



**AIMING
HIGHER
WITH
BIOFORE**

UPM – THE BIOFORE COMPANY

Investor presentation
May 2018

UPM today



UPM BIOREFINING

Pulp
Biofuels
Timber

UPM ENERGY

Electricity
generation and
trading

UPM RAFLATAC

Label
materials for
product and
information
labelling

UPM SPECIALTY PAPERS

Label papers,
release liners,
office papers
and flexible
packaging

UPM COMMUNICATI ON PAPERS

Magazine
papers,
newsprint and
fine papers

UPM PLYWOOD

Plywood and
veneer
products

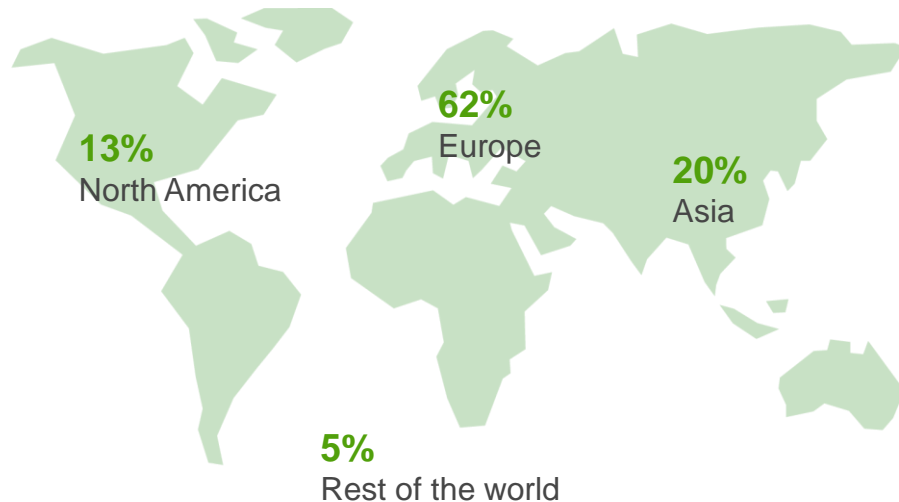
OTHER OPERATIONS

UPM Biochemicals
UPM Biocomposites
Wood sourcing and
forestry

Global businesses – local presence

UPM's sales by market 2017

EUR 10,010 million



54
production plants
in **12** countries



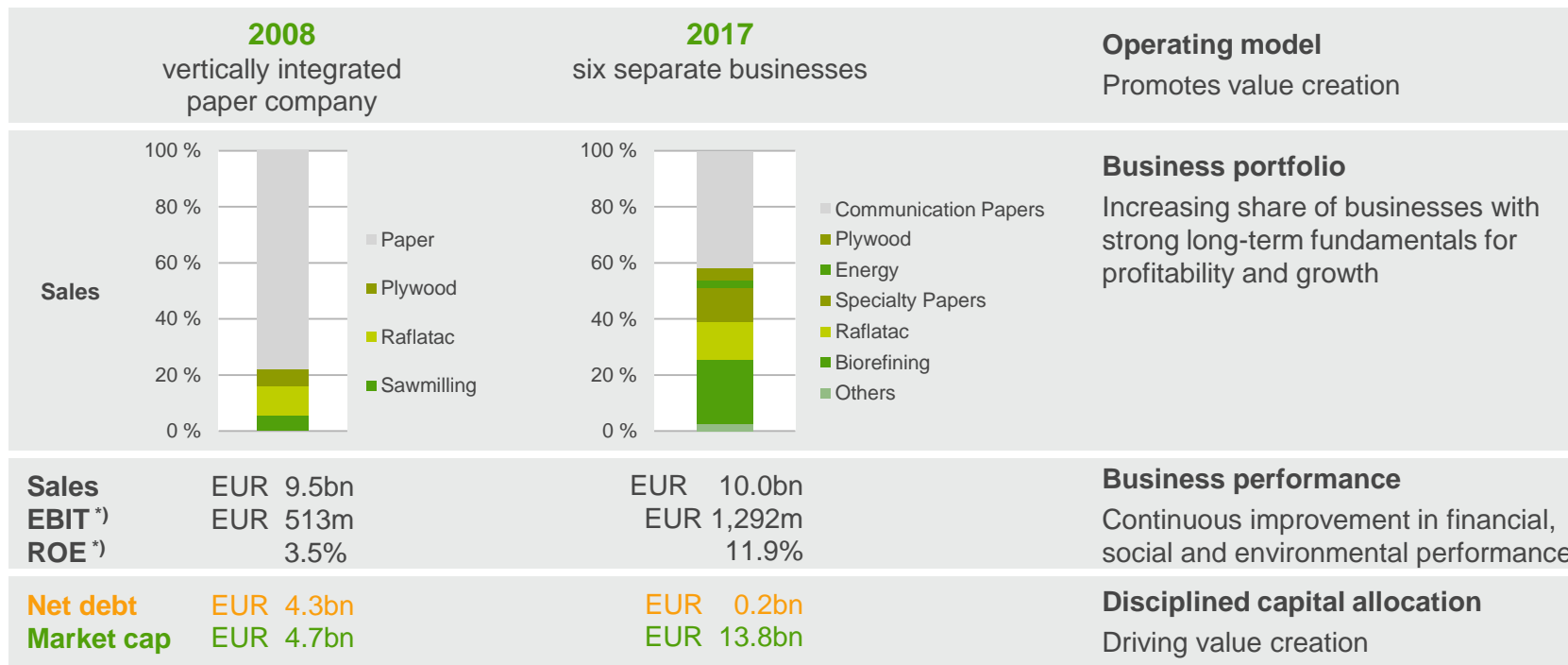
19,100
employees
in **45** countries

12,000
customers
in **120** countries

89,000
shareholders
in **35** countries

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

UPM in transformation

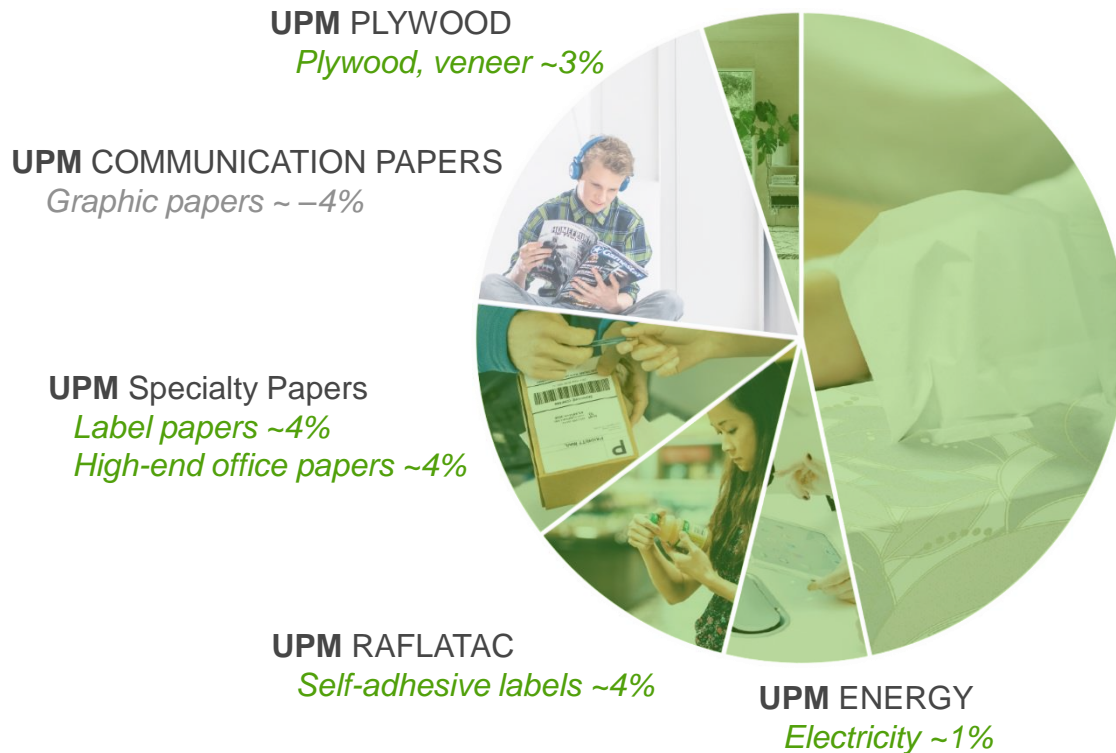


*) excluding special items for 2008, comparable figures for 2017

UPM business portfolio today *)

Competitive businesses with strong market positions

Operating on healthily growing markets



Growth drivers:

Private consumption
Sustainability
Population growth
Urbanisation
E-commerce
Construction
Transportation

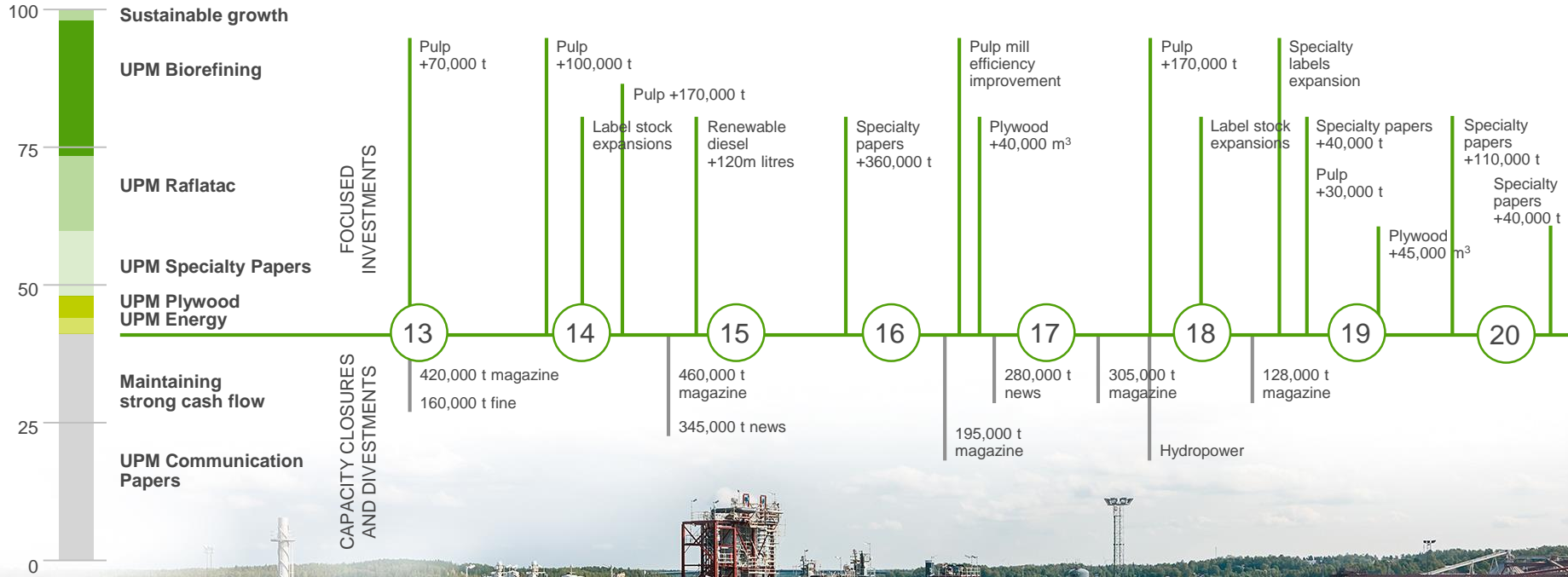
UPM BIOREFINING

Pulp ~3%
Biofuels strong
Timber ~2%

*) by comparable EBIT 2017
Demand trend growth, % pa

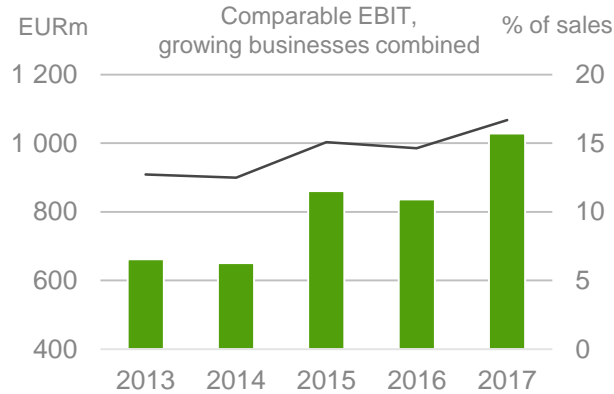
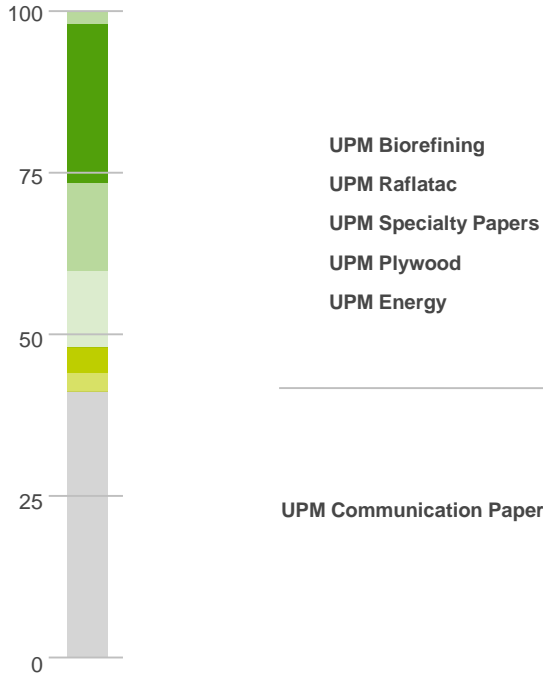
Increasing share of businesses with strong long-term fundamentals for profitability and growth

Sales 2017



Value creation through sustainable growth and cash generation

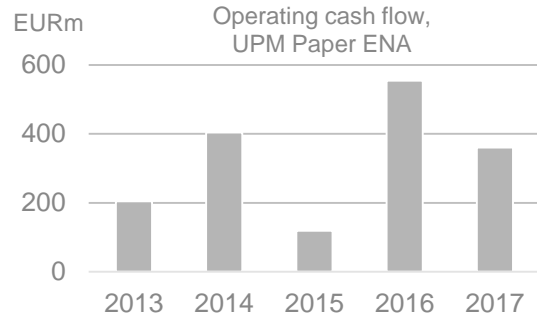
Sales 2017



Sustainable growth

- Commercial success
- Cost competitiveness
- Attractive growth investments
- Product mix development

UPM Communication Papers



Strong cash flow

- Commercial success
- Cost competitiveness
- Efficient use of assets

UPM current investment portfolio for earnings growth

Focused growth projects

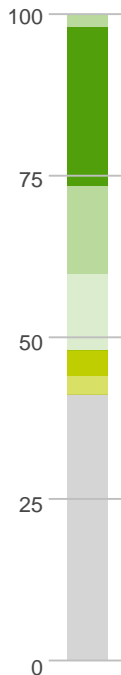
- Kaukas pulp mill expansion, +30kt in Q2 2018, Finland
- Raflatac speciality label expansion, in Q4 2018, Finland
- Chudovo plywood mill expansion, +45k m³ in Q3 2019, Russia
- Jämsänkoski release liner expansion, +40kt in Q4 2018, Finland
- Nordland PM2 conversion to release liner, +110kt in Q4 2019, Germany
- Changshu release liner expansion, +40kt in Q1 2020, China

Transformative prospects

- Possible new pulp mill, Uruguay
 - Second preparation phase is proceeding. The permitting processes for the mill, rail and port, as well as rail tendering have started as agreed.
- Biomolecules businesses
 - Basic engineering work regarding a potential industrial-scale biochemicals refinery, Germany
 - Exploring next steps in biofuels, environmental impact study in Kotka, Finland

Focused investments are delivering growth

Sales 2017

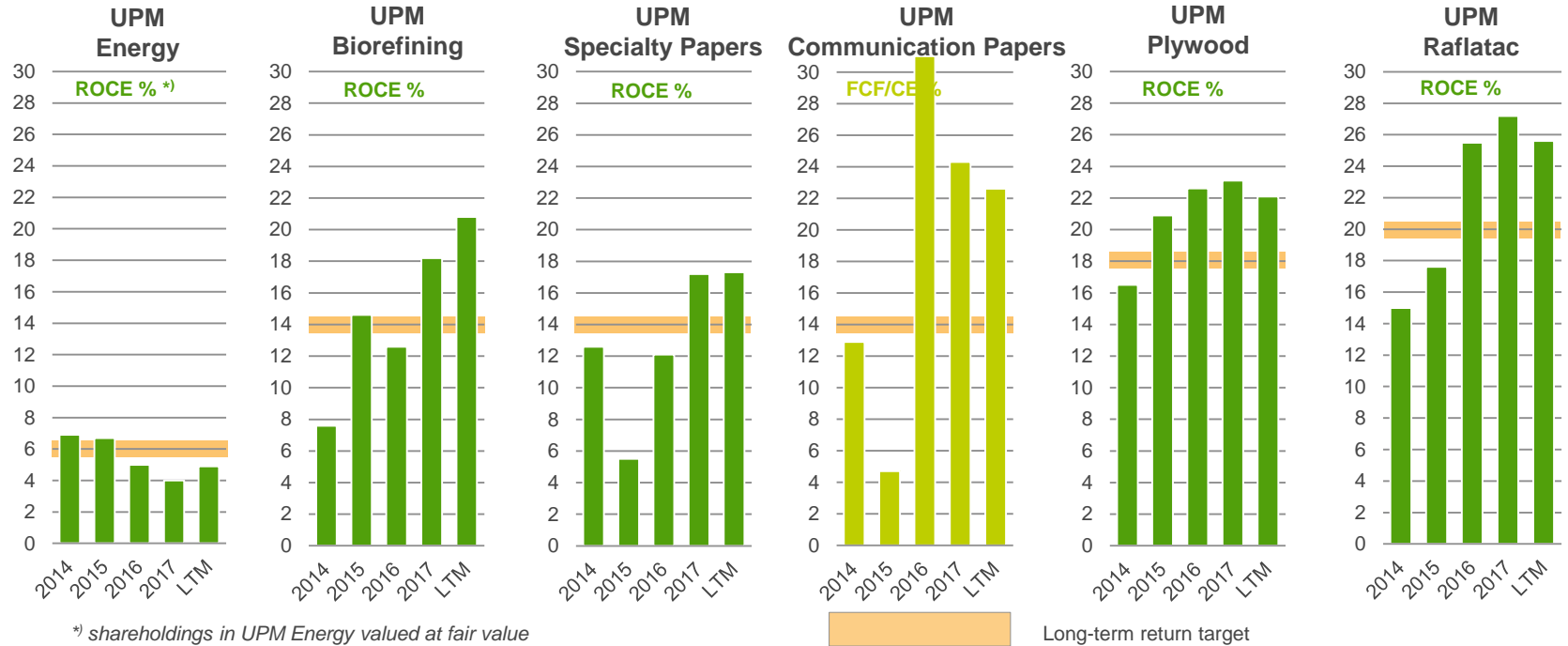


Average delivery growth 2013 –2017

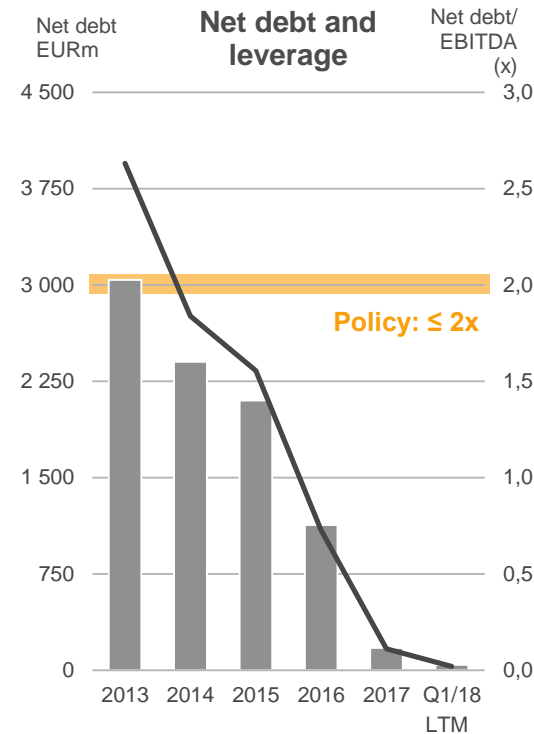
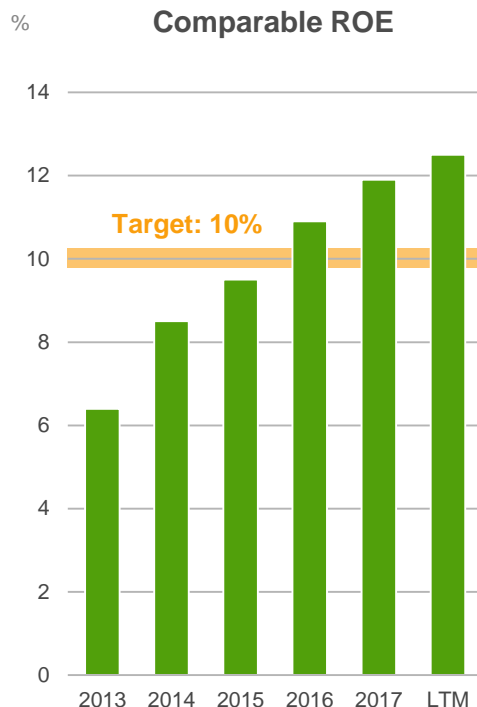
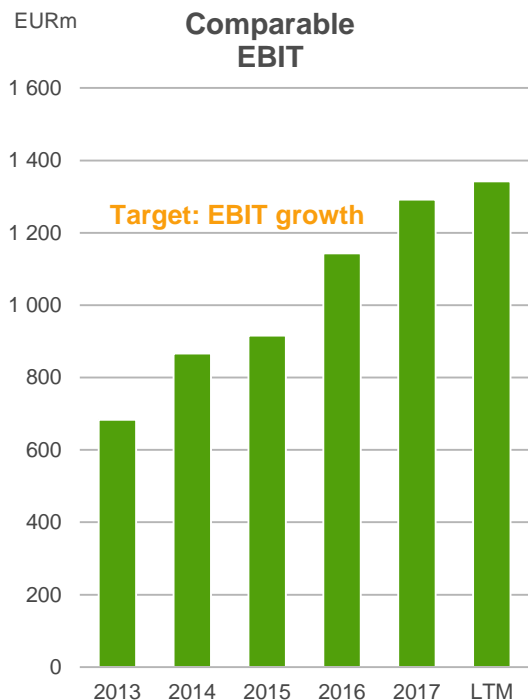
UPM Biorefining	Pulp Biofuels	CAGR +3% New business
UPM Raflatac	Standard paper labels Films and specials	CAGR +5% CAGR +7%
UPM Specialty Papers	Label materials Cut-size	CAGR +15% CAGR +6%
UPM Plywood	Plywood	CAGR +2%



Business area long-term targets compared with realised returns

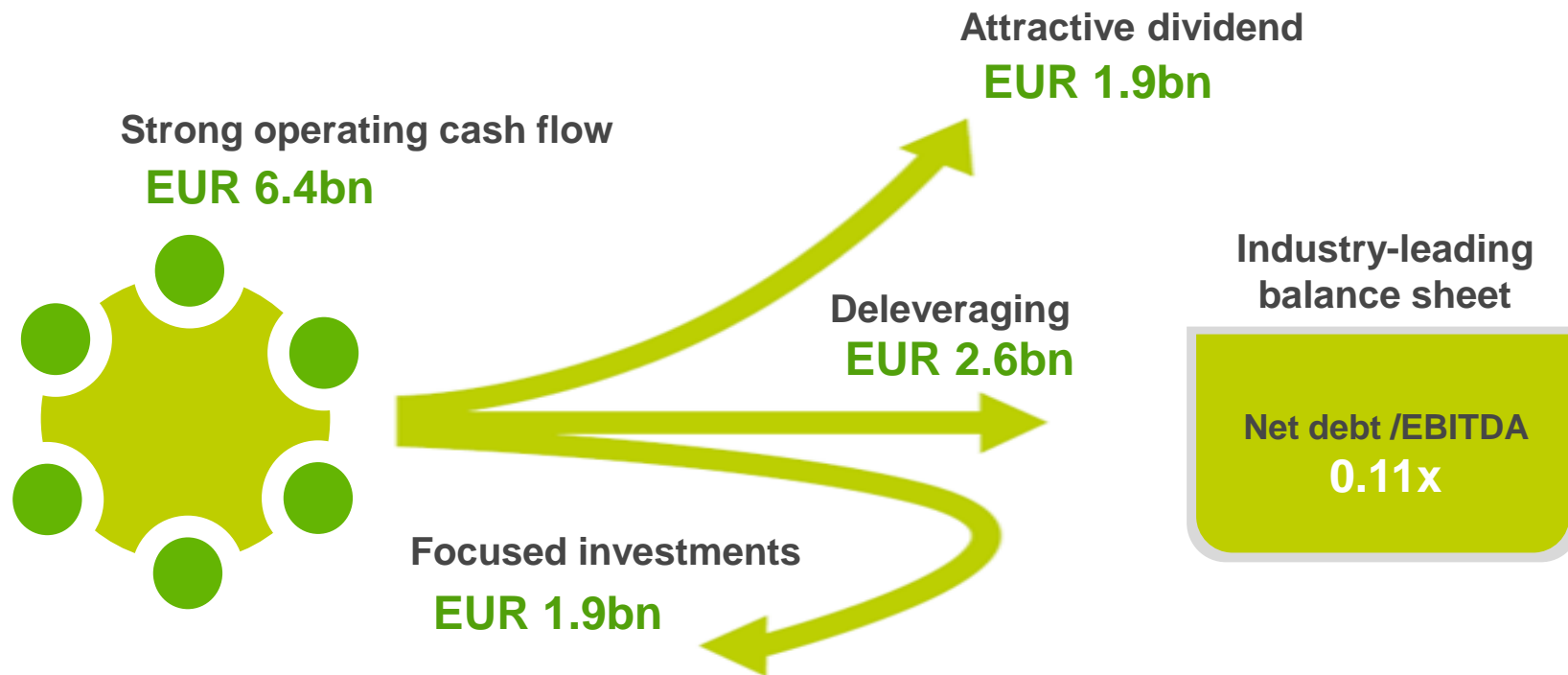


Group financial performance



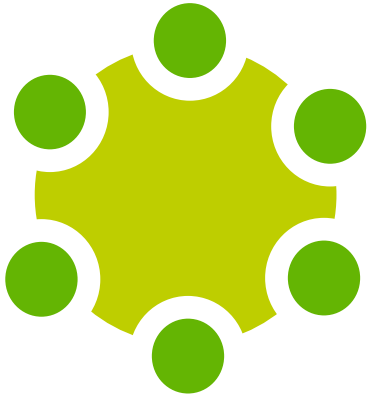
Comparable figures for 2014 – 2018, excluding special items for earlier years

5-year cumulative cash flow (2013-2017) – disciplined capital allocation in action



Illustrative capital allocation^(*) for next 5 years, assuming the Uruguay pulp mill investment

Performance focus
Strong cash flow



Attractive dividend
EUR ~3-4bn



High return investments
EUR ~3-4bn

Industry-leading
balance sheet

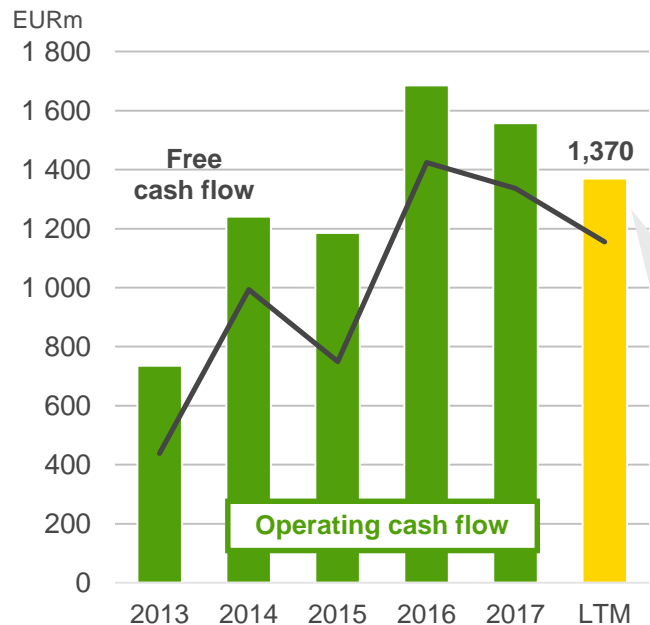


Maintain headroom

^(*) This is not a forecast

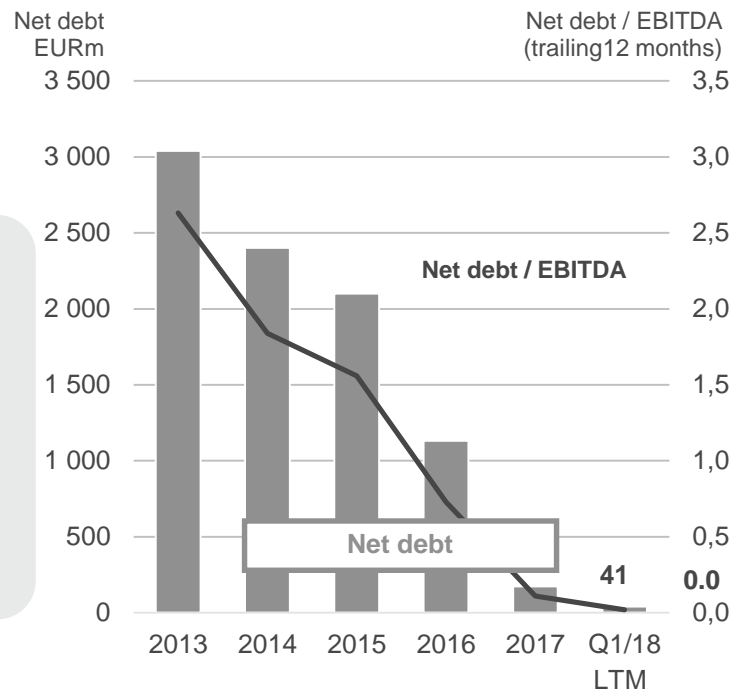
Strong cash flow and balance sheet

Operating cash flow

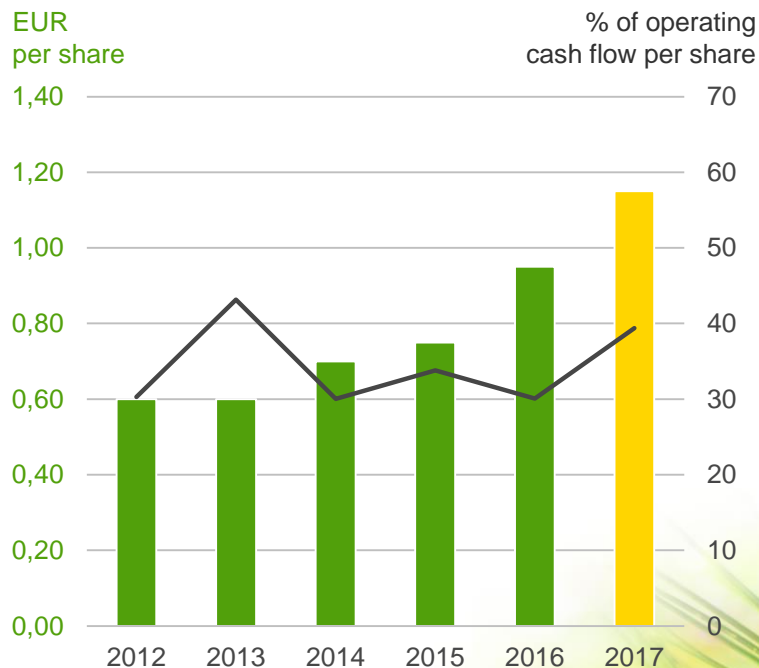


Q1/18 operating cash flow EUR 208m
Working capital increased seasonally by EUR 142m

Net debt



Dividend: 21% increase



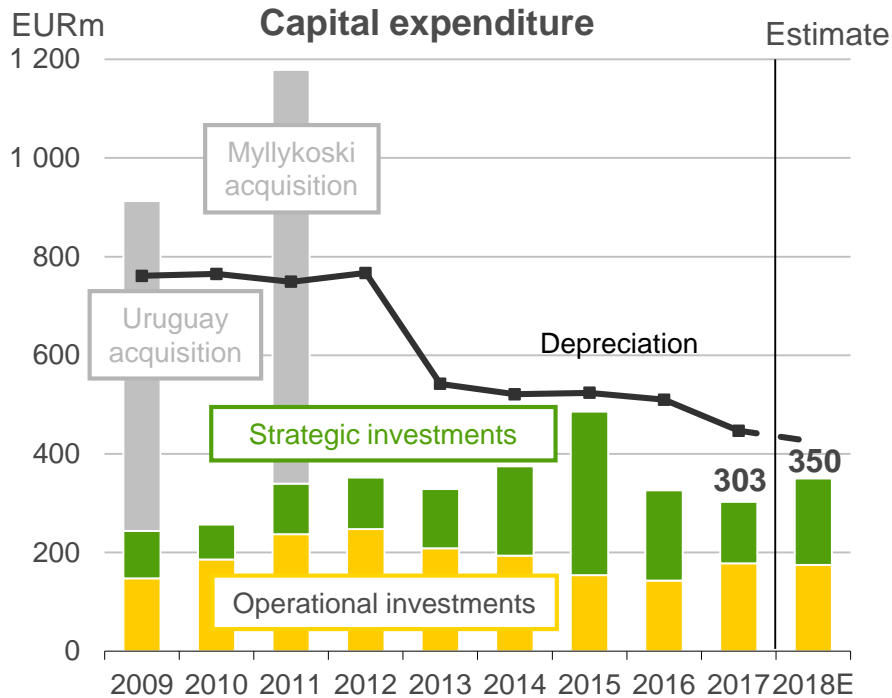
Dividend policy

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

Dividend for 2017

- EUR 1.15 (0.95) per share, totalling EUR 613m
- 39% of 2017 operating cash flow

Low investment needs in existing assets allow growth projects with modest total capex



Focused growth investments

- ✓ Good returns and fast payback
- ✓ Low implementation risk
- ✓ Financed from operating cash flow

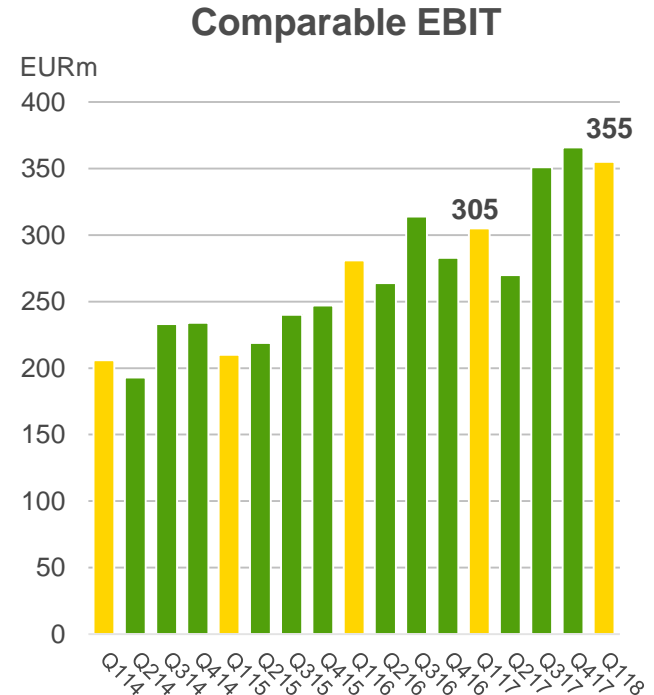
Low replacement investments

- ✓ Asset quality in all businesses, e.g. large competitive pulp mills
- ✓ UPM Paper ENA

► **Modest total capex and attractive returns**

Q1 2018 – UPM continues to grow earnings, strong customer demand in all businesses

- Comparable EBIT increased by 17% to EUR 355m (305m)
- Sales prices increased in all business areas, outweighing the impact of higher input costs
- Production impacted by temporary wood harvesting limitations
- Operating cash flow was EUR 208m (396m)
- Net debt decreased to EUR 41m (807m)
- Announced new projects focused on growing the attractive release liner business



Q1 2018 – Commercially a successful quarter, operationally left room for improvement

UPM BIOREFINING

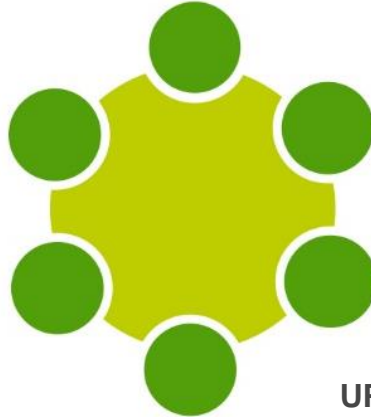
- Good market demand. Pulp deliveries -7%, production impacted by temporary wood harvesting limitations
- Pulp prices significantly higher

UPM SPECIALTY PAPERS

- Good market demand, deliveries -3%, mix improvement
- Price increases offset most of the variable cost increases

UPM COMMUNICATION PAPERS

- Deliveries -4%
- Price increases offset most of the variable cost increases



UPM RAFLATAC

- Good demand, deliveries -4%
- Price increases restored unit margins after 12 months of input cost increases

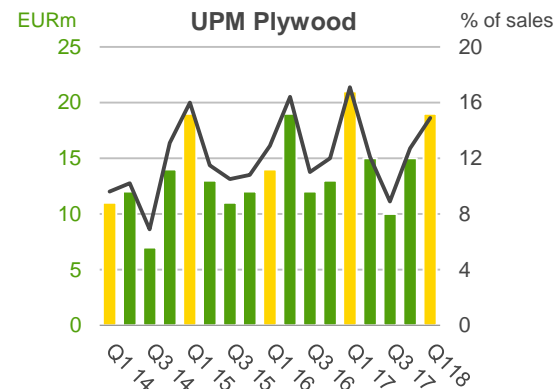
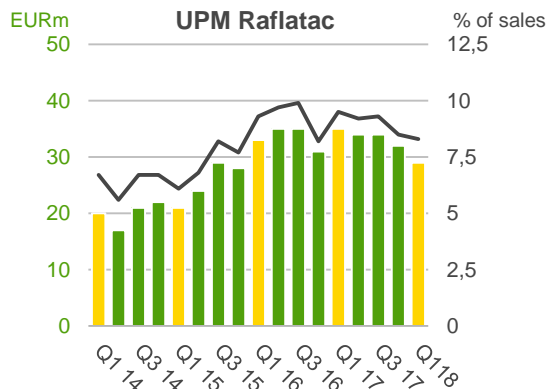
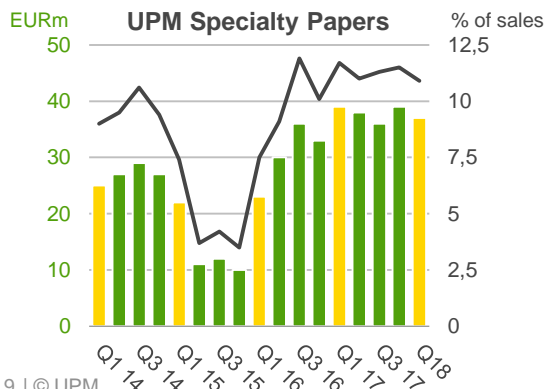
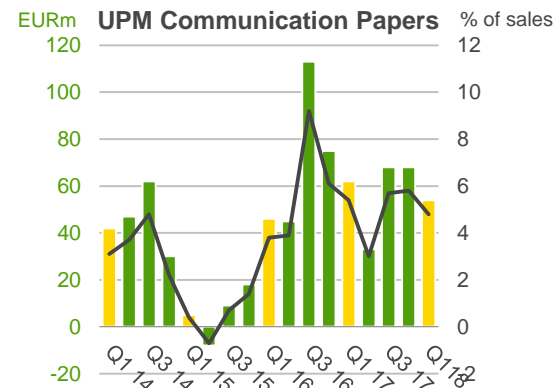
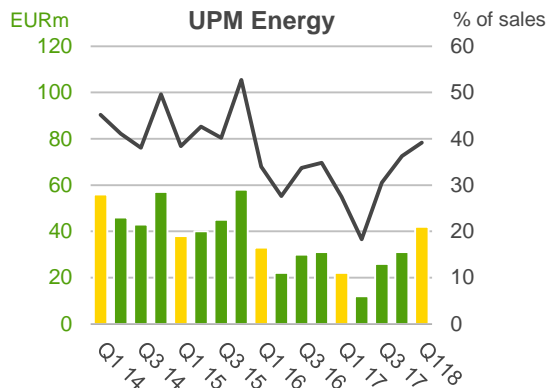
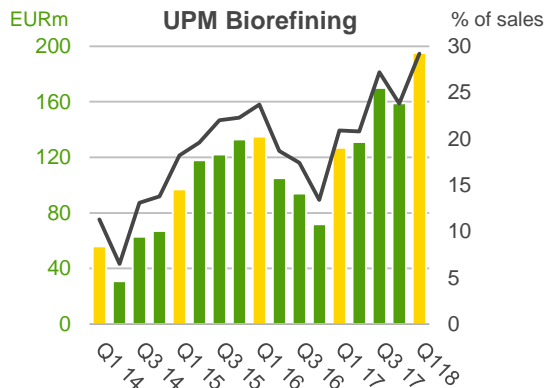
UPM ENERGY

- Electricity deliveries +15%
- Higher electricity market prices
- Hydropower generation at a good level

UPM PLYWOOD

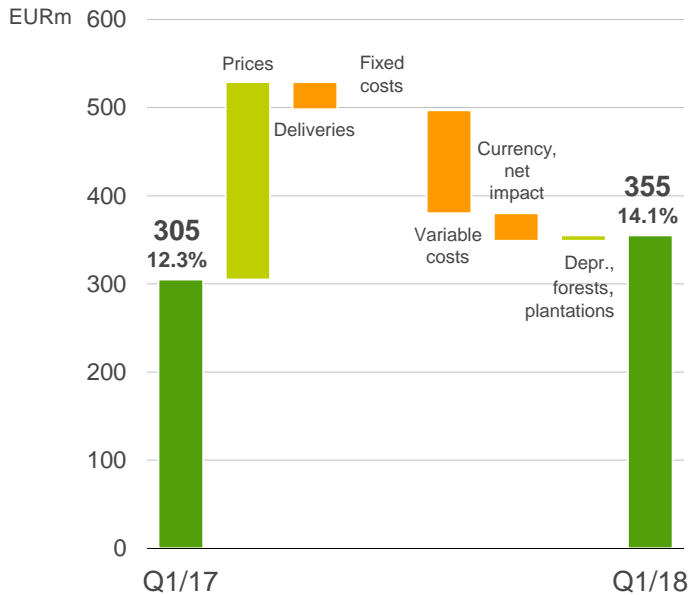
- Good demand, deliveries +4%
- Price increases offset the variable cost increases

Comparable EBIT by business area

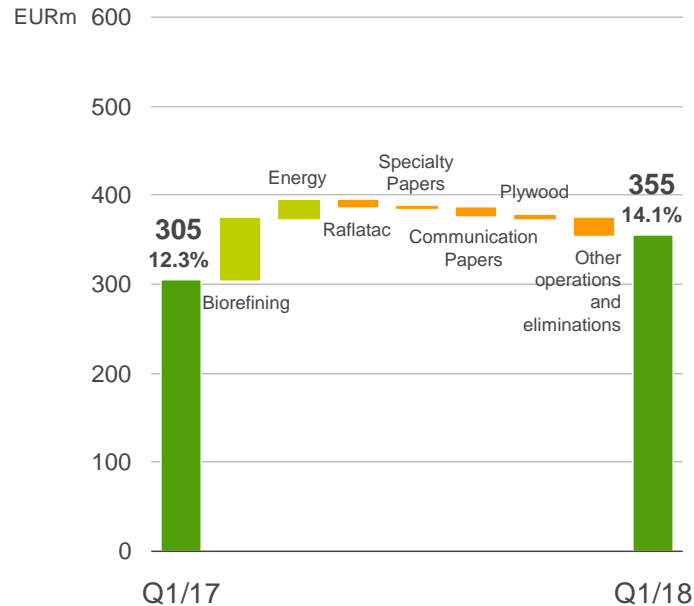


Comparable EBIT in Q1 2018 vs. Q1 2017

Increased prices in all businesses
 Higher input costs and unfavourable currencies
 Production impacted by wood harvesting limitations



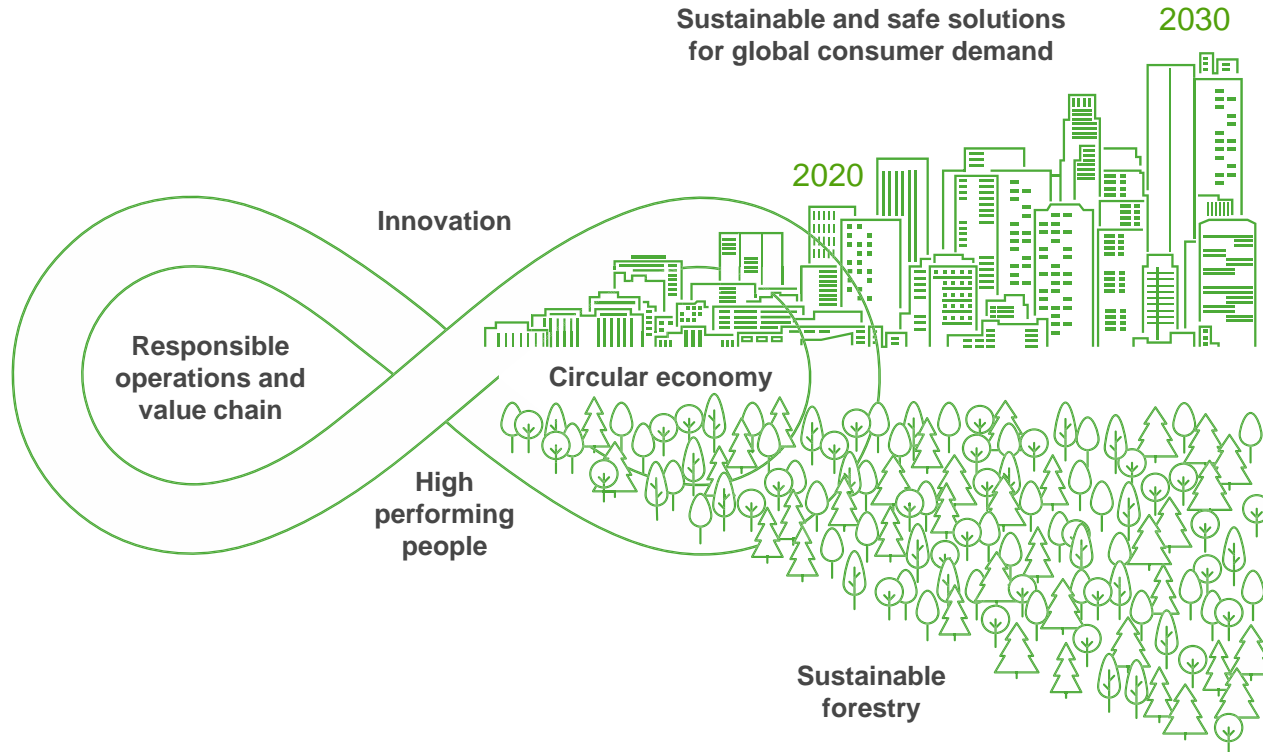
Improvement in Biorefining and Energy,
 input cost mitigation in the other businesses



Outlook for 2018

- UPM reached record earnings in 2017 and its comparable EBIT is expected to increase further in 2018 compared with 2017.
- The fundamentals for UPM businesses in 2018 continue to be favourable. Healthy demand growth is expected to continue for most UPM businesses in 2018, while demand decline is expected to continue for UPM Communication Papers. Sales prices are expected to be higher in UPM businesses in 2018 compared with 2017.
- Input costs are expected to be higher in 2018 compared with 2017. In order to mitigate this, UPM will continue to implement measures to reduce fixed and variable costs. 2018 has started with less favourable currency exchange rates than 2017.
- Q2 2018 results will be impacted by significant maintenance activity, especially in UPM Biorefining.

Limitless opportunities of bioeconomy



UPM strategic focus areas

We create value by seizing...

...the limitless potential of bioeconomy

1

Performance

- > **Continuous improvement**
 - Commercial excellence
 - Cost efficiency
 - High-performing people
 - Efficient use of assets and capital

2

Growth

- > **Earnings growth**
 - Sustainable and safe solutions for growing consumer demand
 - Growth projects with attractive and sustainable returns
 - Talent attraction

3

Innovation

- > **Growth and competitiveness**
 - New businesses, products and technologies
 - Product, service and process development
 - Development of capabilities

4

Responsibility

- > **Continuous improvement**
 - Renewable, recyclable and safe products
 - Responsible operations and value chain
 - Value-based leadership
 - Compliance

5

Portfolio

- > **Develop businesses with strong long-term fundamentals and sustainable competitive advantage**
 - Transformative projects, synergistic M&A if opportunity and timing are right
 - Capitalise on corporate benefits and synergies
 - Disciplined and effective capital allocation and strong balance sheet

Value from responsibility

We create value by seizing...

...the limitless potential of bioeconomy

Renewable, recyclable and safe products

- Renewable and biodegradable raw materials and recyclable products
- Product stewardship
- Open and transparent product communications

Responsible operations and value chain

- Material efficiency and circular economy thinking
- Climate solutions and working towards carbon neutrality
- Responsible water use
- Sustainable land use
- Respecting human rights

Value based leadership

- Value-based and inspiring leadership
- Safe and healthy working environment and wellbeing of employees
- Diversity and inclusion
- High performance and continuous professional development of employees
- Local commitment

Compliance

- Decision making, management and operations guided by our values and UPM Code of Conduct
- Responsible business practises
- Reliable, credible and transparent reporting

Consistent long-term work receives external recognition

UPM in sustainability indices



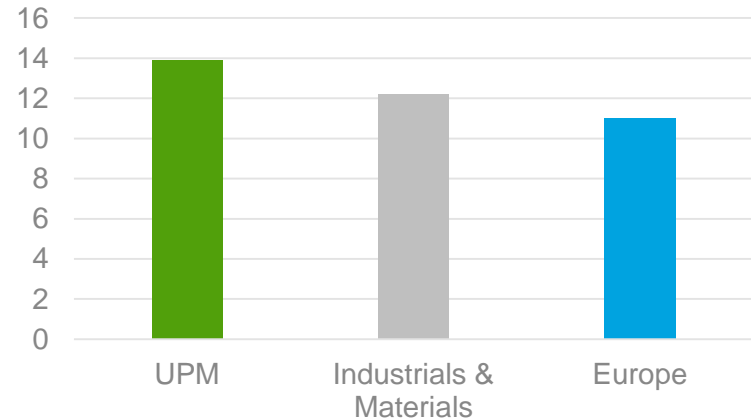
MEMBER OF
**Dow Jones
Sustainability Indices**
In Collaboration with RobecoSAM



CDP's Climate Change Program: A- score

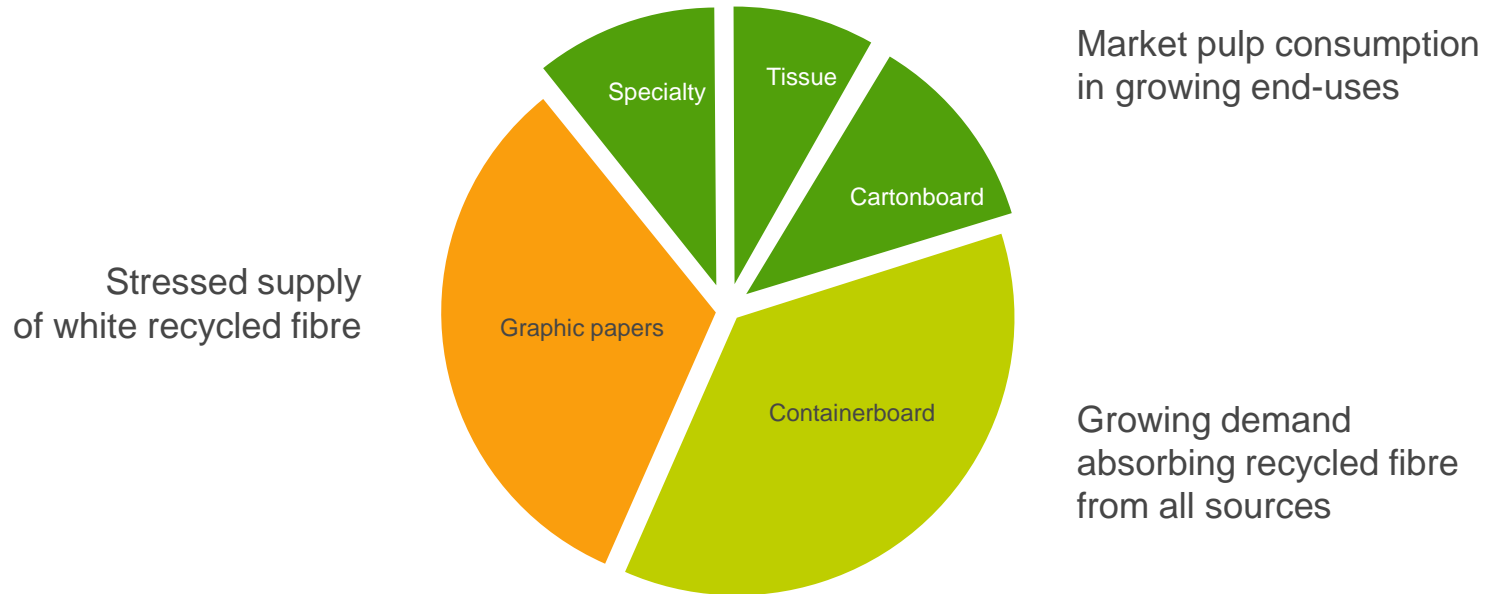
Sustainable and Responsible (SRI) investors form a significant part of UPM's shareholders

SRI, % of total institutional shareholders

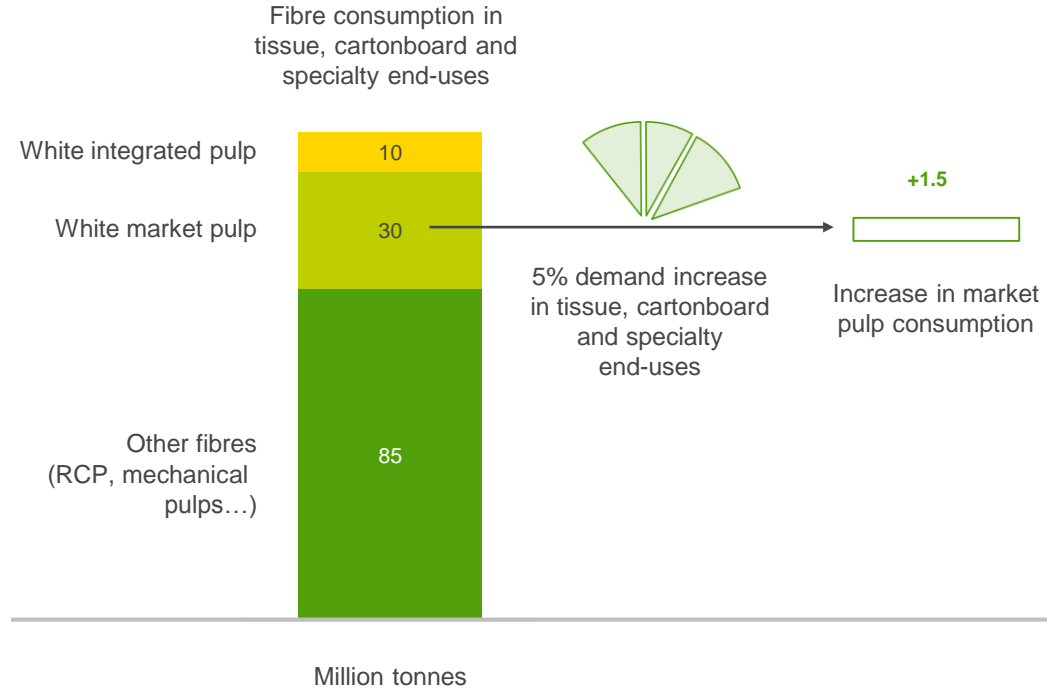


Market pulp consumed in growing end-uses – supply of alternative white fibres declines

Global paper and board production

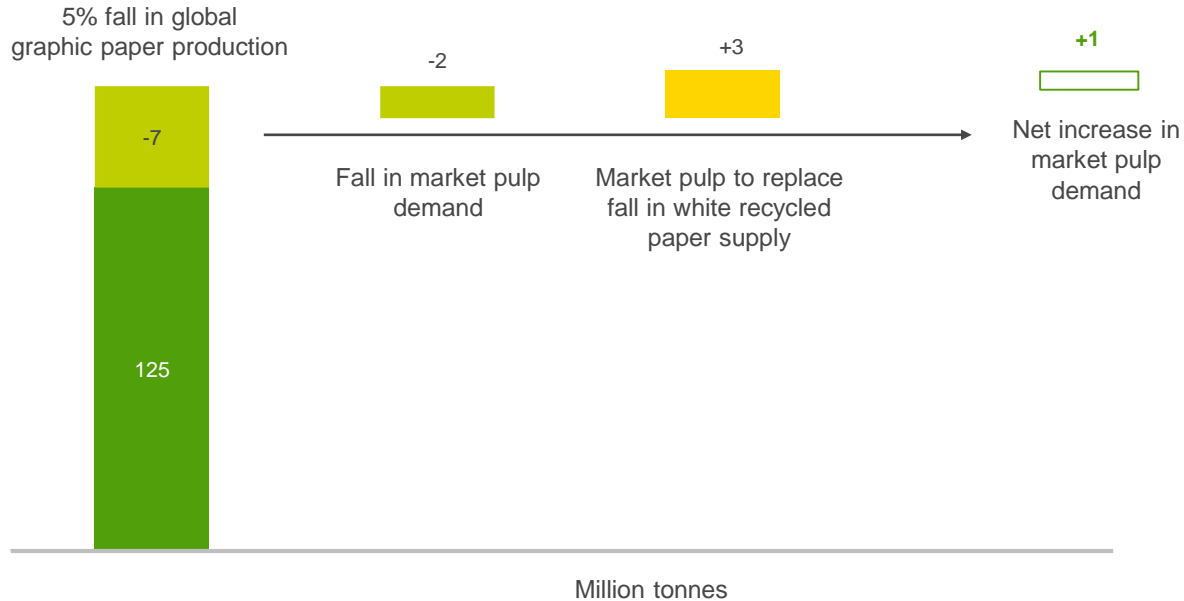


Case: Market pulp consumption in growing end-uses

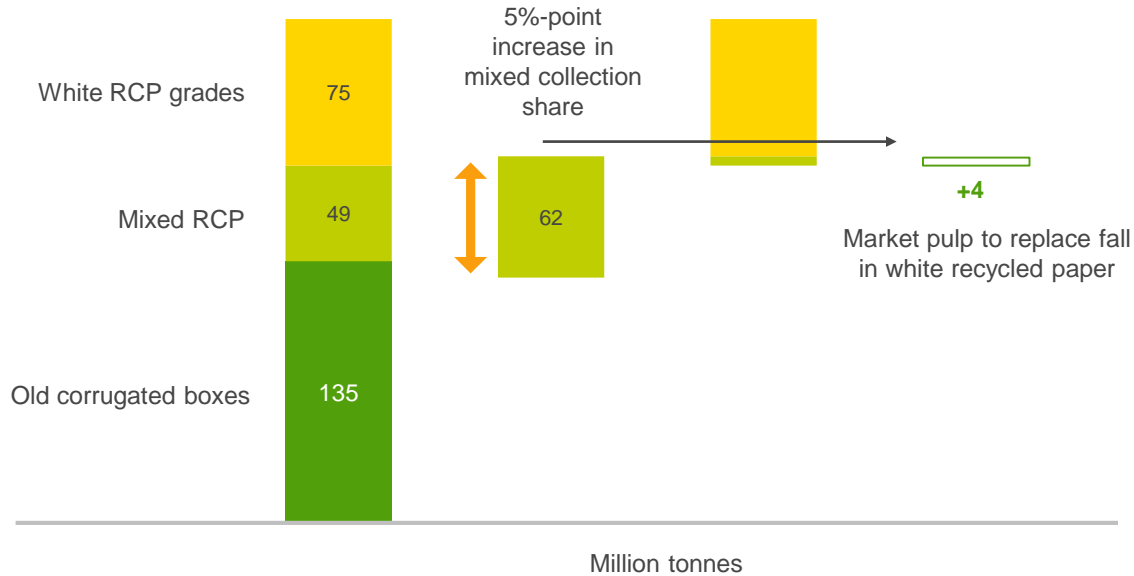


Source: Pöyry, Hawkins Wright, UPM

Case: Stressed supply of white recycled paper



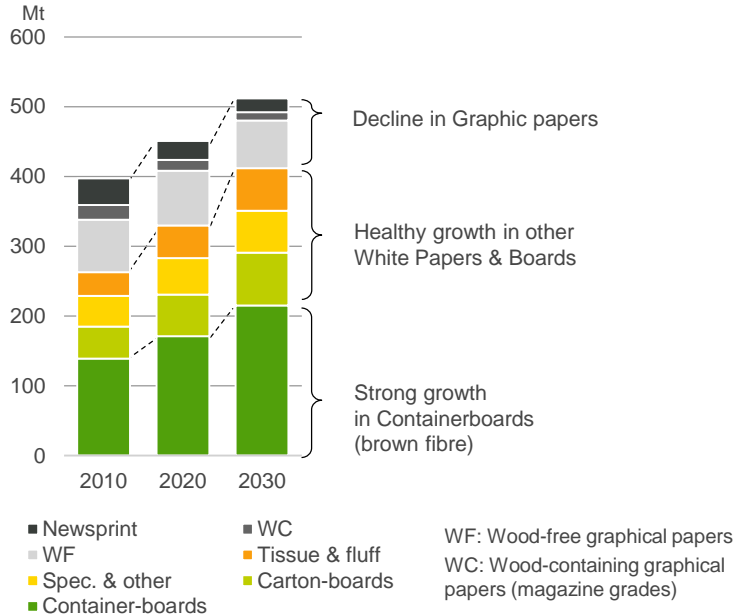
Case: Mixed collection crowding out white recycled fibre



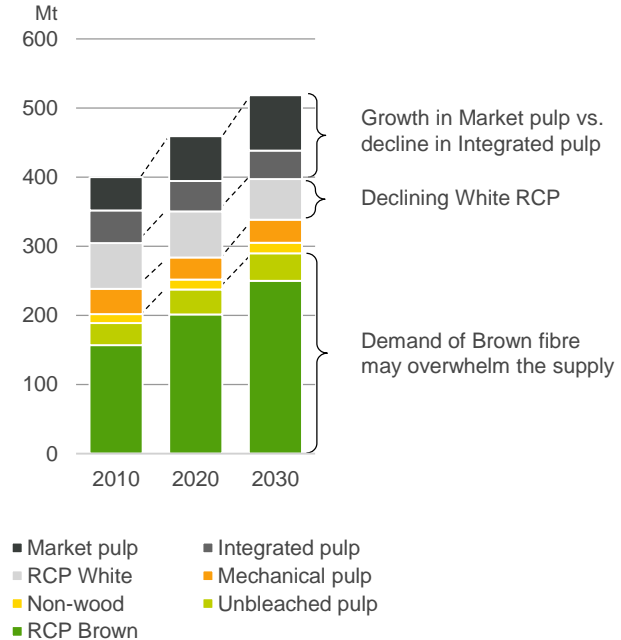
UPM Biorefining

Pulp demand outlook

Increase in end use ...

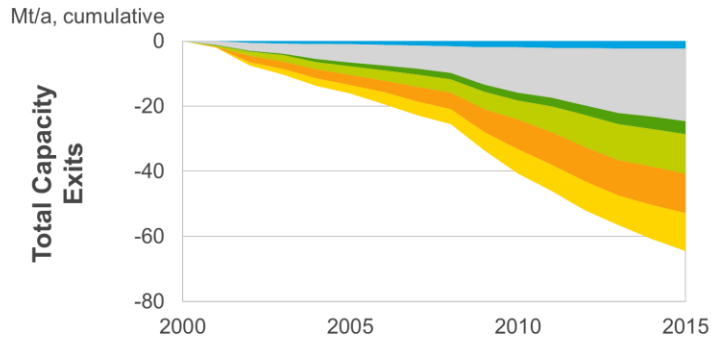
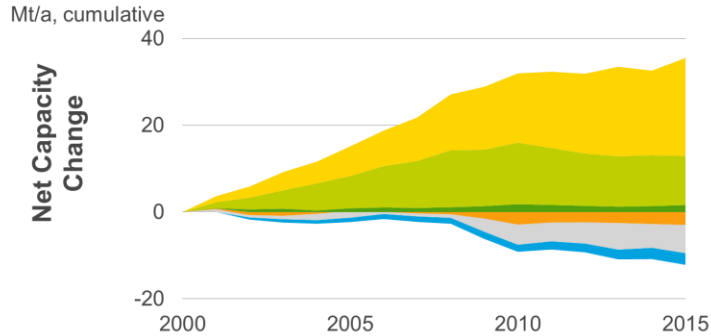


... will drive fibre demand



Source: UPM, Pöyry, RISI

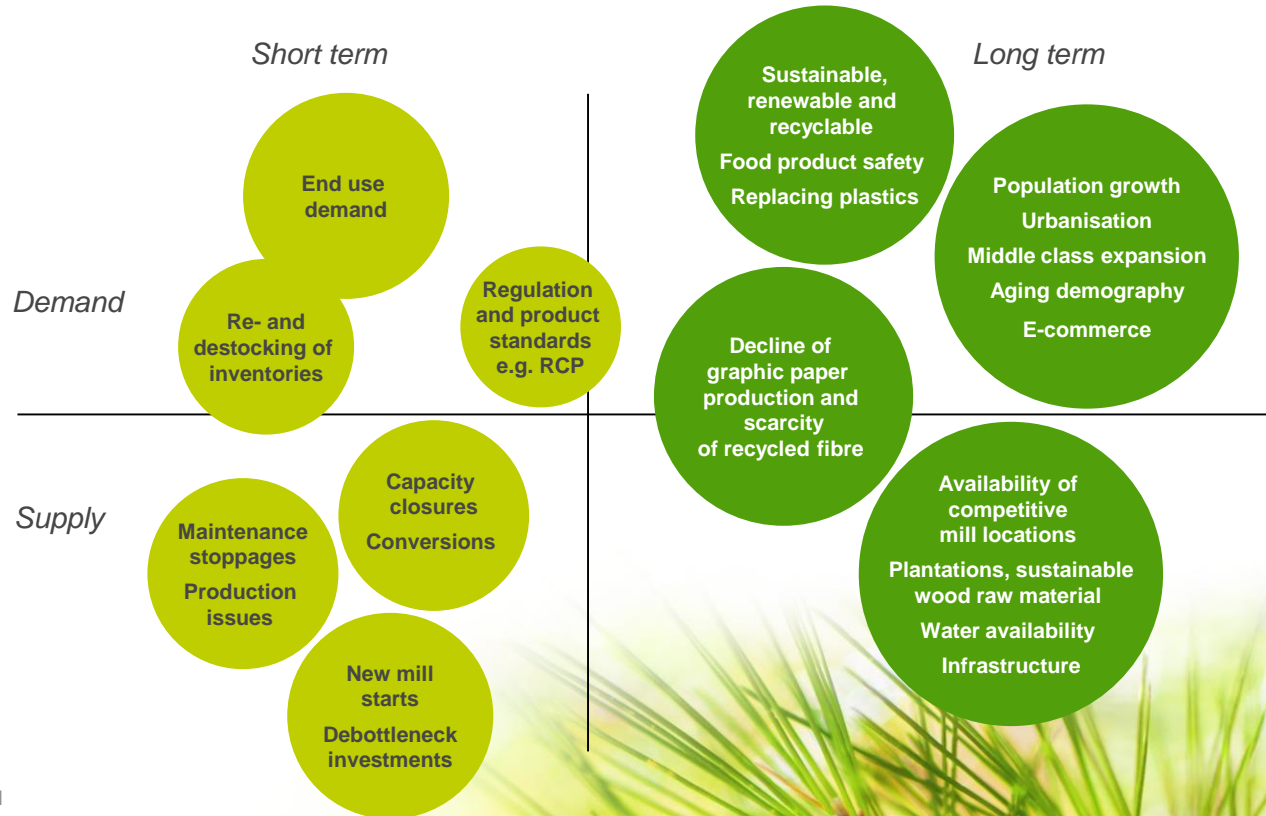
White fibres in different stages of life-cycle; 64 Mt capacity closed within 2000–2015



Note: Including both market and integrated pulp

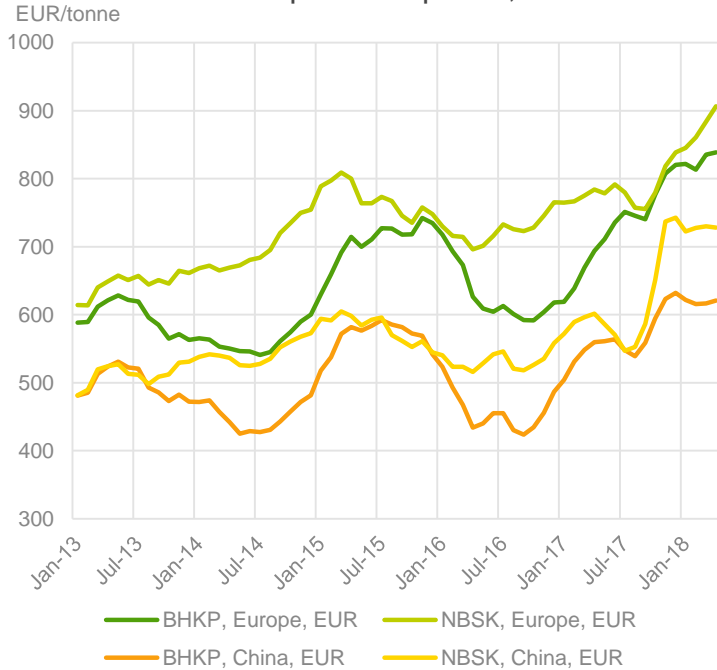
- **Hardwood pulp** capacity has experienced strong net growth after 2000 and is expected to continue growing.
- **Softwood** has faced closures as much as hardwood. New demand in China is turning decline into a slow growth.
- **White RCP** was the fastest-growing fibre in Europe and NA in early 1990's. After recession capacity has been in decline due to very high collection rates and diminishing supply of graphic paper.
- **Mechanical pulp** continues to decline along with graphic papers.
- **Non-wood pulps** consumed mostly in China are under pressure due to environmental reasons.
- **Sulphite** has been in decline for decades.

Demand-supply drivers of pulp market

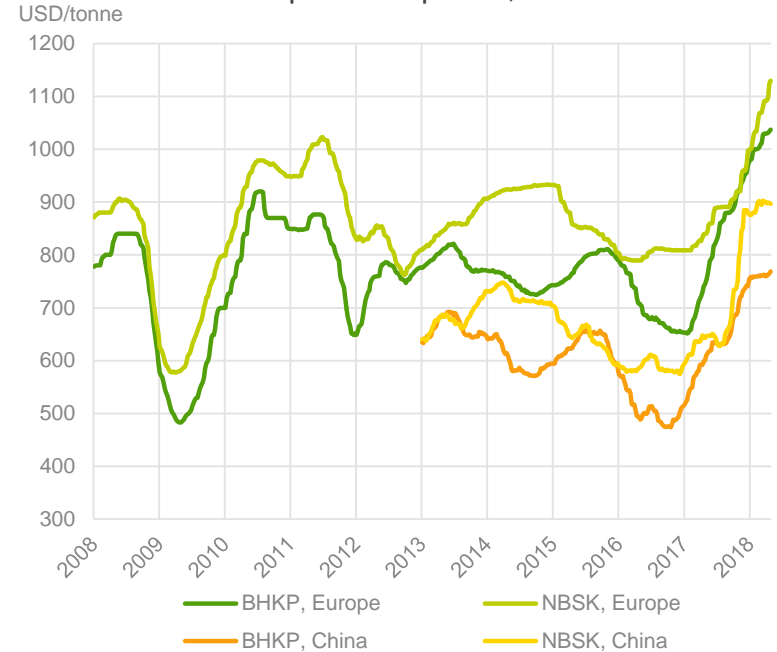


Chemical pulp market prices

Pulp market prices, EUR

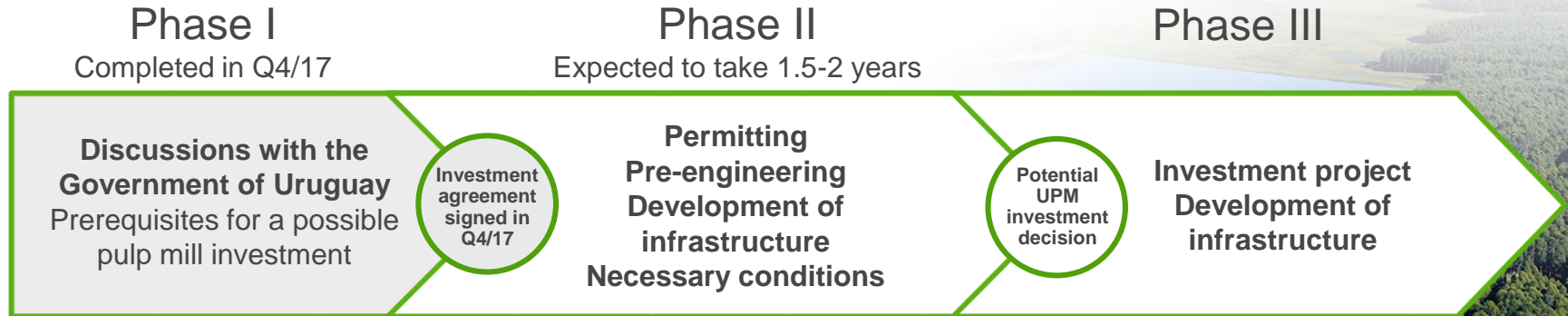


Pulp market prices, USD



Sources: FOEX Indexes Ltd, ECB

Second preparation phase for the potential new pulp mill in Uruguay proceeding



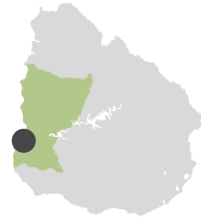
Main items in preparation phase II:

- Mill permitting, pre-engineering
- Rail permitting, tendering, start construction
- Port permitting, tendering, concession
- Roads
- Labour protocols, regulation
- Investment regimes
- Regional planning and development
- Energy and complementary items

Establishing a competitive operating platform in Uruguay – we are now in preparation phase II

Current operations

- Plantation base in West Uruguay
- Fray Bentos pulp mill 1.3 million tonnes
- ~100 km of river barging for outbound logistics
- Sea port in Nueva Palmira loading half vessels
- Ocean vessels to pulp markets



Uruguay prospect

- Plantation base in Central and North Eastern Uruguay
- Potential new pulp mill about 2 million tonnes, on-site investment estimate EUR 2bn
- Railway with high technical standards
- Deep sea port in Montevideo loading full vessels
- Ocean vessels to pulp markets

UPM Biofuels in existing and future end-use



Fuel retail



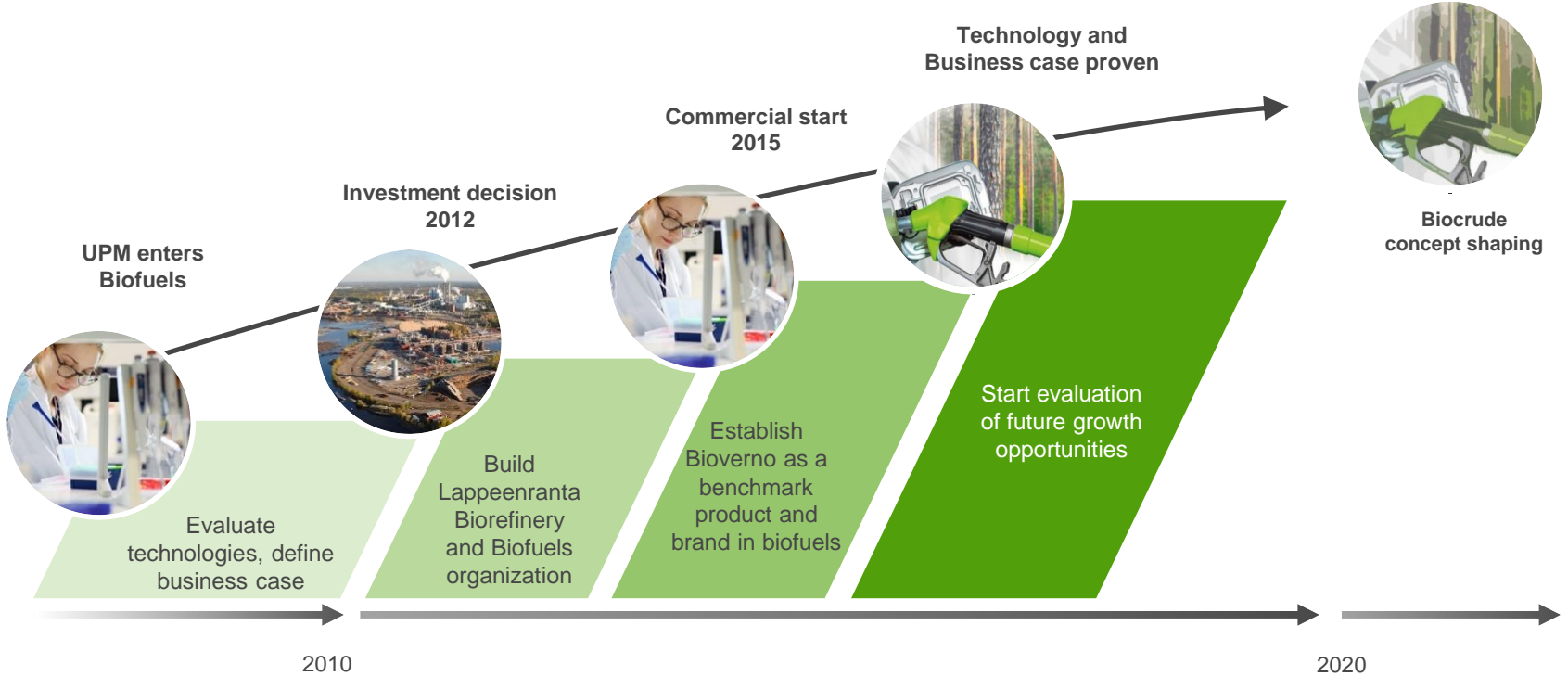
Dedicated green fleets



Marine/Aviation

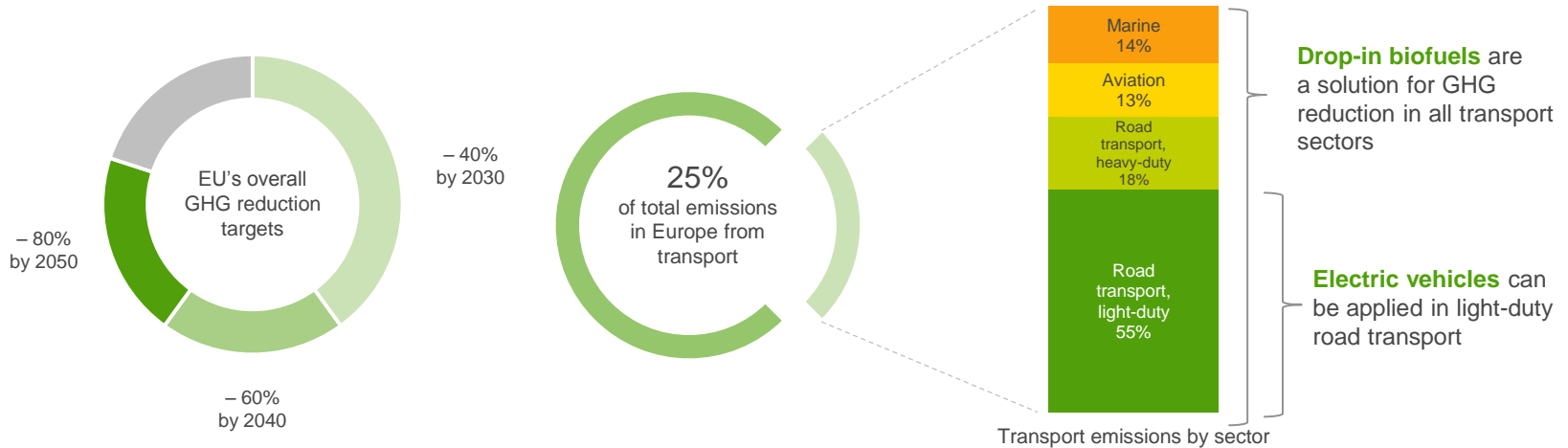


UPM Biofuels business evolving



Significant emission cuts needed in transportation sector

EU's greenhouse gas reduction targets cannot be met without significant emission cuts in transport – actions needed in all sectors



Cost competitive and flexible asset base

Power generation breakdown

Condensing power

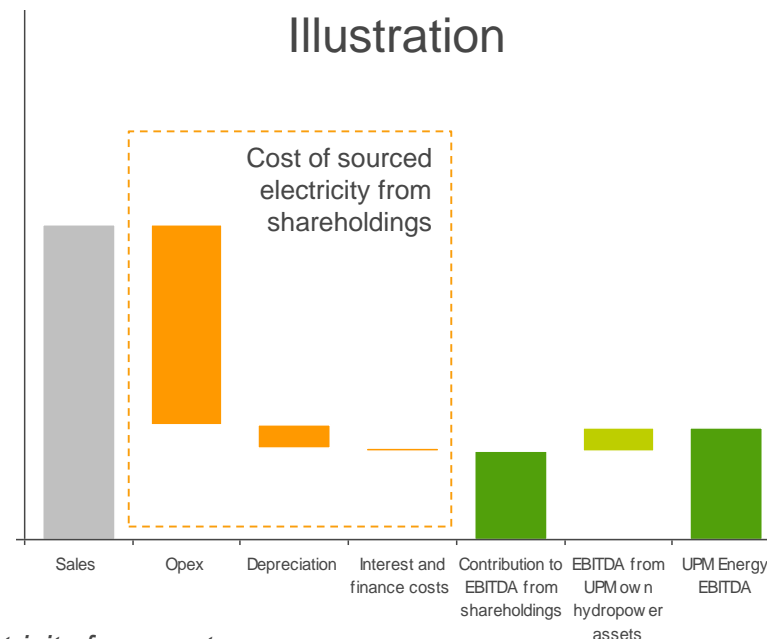
Flexible hydro
production with
optimisation
opportunities



Nuclear as
reliable base
load with world-
class
availability
performance

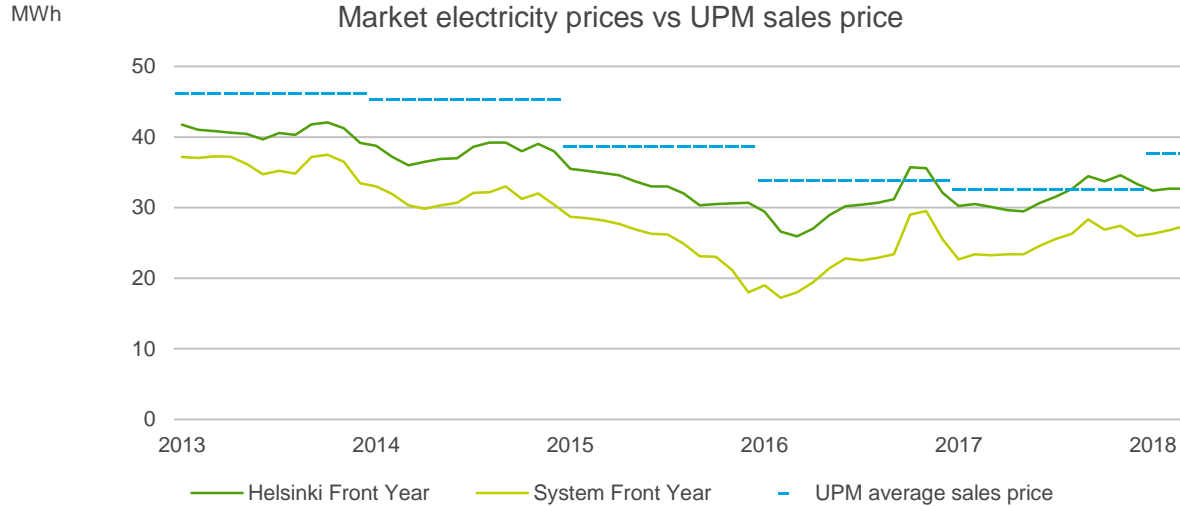
UPM Energy power generation assets

UPM Energy's power generation	MW	EURm
Hydropower holdings	565	723
Nuclear power OL1 and OL2	580	1,031
Nuclear power OL3 under construction	(500)	178
Condensing power	190	8
UPM Energy's shareholdings in total, valued at fair value	1,335	1,940
UPM own hydropower assets	160	
UPM Energy's in total (excl. OL3)	1,495	
UPM Energy capital employed		2,267



In addition to its own power generation, UPM Energy sources electricity from part owned energy companies at full cost (cost-price principle)

Cost efficient generation enables robust profitability in challenging market environment



UPM Energy profitability	2013	2014	2015	2016	2017	Q118
Comparable EBIT, EURm	186	202	181	116	91	42
% of sales	39.9	43.5	43.6	32.7	28.8	39.2

UPM Raflatac

Self-adhesive labels in end-use



PHARMACEUTICALS



WINE, SPIRITS & CRAFT BEVERAGE



FOOD



HOME & PERSONAL CARE



DURABLES



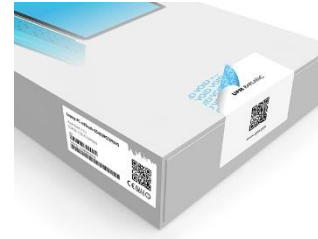
TRANSPORT & LOGISTICS



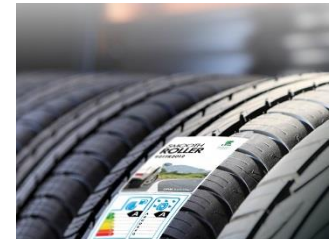
RETAIL, OIL & INDUSTRIAL



A4 & CUT-SIZE



SECURITY & BRAND PROTECTION



TYRE

Leading position in a growing market

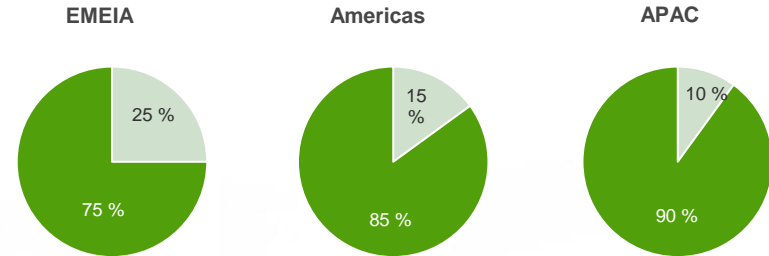
The self adhesive labelstock market

- > EUR 8bn global market
- ~ 4% p.a. growth
- Private consumption driven

UPM Raflatac

- #2 globally
- Business in 120 countries
- > 8,000 customers
- 3,000 people in six continents

UPM Raflatac market shares



Continuing growth

1. Capturing the market growth in the current markets and product areas
2. Increased distribution coverage and customer reach
3. Wider product portfolio
4. M&A when opportunities emerge

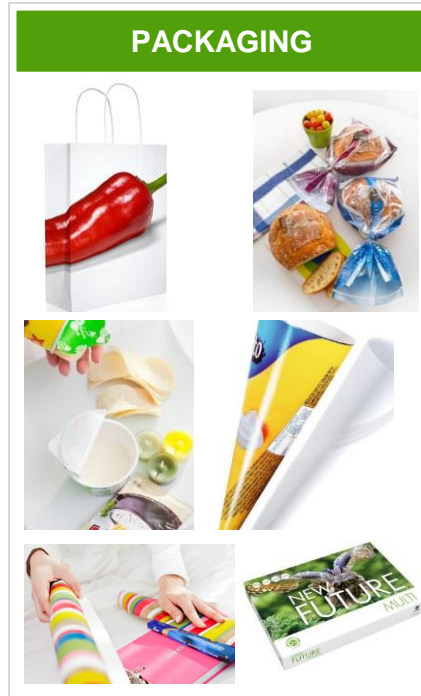
Enabled by scalable operating platform & efficient investments

Tailored marketing
Productivity Population growth
Single households Consumerism
Reliability Packaged food Ease of use
Private consumption
Label demand
Urbanisation E-commerce
Sustainability Differentiation
Retailing changes Regulation
Higher standard of living Shelf-appeal
Product safety

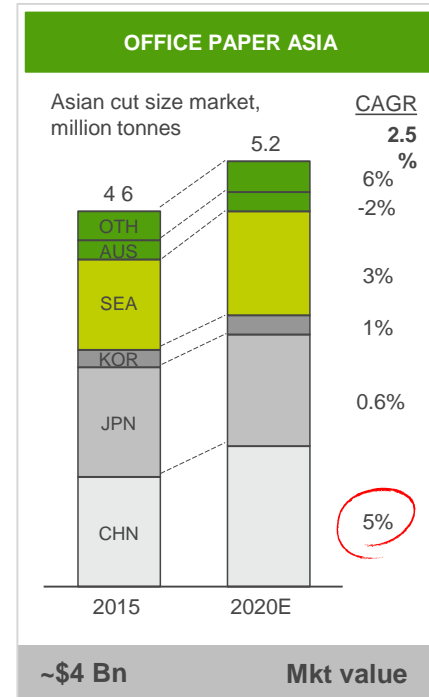
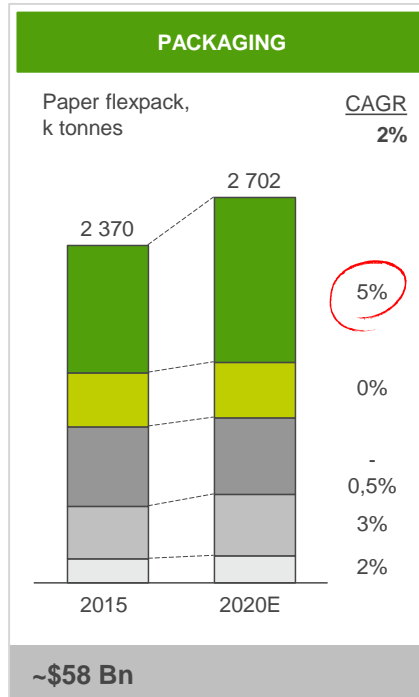
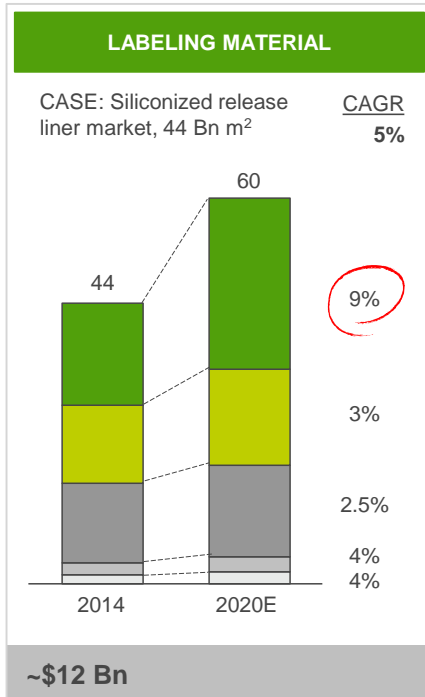


UPM Specialty Papers

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

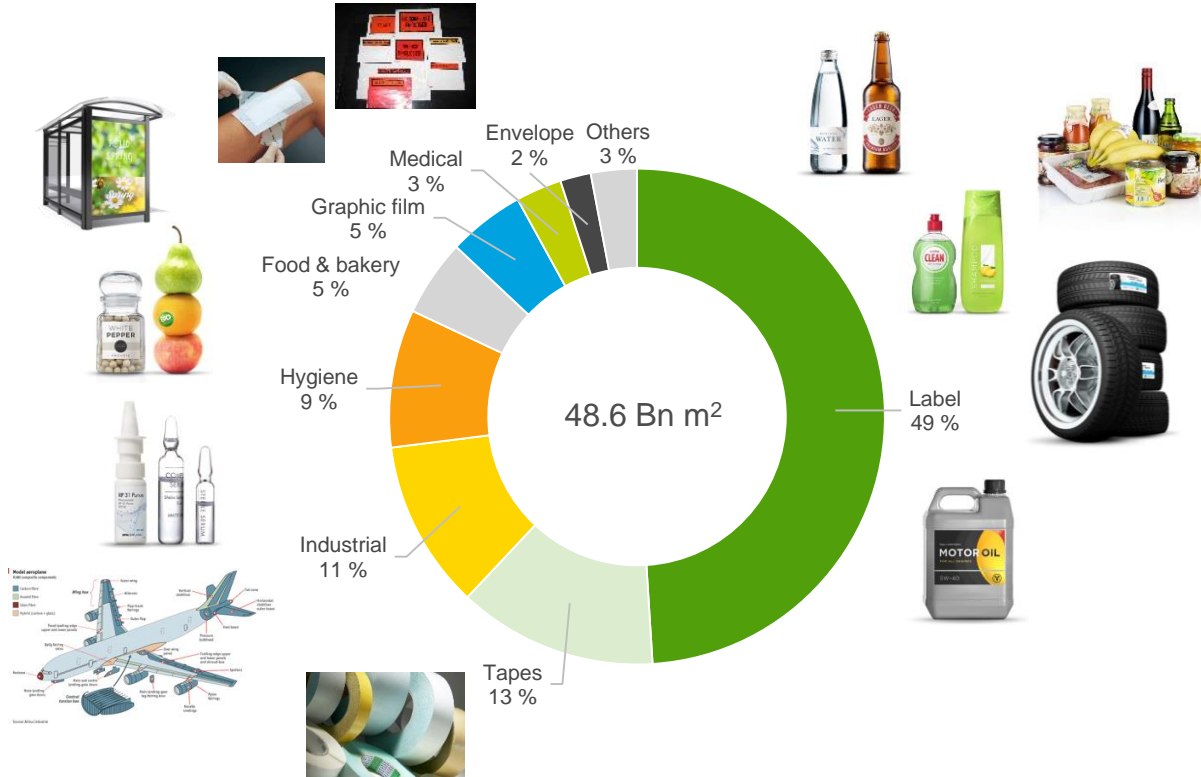


Our end use markets are growing



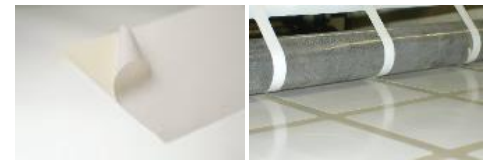
■ Asia
 ■ North America
 ■ Europe
 ■ South America
 ■ MEA

Global release liner market: Applications

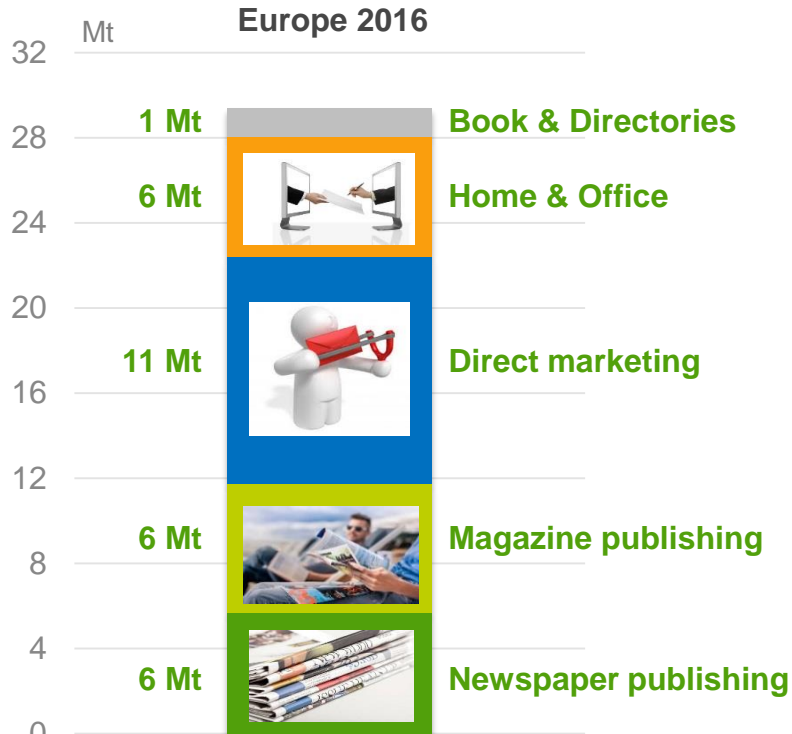


Product functions:

- Release liner carries the adhesive and face material
- Prevents the adhesive from sticking permanently
 - Important and often critical feature of a layered construction



Paper demand by end use – different trends

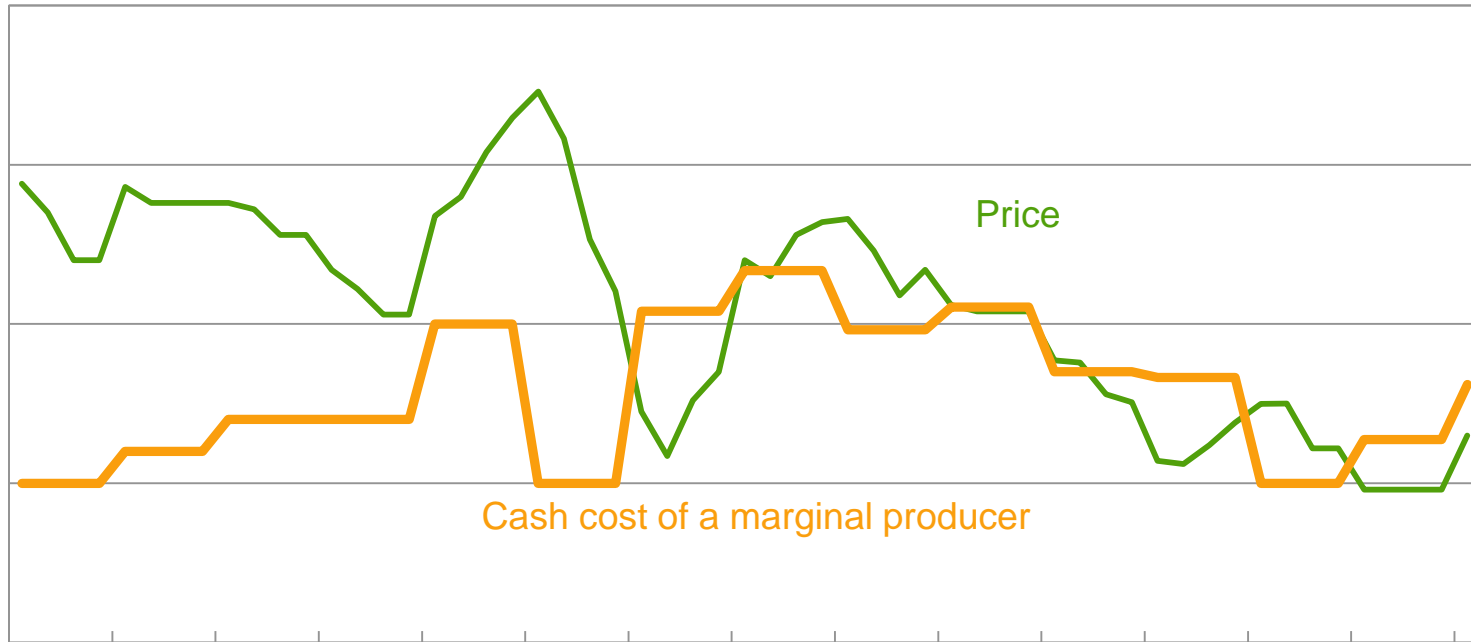


- Historically Home & Office end use has been the **most resilient** to structural changes.
- Despite the digital alternatives personal preferences (way of working and learning), regulation (archiving) and lack of common standards have mitigated the change.
- So far only a **moderate decline** has taken place in Direct marketing end use.
- **Paper based marketing still forming a big part of retailers advertising budget.**
- **Steady decline** in Magazine Publishing end use in the recent history.
- Publishers still **rely heavily on the revenues** from print.
- Digital revenues accelerating, but mostly from digital advertising. **Monetizing digital circulation has been challenging.**
- Newspaper publishing being historically the **most vulnerable** to structural changes but remarkable differences between countries.
- **Digital revenues** continue to grow, but still represent a **small part of overall newspaper revenue.**

Paper price vs. cash cost of marginal cost producer



EUR/t

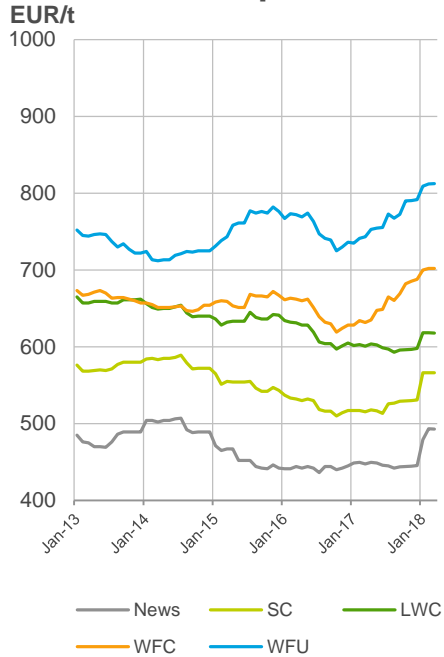


2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

UPM Communication Papers

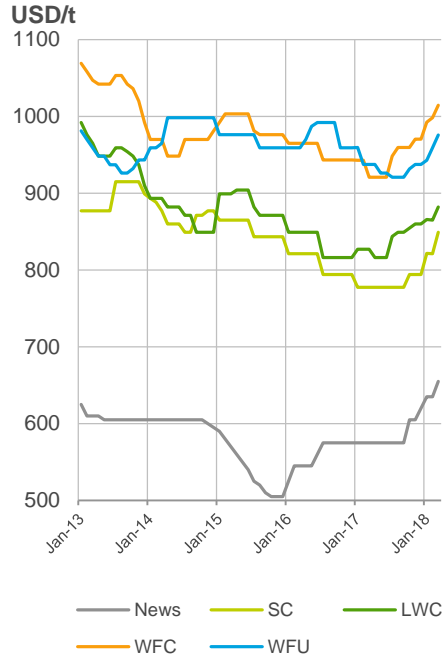
Graphic paper prices

Europe

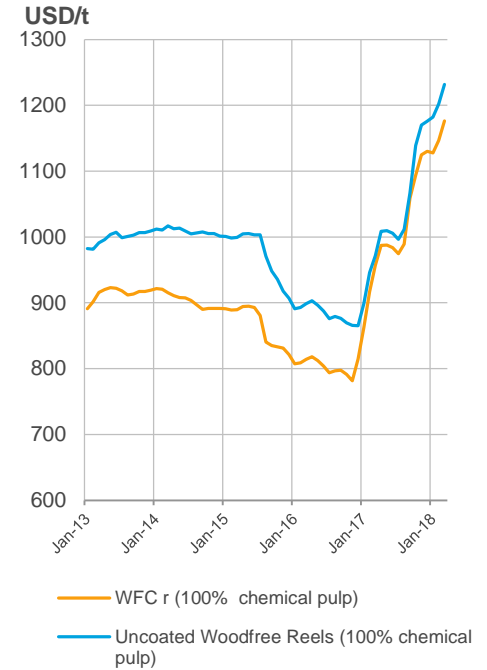


Sources: PPI, RISI

North America



China



UPM Plywood in end-use

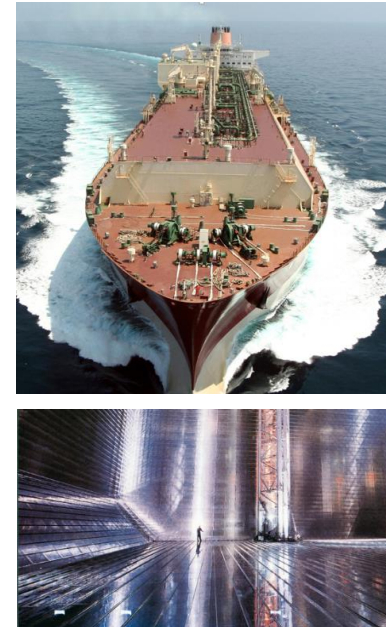
Construction



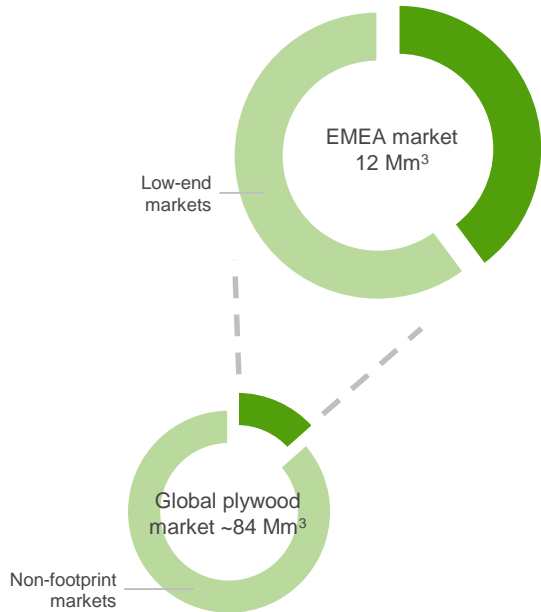
Vehicle flooring



LNG shipbuilding



Relevant high-end market offers meaningful growth potential

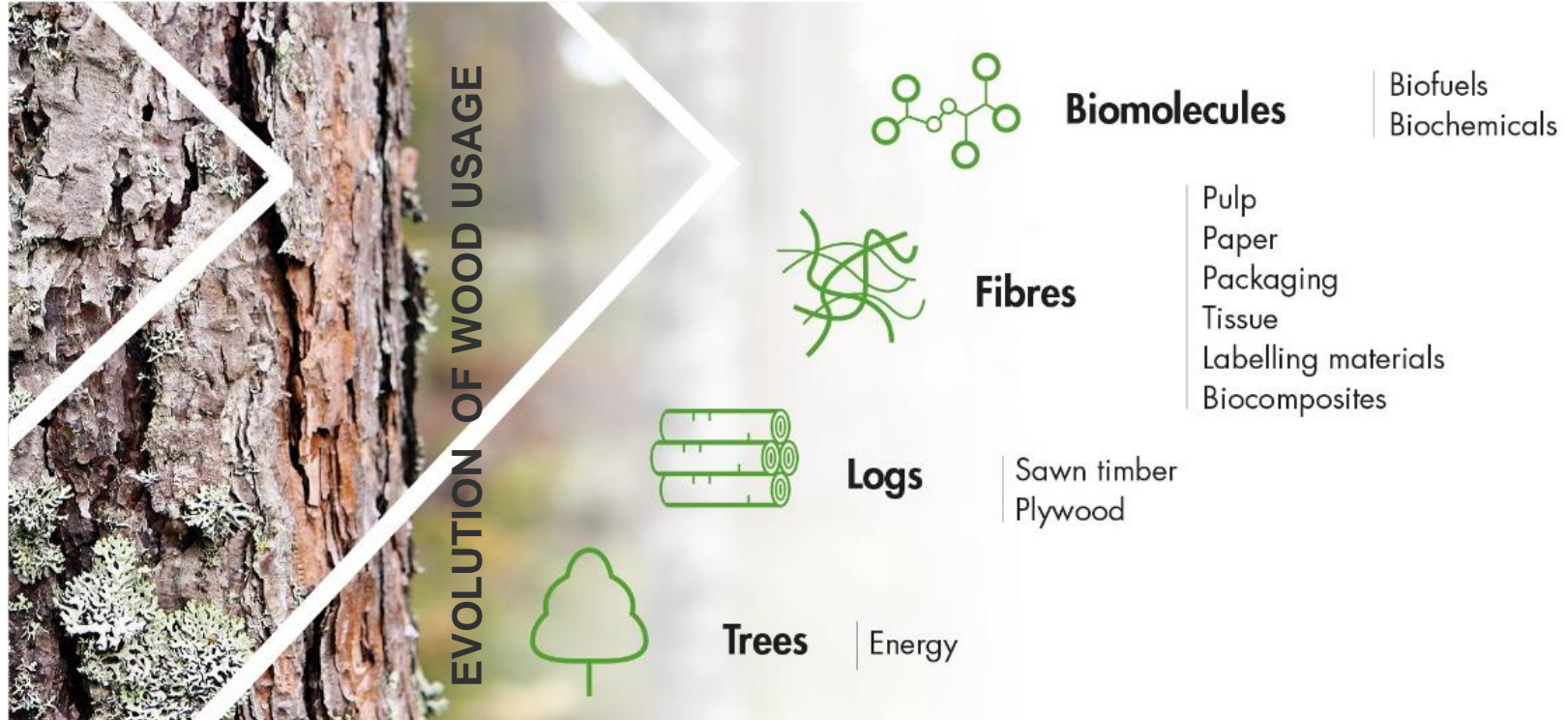


Relevant market ~5 million m³

- High-end demanding applications & customers
 - Medium range standard products
 - EMEA region
 - Global LNG business
-
- Europe is net importer of plywood
 - Imports focus mainly on standard products in mid-low ranges

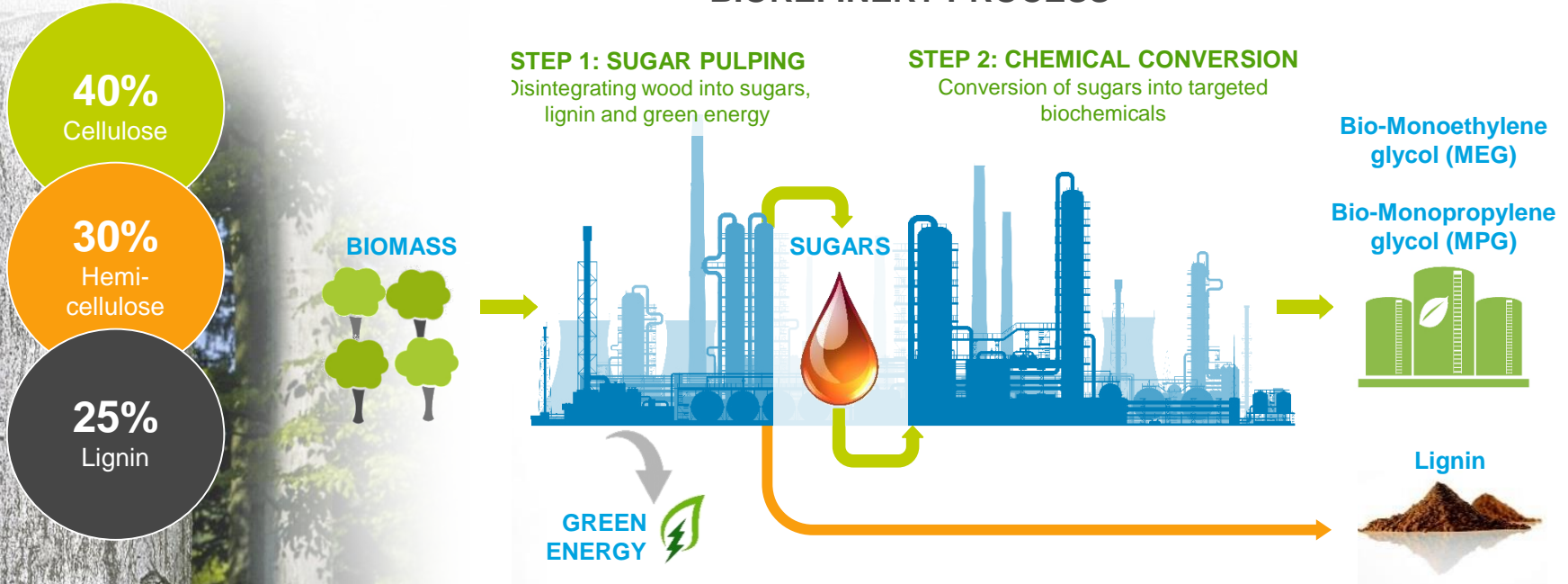
Source: FEIC; FAOSTAT; UPM

Biofuels and biochemicals are natural evolutionary steps in wood-based value creation



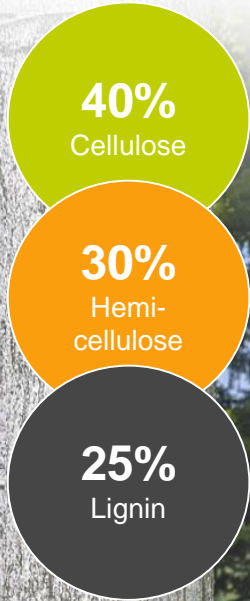
Biochemicals biorefinery targeting to produce bio-MEG, bio-MPG and lignin from hardwood

BIOREFINERY PROCESS



Biochemicals products are sustainable and competitive alternatives to replace fossil materials

Basic engineering for an industrial-scale biochemicals biorefinery in progress



Mono Ethylene Glycol



Textiles



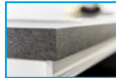
Bottles & packaging



Deicing fluids



Mono Propylene Glycol



Composites



Pharma & cosmetics



Detergents



Lignin



Wood resins



Plastics



Foams & coatings



UPM

The Biofore
Company