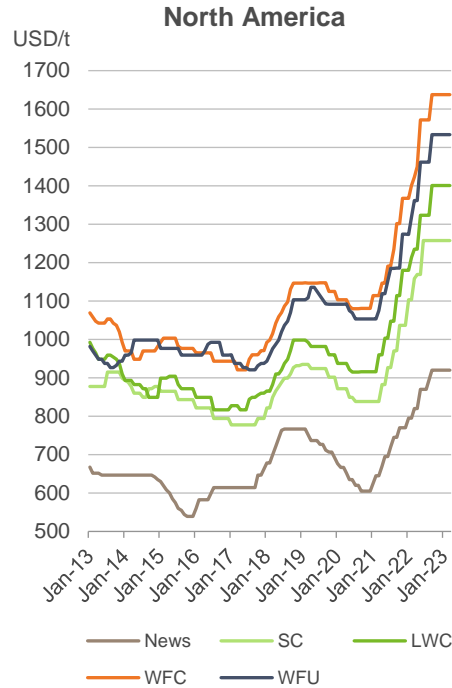
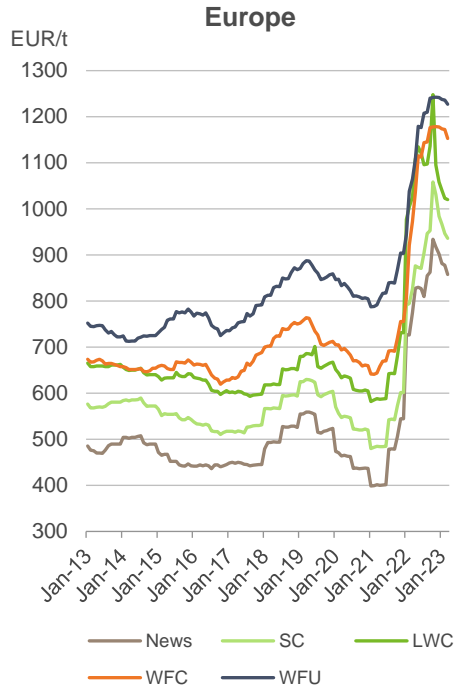
We co-create a future beyond fossils with renewable, recyclable and remarkable papers





# UPM Communication Papers

## Graphic paper prices

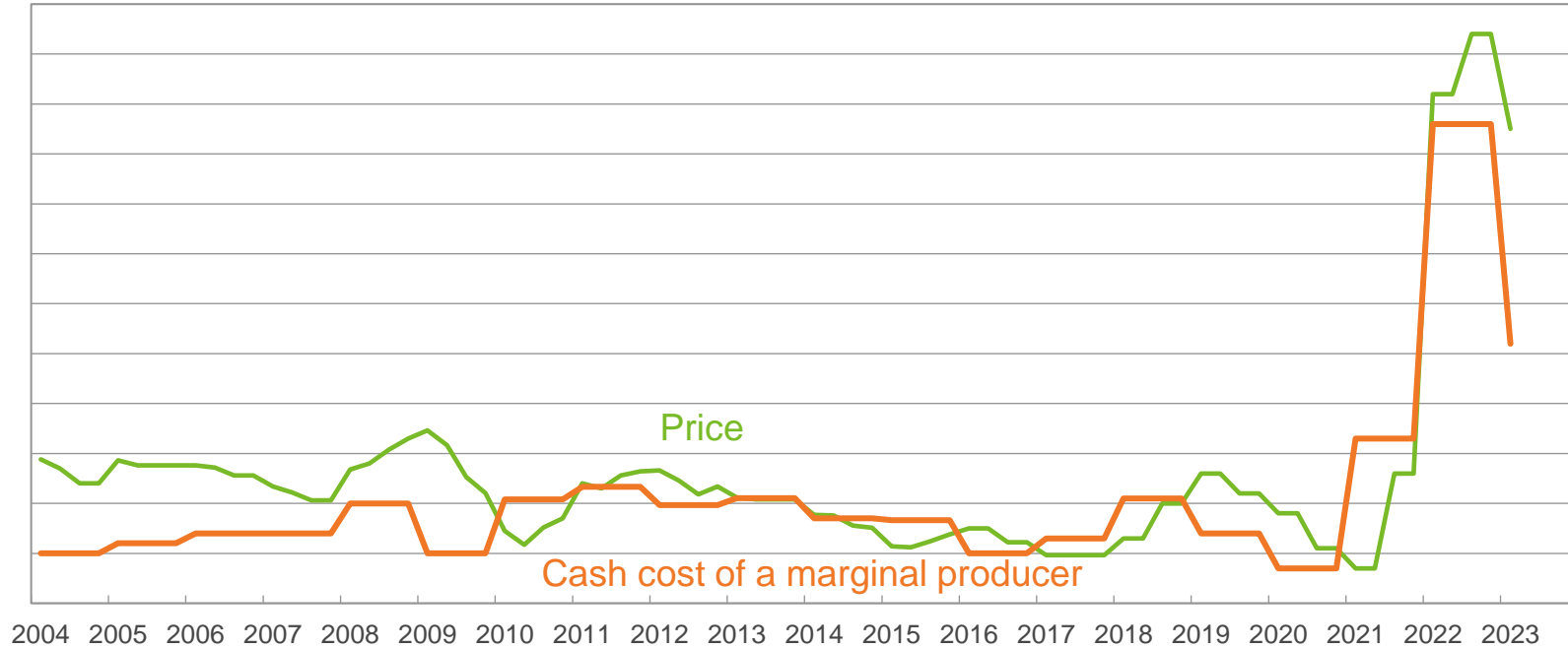


Sources: PPI, RISI

# Paper price vs. cash cost of marginal cost producer



EUR/t



Sources: PPI, RISI, Pöyry

# UPM Plywood focuses on three end use segments



## Construction



### UPM's position and direction

- Leading position in high and medium range standard products in Europe through well established distribution network providing easy access to WISA® plywood
- Uncompromised sustainability, certified products and operations
- New growth sought by strengthening position in selected emerging markets

## Vehicle flooring



### UPM's position and direction

- Leading position in Europe
- Competitive edge built on smoothly running operations and needs-based product design creating value to both vehicle manufacturers and operators
- Growth sought by expanding to new markets and related end use segments

## LNG shipbuilding



### UPM's position and direction

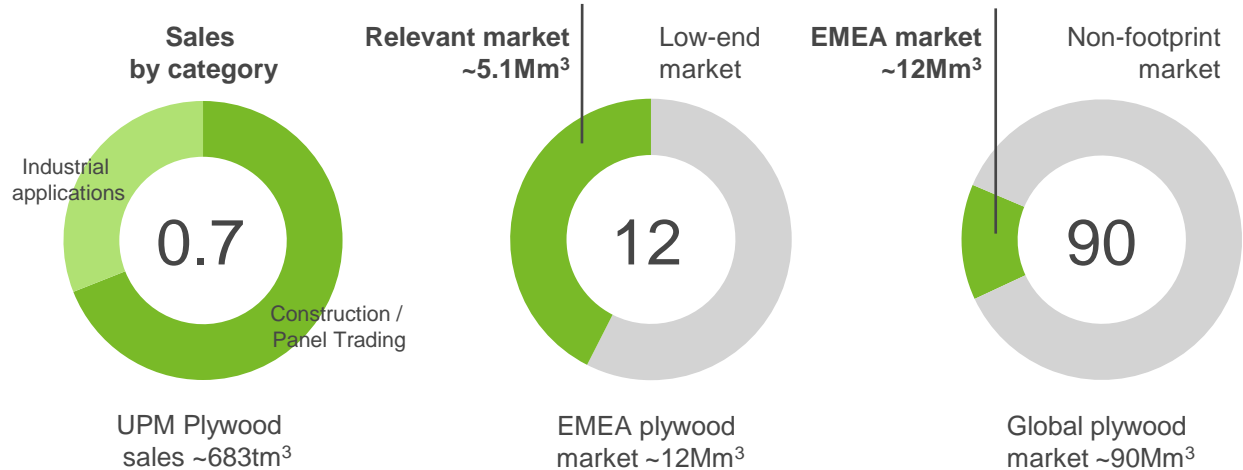
- Leading supplier in LNG plywood
- Competitive edge based on right quality and accurate on-time deliveries
- Long term commitment and benchmark service level
- Focus to secure leading position in LNG carriers and to extend offering into related applications using the same technologies (e.g. land storage tanks)

# UPM's key markets are in the high and mid segments primarily in EMEA region



## Strategic choices

1. Demanding industrial applications
2. High and medium range standard products
3. Selected customers
4. EMEA region and LNG business globally



# Moving forward with biofuels growth plans

## Basic engineering phase of a next generation biorefinery



Potential industrial scale biofuels biorefinery



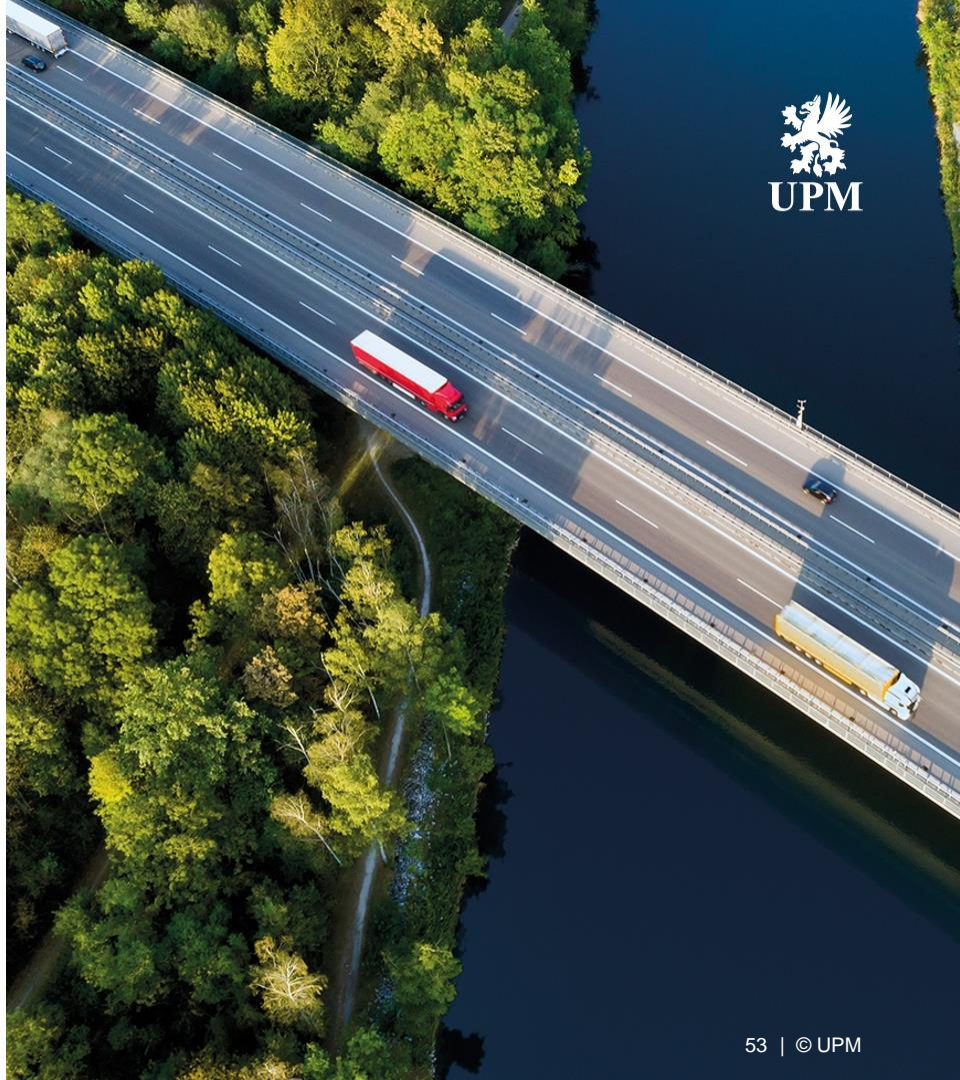
Products would significantly reduce carbon footprint in the road transport and aviation



Capacity would be up to 500,000t of renewable fuels incl. sustainable jet fuel



Potential investment in Rotterdam, the Netherlands.



# UPM Biofuels' competitive edge to be built on resilient ecosystem and agility to select markets



## NEW SUSTAINABLE BIOMASS

Sustainable and uniquely upstream integrated feedstock pool

- Additionality
- Climate positive land use



Carbon stored to soil in each cycle

## CLIMATE-POSITIVE FUELS

Efficient carbon neutral production



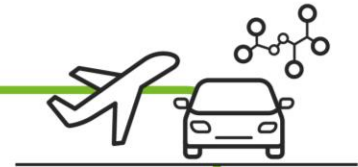
Cellulosic fuels

Renewable diesel, gasoline and jet

E-fuels future potential

## DECARBONIZED TRANSPORT AND PETROCHEMICALS

Flexibility to create maximum value from several end uses and market geographies



# UPM and hydrogen – growth opportunities in large-scale green hydrogen solutions

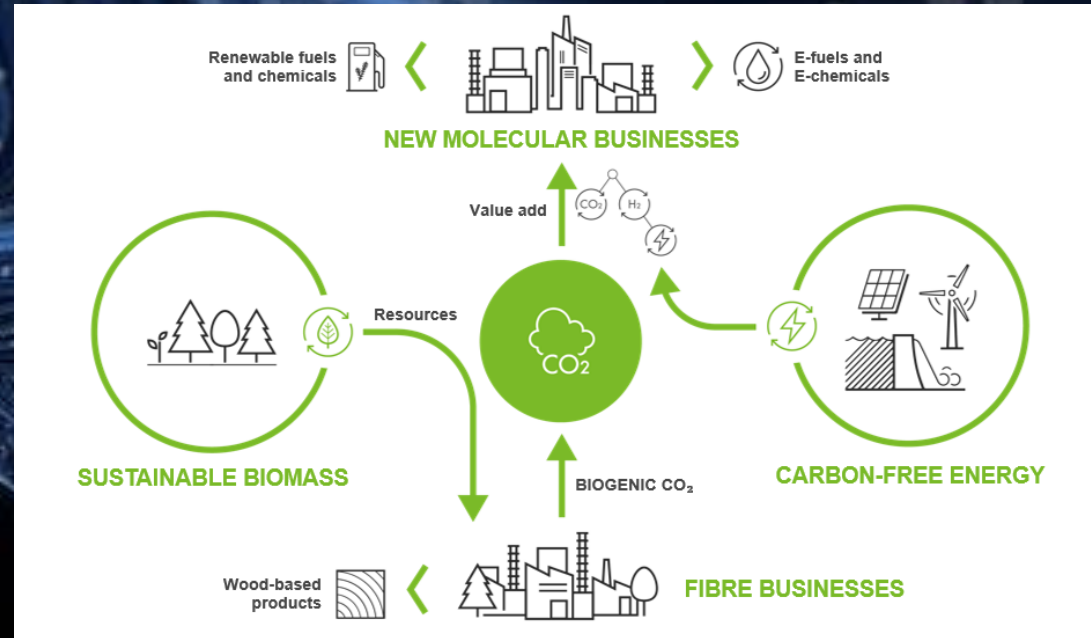


**Decarbonisation will require synthetic fuels** and new low-emission electricity generation

- demand for e-fuels will be driven by regulation and EU's target to decrease dependency on Russian fossil fuels

**UPM has competitive advantage**

- experience and in-depth knowledge on energy markets
- decarbonisation and energy optimization tools and skills
- experience on biorefinery operations
- available biogenic CO<sub>2</sub> needed in the production of some e-fuels



UPM **BIOFORE**  
**BEYOND** FOSSILS

