UPM – The Biofore Company

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Global businesses – local presence

UPM’s sales by market

EUROPE 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
ECONOMIC INTERESTS GO HAND IN HAND WITH CLIMATE INTERESTS

Carbon sinks

CO₂ → CO₂

Renewable raw material

HEALTHY FOREST GROWTH

Sustainable solutions, alternatives to fossil based materials

Planting new trees for every cut one

Economic interest for the industry and forest owners to ensure forest growth
UPM Lappeenranta Biorefinery

The world’s first biorefinery producing wood-based renewable diesel and naphtha
Inauguration 2015

179M€
UPM investment

130,000
t/a production capacity

250
Direct and indirect employees

200
UPM patents and applications

Financials 2019:
- EBIT margin 20%
- ROCE 26%

130,000 t/a production capacity
UPM Biofuels is planning a second biorefinery

- Environmental impact analysis ready in Kotka (final location not decided)
- Capacity 500,000 tons/a of advanced biofuels and biomaterials
- Wide range of raw materials, e.g. solid biomass and carinata
- Solid biomass conversion and hydrotreatment technologies
UPM Climate positive fuels is built on strengths of UPM ecosystem

Each cycle removes CO₂ from the atmosphere by storing carbon into soil

Released carbon is stored back to growing biomass in < 1 year*

The renewable fuels replace oil-based products in transport keeping fossil reserves in the ground

CARBON STORED TO SOIL

Cellulosic fuels

Renewable diesel, gasoline and jet

CLIMATE-POSITIVE FUELS

DECARBONIZED TRANSPORT and PETROCHEMICALS
UPM Biochemicals
Switch from fossil raw materials to renewable solutions
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 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
POLICY CONCERNS
COVID implications on biofuels sector

**Green deal creates opportunities for investments**
- EU carbon neutral by 2050

**Recovery and Resilience facility and investment opportunities**
- Substantial amount of financing available for innovative investments

**Revision of all relevant legislation creates regulatory uncertainty**
- REDII, ETD, ESR, ETS, LULUCF, FQD etc.
Climate positive farming