



UPM – The Biofore Company

Investor Presentation, January 2020

UPM BUSINESSES

UPM BIOREFINING

Pulp
Plantations
Biofuels
Sawmills
Wood Sourcing
and Forestry

UPM ENERGY

Hydro-, nuclear-
and condensing power
(incl. shares in energy
companies)
Electricity production
and trading
Optimisation services

UPM RAFLATAC

Label materials
for product and
information labelling

UPM SPECIALTY PAPERS

Fine and specialty
papers in China
and APAC
Labelling material
globally
Packaging papers
mainly in Europe

UPM COMMUNICATION PAPERS

Extensive product
range of graphic
papers for advertising
and publishing
as well as home
and office uses

UPM PLYWOOD

WISA® Plywood
and veneer products
UPM Grada®
wood material

UPM BIOCOMPOSITES

UPM ProFi®
UPM Formi®
UPM Formi 3D®

UPM BIOCHEMICALS

Wood-based biochemicals
for variety of industrial uses

UPM BIOMEDICALS

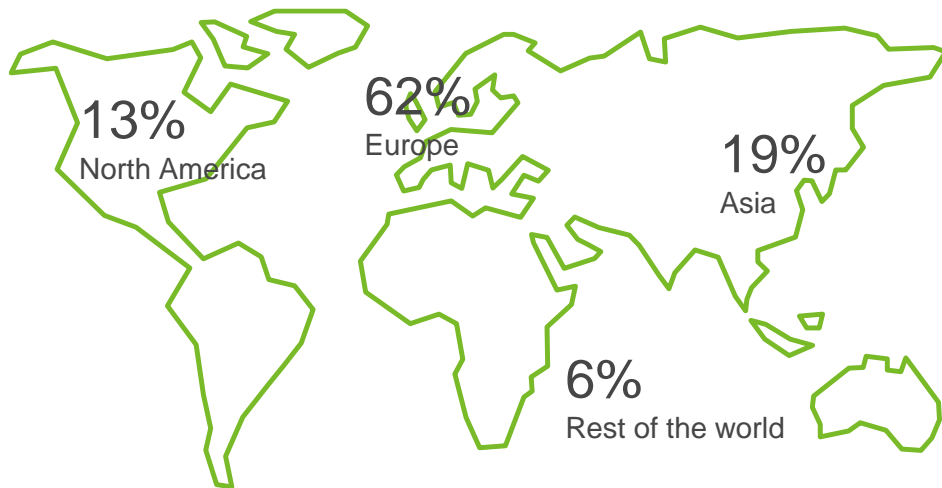
GrowDex®



Global businesses – local presence

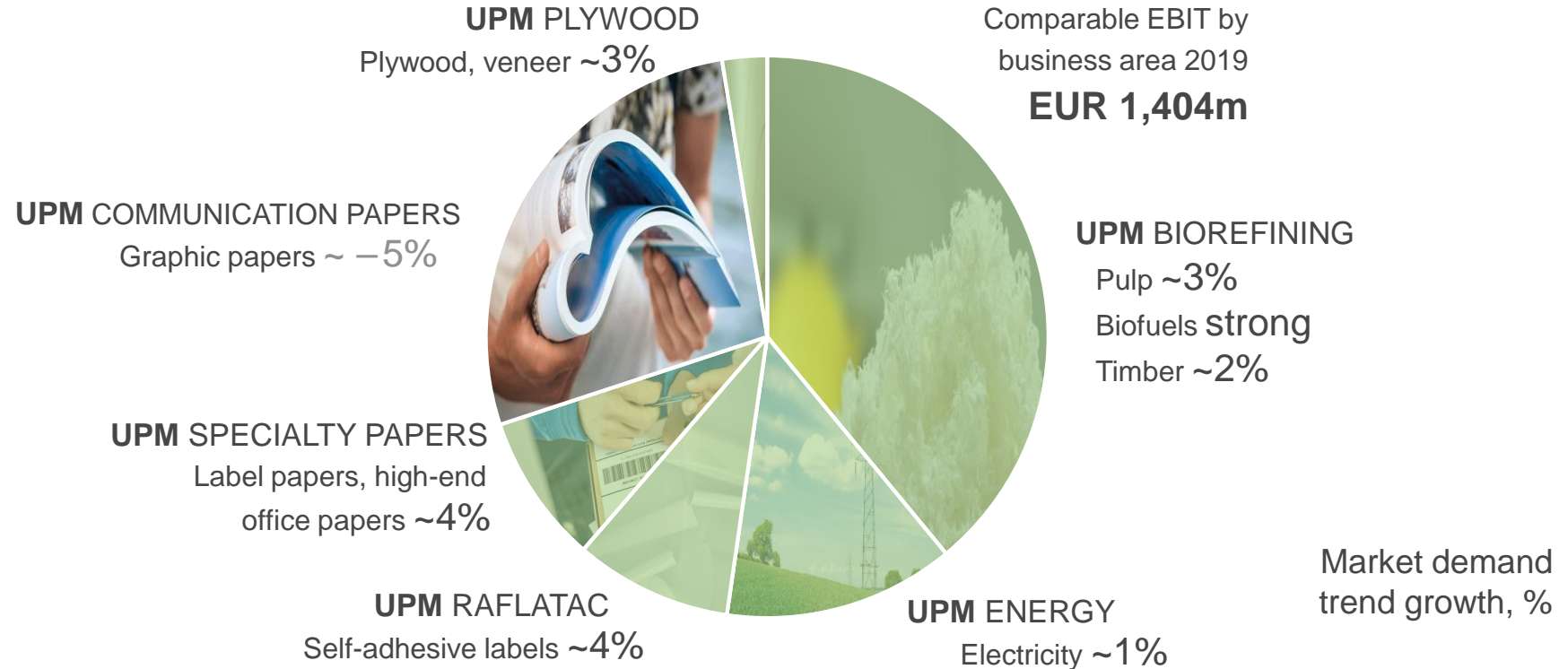
UPM's sales by market

EUR 10,238 million



| | | | |
|---------|----------------------|-----|-----------|
| 54 | production plants in | 12 | countries |
| 19,000 | employees in | 46 | countries |
| 12,600 | customers in | 110 | countries |
| 100,400 | shareholders in | 32 | countries |
| 24,000 | b-to-b-suppliers in | 75 | countries |

Operating on healthily growing markets



2030

Limitless opportunities of bioeconomy

Sustainable and safe solutions
for global consumer demand

Responsible
operations and
value chain

Innovation

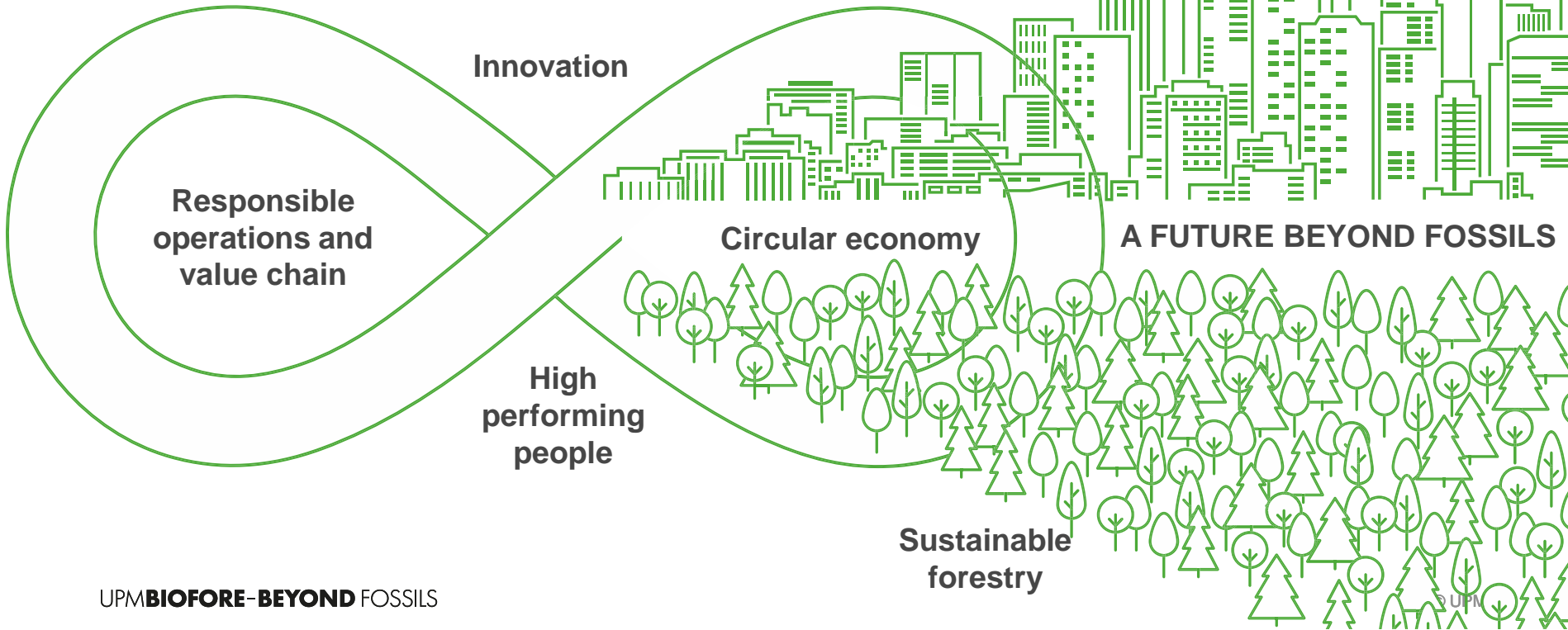
2020

Circular economy

A FUTURE BEYOND FOSSILS

High
performing
people

Sustainable
forestry



Biofore strategy

**WE CREATE VALUE BY SEIZING THE LIMITLESS
POTENTIAL OF BIOECONOMY**

1

PERFORMANCE

2

GROWTH

3

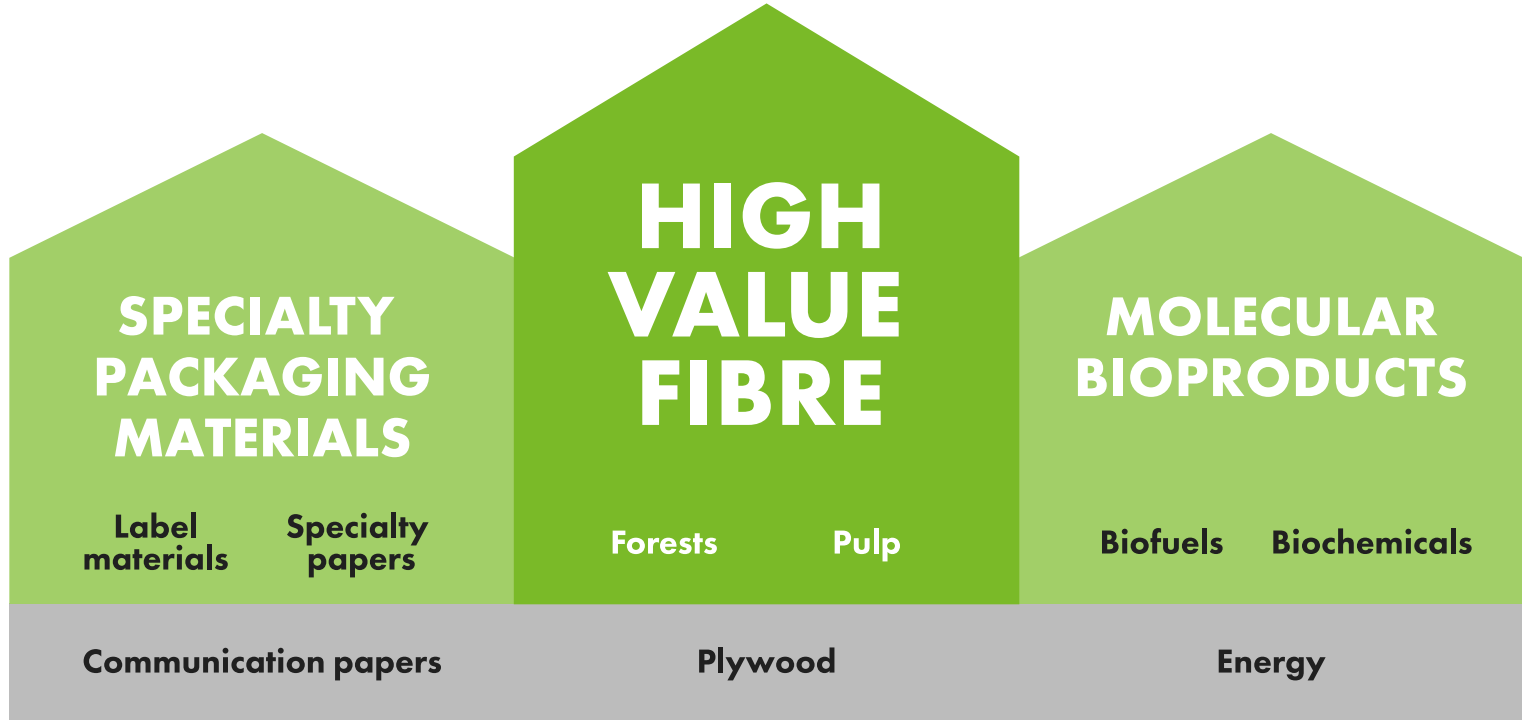
INNOVATION

4

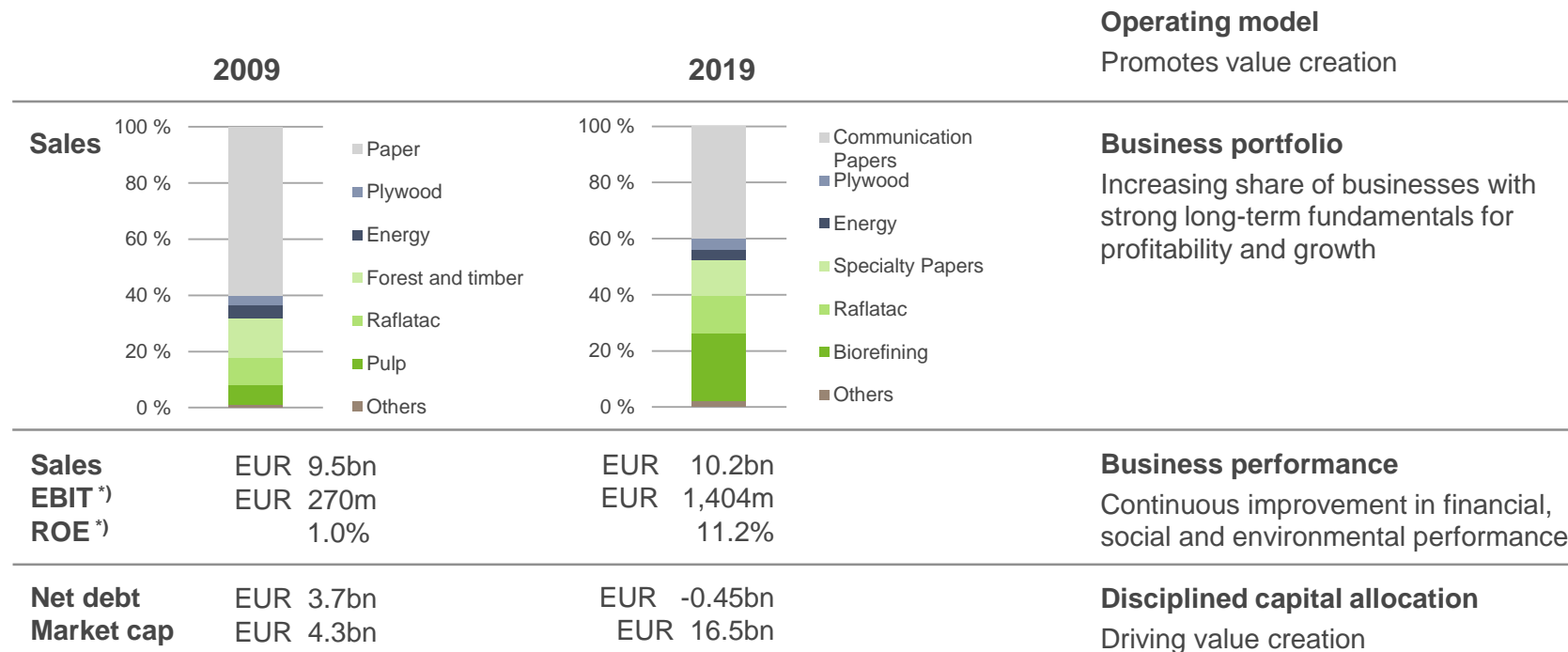
RESPONSIBILITY

**STRONG LONG-TERM FUNDAMENTALS FOR DEMAND GROWTH
AND HIGH BARRIERS TO ENTRY**

Spearheads for growth



UPM in transformation



*) excluding special items for 2008, comparable figures for 2018

Mitigating climate change – driving long-term value creation



UPM **BIOFORE-BEYOND** FOSSILS



We act through **FORESTS**
Climate-positive forestry



We act through **EMISSIONS**
65% less CO₂ emissions



We act through **PRODUCTS**
Innovate novel products

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

UPM current investment portfolio for earnings growth

Focused investments

- Chudovo plywood mill expansion
+45k m³ in Q3 2019, Russia
- Nordland PM2 conversion to release liner
+110kt in Q1 2020, Germany
- Changshu release liner expansion
+40kt in Q4 2019, China
- New power plant in Nordland
in Q3 2022, Germany
- Kuusankoski hydropower refurbishment
in Q4 2022, Finland

Transformative prospects

New 2.1mt eucalyptus pulp mill

- Mill investment of USD 2.7bn, Uruguay
- Investments in port operations in Montevideo, local facilities in Paso de los Toros of USD 350m
- Scheduled start-up in H2 2022

Molecular bioproducts

- Next generation biochemicals refinery in Germany. Annual capacity of 220kt of wood-based biochemicals, investment of EUR 550m. Scheduled start-up by the end of 2022.
- Environmental impact study completed for a potential 500kt biofuels refinery in Finland. Ambition to scale-up with a next generation biorefinery, development ongoing.

Continuously taking action to ensure competitiveness

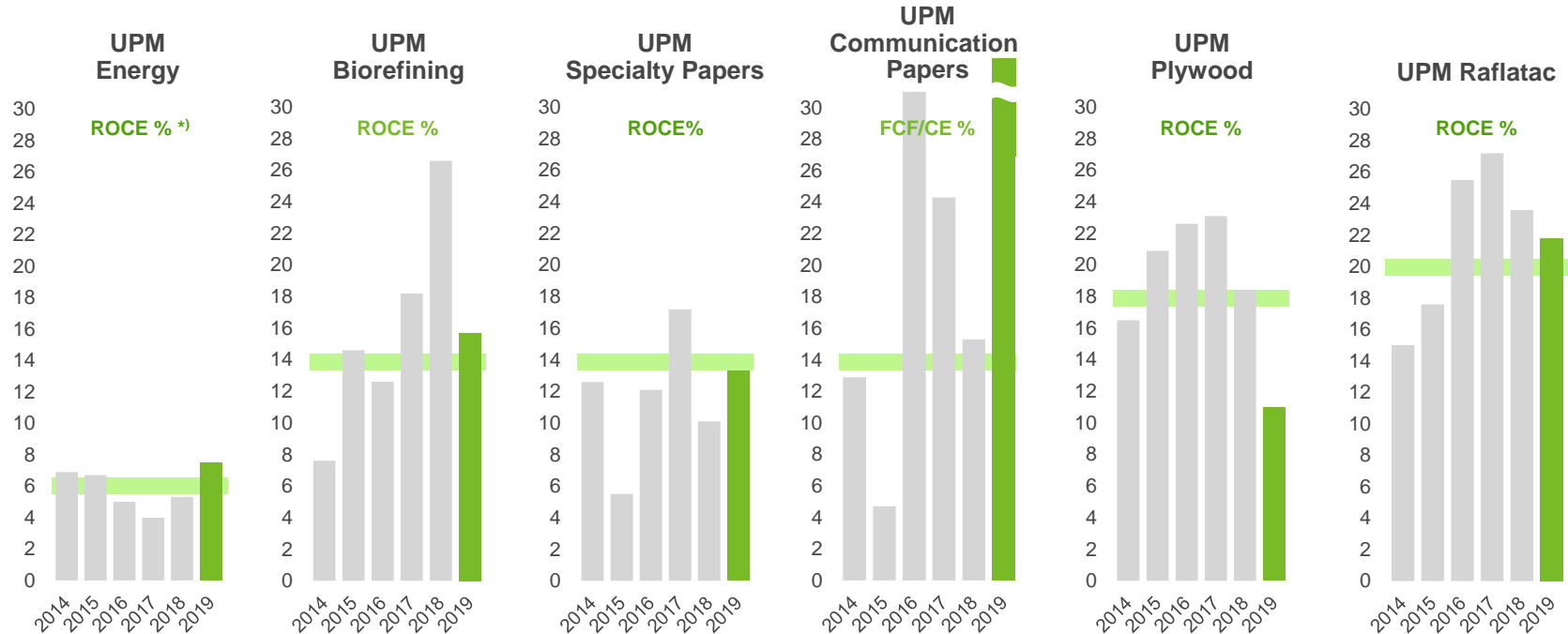
UPM Communication Papers

- UPM Plattling PM 10 (LWC)
-155kt closed down in Q3 2019
- UPM Rauma PM 2 (SC)
-265kt, closed down in Q4 2019
- UPM Chapelle (newsprint)
-240kt, plan to sell by the end of Q2 2020
- UPM Nordland PM2 (fine)
-200kt, conversion to release liner in Q1 2020
- New power plant in UPM Nordland
in Q3 2022

All business areas and functions

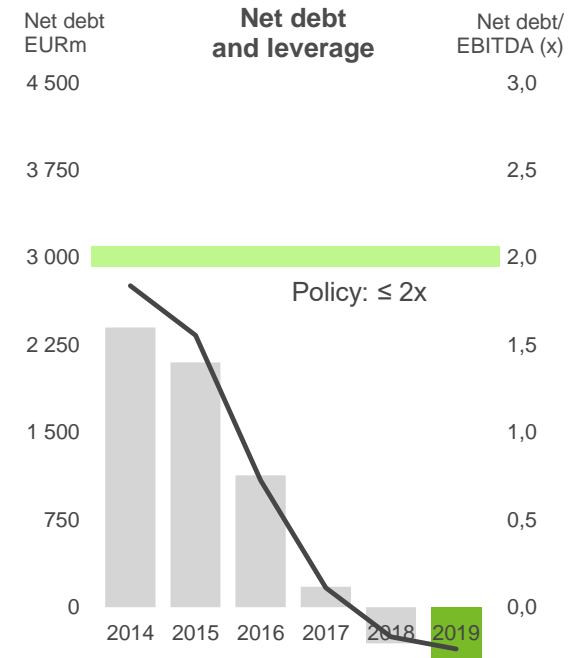
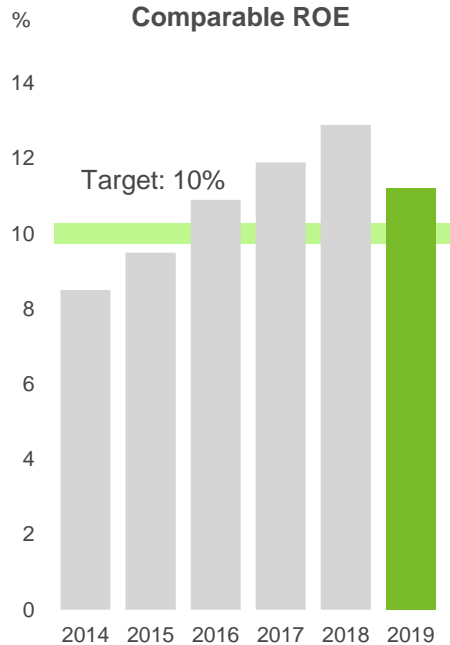
- Continuous improvement programmes
Variable costs, working capital, commercial strategies, maintenance and site costs, safety, environmental performance
- Efficient use of assets
- Fixed cost reduction
- Product and mix development
- Digitalisation
Customer interface, planning, data analytics

Business area returns and long-term targets

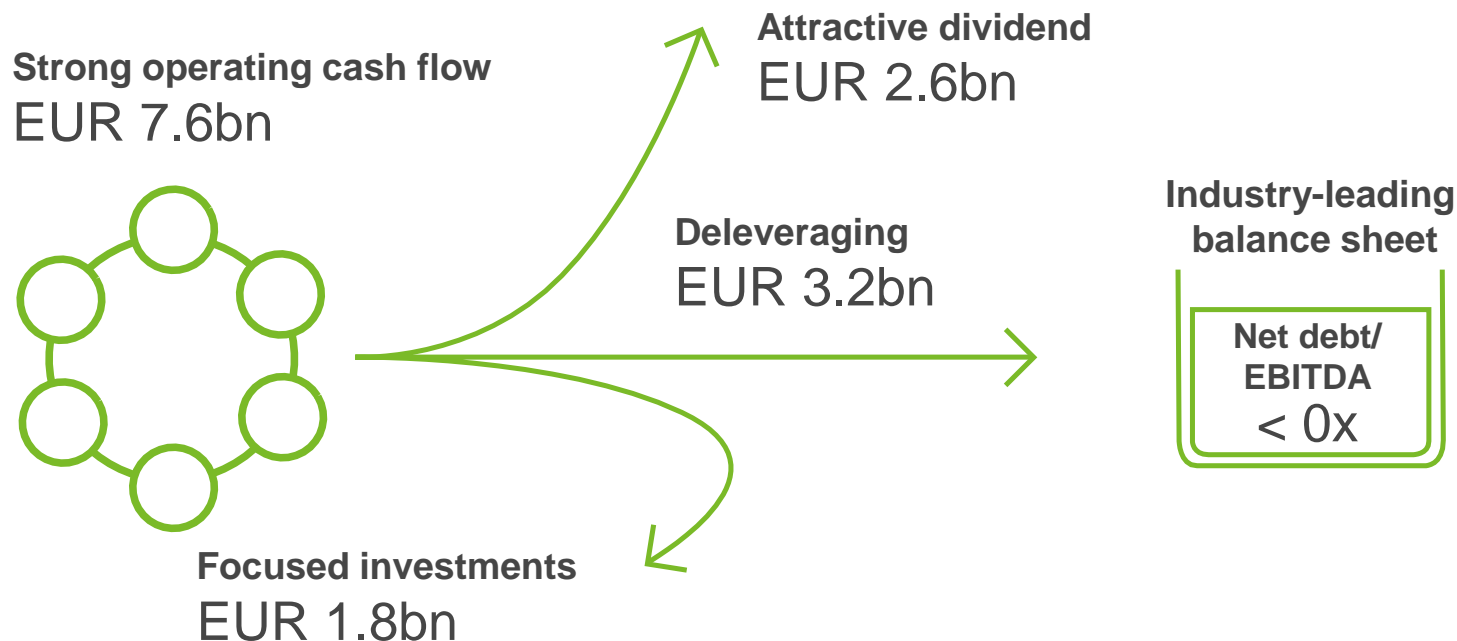


*) shareholdings in UPM Energy
valued at fair value

Group financial performance

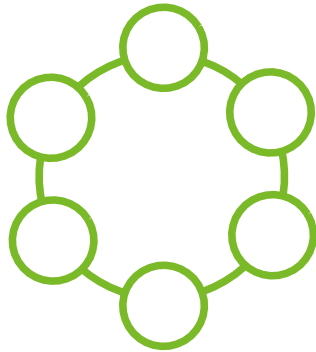


5-year cumulative cash flow (2015–2019) – efficient capital allocation in action



Illustrative capital allocation ^{*)} for the next 5 years

Performance focus
Strong cash flow



Attractive dividend
EUR ~3.5–4bn

High return
investments
EUR ~4-4.5bn

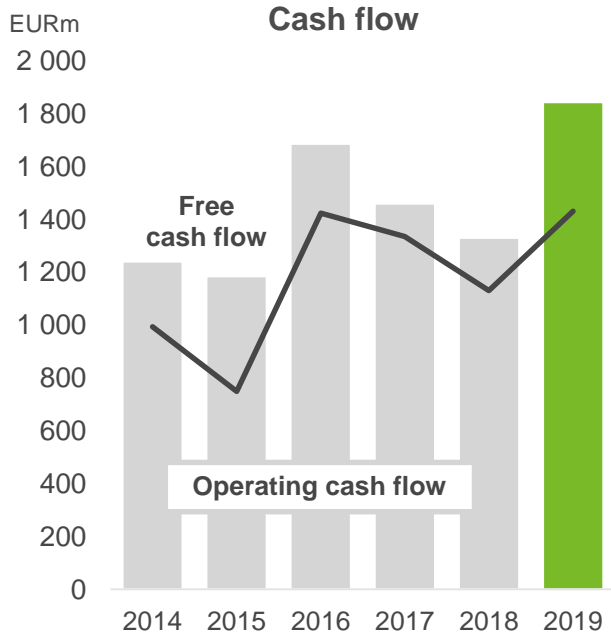
Industry-leading
balance sheet

Net debt/
EBITDA
< 2x

Maintain headroom

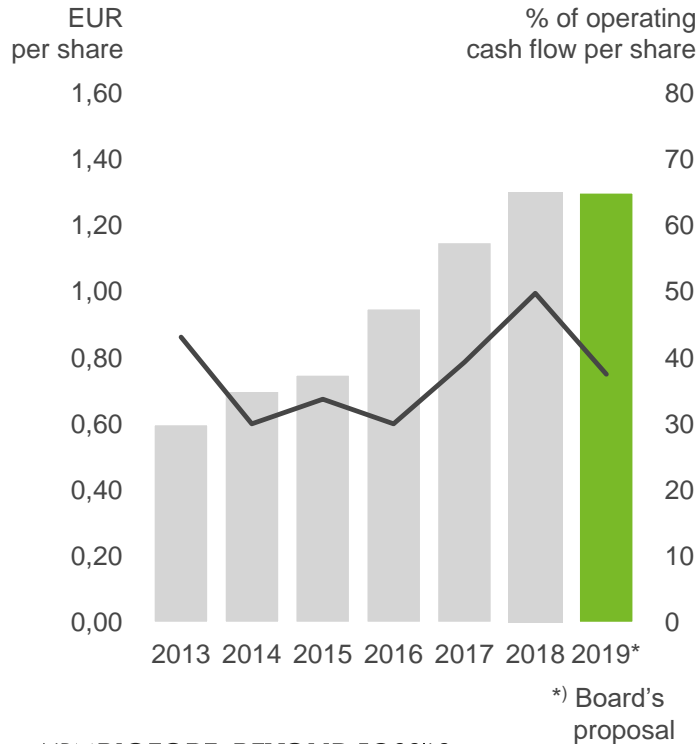
^{*)} This is not a forecast

Consistently strong cash flow



- 2019: record annual operating cash flow at EUR 1,847m (1,330m)
- Working capital decreased by EUR 276m (increased by 209m)
- Q4/19: record quarterly operating cash flow at EUR 592m (384m in Q4/18)
- Working capital decreased by EUR 227m (decreased by 29m)

Dividend proposal: EUR 1.30 per share



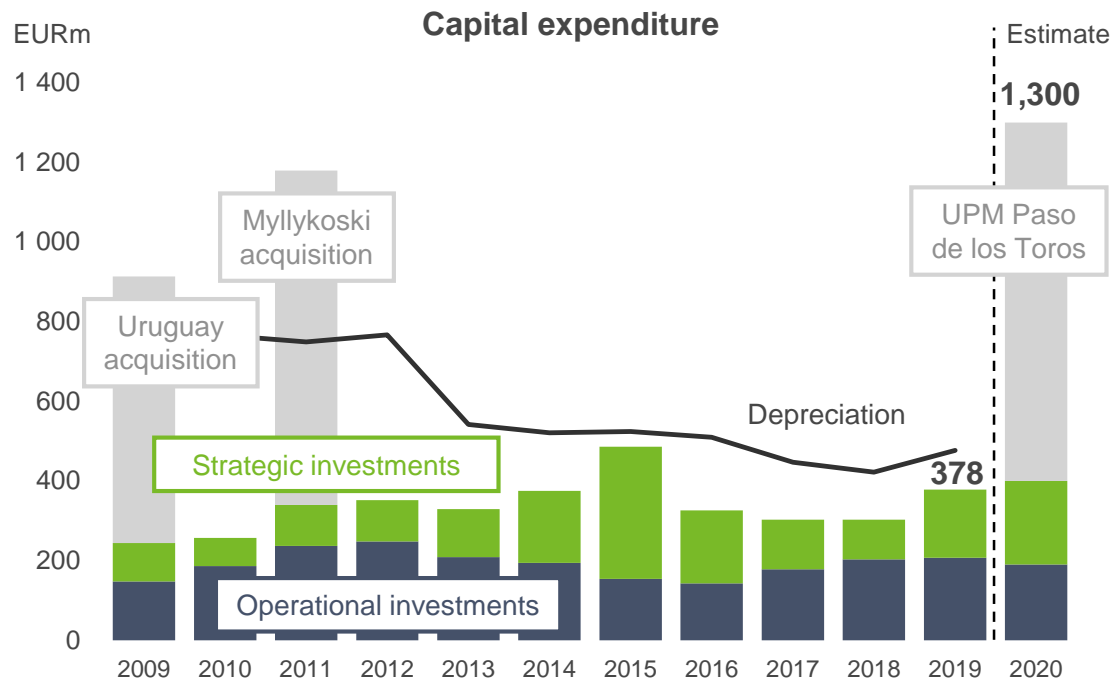
Long term dividend policy

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

Dividend proposal for 2019

- EUR 1.30 (1.30) per share, totalling EUR 693m
- 38% of 2019 operating cash flow

Transformative growth projects in pulp and biochemicals, low investment needs in existing assets



Capex estimate for 2020

- Total EUR 1,300m
- Includes EUR 900m on the new pulp mill and related capex in Uruguay
- Operational investment needs consistently low

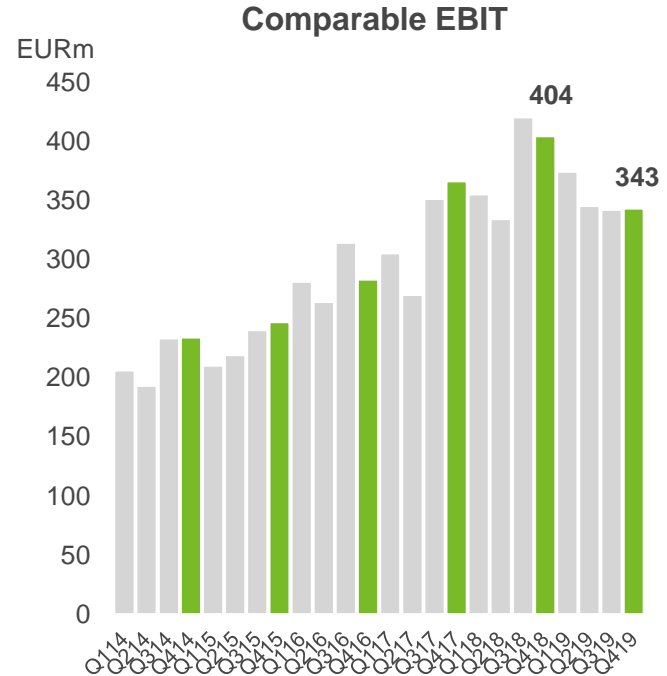
Our consistent efforts on responsibility have received recognition globally

- UN Global Compact LEAD
- Dow Jones Sustainability Index
- CDP Climate
- MSCI ESG Ratings



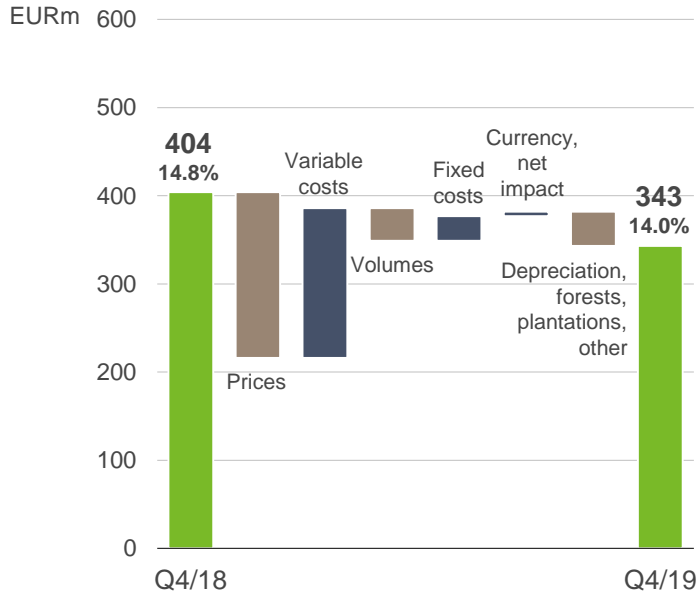
Q4 2019: Good performance and record cash flow

- Sales decreased by 10% to EUR 2,447m (2,731m in Q4 2018) due to lower pulp price and lower deliveries of graphic papers
- Comparable EBIT decreased by 15% to EUR 343m (404m)
- Record cash flow in Communication Papers and Raflatac, record comparable EBIT in Specialty Papers
- Record quarterly operating cash flow at EUR 592m (384m)
- Net debt decreased to EUR -453m (-311m at the end of 2018, before IFRS 16 Leases)

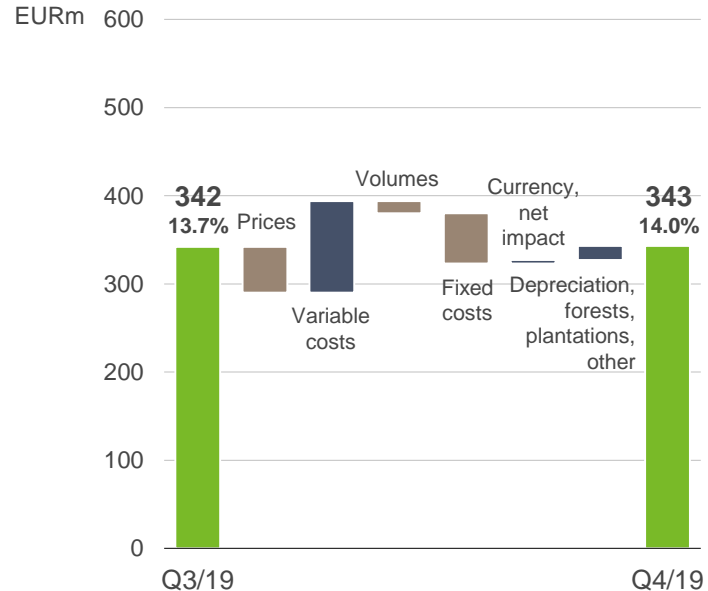


Comparable EBIT in Q4 2019

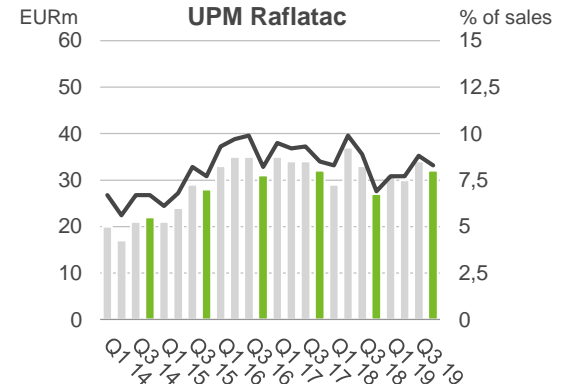
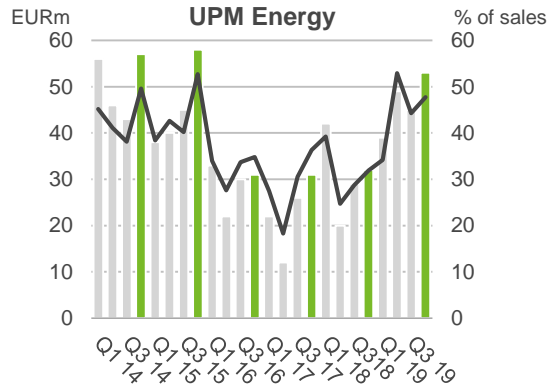
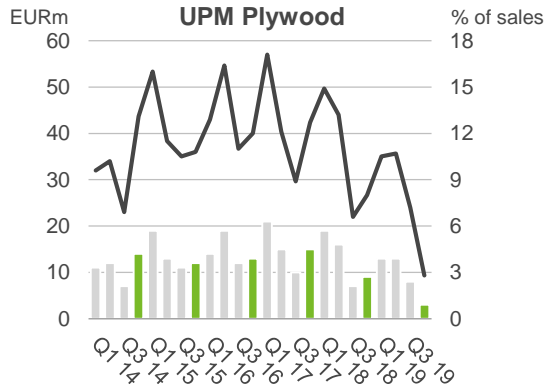
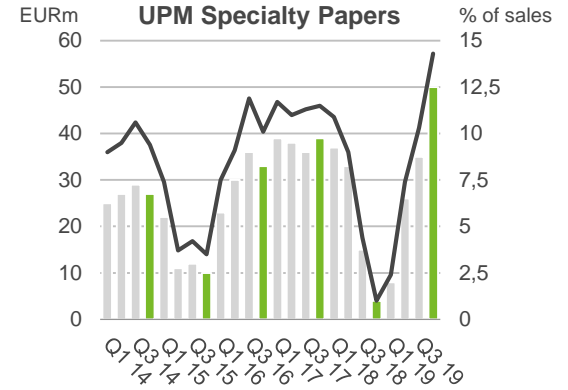
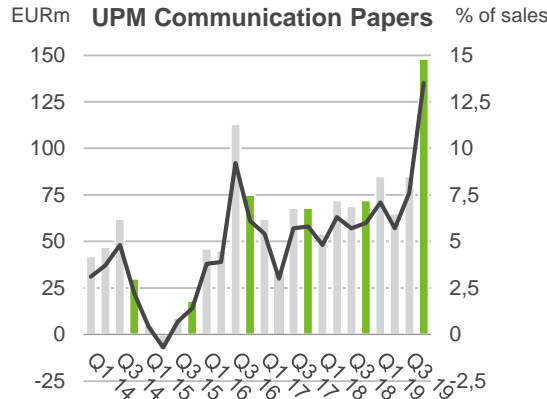
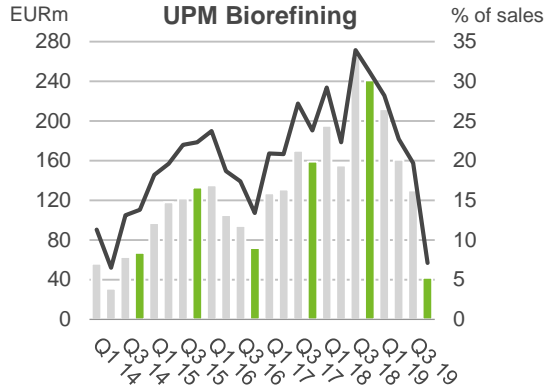
Sales prices decreased, outweighing the impact of lower variable costs across all business areas.
Fixed costs decreased.



Sales prices and variable costs decreased.
Energy costs seasonally lower, incl. annual energy related refunds.
Fixed costs seasonally higher, incl. maintenance.



Comparable EBIT by business area



Outlook for 2020



Global economic growth is expected to continue in 2020, albeit at a modest level. Growth is expected to be slow in Europe. Potential intensification or easing of trade tensions between major economic areas cause uncertainty to the business environment. These issues may impact UPM's product and raw material markets in 2020.

In 2020, robust demand is expected to continue for most UPM businesses, whereas demand decline is expected to continue for UPM Communication Papers.

In the beginning of the year 2020, paper prices are expected to decrease moderately, compared with Q4 2019. Pulp prices are starting the year 2020 at a low level, after the decreases that took place throughout the year 2019.

UPM will continue its actions to reduce fixed and variable costs. In 2020, the intensifying phase of UPM's transformative growth projects is expected to add project-related costs to the fixed costs.

UPM's comparable EBIT in H1 2020 is expected to be significantly lower than in H1 2019, due to lower sales prices, partly offset by decreases in variable costs. Comparable EBIT is expected to recover in H2 2020.

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 in their businesses
- Current supply is limited and high-quality biochemicals are priced at a premium in the markets
- Sustainable wood supply, unique technology, existing infrastructure and proximity to customers enables a good cost position, comparable to the fossil-based alternatives
- 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

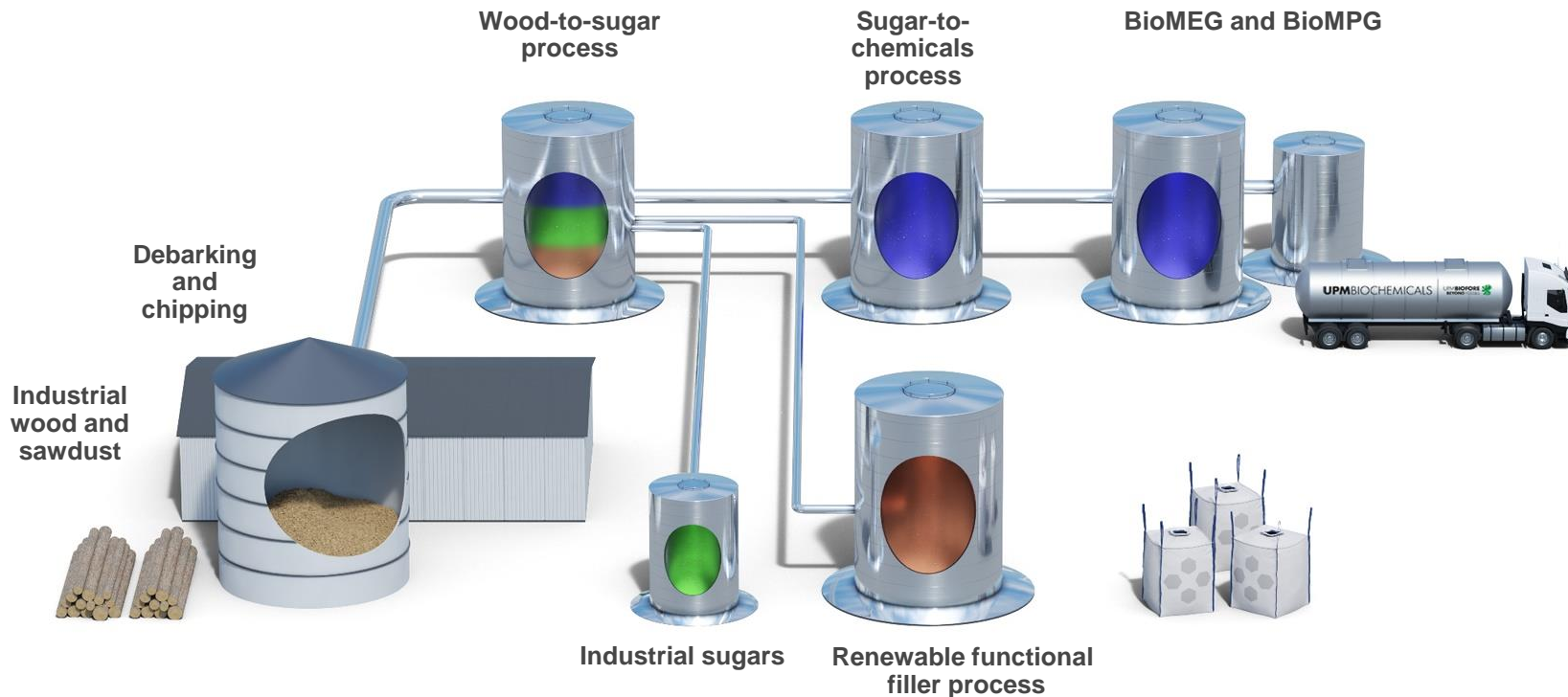


Large growth markets – unique sustainability value



- 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

Unique technology converting wood to biochemicals



Attractive location in Germany and efficient value chain



- UPM is a responsible local producer with an entirely European value chain
- Chemical Site Leuna provides existing processes, logistics arrangements and infrastructure for various services and utilities
- Strong chemicals cluster in Germany with proximity to customers and suppliers
- Good availability of sustainably sourced hardwood from forest thinnings and residues of sawmills
- Innovation-friendly environment with strong universities, institutes and skilled potential employees



UPM invests in a world class pulp mill in Uruguay



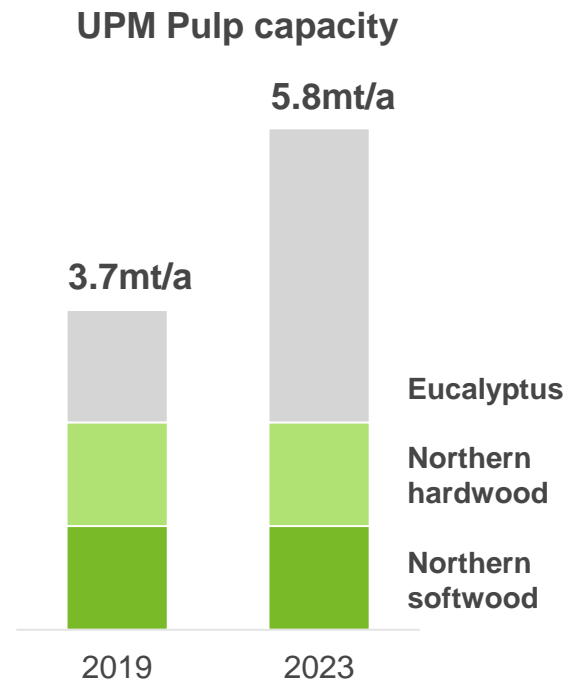
- UPM is constructing a highly competitive new pulp mill with annual production capacity of 2.1 million tonnes of eucalyptus pulp
- Mill investment of USD 2.7 billion
- Investments in port operations in Montevideo, local facilities in Paso de los Toros of USD 350 million
- Scheduled start-up in H2 2022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



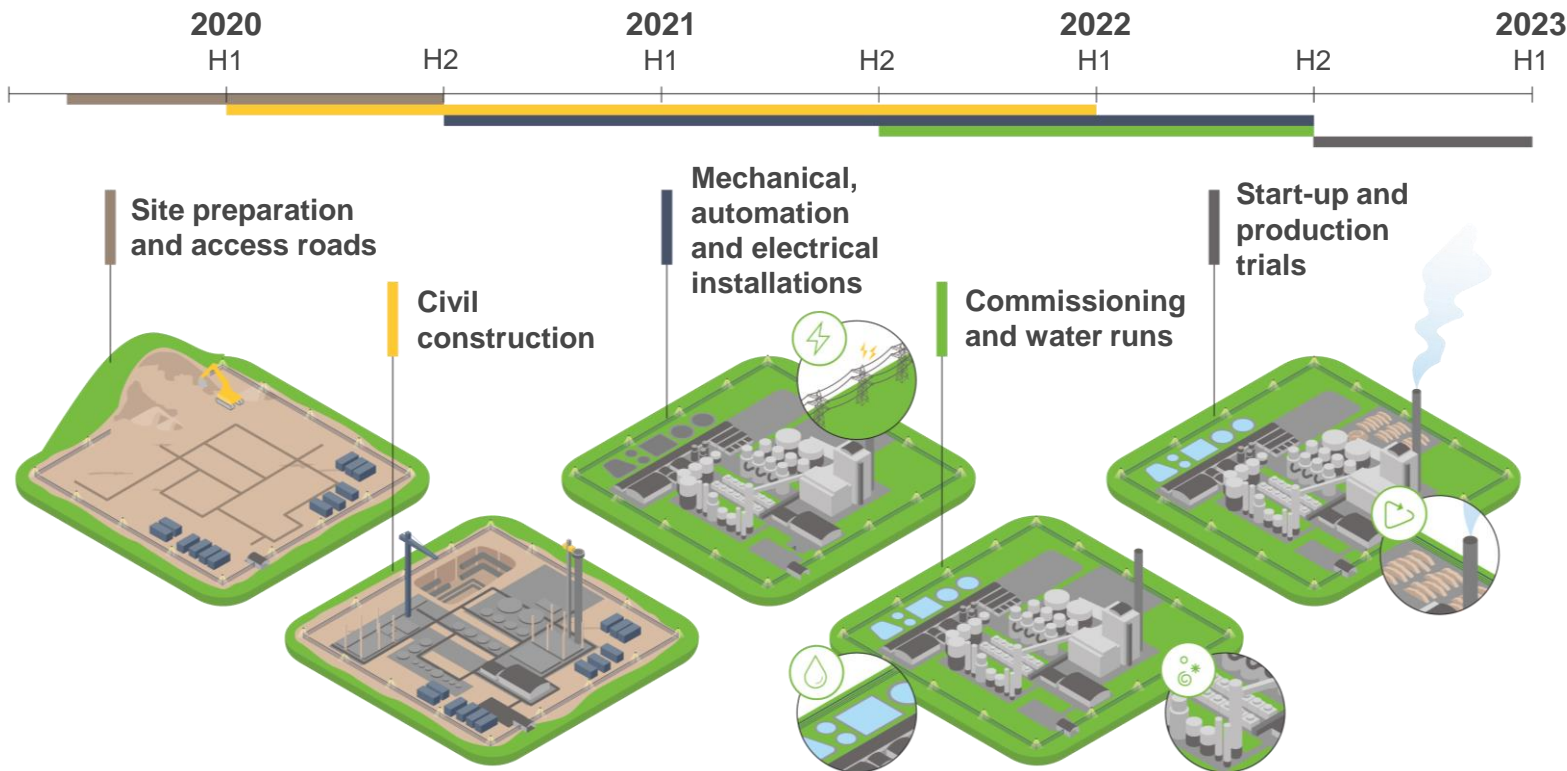
Transformative step in UPM's pulp business and in UPM's future earnings



- Significant step for UPM's future earnings
 - Expected cash cost level of USD 280 per delivered tonne of pulp*) – one of the most competitive mills in the world
 - 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
 - +57% in pulp business size in a sustainable and highly competitive way
 - UPM becomes one of the most competitive suppliers of premium pulp in the world



UPM Paso de los Toros pulp mill construction schedule



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



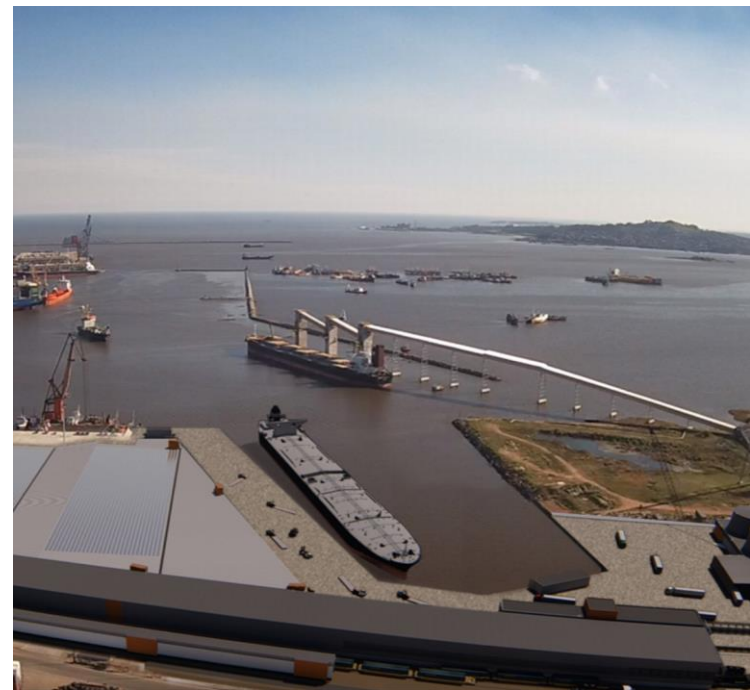
- Eucalyptus availability secured through UPM's own and leased plantations and wood sourcing agreements with private partners
- UPM's own and leased plantations in Uruguay cover 405,000 hectares, supplying both UPM Fray Bentos and the new mill near Paso de los Toros
- 30 years experience of sustainably managed and productive plantations



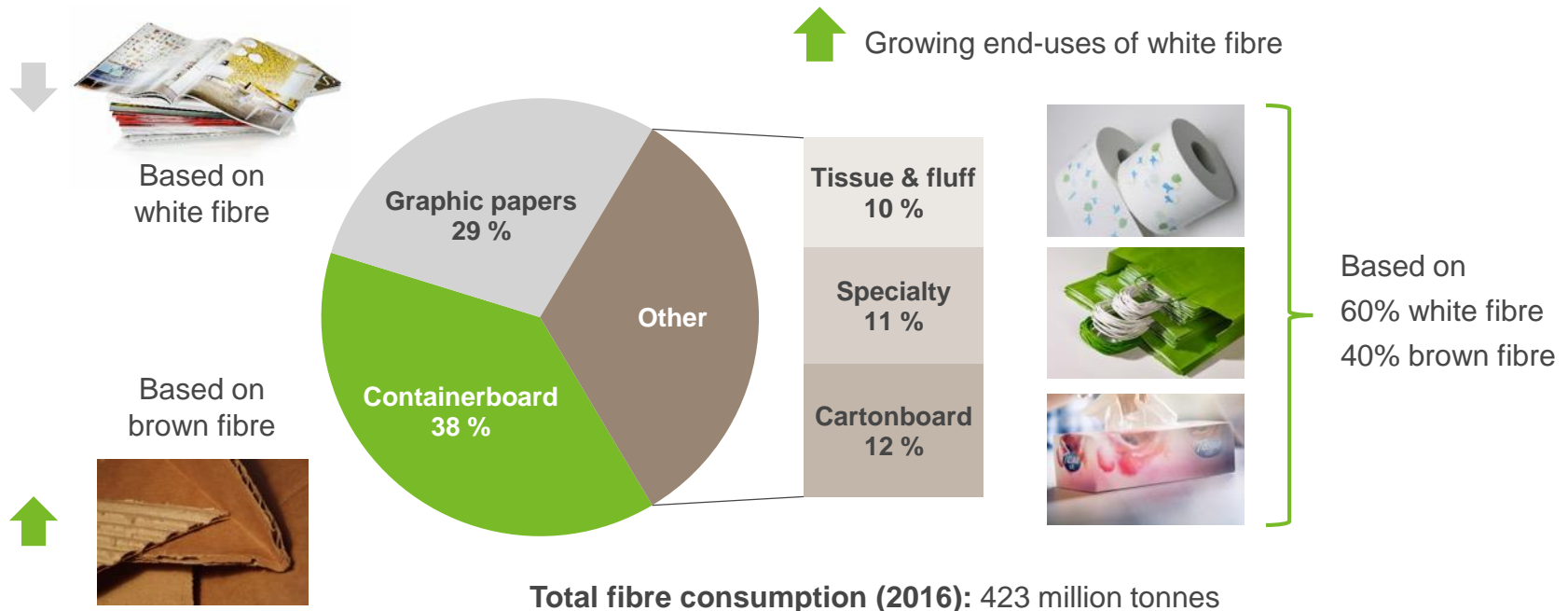
Efficient logistics set-up



- 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 has been signed, financing is finalised
- Agreed road improvements



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

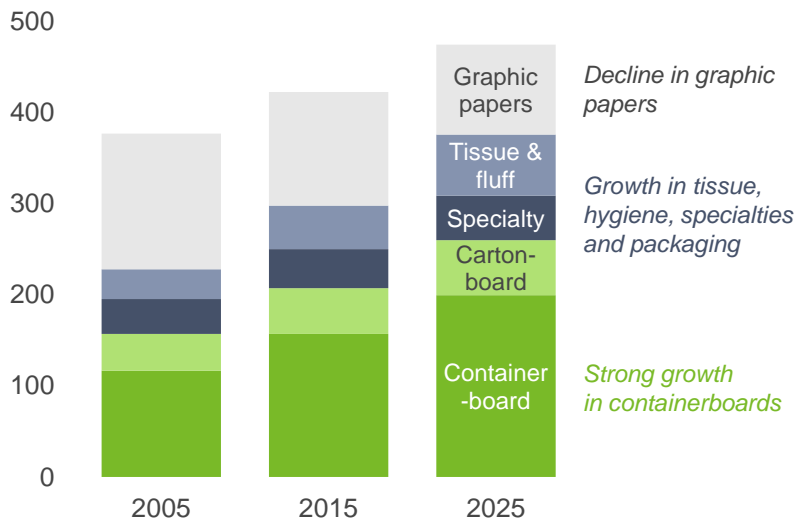


UPM Biorefining

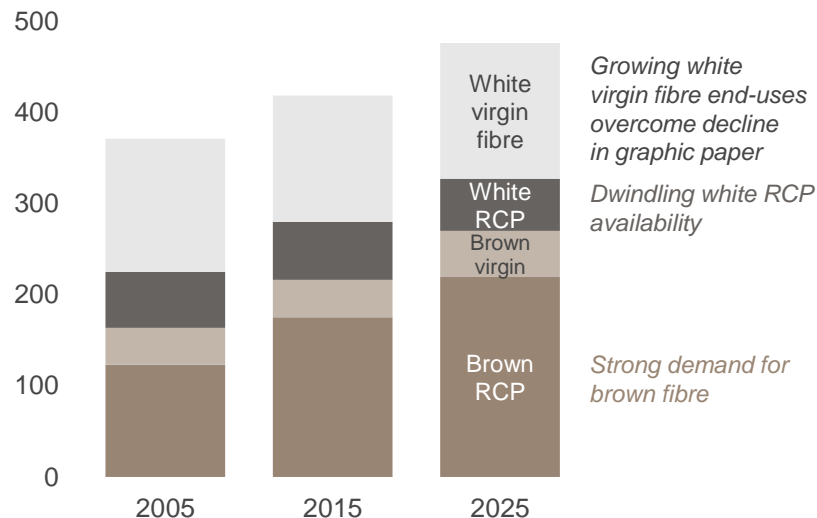
Pulp demand outlook



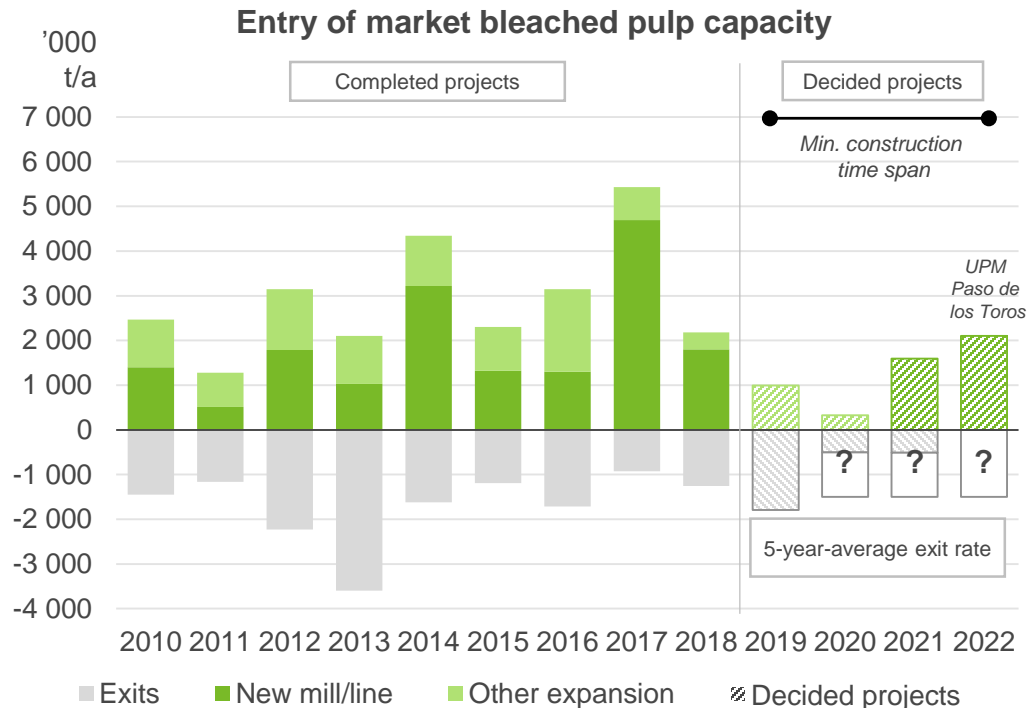
Global consumption of end-uses
in million tonnes



Global consumption of fibres
in million tonnes



Few decided projects coming on stream in the short-term



Below-average rate of expansion

Exits take place

Note: Year 2022 including BHKP, BSKP, excluding fluff and dissolving

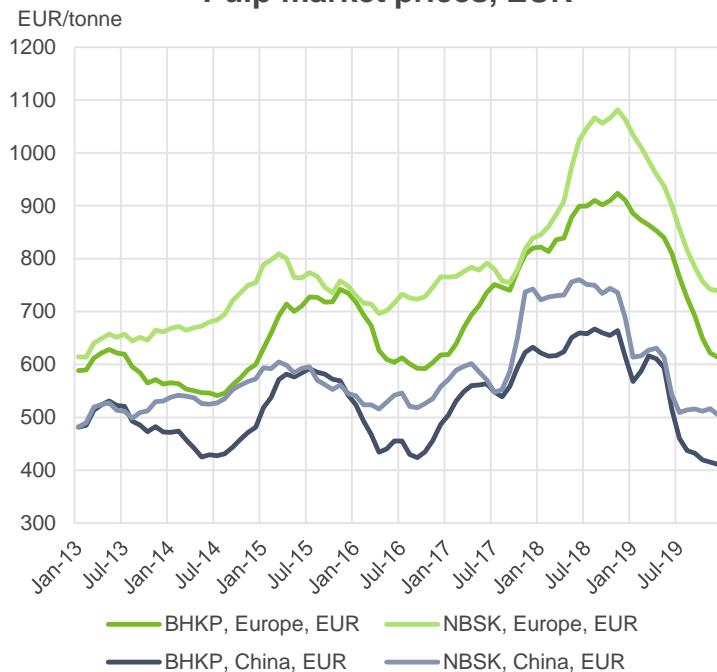
Sources: Pöyry, UPM

UPM Biorefining

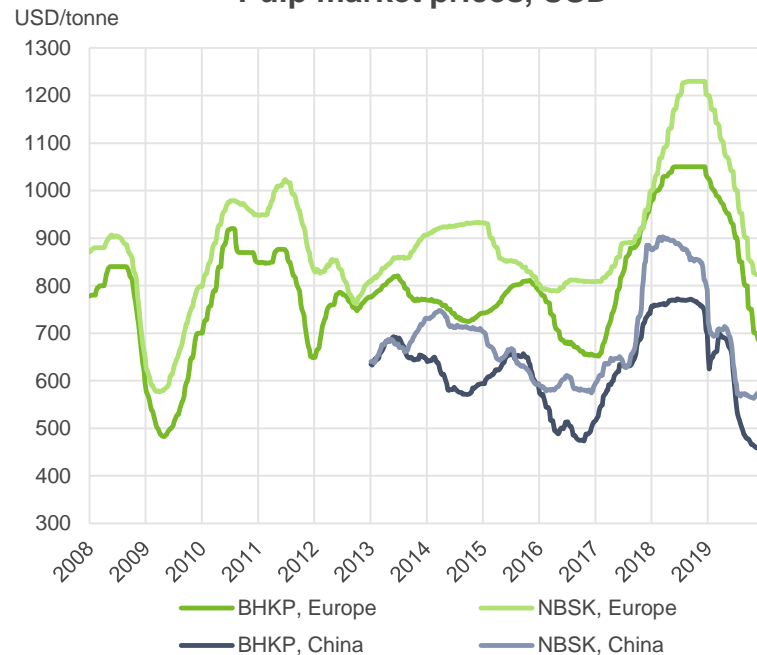
Chemical pulp market prices



Pulp market prices, EUR



Pulp market prices, USD



Source: FOEX Indexes Ltd

Developing our forest assets

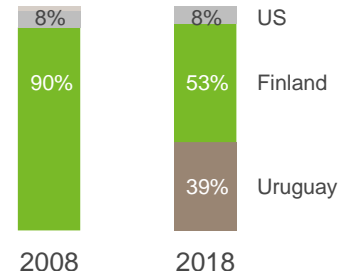
- Investing in strategic forest assets, e.g. in Uruguay
- Releasing capital from forests far from our mills
- Productivity with active management and nurseries
- Strong commitment to sustainability



UPM forests and plantations

| | 2008 | 2018 |
|---|-------|-------|
| Forest and plantation land (own and rented) (1,000 ha) | 1,012 | 971 |
| Forest growth (million m ³) | 4.3 | 8.8 |
| Wood sourced from UPM forests and plantations (million m ³) | 2.2 | 4.6 |
| Value of forests and plantations, including land (EURm) | 1,270 | 2,514 |

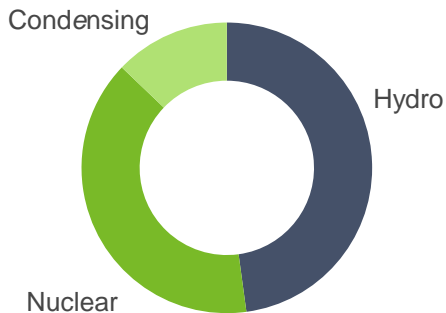
Area distribution



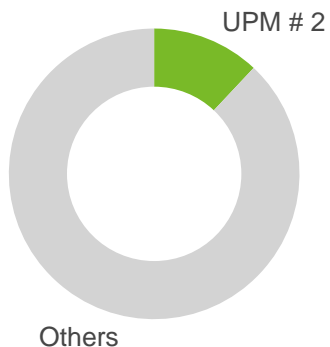
UPM's power generation – competitive in all market conditions



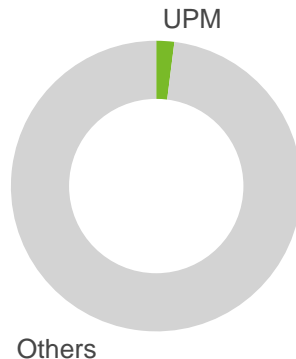
UPM's power
generation assets



UPM in Finland



UPM in Nordics

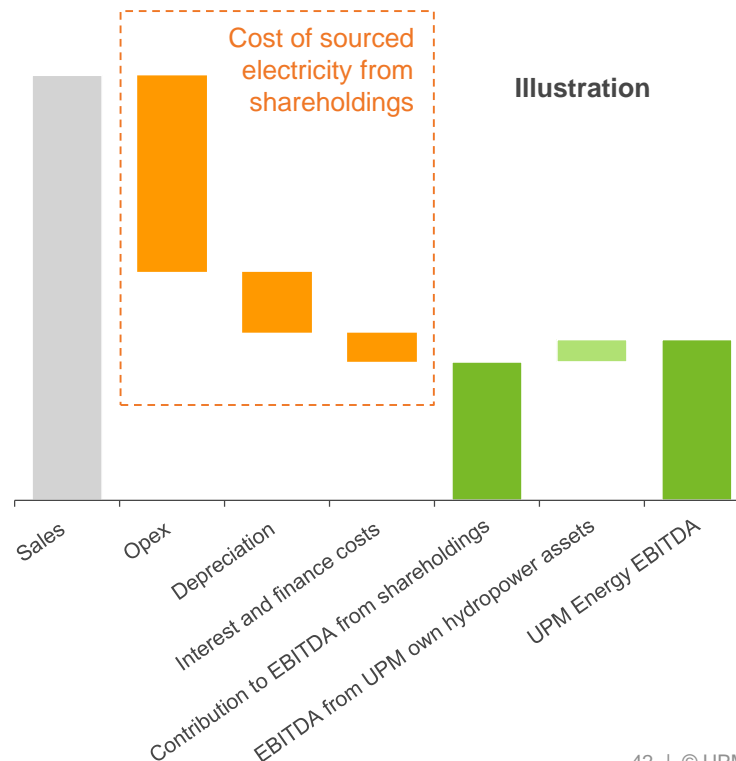


UPM Energy

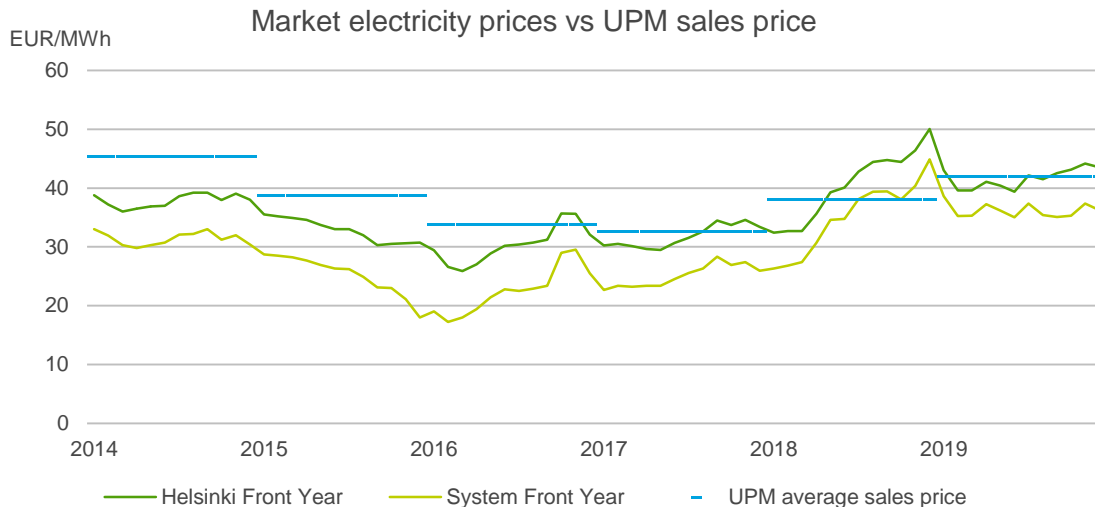


| UPM Energy's power generation | MW | EURm |
|---|-------|-------|
| Hydropower holdings | 551 | 740 |
| Nuclear power OL1 and OL2 | 588 | 1,185 |
| Nuclear power OL3 under construction | (494) | 226 |
| Condensing power | 95 | 1 |
| UPM Energy's shareholdings in total, valued at fair value | 1,234 | 2,152 |
| UPM own hydropower assets | 160 | |
| UPM Energy's in total (excl. OL3) | 1,394 | |
| UPM Energy capital employed | | 2,419 |

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 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------------|------|------|------|------|------|------|
| Comparable EBIT, EURm | 202 | 181 | 116 | 91 | 123 | 185 |
| % of sales | 43.5 | 43.6 | 32.7 | 28.8 | 31.5 | 44.4 |

UPM Energy ROCE



- In UPM balance sheet, UPM Energy shareholdings are valued at fair value
- Energy market transformation is ongoing
- UPM Energy assets are competitive



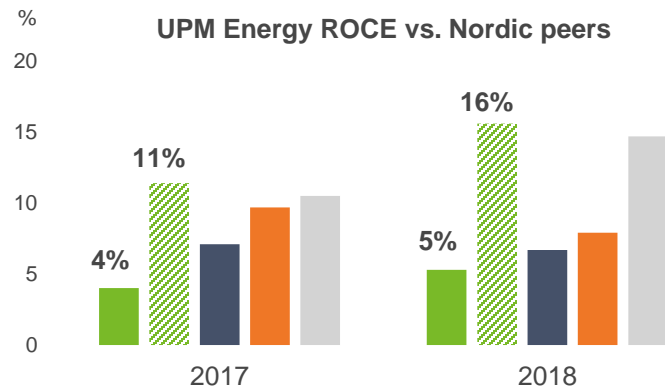
■ UPM Energy comparable ROCE: shareholdings at fair value

▨ UPM Energy ROCE if calculated based on acquisition cost

■ Fortum ■ Vattenfall ■ Statkraft

Source: Companies' financial reports, UPM

UPM Energy ROCE vs. Nordic peers



UPM Raflatac

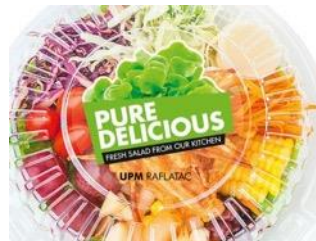
Self-adhesive labels in end-use



PHARMACEUTICALS



WINE, SPIRITS & CRAFT
BEVERAGE



FOOD



HOME & PERSONAL CARE



DURABLES



TRANSPORT & LOGISTICS



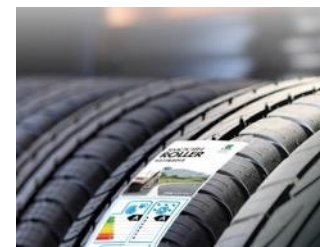
RETAIL, OIL & INDUSTRIAL



A4 & CUT-SIZE



SECURITY & BRAND
PROTECTION



TYRE

The self-adhesive labelstock market



>EUR 8bn global market

~4% p.a. growth

Private consumption driven

Largest of the labelling technologies

~1/5 of total self adhesive materials markets

Strategy for profitable growth



Increased customer reach



Wider product portfolio

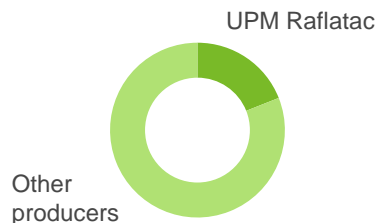


Winning operations

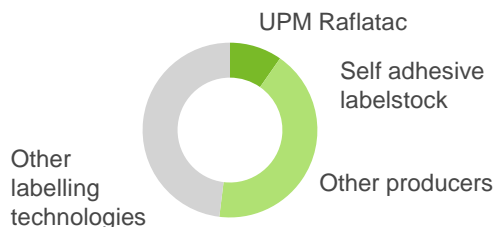
Enabled by strong common capabilities and global operating model

Potentially accelerated with M&A if feasible

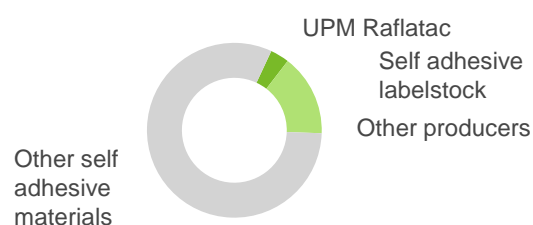
Self-adhesive labelstock market



All labelling technologies



All self adhesive materials



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



UPM Specialty Papers

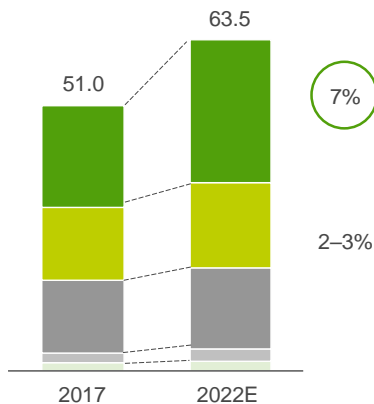
Strong position in growing end use markets



LEADERSHIP POSITION IN LABELLING MATERIALS

CASE: Siliconized release liner market, 51 Bn m²

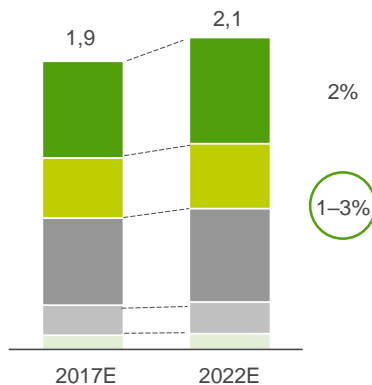
CAGR
5%



NICHE PLAYER IN CONSUMER PACKAGING

Paper flexpack, million tonnes

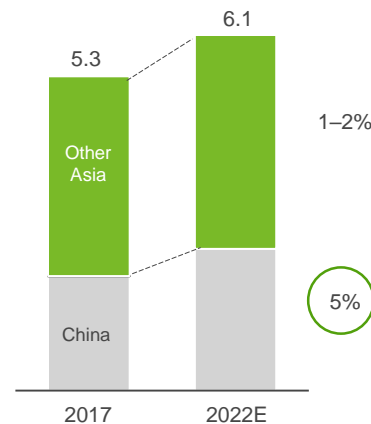
CAGR
2%



MAJOR SUPPLIER OF OFFICE PAPER IN ASIA

Asian cutsize market, million tonnes

CAGR
2-3%



Asia North America Europe South America MEA

Source: AWA; Pira, UPM

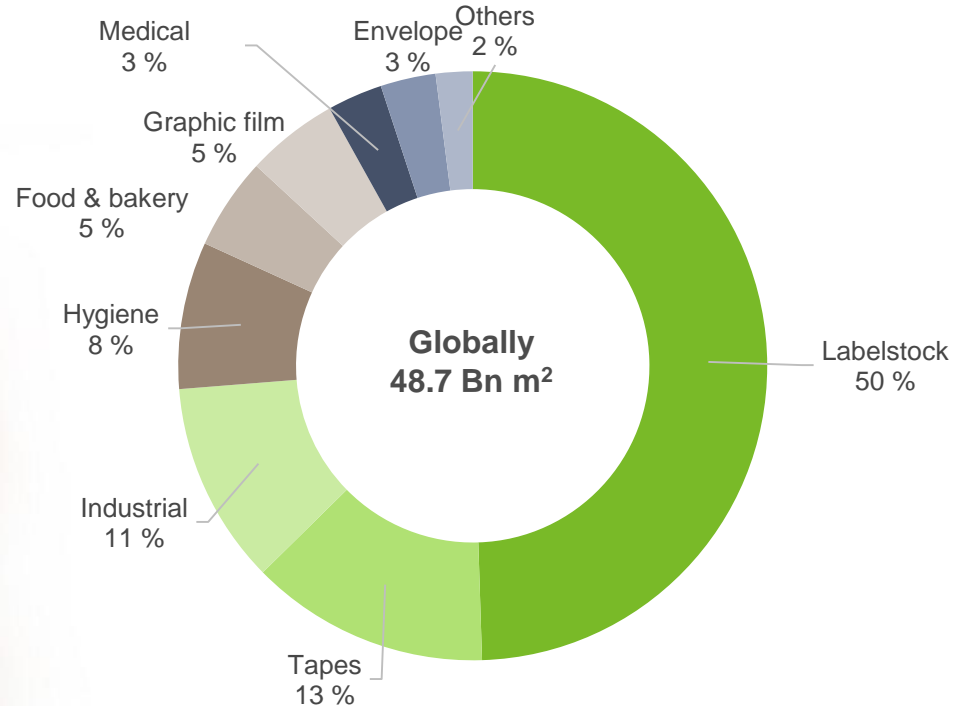
Release liner opportunities in labelstock & other applications



Product functions

Release liner carries the adhesive and face material:

- Prevents the adhesive from sticking permanently
- Important and often critical feature of a layered construction



Source: AWA

Our focus: Strengthen industry leadership role



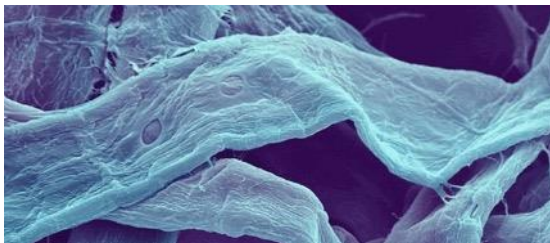
1 Uncompromising performance



Continued focus on stringent capacity management and performance improvement.

Zero accidents

2 Targeted innovation



Targeted investments in innovation to drive performance, increase efficiencies and extend our position in the market.

Leadership

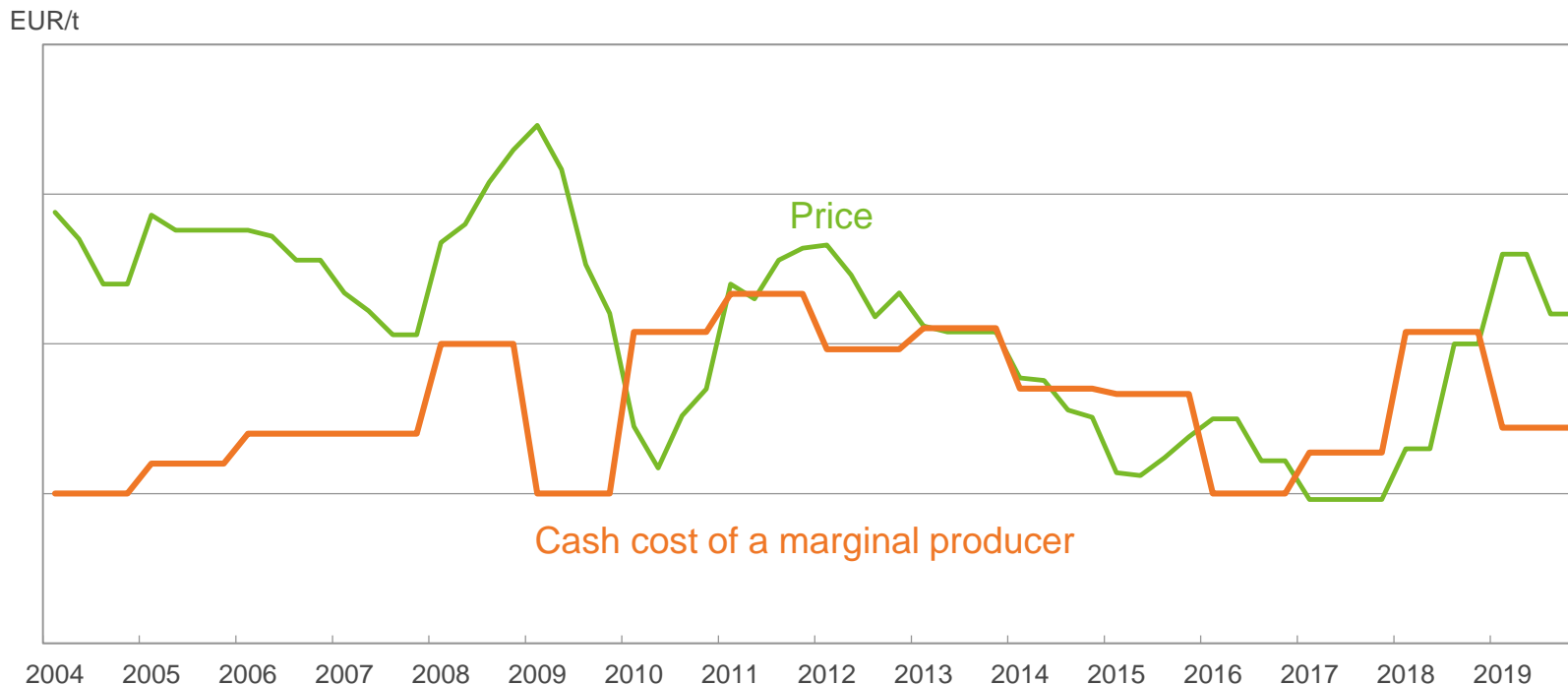
3 Commercial excellence



Optimize and evolve commercial interface and supporting processes to ensure supply security and customer value add.

Focused on sustainability

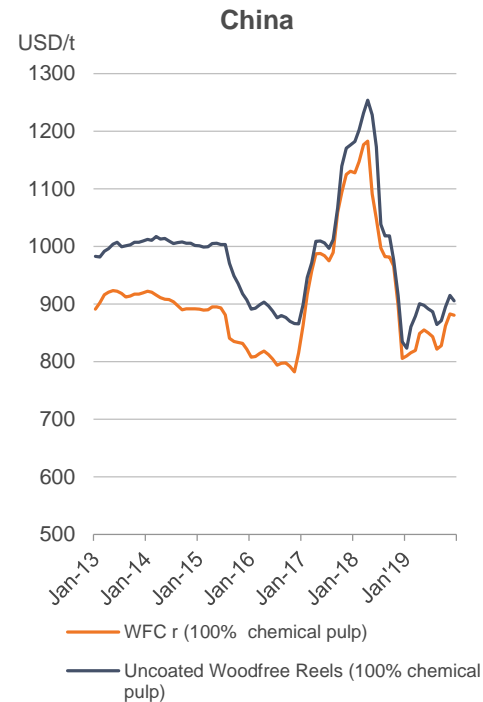
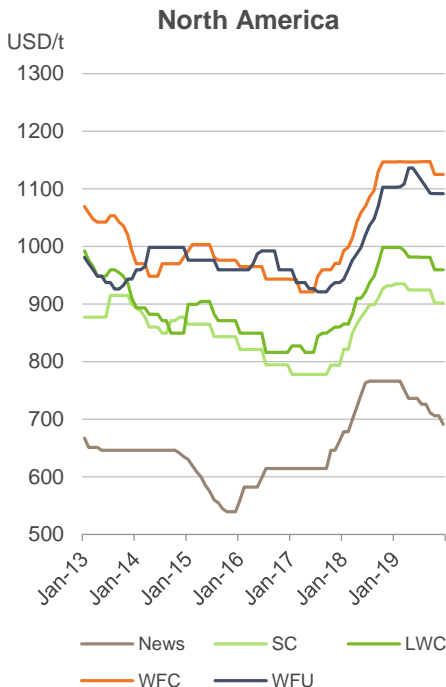
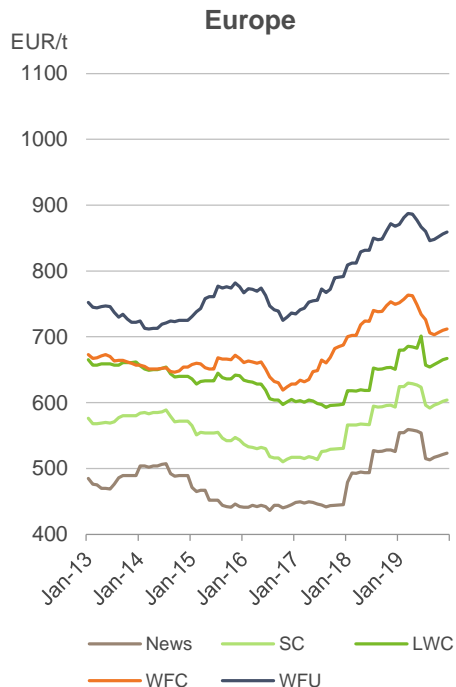
Paper price vs. cash cost of marginal cost producer



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

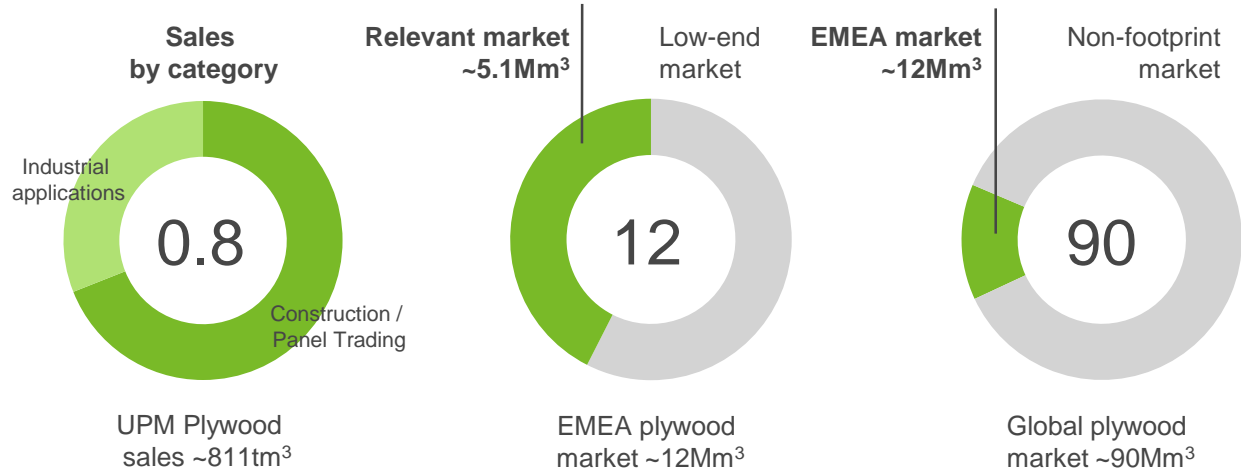
- Global leader in LNG plywood
- Competitive edge based on right quality and accurate on-time deliveries
- Long term commitment and benchmark service level
- Focus to secure leading position in LNG carriers and to extend offering into related applications using the same technologies (e.g. land storage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

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



Strategic choices

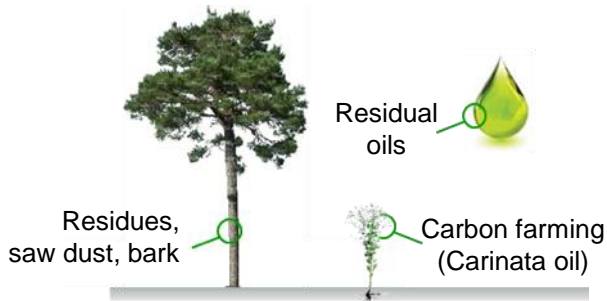
1. Demanding industrial applications
2. High and medium range standard products
3. Selected customers
4. EMEA region and LNG business globally



The possible Kotka Biorefinery: an innovative and robust concept to scale up the business



- ✓ Competitive and sustainable feedstocks



UPM feedstocks

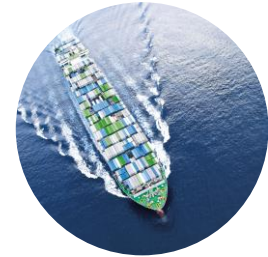


Lappeenranta Biorefinery
130kt



Potential Kotka Biorefinery
500kt

- ✓ Low-carbon fuels for road, aviation, shipping and petrochemicals



UPM renewable fuels

- ✓ World-scale biorefinery leveraging **UPM ecosystem**
- ✓ Significant **efficiency gains** enabled by economy of scale and synergies with Lappeenranta

UPM **BIOFORE**
BEYOND FOSSILS

