



# UPM Biofore – Beyond fossils

Investor presentation  
October 2021





# UPM in brief

**SALES 2020**  
**EUR 8.6 BILLION**

**Wood based  
raw-materials**



**Low carbon  
energy**

## **BUSINESS AREAS:**

- UPM BIOREFINING
- UPM ENERGY
- UPM RAFLATAC
- UPM SPECIALTY PAPERS
- UPM COMMUNICATION PAPERS
- UPM PLYWOOD
- NEW BUSINESSES

**51  
production  
plants**



**18,000  
employees in  
46 countries**

## **RENEWABLE AND RECYCLABLE PRODUCTS FOR:**

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

**13,400  
customers**



**200  
million end-users  
globally**

# Our businesses



## UPM BIOREFINING

### UPM Pulp

pulp for tissue, specialty and packaging papers.



### UPM Timber

certified sawn timber for joinery, packaging, furniture and construction.



### UPM Biofuels

renewable diesel for all diesel engines and renewable naphtha for petrochemical industry.



### UPM Forest

competitive wood for businesses and management of privately-owned forests.



## UPM RAFLATAC

self-adhesive label materials for branding and information labelling.



## UPM SPECIALTY PAPERS

labelling and packaging materials and fine papers for packaging and printing.



## UPM COMMUNICATION PAPERS

graphic papers for advertising and publishing and home and office uses.



## UPM PLYWOOD

WISA® plywood for construction, vehicle flooring and LNG shipbuilding.



## UPM ENERGY

cost-competitive, zero-carbon electricity.



## NEW BUSINESSES

### UPM Biochemicals

wood-based biochemicals for replacing fossil-based raw materials



### UPM Biomedicals

wood-based biomedical products for a variety of uses.



### UPM Biocomposites

composite decking materials based on recycled waste.



## A FUTURE BEYOND FOSSILS

Biofore strategy  
drives our  
transformation  
as the  
frontrunner of  
bioeconomy

### 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

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



# Our spearheads for growth



# We deliver positive impact to mitigate climate change and to create long-term value



## WE ACT THROUGH FORESTS

We are committed to climate-positive forestry and enhancing biodiversity.



## WE ACT THROUGH EFFICIENCY AND EMISSIONS

Our target is to reduce our CO<sub>2</sub> emissions by 65%.



## WE ACT THROUGH PRODUCTS

We innovate novel products to provide ever more sustainable alternatives for fossil-based materials.



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

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





# Leader in responsibility



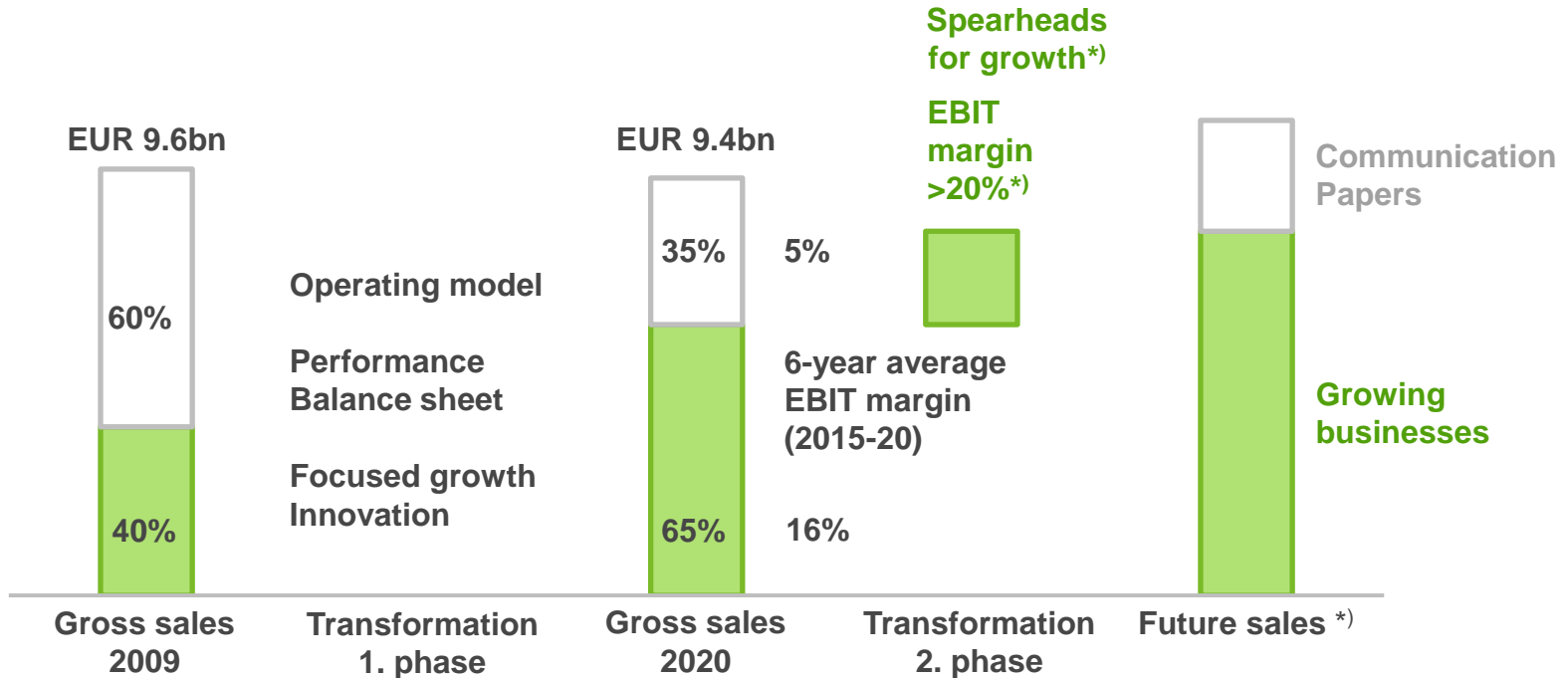
Member of  
**Dow Jones  
Sustainability Indices**  
Powered by the S&P Global CSA



Global Compact  
**LEAD**  
2021 PARTICIPANT



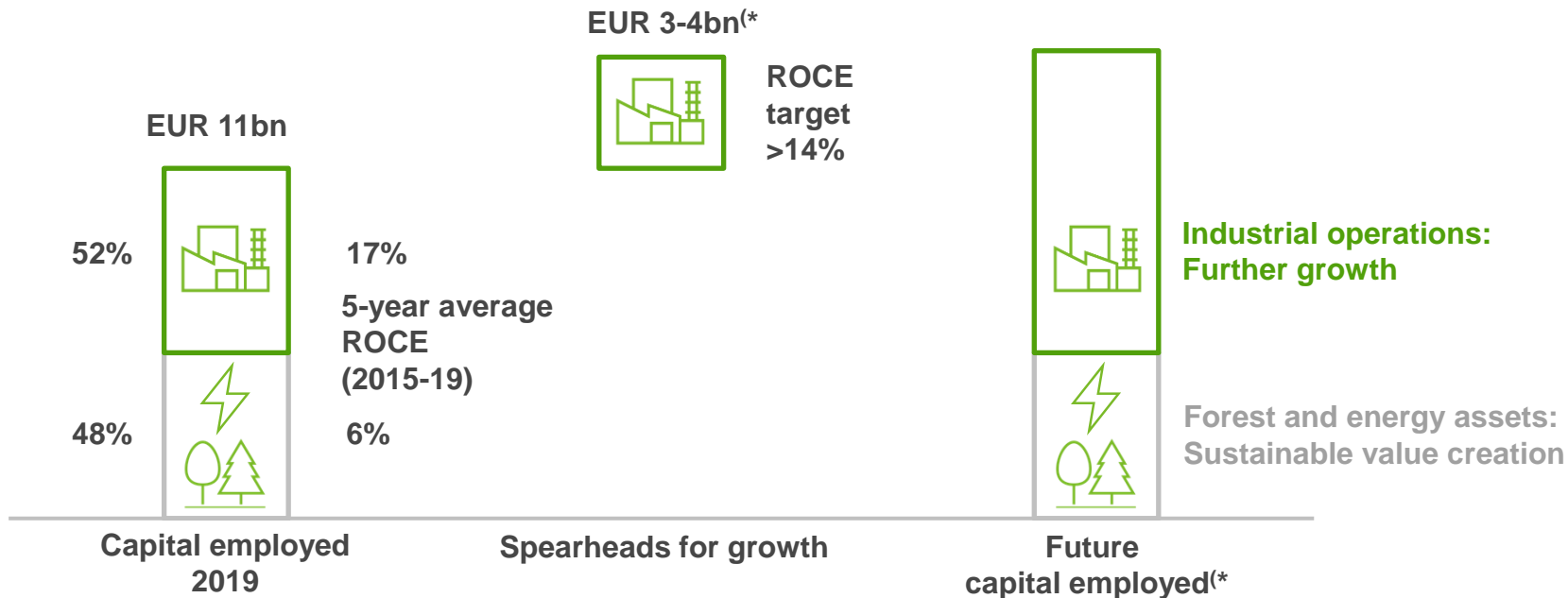
# Spearheads for growth – improving business mix drives earnings, cash flow and shareholder value



\*) This is an illustration, not a forecast

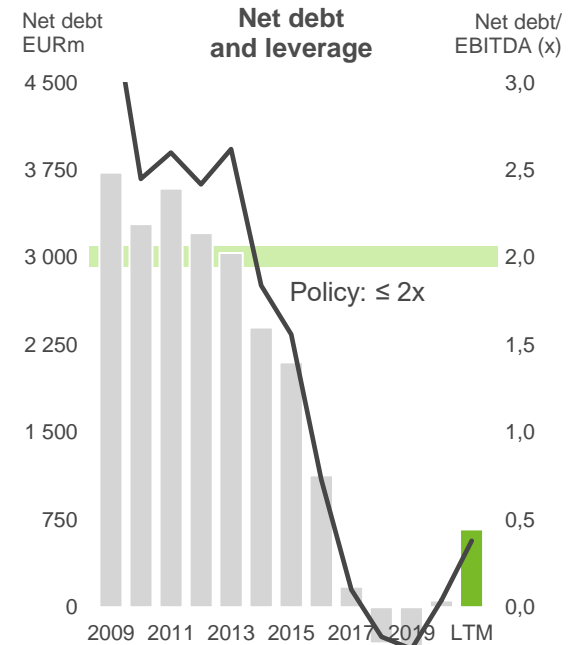
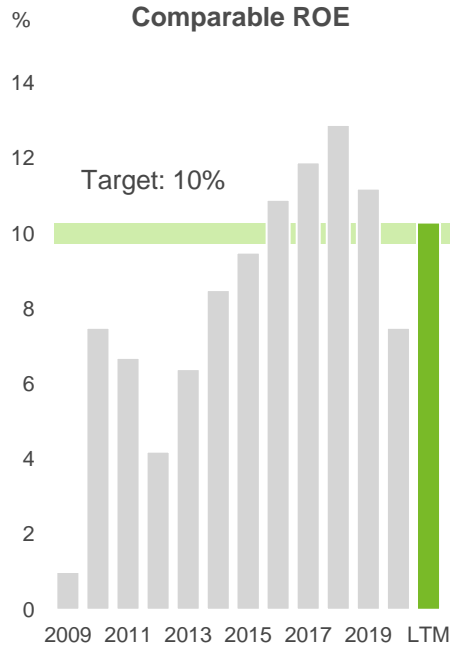
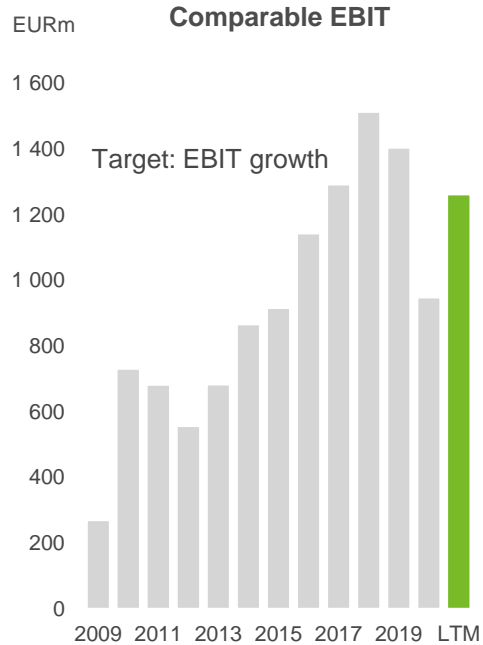


# Transformation improves UPM's asset mix, driving returns



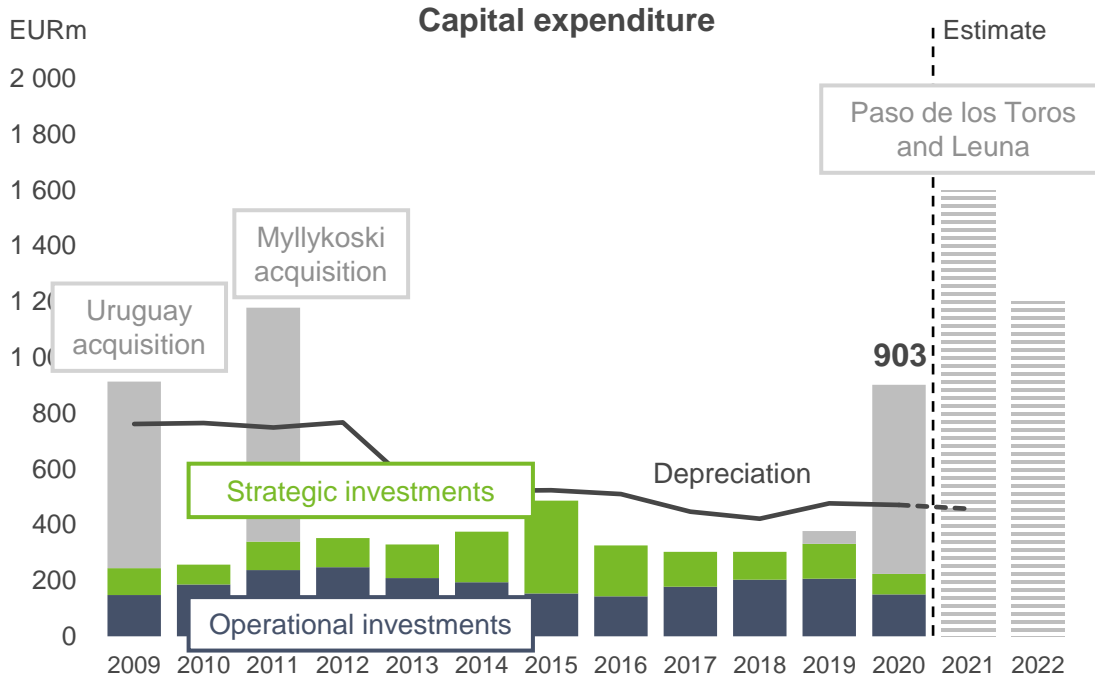
\*) This is an illustration, not a forecast

# Transformation is visible in earnings and balance sheet





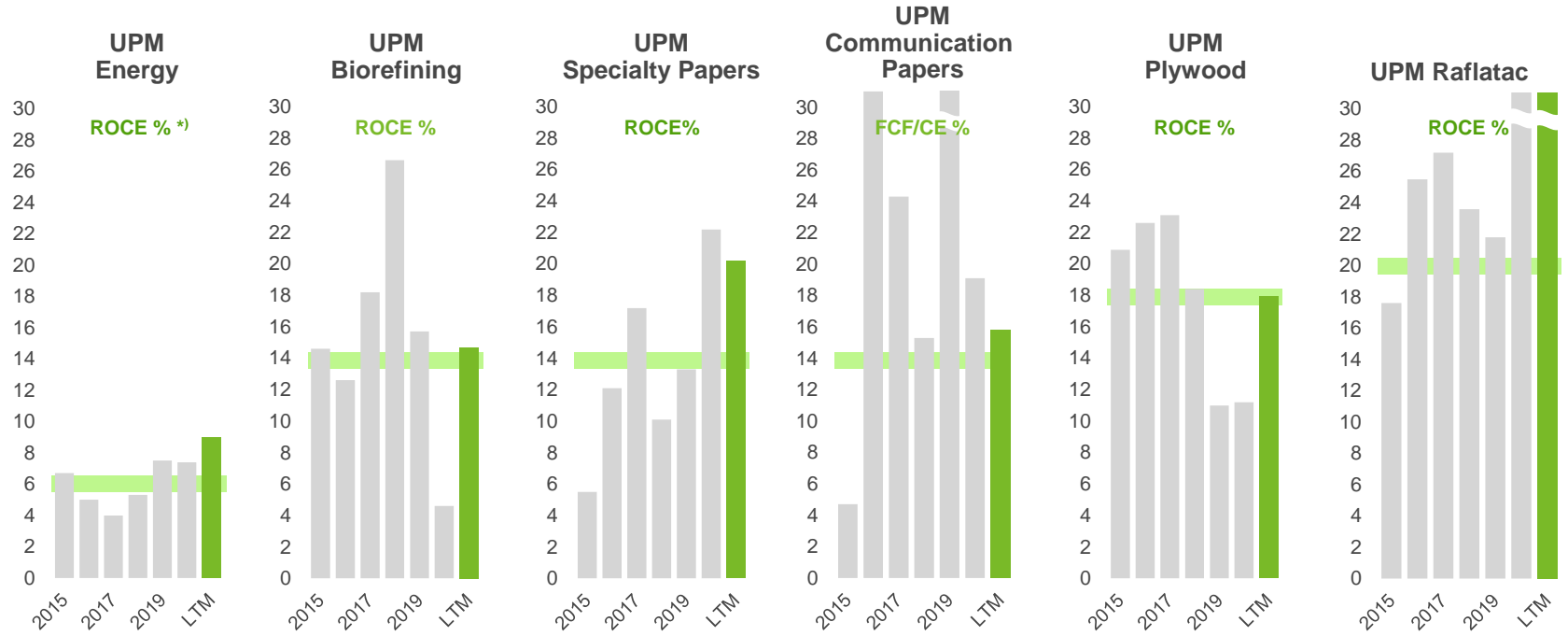
# Transformative growth projects in the most intensive phase in 2021



## Capex estimate for 2021

- Total EUR 1,600m
- Includes EUR 1,400m on the transformative growth projects, pulp in Uruguay and biochemicals in Germany
- Operational investment needs consistently low

# Business area returns and long-term targets

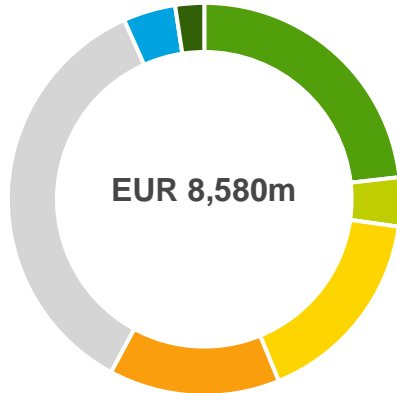


\*) shareholdings in UPM Energy valued at fair value

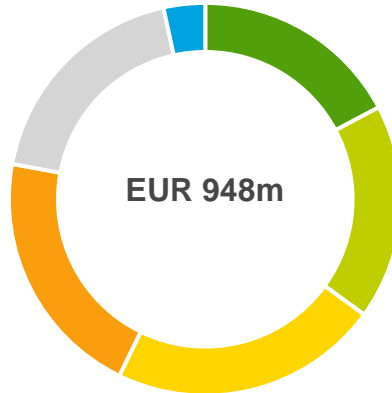


# UPM by business area in 2020

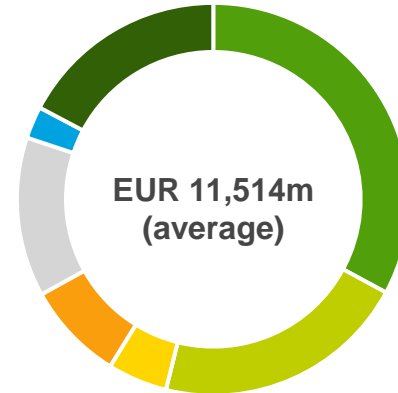
Sales



Comparable EBIT

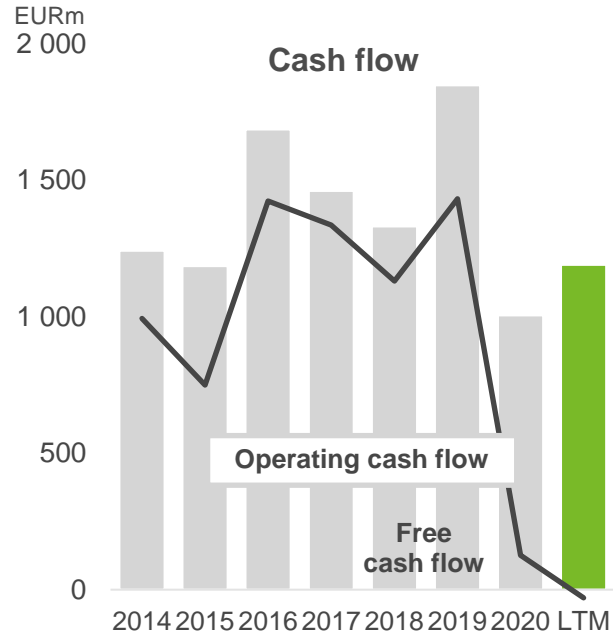


Capital employed



■ Biorefining 
 ■ Energy 
 ■ Raflatac 
 ■ Specialty Papers 
 ■ Communication Papers 
 ■ Plywood 
 ■ Other

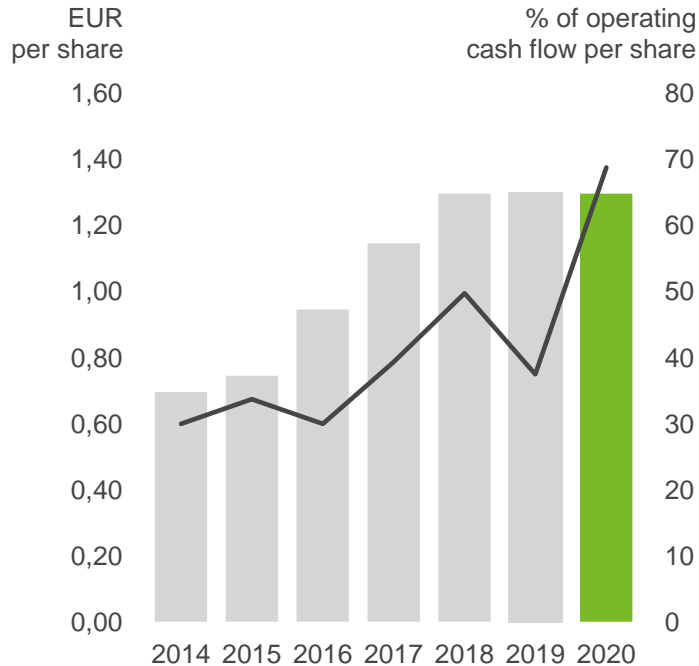
# Robust cash flow



- Q3 2021 operating cash flow was EUR 318m (365m in Q3 2020)
- Working capital increased by EUR 12m (decreased by 122m in Q3 2020)



# Dividend: EUR 1.30 per share



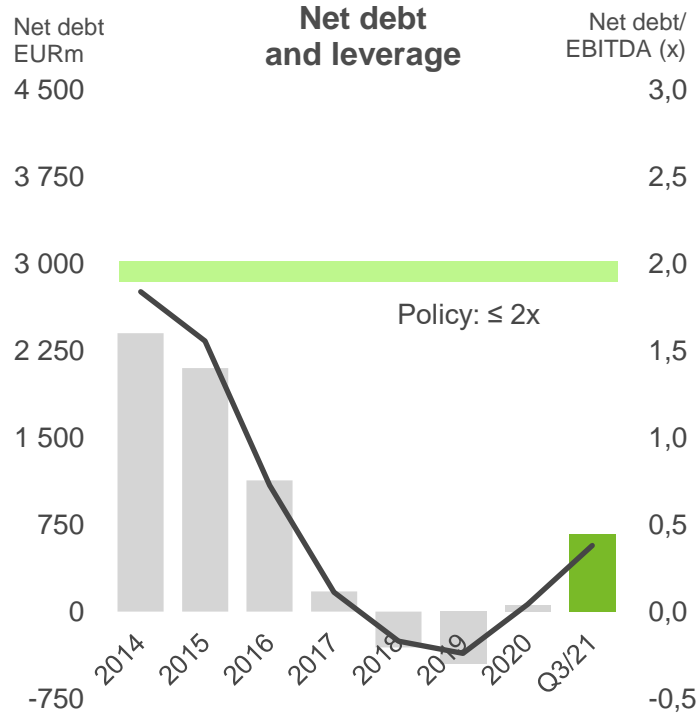
## Long term dividend policy

- UPM aims to pay an attractive dividend, 30–40% of operating cash flow per share

## Dividend for 2020

- EUR 1.30 (1.30) per share, totalling EUR 693m
- 69% of 2020 operating cash flow

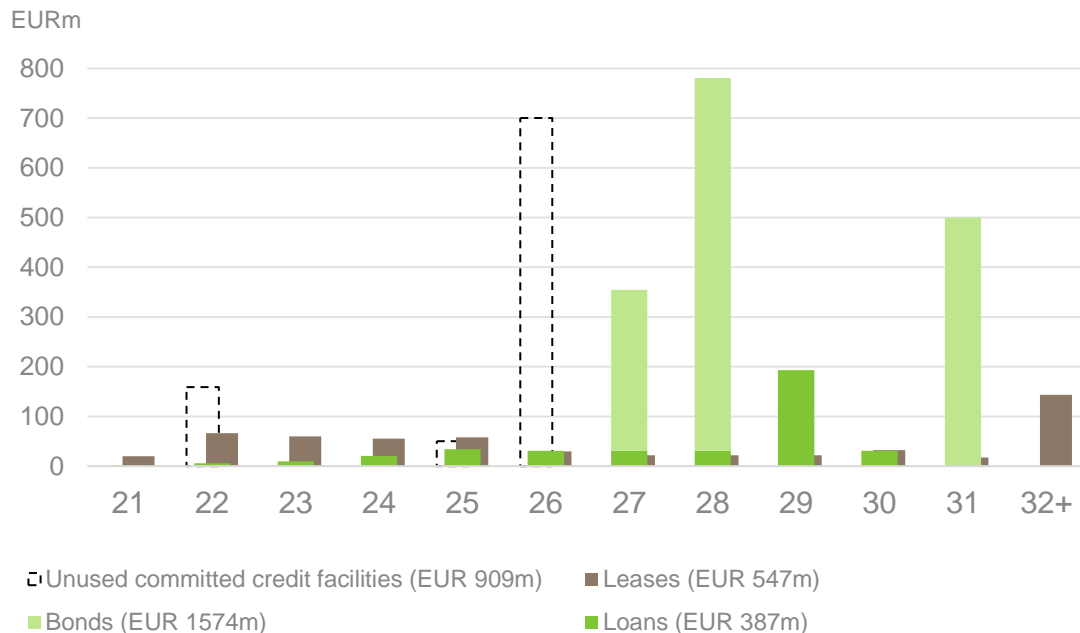
# Strong financial position



- Net debt EUR 667m at the end of Q3 2021
- Cash funds and committed credit facilities EUR 2.5bn at the end of Q3 2021
- UPM issued a EUR 500m Green Bond in Q1 2021
- No financial covenants



# Maturity profile and liquidity



Liquidity on 30 September 2021 was EUR 2.5bn (cash and unused committed credit facilities)

UPM's committed credit facilities:

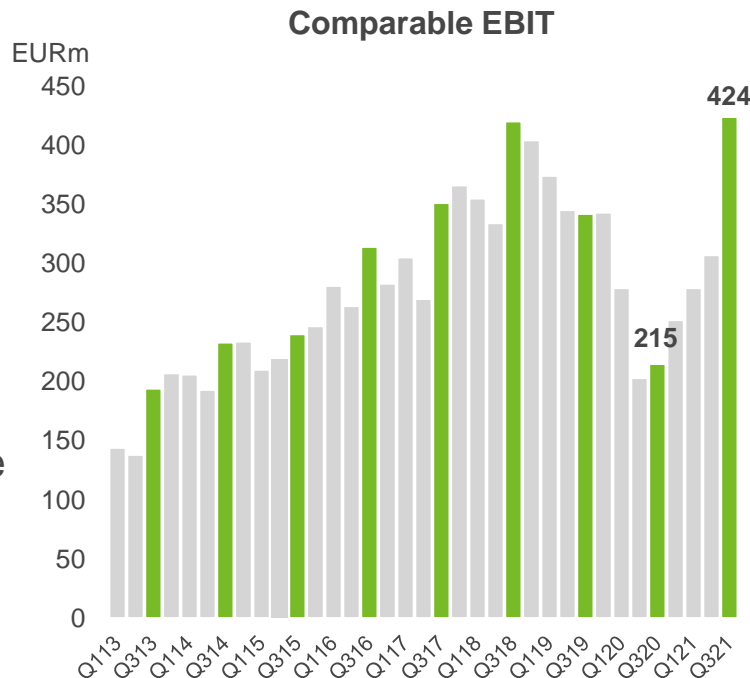
- EUR 159m rolling committed overdraft facility maturing 2022
- EUR 750m committed syndicated revolving credit facility of which EUR 50m maturing 2025 and EUR 700m maturing 2026

No financial covenants

# Q3 2021: A record quarter in an exceptionally volatile global environment



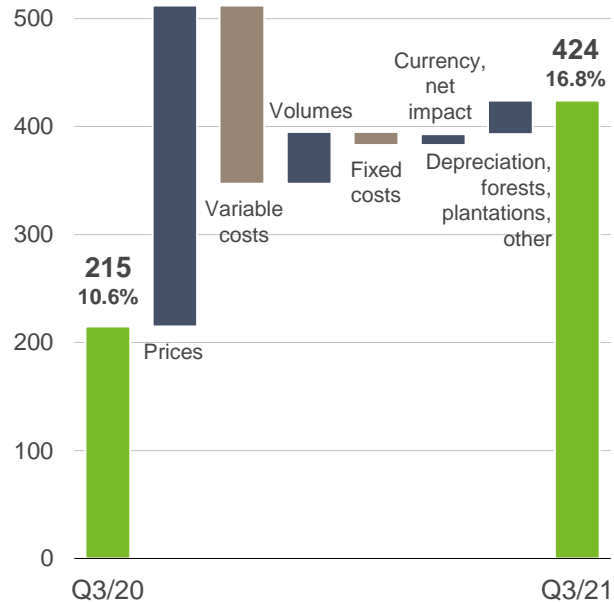
- Sales increased by 24% to EUR 2,523m (2,028m in Q3 2020)
- Comparable EBIT increased by 98% to EUR 424m, 16.8% of sales (215m, 10.6%)
- Demand for UPM's products was good, and overall, price increases more than offset the rapid rise in input costs
- Operational efficiency was excellent despite the challenges in logistics and global supply chains
- Good progress in the transformative growth projects



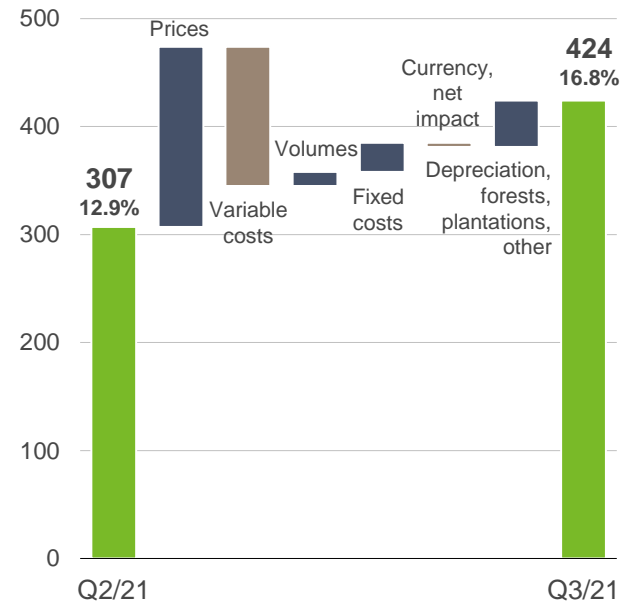


# Comparable EBIT in Q3 2021

EURm



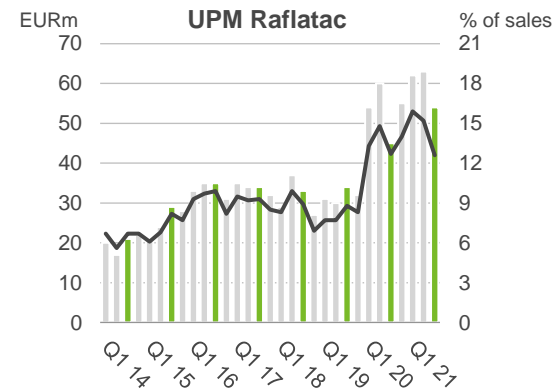
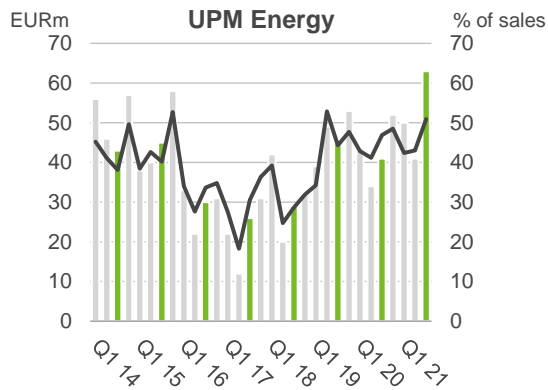
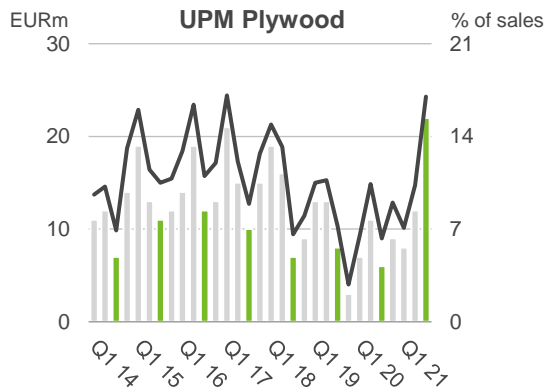
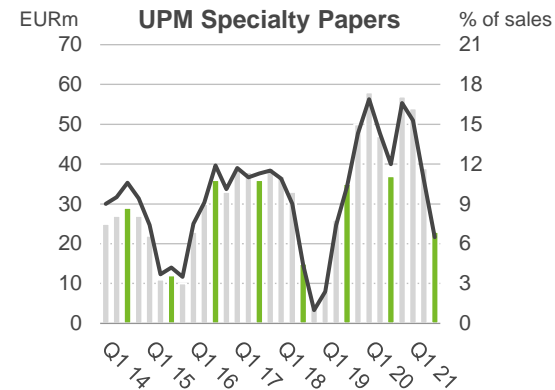
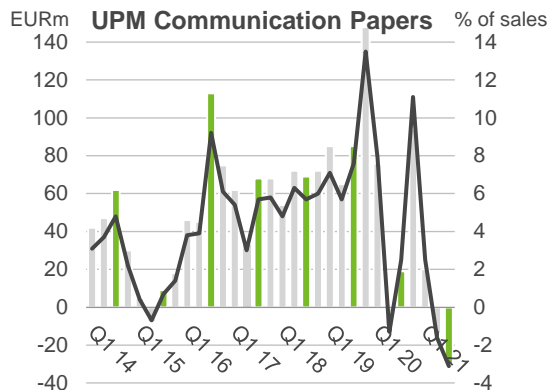
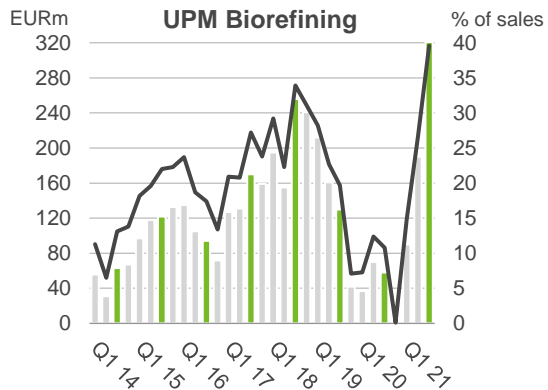
EURm





UPM

# Comparable EBIT by business area



# Outlook for 2021



- The global economy has started recovering in 2021 from the deep downturn experienced in 2020. World regions will progress at different pace. China has led this development but has recently slowed down to some extent. Demand for most UPM products is influenced by overall economic activity and hence, depends on the shape and rate of the economic recovery.
- The COVID-19 pandemic continues to cause uncertainty in 2021. In 2020, lockdowns had a significant negative impact on graphic paper demand but supported the strong demand for self-adhesive labelling materials and specialty papers. Opening of the economies is likely to allow for some normalisation of these demand impacts.
- Sales prices for many UPM products are expected to increase in H2 2021 from H1 2021, including graphic paper prices in Europe. Pulp sales prices increased rapidly in H1 2021 and are expected to be higher on average in H2 2021 than in H1 2021.
- With improving global economy, many variable cost items are expected to increase in 2021. During H2 2021 the tight energy market situation is expected to cause increased costs both directly and indirectly. UPM will continue to manage margins with product pricing, optimising its product and market mix, efficient use of assets as well as by taking measures to improve variable and fixed cost efficiency.
- UPM's comparable EBIT is expected to increase both in H2 2021 compared with H1 2021 and increase clearly in the full year 2021 compared with 2020.



# Timely action to ensure performance

- Competitive costs and good asset utilisation following the timely actions taken
  - Closures of UPM Jyväskylä, UPM Chapelle, UPM Kaipola, conversion of UPM Nordland PM2 to release production
  - Streamlining and cost efficiency actions in UPM Communication Papers, UPM Biorefining, UPM Specialty Papers, UPM Raflatac and global functions
  - Sale of UPM Shotton completed at the end of Q3 2021
- Total graphic papers capacity reduction 1.4 million tonnes
- Total annual cost savings impact of approx. EUR 160 million, of which approx. 80% had been realised in Q3 2021

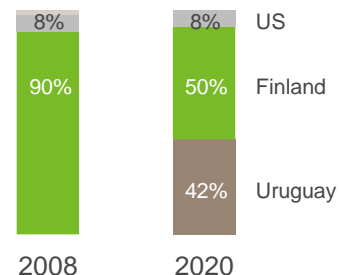


# Developing our forest assets

## UPM forests and plantations

	2008	2020
Forest and plantation land (own and leased) (1,000 ha)	1,012	1,025
Forest growth (million m <sup>3</sup> )	4.3	7.2
Wood sourced from UPM forests and plantations (million m <sup>3</sup> )	2.2	4.4
Value of forests and plantations, including land (EURm)	1,270	2,854

## Area distribution



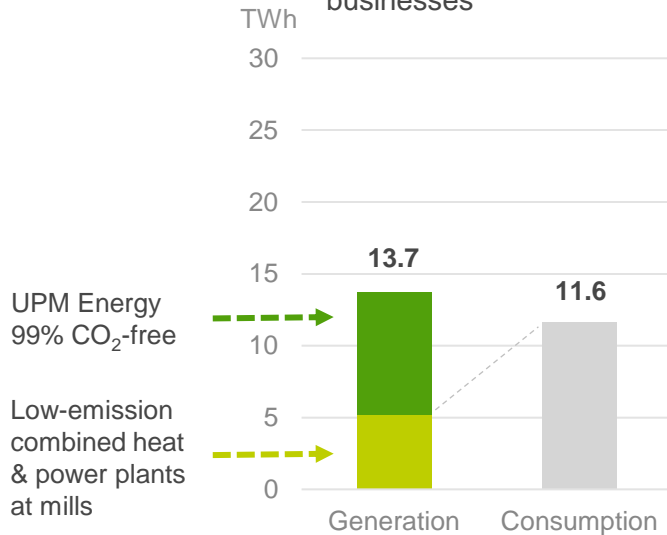
Investing in strategic forest assets in Uruguay  
 Releasing capital from forests far from our mills  
 Productivity with active management and nurseries  
 Strong commitment to sustainability

# UPM is a large producer and consumer of energy



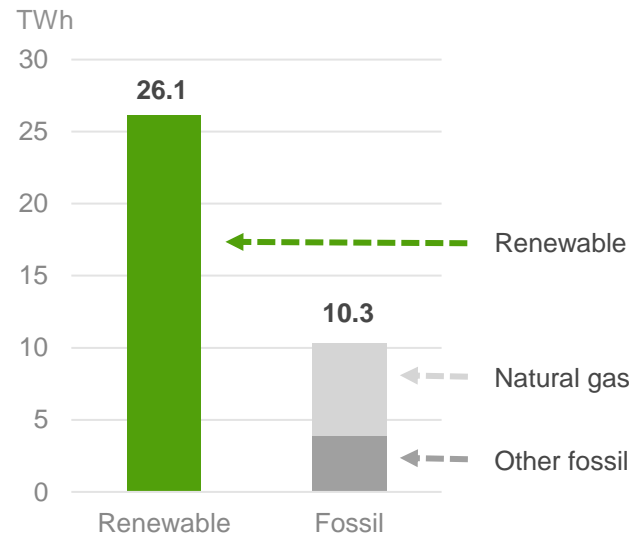
## Electricity

Separate market-driven operations at UPM Energy and the energy-consuming businesses



## Fuels

72% of all fuels are renewable, from the industrial processes



## Hedging

Approx. 60% of electricity and fuel purchases hedged for the rest of 2021 and 2022

## CO<sub>2</sub>

due to implemented emission reductions, UPM has more emission allowances than it needs



UPM Biochemicals

# UPM invests in next generation biochemicals



- EUR 550 million investment in an industrial scale biorefinery at Leuna, Germany
- 100% wood-based biochemicals provide alternatives to fossil materials in various consumer-driven end-uses
- Total annual capacity of 220,000 tonnes
- Scheduled to start up by the end of 2022
- Safety and sustainability of the value chain based on UPM's high standards

UPM BIOCHEMICALS

# UPM creates a totally new sustainable business with large growth potential



- Major milestone in UPM's transformation
- UPM biochemicals respond to the customers' increasing needs for renewable alternatives
- Current supply is limited and high-quality biochemicals are priced at a premium
- Sustainable wood supply, unique technology, existing infrastructure and proximity to customers enables a good cost position
- Attractive returns: ROCE target of 14% once the facility is fully ramped up and optimized



# 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 invests in a world class pulp mill in Uruguay



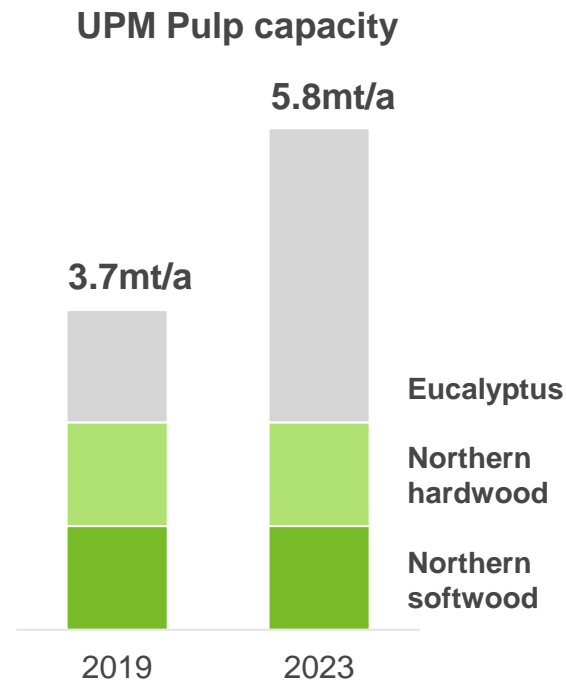
- A highly competitive new pulp mill with annual production capacity of 2.1 million tonnes of eucalyptus pulp
- Mill investment of USD 2.7 billion
- Investments in port operations in Montevideo, local facilities in Paso de los Toros of USD 350 million
- Scheduled start-up in H2 2022
- Industry-leading safety and sustainability performance of the value chain from plantations to customers



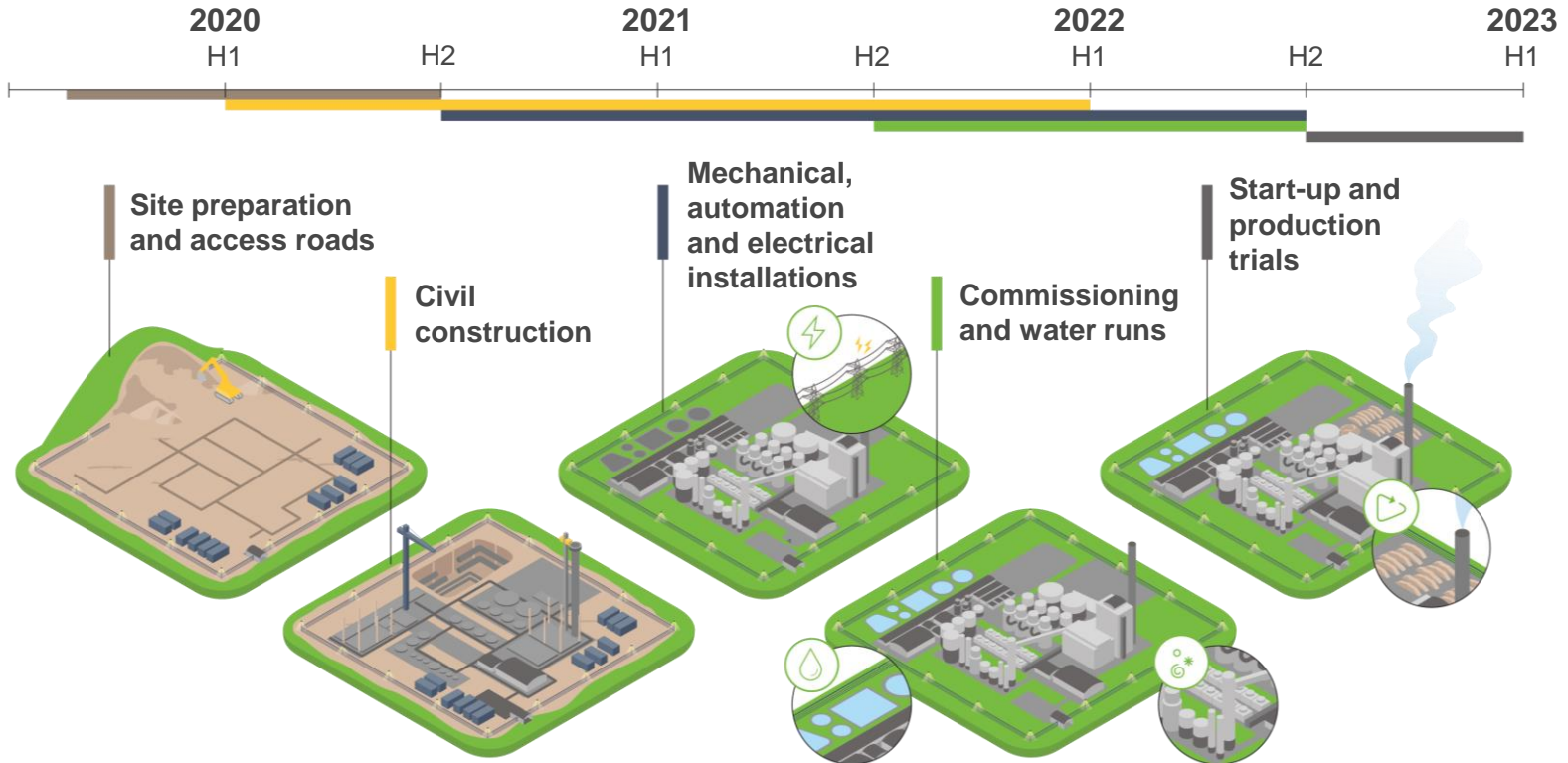
# Transformative step in UPM's pulp business and in UPM's future earnings



- 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<sup>(\*)</sup>
  - 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 Paso de los Toros pulp mill construction schedule





## UPM Biorefining

# State of the art mill design



- Initial production capacity of 2.1 million tonnes of eucalyptus pulp, with further potential
- Mill investment USD 2.7 billion, efficient investment level compared with corresponding projects
- World-class single line pulp mill and Best Available Techniques (BAT)
  - Excellent safety
  - Proven high environmental performance
  - High availability and maintainability
  - High energy output, surplus renewable electricity 110 MW
  - Low costs



# Competitive wood supply



- Eucalyptus availability secured through UPM's own and leased plantations and wood sourcing agreements with private partners
- UPM's own and leased plantations in Uruguay cover 459,000 hectares, supplying both UPM Fray Bentos and the new mill near Paso de los Toros
- 30 years experience of sustainably managed and productive plantations

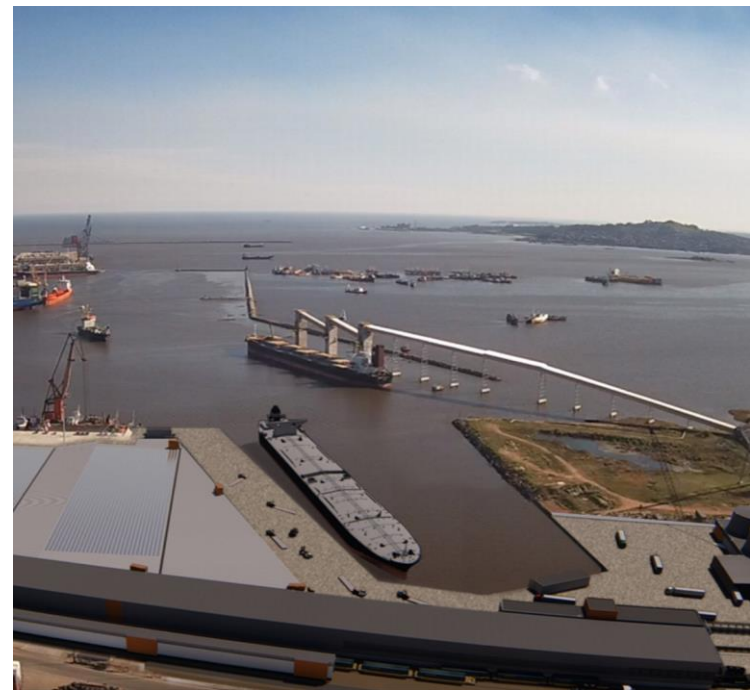


## UPM Biorefining

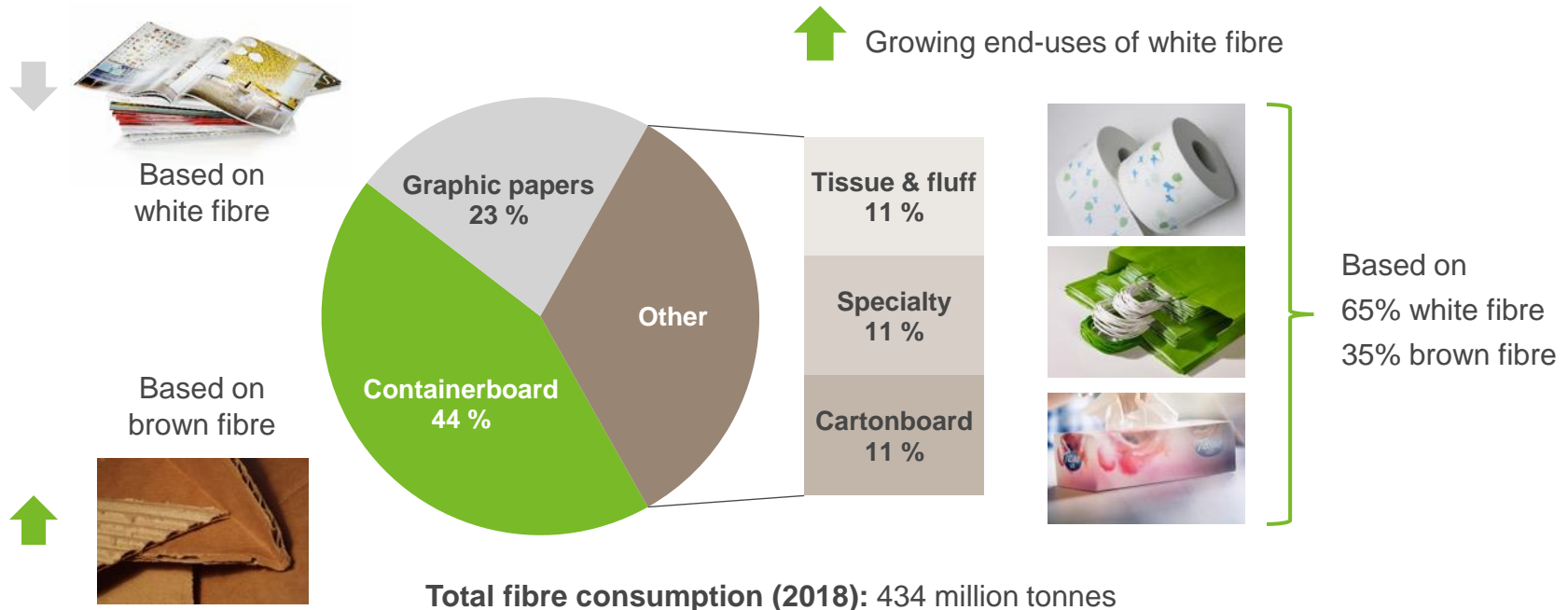
# Efficient logistics set-up



- UPM will invest USD 280 million to construct a deep sea pulp terminal in Montevideo port
  - Direct rail access from the mill to a modern port terminal creates an efficient supply chain to world markets
  - Synergies with the UPM Fray Bentos mill
- Agreed railway modernisation
  - Public-private-partnership agreement between the government and the construction company
- Agreed road improvements



# Market pulp consumed in growing end-uses – supply of alternative white fibres declines



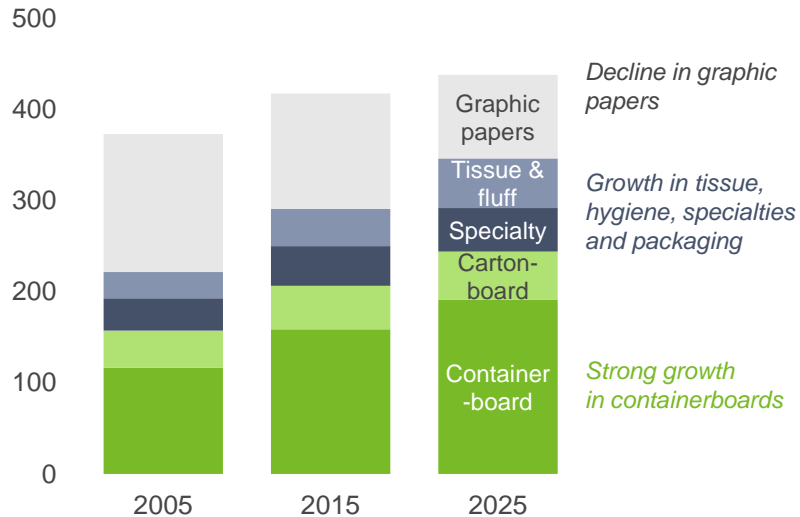


# UPM Biorefining

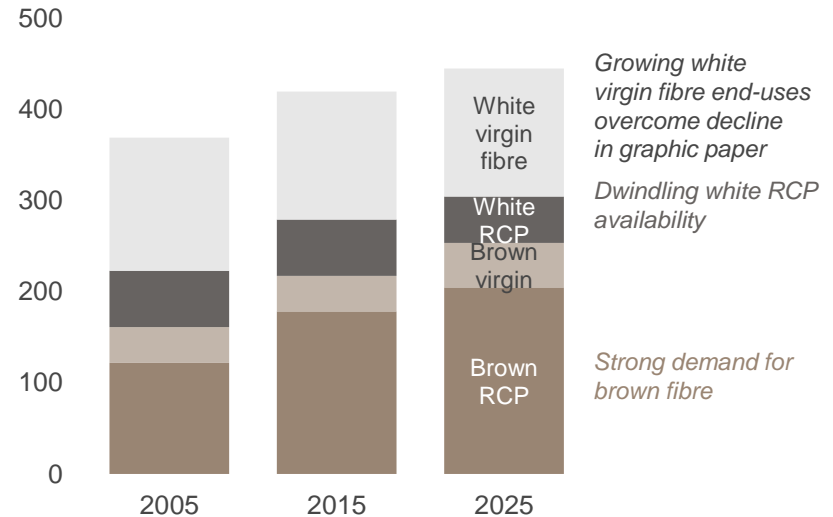
## Pulp demand outlook



**Global consumption of end-uses**  
in million tonnes



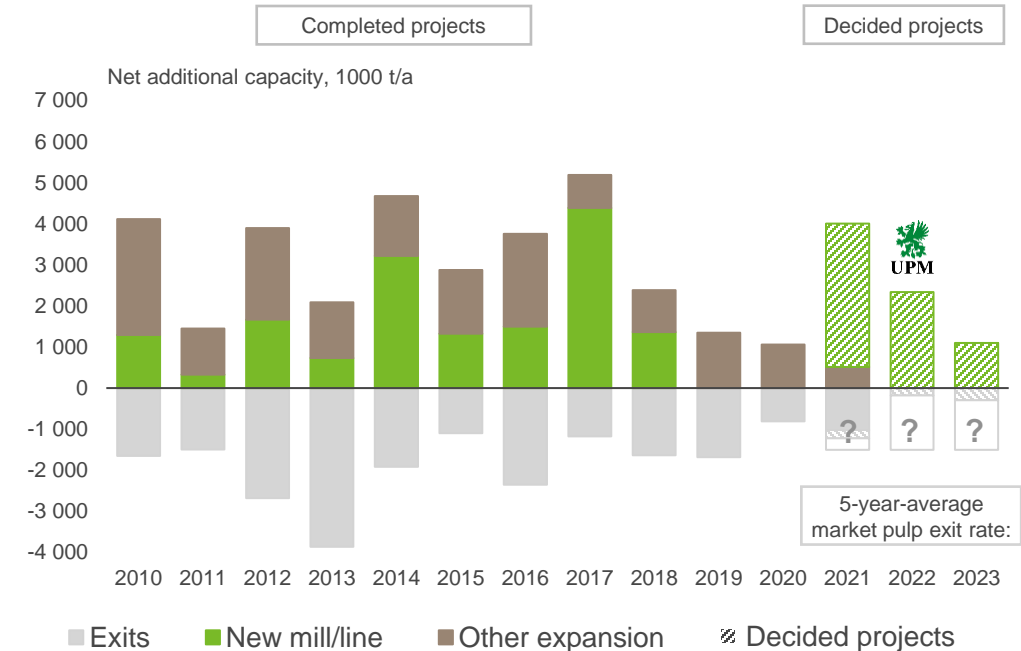
**Global consumption of fibres**  
in million tonnes



# Moderate numbers of decided projects in the short-term



## Entry of market bleached pulp capacity

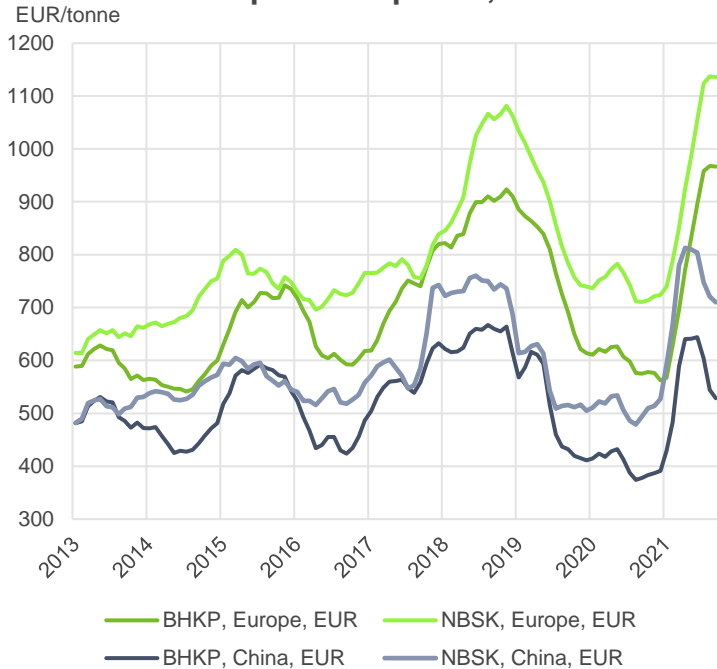


Note: including BHKP, BSKP, excluding fluff and dissolving

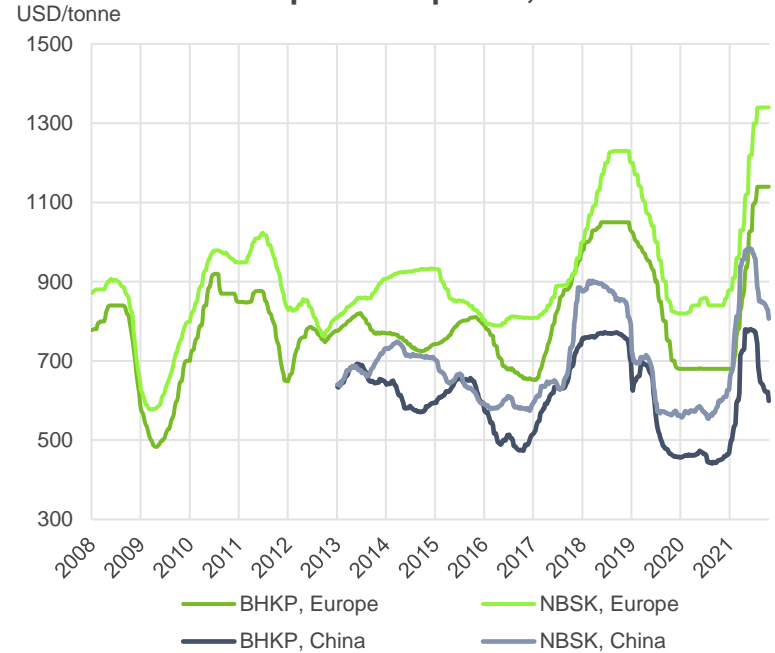
# UPM Biorefining Chemical pulp market prices



### Pulp market prices, EUR



### Pulp market prices, USD

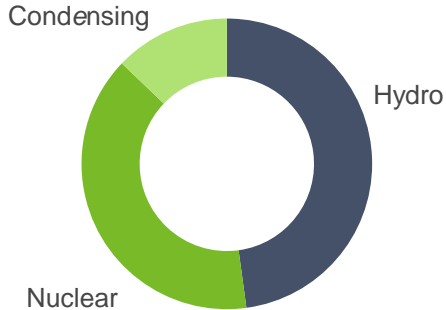


Source: FOEX Indexes Ltd

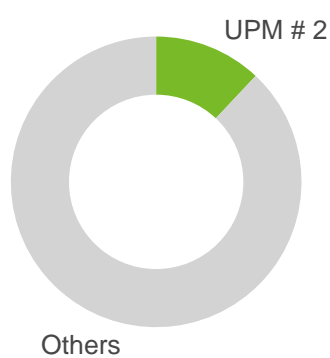
# UPM's power generation – competitive in all market conditions



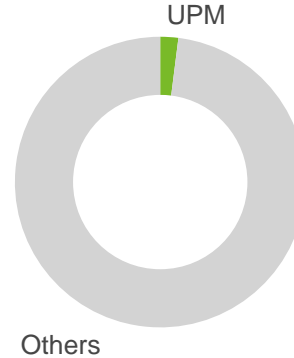
UPM's power generation assets



UPM in Finland



UPM in Nordics





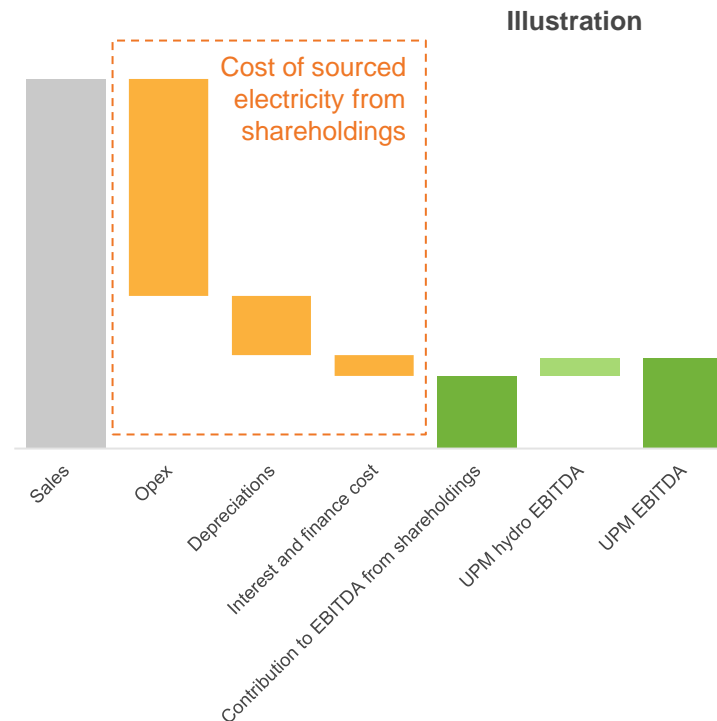
# UPM Energy

## UPM Energy

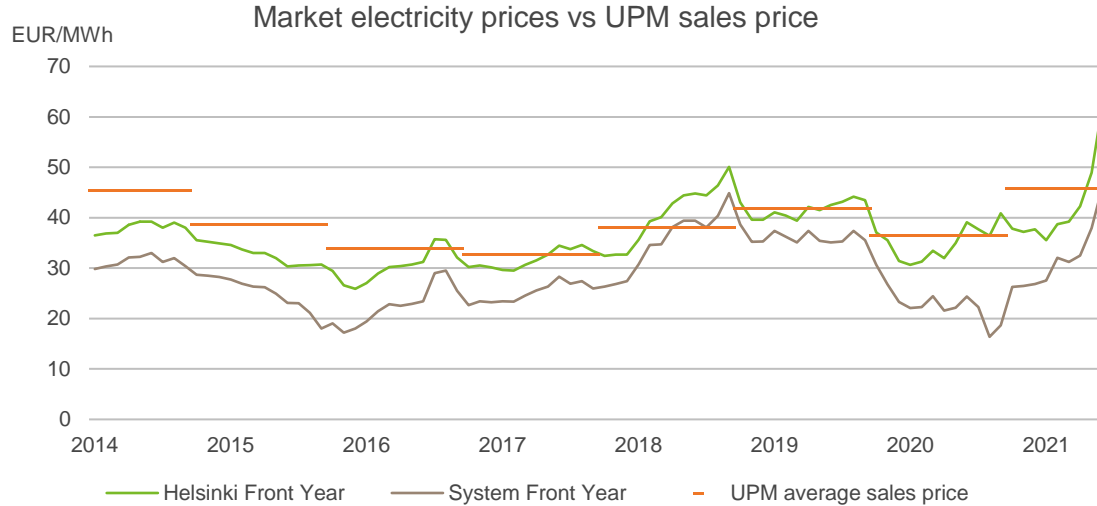


UPM Energy's power generation	MW	EURm
Hydropower holdings	549	760
Nuclear power OL1 and OL2	588	1,008
Nuclear power OL3 under construction	(494)	216
Thermal power	133	1
UPM Energy's shareholdings in total, valued at fair value	1,290	1,984
UPM own hydropower assets	166	
UPM Energy's in total (excl. OL3)	1,456	
UPM Energy capital employed		2,370

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



# Cost efficient generation enables robust profitability in changing market environment



UPM Energy profitability	2016	2017	2018	2019	2020	1-9/2021
Comparable EBIT, EURm	116	91	123	185	171	155
% of sales	32.7	28.8	31.5	44.4	45.0	45.7

# UPM Raflatac Self-adhesive labels in end-use



Pharmaceuticals



Wine, spirits & craft beverage



Food



Personal care



Home care



Durables



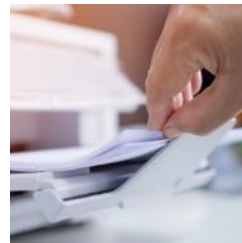
Transport & logistics



Industrial Chemical



Retail



A4 & cut-size



Security & brand protection



Tyre

# 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

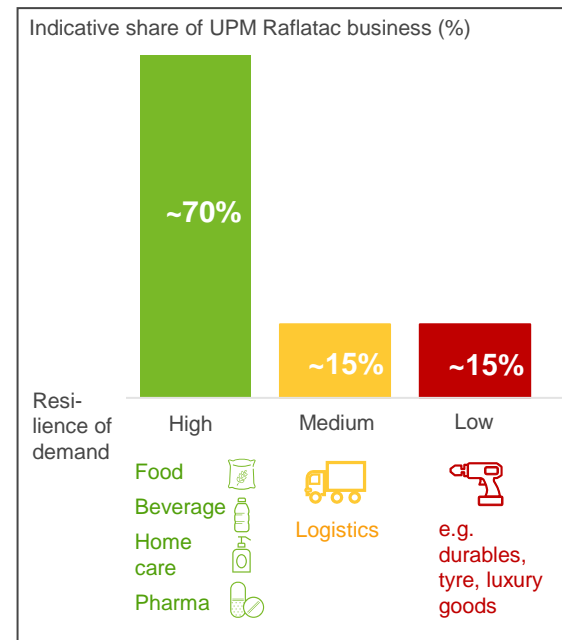
The demand of UPM Raflatac's end use portfolio is relatively resilient

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**





# Early signs of recycling impacts: Packaging decisions to favour labelstock



Source: Euromonitor September 2020; UPM Raflatac perspective

# Focus on global Labelling materials, Packaging in Europe and Office paper in APAC



# UPM Specialty Papers is well positioned for growth in the selected markets



## LABEL & RELEASE

Leading position in growing global label and release paper markets



## PACKAGING PAPERS

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

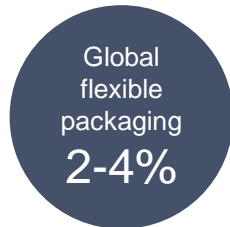
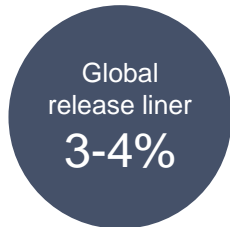


## APAC FINE PAPERS

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



Market growth forecast, CAGR 2020-2025



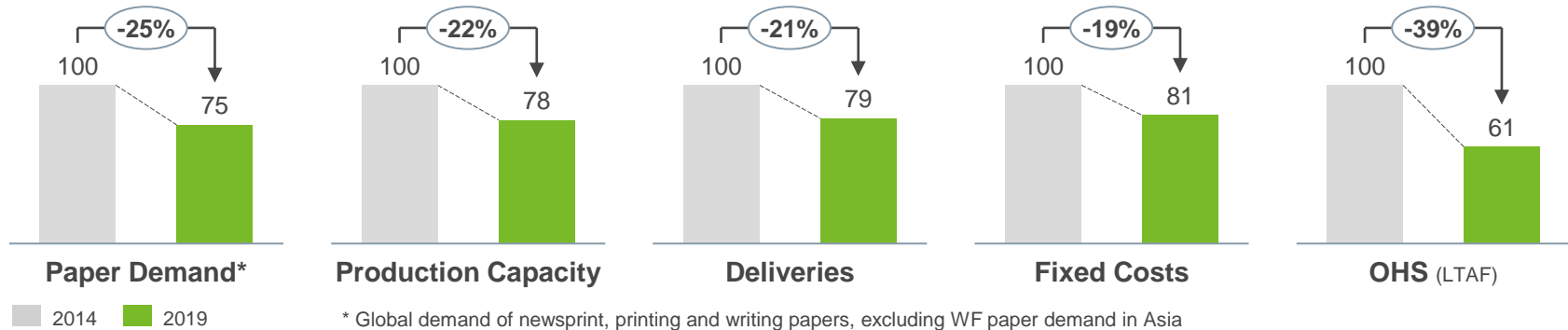
# UPM Specialty Papers **GROWTH STRATEGY**

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





# We have continued to deliver according to our strategy with uncompromising cost competitiveness



## ... building the basis for continued profitable performance

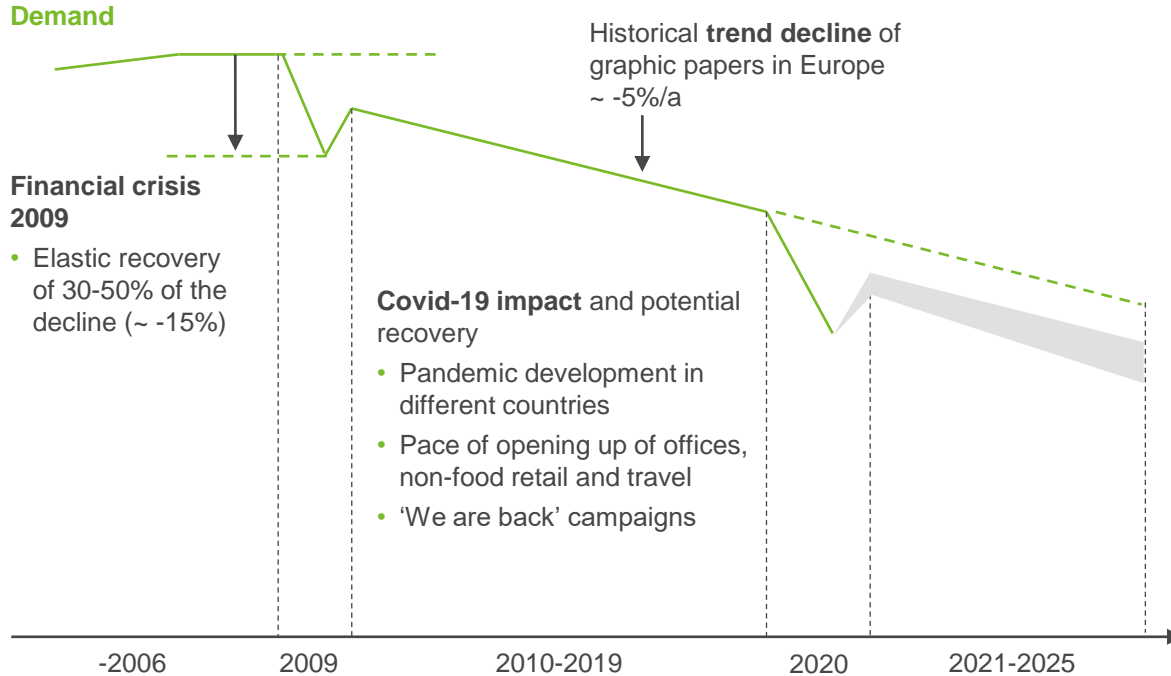
- ✓ Efficient and modern assets & high asset utilization
- ✓ Tight grip on costs
- ✓ Broad product portfolio
- ✓ Strong geographical footprint
- ✓ Commercial focus

5-year (2016-20)  
cumulative free cash flow

**EUR 2.0bn**

Source: Internal calculation and analyses based on data from Euro-Graph, PPPC, AFRY

# Paper demand impacted by the lockdowns, economic activity and structural changes\*)

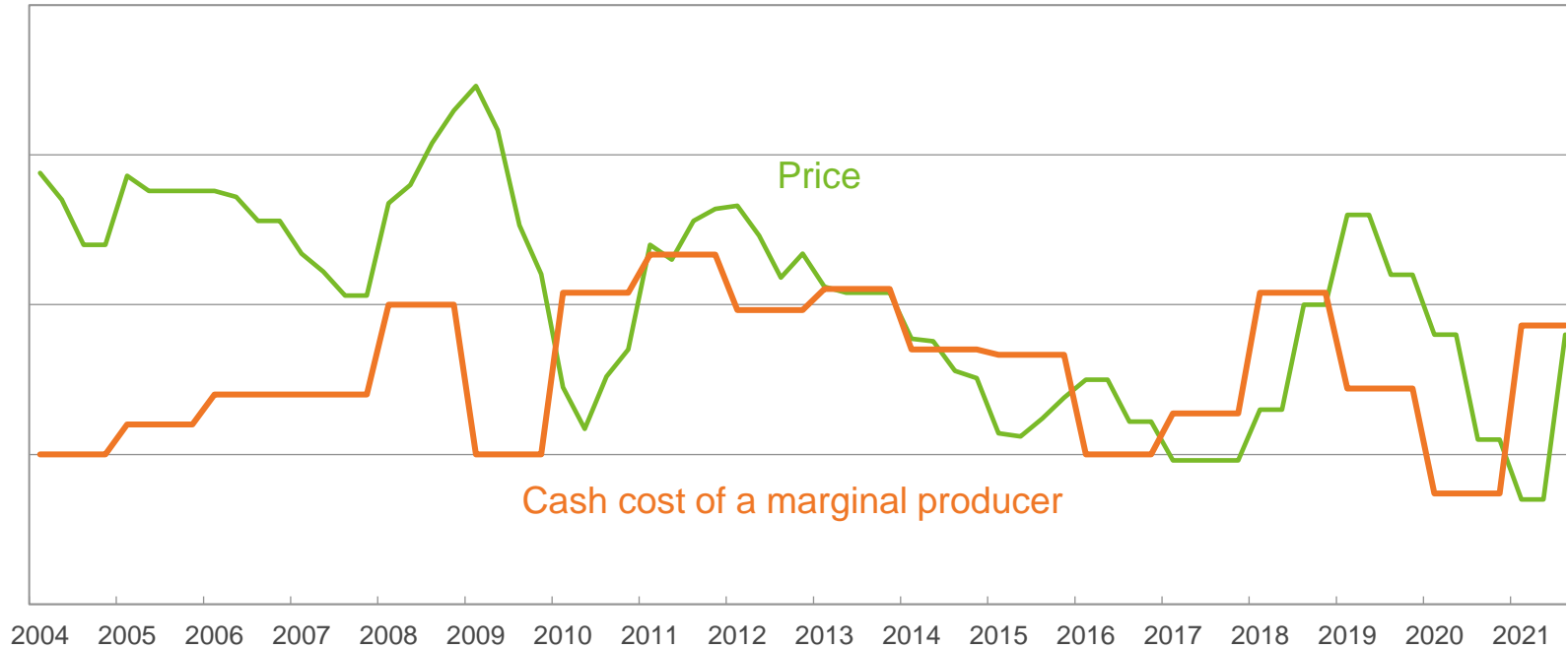


- Uncertainties for demand recovery and drivers in demand decline trend**
- Uncertain economic recovery
  - Perpetuation of “new” consumption and digitalization trends
  - Trend towards digital publishing and subscription models, cost of distribution
  - Growth of e-commerce, digital customer engagement and promo in retail
  - Adaption of digital records and workflows in administration, business and education
  - Paper as ‘chill media’ for healthy offline time
  - Trust in media, effectiveness of print promo

# Paper price vs. cash cost of marginal cost producer



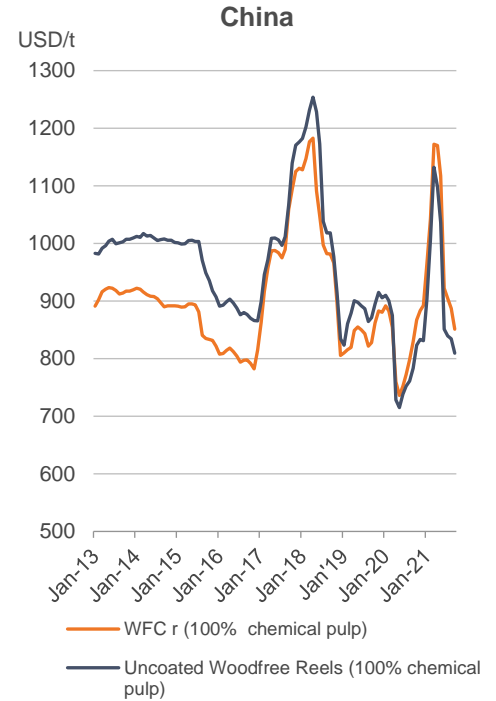
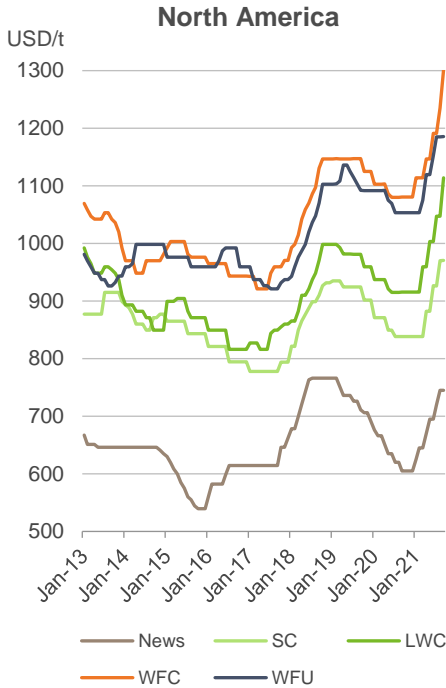
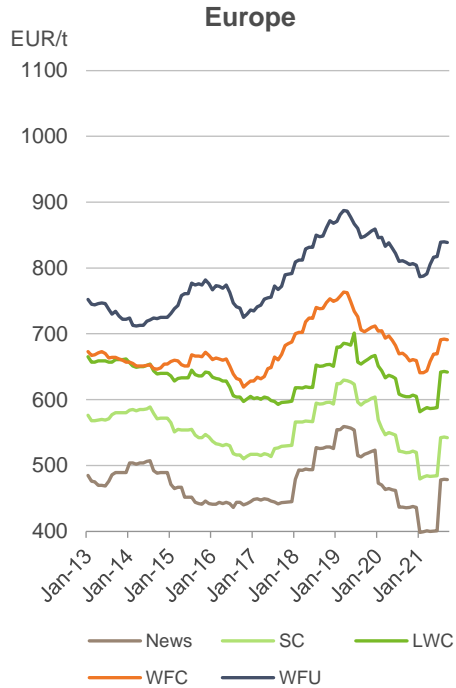
EUR/t



Sources: PPI, RISI, Pöyry

# UPM Communication Papers

## Graphic paper prices



Sources: PPI, RISI



# 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

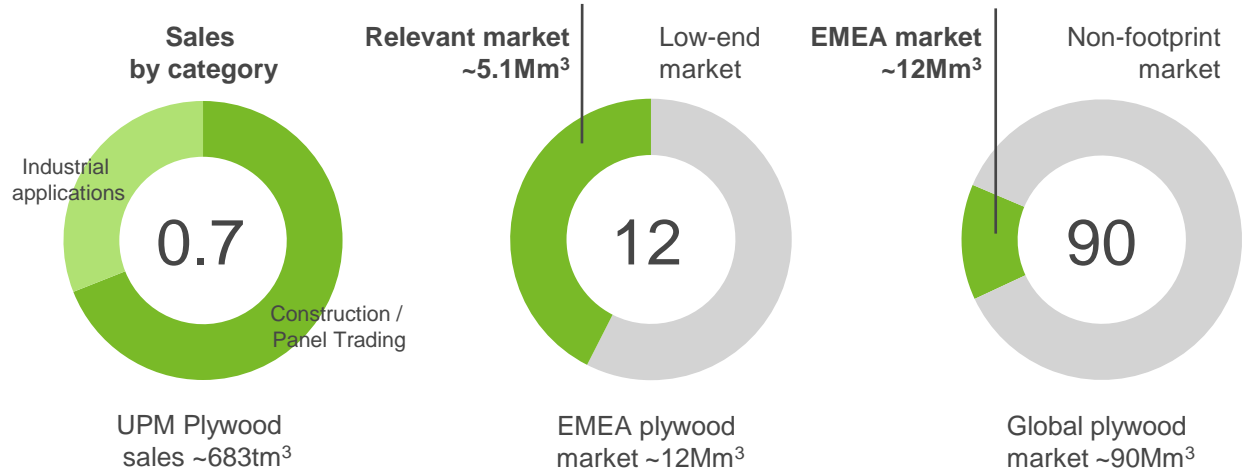
- Leading supplier in LNG plywood
- Competitive edge based on right quality and accurate on-time deliveries
- Long term commitment and benchmark service level
- Focus to secure leading position in LNG carriers and to extend offering into related applications using the same technologies (e.g. land storage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



# UPM's growth plans in biofuels progress to the next stage



UPM starts the basic engineering phase of a potential next generation biorefinery, with annual capacity of 500,000t of high-quality renewable fuels, including sustainable jet fuel.

The products would significantly reduce carbon footprint in road transport and aviation, as well as replace fossil raw materials with renewables in chemicals and bioplastics.

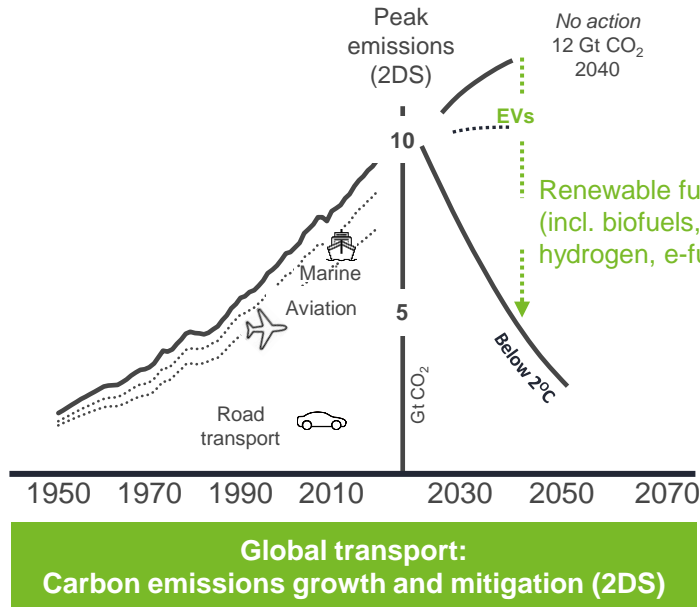
The planned biorefinery would scale up UPM's successful biofuels business. It would further improve long term competitiveness and sustainability performance of UPM Biofuels by introducing several sustainable feedstocks and achieving uniquely high CO<sub>2</sub> reduction compared to biofuels currently on the market.

Primary locations: Kotka, Finland and Rotterdam, the Netherlands

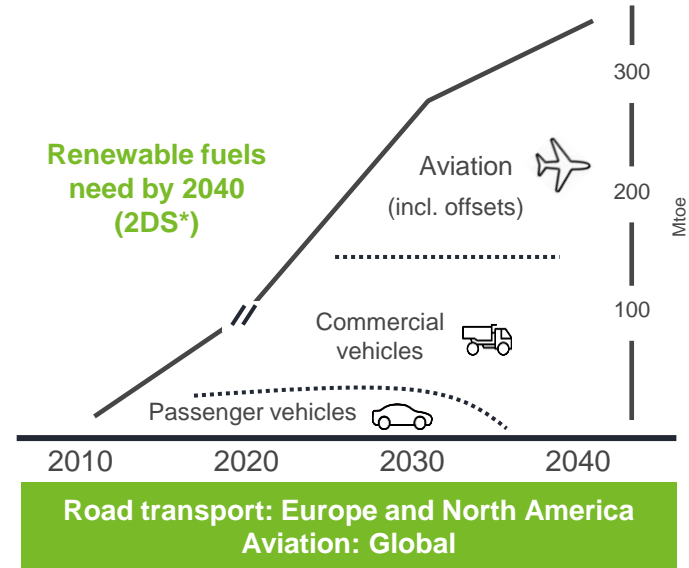
The estimated duration of the basic engineering phase: minimum 12 months



# Carbon mitigation in transport is dependent on renewable fuels despite recent decline in fuel consumption



Source: UPM based on IEA, EIA, Bloomberg



\*The two degree scenario (2DS) is calculated vs. 2005 reference per sector (-30% 2030, -40% 2040, -50% 2050)

Source: UPM based on WoodMackenzie, Bloomberg, ICAO, EIA



# 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



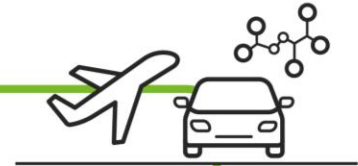
Cellulosic fuels

Renewable diesel, gasoline and jet

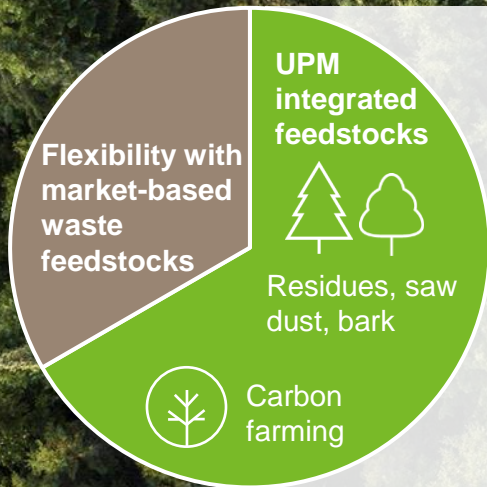
E-fuels future potential

## DECARBONIZED TRANSPORT AND PETROCHEMICALS

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



# UPM's sustainable biofuel feedstock concept founded on wood based and climate positive feeds



## INTEGRATED WOOD BASED AND CLIMATE POSITIVE FEEDS

complemented with sustainable market based feedstocks



UPM Lappeenranta biorefinery  
130,000t



Planned biorefinery  
500,000t



## VALUE FROM SEVERAL END-USES

Road transport, petrochemicals and aviation

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

