UPM Biofore – Beyond fossils
Investor presentation
January 2021
UPM BIOREFINING

Pulp
Plantations
Biofuels
Sawmills
Wood Sourcing and Forestry

UPM ENERGY

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

UPM RAFLATA

Label materials for branding and promotion, informational labels, and labels with functionality

UPM SPECIALTY PAPERS

Labelling materials, release liners, flexible packaging papers, office and graphic papers

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 for construction and industrial applications

UPM BIOCHEMICALS

Wood-based biochemicals for variety of industrial uses

UPM BIOMEDICALS

Wood-based products for biomedical applications

UPM BIOCOMPOSITES

UPM ProFi decking products and UPM Formi granules
Global businesses – local presence

UPM’s sales by market

**EUR 10,238 million**

- **North America**: 13%
- **Europe**: 62%
- **Asia**: 19%
- **Rest of the world**: 6%

**UPM’s supply chain**

- **Production plants**: 54 in 12 countries
- **Employees**: 18,700 in 46 countries
- **Customers**: 12,500 in 120 countries
- **Shareholders**: 100,700 in 32 countries
- **B-to-b suppliers**: 24,000 in 81 countries
Biofore strategy

We create value by seizing the limitless potential of bioeconomy

PERFORMANCE  GROWTH

RESPONSIBILITY  INNOVATION

Strong long-term fundamentals for demand growth and high barriers to entry
Our spearheads for growth

SPECIALTY PACKAGING MATERIALS
- Label materials
- Specialty papers

HIGH VALUE FIBRE
- Forests
- Pulp

MOLECULAR BIOPRODUCTS
- Biofuels
- Biochemicals

Communication papers
Plywood
Energy
Driving long-term value creation – UPM’s climate commitment

We act through FORESTS
Climate-positive forestry

We act through EMISSIONS
65% less CO₂ emissions

We act through PRODUCTS
Innovate novel products
Industry leader in responsibility

Member of Dow Jones Sustainability Indices

Powered by the S&P Global CSA

MSCI ESG RATINGS

UN GLOBAL COMPACT LEAD 2020 PARTICIPANT

Global Compact LEAD 2020 PARTICIPANT

Bloomberg Gender-Equality Index

PLATINUM 2020 Sustainability Rating

UPM BIOFORE - BEYOND FOSSILS
Spearheads for growth – improving business mix drives earnings, cash flow and shareholder value

- Sales 2009: EUR 9.6bn
- Operating model: 40%
- Performance Balance sheet: 65%
- Focused growth Innovation: 35%
- Future sales: EUR 9.4bn
- EBIT margin >20%(*)

- Gross sales 2009: EUR 9.6bn, 60%
- Transformation 1. phase: 40%
- Gross sales 2020: EUR 9.4bn, 65%
- Transformation 2. phase: 35%
- Future sales (*): 5%

Growing businesses
Communication Papers

*) This is an illustration, not a forecast
Transformation improves UPM’s asset mix, driving returns

Capital employed 2019

EUR 11bn

52%

Capital employed 2019

17%

5-year average ROCE (2015-19)

6%

Spearheads for growth

EUR 3-4bn(*)

ROCE target >14%

Future capital employed(*)

*) This is an illustration, not a forecast

Industrial operations: Further growth

Forest and energy assets: Sustainable value creation

EUR 3-4bn(*)
Group financial performance

**Comparable EBIT**
- Target: EBIT growth

**Comparable ROE**
- Target: 10%

**Net debt and leverage**
- Policy: ≤ 2x

- Target: EBIT growth
- Target: 10%
**Business area returns and long-term targets**

<table>
<thead>
<tr>
<th>Business Area</th>
<th>ROCE %</th>
<th>FCF/CE %</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPM Energy</td>
<td></td>
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<tr>
<td>UPM Biorefining</td>
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<td>UPM Specialty Papers</td>
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<td>UPM Communication Papers</td>
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<td>UPM Plywood</td>
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<tr>
<td>UPM Raflatac</td>
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</tbody>
</table>

*Shareholdings in UPM Energy valued at fair value*
UPM by business area in 2020

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Sales (EUR m)</th>
<th>Comparable EBIT (EUR m)</th>
<th>Capital employed (EUR m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biorefining</td>
<td>EUR 8,580</td>
<td>EUR 948</td>
<td>EUR 11,514 (average)</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Raflatac</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Specialty Papers</td>
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<td></td>
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<tr>
<td>Communication Papers</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Plywood</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>
Transformative growth projects in the most intensive phase in 2021

Capex estimate for 2021
- Total EUR 2,000m
- Includes EUR 1,800m on the transformative growth projects, pulp in Uruguay and biochemicals in Germany
- Operational investment needs consistently low

Paso de los Toros and Leuna

Uruguay acquisition

Myllykoski acquisition

Capital expenditure

Operational investments

Strategic investments

Depreciation

Paso de los Toros and Leuna

Capex estimate for 2021
- Total EUR 2,000m
- Includes EUR 1,800m on the transformative growth projects, pulp in Uruguay and biochemicals in Germany
- Operational investment needs consistently low
Robust cash flow

- Q4/20: operating cash flow was EUR 347m (592m in Q4/19)
  - Working capital decreased by EUR 72m (decreased by 227m in Q4/19)
- 2020: operating cash flow was EUR 1,005m (record of EUR 1,847m in 2019)
  - Working capital increased by EUR 93m (decreased by 276m in 2019)
Dividend proposal: unchanged at 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 2020
• EUR 1.30 (1.30) per share, totalling EUR 693m
• 69% of 2020 operating cash flow
Strong financial position

- Net debt EUR 56m at the end of 2020
- Cash funds and committed credit facilities EUR 3.2bn at the end of Q4
- UPM issued a EUR 750m Green Bond in Q4
- Liquidity includes a EUR 750m sustainability-linked revolving credit facility signed in Q1 and bilateral committed credit facilities totalling EUR 550m signed in Q2
- No financial covenants
Liquidity on 31 December 2020 was EUR 3.2bn (cash and unused credit facilities)

UPM’s committed facilities:
- EUR 158m rolling credit facility maturing 2022
- EUR 550m bilateral facilities maturing 2023
- EUR 750m syndicated facility maturing 2025

No financial covenants
Q4 2020: positive finish to the exceptional year – transformative projects on budget and on schedule

- Sales decreased by 11% to EUR 2,188m (2,447m in Q4 2019)
- Comparable EBIT was EUR 252m, 11.5% of sales, down 27% from last year (343m)
- Successful health and safety measures enabled uninterrupted business operations and progress in transformative growth projects
- The year ended on a positive note, with good demand for UPM’s products
Comparable EBIT in Q4 2020

Sales prices decreased, outweighing the impact of lower variable costs. Deliveries decreased for Communication Papers but grew for other businesses.

Variable costs decreased and deliveries increased, both partly seasonally. Fixed costs significantly higher due to high maintenance activity and seasonal reasons.
Comparable EBIT by business area
Outlook for 2021

• The global economy is expected to start recovering in 2021 from the deep downturn experienced in 2020. World regions will progress at different pace, and China is leading this development. 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 significant 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. However, further waves of the pandemic and related lockdowns remain possible.

• In the beginning of 2021, pulp prices are expected to increase compared with Q4 2020. Paper prices are expected to decrease moderately, compared with Q4 2020.

• UPM will continue to implement measures to decrease fixed and variable costs.

• UPM’s comparable EBIT in H1 2021 is expected to be lower than in H1 2020, due to lower paper prices and higher maintenance activity. Comparable EBIT is expected to recover in H2 2021.
Taking action to ensure performance – expected annual cost savings of approx. EUR 130 million

- UPM Jyväskylä (plywood) closed in Q3 2020
- UPM Chapelle (newsprint) -240kt, closed in Q3 2020
- UPM Kaipola (newsprint, LWC) -720kt, closed in Q1 2021
- UPM Shotton (newsprint) -250kt, planned sale
- Streamlining and cost efficiency actions in UPM Biorefining, UPM Specialty Papers, UPM Raflatac and global functions
- Growth investment: UPM Nordland PM2 (fine) -200kt, conversion to release liner in Q1 2020
Developing our forest assets

<table>
<thead>
<tr>
<th>UPM forests and plantations</th>
<th>2008</th>
<th>2019</th>
<th>Area distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest and plantation land (own and rented) (1,000 ha)</td>
<td>1,012</td>
<td>991</td>
<td>US 8% 90%</td>
</tr>
<tr>
<td>Forest growth (million m³)</td>
<td>4.3</td>
<td>8.9</td>
<td>Finland 60%</td>
</tr>
<tr>
<td>Wood sourced from UPM forests and plantations (million m³)</td>
<td>2.2</td>
<td>3.7</td>
<td>Uruguay 31%</td>
</tr>
<tr>
<td>Value of forests and plantations, including land (EURm)</td>
<td>1,270</td>
<td>2,864</td>
<td></td>
</tr>
</tbody>
</table>

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 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 biochemistries fit directly into customers’ processes and the existing recycling infrastructure.
UPM Biorefining

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
UPM Biorefining

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

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

• Step change in UPM’s pulp business

*) including variable and fixed costs of plantation operations, wood sourcing, mill operations and logistics delivered to the main markets
UPM Biorefining

UPM Paso de los Toros pulp mill construction schedule

- **2020**
  - H1: Site preparation and access roads
  - H2: Civil construction

- **2021**
  - H1: Mechanical, automation and electrical installations
  - H2: Commissioning and water runs

- **2022**
  - H1: Start-up and production trials
  - H2: N/A

- **2023**
  - H1: N/A
• 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 434,000 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
- Agreed road improvements
Market pulp consumed in growing end-uses – supply of alternative white fibres declines

Based on white fibre
- Graphic papers 23%
- Containerboard 44%
- Other

Based on brown fibre
- Tissue & fluff 11%
- Specialty 11%
- Cartonboard 11%

Growing end-uses of white fibre

Total fibre consumption (2018): 434 million tonnes

UPM Biorefining
UPM Biorefining
Pulp demand outlook

Global consumption of end-uses in million tonnes

- Graphic papers
- Tissue & fluff
- Specialty
- Carton-board
- Container-board

Decline in graphic papers
Growth in tissue, hygiene, specialties and packaging
Strong growth in containerboards

Global consumption of fibres in million tonnes

- White virgin fibre
- Brown RCP
- White RCP
- Brown virgin

Growing white virgin fibre end-uses overcome decline in graphic paper
Dwindling white RCP availability
Strong demand for brown fibre
Few decided projects coming on stream in the short-term

Entry of market bleached pulp capacity

Below-average rate of expansion

Exits take place

Note: bleached chemical wood pulp including fluff pulp, excluding dissolving pulp

Sources: Afry, UPM
UPM Biorefining
Chemical pulp market prices

Pulp market prices, EUR

Pulp market prices, USD

Source: FOEX Indexes Ltd
UPM Energy

UPM’s power generation – competitive in all market conditions
UPM Energy

## UPM Energy’s power generation

<table>
<thead>
<tr>
<th>Description</th>
<th>MW</th>
<th>EURm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydropower holdings</td>
<td>549</td>
<td>748</td>
</tr>
<tr>
<td>Nuclear power OL1 and OL2</td>
<td>588</td>
<td>1,145</td>
</tr>
<tr>
<td>Nuclear power OL3 under construction</td>
<td>(494)</td>
<td>189</td>
</tr>
<tr>
<td>Condensing power</td>
<td>95</td>
<td>1</td>
</tr>
<tr>
<td>UPM Energy’s shareholdings in total, valued at fair value</td>
<td>1,232</td>
<td>2,082</td>
</tr>
<tr>
<td>UPM own hydropower assets</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>UPM Energy’s in total (excl. OL3)</td>
<td>1,398</td>
<td></td>
</tr>
<tr>
<td>UPM Energy capital employed</td>
<td></td>
<td>2,365</td>
</tr>
</tbody>
</table>

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

### Illustration

Cost of sourced electricity from shareholdings
Cost efficient generation enables robust profitability in changing market environment

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</thead>
<tbody>
<tr>
<td>Comparable EBIT, EURm</td>
<td>181</td>
<td>116</td>
<td>91</td>
<td>123</td>
<td>185</td>
<td>171</td>
</tr>
<tr>
<td>% of sales</td>
<td>43.6</td>
<td>32.7</td>
<td>28.8</td>
<td>31.5</td>
<td>44.4</td>
<td>45.0</td>
</tr>
</tbody>
</table>
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

Indicative share of UPM Raflatac business (%)
- ~70%
- ~15%
- ~15%

Resilience of demand
- High
- Medium
- Low

Food
Beverage
Home care
Pharma
Logistics
- e.g. durables, tyre, luxury goods

Packaging unit growth in Food, Personal Care, Beverage

E-Commerce growth & parcel logistics

Niche segments (e.g. pharmaceuticals)

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Consumer stockpiling

Lockdowns

Value chain inventory cycle

Private consumption changes

Growth drivers

Indicative share of UPM Raflatac business (%) Resilience of demand

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Consumer stockpiling

Lockdowns

Value chain inventory cycle

Private consumption changes

Growth drivers

Indicative share of UPM Raflatac business (%) Resilience of demand
Early signs of recycling impacts: Packaging decisions to favour labelstock

<table>
<thead>
<tr>
<th>PACKAGING TYPE</th>
<th>Unit growth per pack type</th>
<th>GROWTH CAGR</th>
<th>LONGER TERM OUTLOOK</th>
<th>LABELSTOCK RELEVANCE</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>'19-'24</td>
<td></td>
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<tr>
<td>Rigid plastics</td>
<td></td>
<td>3.0%</td>
<td>Higher</td>
<td>High</td>
</tr>
<tr>
<td>Glass &amp; Metal</td>
<td></td>
<td>0.9%</td>
<td>Higher</td>
<td>High</td>
</tr>
<tr>
<td>Fibre-based</td>
<td></td>
<td>2.2%</td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Flexible packaging</td>
<td></td>
<td>3.0%</td>
<td></td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: Euromonitor September 2020; UPM Raflatac perspective
UPM Specialty Papers

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

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

- **Global release liner**: 3-4%
- **Global flexible packaging**: 2-4%
- **APAC office papers**: 1-2%

Source: AWA, Pira, UPM
UPM Specialty Papers GROWTH STRATEGY

We co-create a future beyond fossils with renewable, recyclable and remarkable papers.
UPM Communication Papers

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 (2015-19) cumulative free cash flow
EUR 1.9bn

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 work flows in administration, business and education
- Paper as ‘chill media’ for healthy offline time
- Trust in media, effectiveness of print promo

**Historical trend decline** of graphic papers in Europe ~ -5%/a

- **Financial crisis 2009**
  - Elastic recovery of 30-50% of the decline (~ -15%)

- **Covid-19 impact** and potential recovery
  - Pandemic development in different countries
  - Pace of opening up of offices, non-food retail and travel
  - ‘We are back’ campaigns

- **Demand**

*) schematic/no forecast
UPM Communication Papers

Paper demand by end use

Europe 2019
25 Mt

- 1 Mt Book & Directories
- 5 Mt Home & Office
- 10 Mt Direct marketing
- 5 Mt Magazine publishing
- 4 Mt Newspaper publishing

Source: Euro-Graph, UPM
UPM Communication Papers

Paper price vs. cash cost of marginal cost producer

Sources: PPI, RISI, Pöyry
UPM Communication Papers

Graphic paper prices

Europe

North America

China

Sources: PPI, RISI
UPM Plywood

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 Plywood

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

**Sales by category**
- Industrial applications: 0.8
- Construction / Panel Trading

**Relevant market ~5.1Mm³**
- UPM Plywood sales ~811tm³
- EMEA plywood market ~12Mm³

**Low-end market**
- 12

**EMEA market ~12Mm³**
- 90

**Non-footprint market**
- Global plywood market ~90Mm³
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 CO₂ 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.

Global transport: Carbon emissions growth and mitigation (2DS)

Source: UPM based on IEA, EIA, Bloomberg

Road transport: Europe and North America
Aviation: Global

Renewable fuels need by 2040 (2DS*)

Aviation (incl. offsets)
Commercial vehicles
Passenger vehicles

*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

**Flexibility with market-based waste feedstocks**

- Residues, saw dust, bark
- Carbon farming

**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’s sustainable biofuel feedstock concept founded on wood based and climate positive feeds