UPM in brief

SALES 2020
EUR 8.6 BILLION

Wood based raw-materials

BUSINESS AREAS:
- UPM BIOREFINING
- UPM ENERGY
- UPM RAFLATA
- 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
- BIOPOLYSTICS
- BIOMEDICALS

13,400 customers

200 million end-users globally
Our businesses

**UPM BIOREFINING**
- **UPM Pulp**
  - pulp for tissue, specialty and packaging papers.
- **UPM Forest**
  - competitive wood for businesses and management of privately-owned forests.
- **UPM Biofuels**
  - renewable diesel for all diesel engines and renewable naphtha for petrochemical industry.
- **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.

**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.
Biofore strategy drives our transformation as the frontrunner of bioeconomy.
Our spearheads for growth

SPECIALTY PACKAGING MATERIALS
- Label materials
- Specialty papers

HIGH VALUE FIBRE
- Forests
- Pulp

MOLECULAR BIOPRODUCTS
- Biofuels
- Biochemicals

Communication papers
Plywood
Energy
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 CO₂ emissions by 65%.

**WE ACT THROUGH PRODUCTS**
We innovate novel products to provide ever more sustainable alternatives for fossil-based materials.
Leader in responsibility

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

MSCI
ESG RATINGS

PLATINUM
2021
ecovadis
Sustainability Rating

Global Compact
LEAD
2021 PARTICIPANT

Bloomberg
Gender-Equality Index
2021
Spearheads for growth – improving business mix drives earnings, cash flow and shareholder value

- Operating model: 60% in 2009, 35% in 2020
- Performance: 40% in 2009, 65% in 2020
- Balance sheet: 65% in 2009, 16% in 2020

Future sales:
- Spearheads for growth*
- EBIT margin >20%*
- 6-year average EBIT margin (2015-20)

Gross sales 2009: EUR 9.6bn
Gross sales 2020: EUR 9.4bn

Growing businesses
Communication Papers

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

<table>
<thead>
<tr>
<th>Capital employed 2019</th>
<th>Spearheads for growth</th>
<th>Future capital employed(*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR 11bn</td>
<td>EUR 3-4bn(*)</td>
<td></td>
</tr>
<tr>
<td>52%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>17% 5-year average ROCE (2015-19)</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>6%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Industrial operations:**
Further growth

**Forest and energy assets:**
Sustainable value creation

*This is an illustration, not a forecast
Transformation is visible in earnings and balance sheet

Comparable EBIT

Target: EBIT growth

Comparable ROE

Target: 10%

Net debt and leverage

Policy: ≤ 2x
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

Long-term return target
UPM by business area in 2020

- **Sales**: EUR 8,580m
- **Comparable EBIT**: EUR 948m
- **Capital employed**: EUR 11,514m (average)

Legend:
- 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
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

**Q3/20 vs. Q3/21**

- **Prices**: 215 (10.6%)
- **Variable costs**: 307 (12.9%)
- **Fixed costs**: 424 (16.8%)
- **Currency, net impact**: -10 (12.9%)
- **Depreciation, forests, plantations, other**: -10 (12.9%)

**Q2/21 vs. Q3/21**

- **Prices**: 215 (10.6%)
- **Variable costs**: 307 (12.9%)
- **Fixed costs**: 424 (16.8%)
- **Currency, net impact**: -10 (12.9%)
- **Depreciation, forests, plantations, other**: -10 (12.9%)

**Comparable EBIT in Q3 2021**

- **Prices**: 215 (10.6%)
- **Variable costs**: 307 (12.9%)
- **Fixed costs**: 424 (16.8%)
- **Currency, net impact**: -10 (12.9%)
- **Depreciation, forests, plantations, other**: -10 (12.9%)
Comparable EBIT by business area

**UPM Biorefining**

- EURm: 320
- % of sales: 40

**UPM Communication Papers**

- EURm: 140
- % of sales: 14

**UPM Specialty Papers**

- EURm: 70
- % of sales: 21

**UPM Plywood**

- EURm: 30
- % of sales: 21

**UPM Energy**

- EURm: 70
- % of sales: 21

**UPM Raflatac**

- EURm: 70
- % of sales: 21
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

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

Area distribution:
- US: 8%, 8%
- Finland: 90%, 50%
- Uruguay: 42%

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

<table>
<thead>
<tr>
<th></th>
<th>Generation (TWh)</th>
<th>Consumption (TWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPM Energy</td>
<td>13.7</td>
<td>11.6</td>
</tr>
<tr>
<td>99% CO₂-free</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-emission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>combined heat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; power plants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at mills</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Renewable (TWh)</th>
<th>Fossil (TWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPM Energy</td>
<td>26.1</td>
<td>10.3</td>
</tr>
</tbody>
</table>

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

CO₂
due to implemented emission reductions, UPM has more emission allowances than it needs

Figures are for 2020. See Annual Report 2020 for more information.
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 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
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

- **2023**
  - H1: 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
UPM Biorefining

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

Based on white fibre

Based on brown fibre

Growing end-uses of white fibre

Total fibre consumption (2018): 434 million tonnes

Containerboard 44%

Graphic papers 23%

Tissue & fluff 11%

Specialty 11%

Cartonboard 11%

Other

Based on 65% white fibre
35% brown fibre
**Global consumption of end-uses**

- **2005**
  - Graphic papers
  - Tissue & fluff
  - Carton-board
  - Container-board
- **2015**
  - Graphic papers
  - Tissue & fluff
  - Carton-board
  - Container-board
- **2025**
  - Graphic papers
  - Tissue & fluff
  - Carton-board
  - Container-board

**Decline in graphic papers**

**Growth in tissue, hygiene, specialties and packaging**

**Strong growth in containerboards**

---

**Global consumption of fibres**

- **2005**
  - White virgin fibre
  - Brown RCP
- **2015**
  - White virgin fibre
  - Brown RCP
- **2025**
  - White virgin fibre
  - Brown RCP

**Growing white virgin fibre end-uses overcome decline in graphic paper**

**Dwindling white RCP availability**

**Strong demand for brown fibre**
UPM Biorefining

Moderate numbers of decided projects in the short-term

Entry of market bleached pulp capacity

- Completed projects
- Decided projects

Note: including BHKP, BSKP, excluding fluff and dissolving

Source: Afry, UPM estimate
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’s power generation assets

- Condensing
- Hydro
- Nuclear

UPM in Finland

- UPM # 2
- Others

UPM in Nordics

- UPM
- Others
UPM Energy's power generation

<table>
<thead>
<tr>
<th></th>
<th>MW</th>
<th>EURm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydropower holdings</td>
<td>549</td>
<td>760</td>
</tr>
<tr>
<td>Nuclear power OL1 and OL2</td>
<td>588</td>
<td>1,008</td>
</tr>
<tr>
<td>Nuclear power OL3 under construction</td>
<td>494</td>
<td>216</td>
</tr>
<tr>
<td>Thermal power</td>
<td>133</td>
<td>1</td>
</tr>
<tr>
<td>UPM Energy's shareholdings in total, valued at fair value</td>
<td>1,290</td>
<td>1,984</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>1,456</td>
<td></td>
</tr>
<tr>
<td>UPM Energy capital employed</td>
<td>2,370</td>
<td></td>
</tr>
</tbody>
</table>

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

Cost efficient generation enables robust profitability in changing market environment

**Market electricity prices vs UPM sales price**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparable EBIT, EURm</td>
<td>116</td>
<td>91</td>
<td>123</td>
<td>185</td>
<td>171</td>
<td>155</td>
</tr>
<tr>
<td>% of sales</td>
<td>32.7</td>
<td>28.8</td>
<td>31.5</td>
<td>44.4</td>
<td>45.0</td>
<td>45.7</td>
</tr>
</tbody>
</table>
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.

- 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

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

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

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

Indicative share of UPM Raflatac business (%)

- ~70%
- ~15%
- ~15%

Resilience of demand:

- High (Food, Beverage)
- Medium (Home care, Pharma)
- Low (Logistics, e.g. durables, tyre, luxury goods)

Growth drivers

- Food
- Personal Care
- Beverage
- E-Commerce
- Niche segments (e.g. pharmaceuticals)
- Further trends benefitting labelstock: sustainability, wet glue substitution
Early signs of recycling impacts:
Packaging decisions to favour labelstock

**PACKAGING TYPE**
Unit growth per pack type

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

LABELLING MATERIAL

PACKAGING

OFFICE PAPER 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

- 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

Committed value creation
Brand based value
Focused, committed and agile
Co-creating remarkable products
Globally recognized leadership

UPM BIOFORE - BEYOND FOSSILS
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 (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

Demand

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


*) schematic/no forecast
UPM Communication Papers

Paper price vs. cash cost of marginal cost producer

Sources: PPI, RISI, Pöyry
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
- 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

**Sales by category**

- Industrial applications: 0.7
- Construction / Panel Trading

**Relevant market ~5.1Mm³**

- EMEA plywood market ~12Mm³

**Low-end market**

- UPM Plywood sales ~683tm³

**EMEA market ~12Mm³**

- EMEA plywood market ~12Mm³

**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 CO$_2$ 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

*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

**CLIMATE-POSITIVE FUELS**
Efficient carbon neutral production

**DECARBONIZED TRANSPORT AND PETROCHEMICALS**
Flexibility to create maximum value from several end uses and market geographies

- Carbon stored to soil in each cycle
- Cellulosic fuels
- Renewable diesel, gasoline and jet
- E-fuels future potential

UPM BIOFORE - BEYOND FOSSILS
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

- Residues, saw dust, bark
- Carbon farming

VALUE FROM SEVERAL END-USES
Road transport, petrochemicals and aviation

UPM Lappeenranta biorefinery 130,000t
Planned biorefinery 500,000t

Flexibility with market-based waste feedstocks