Beyond Fossils
Sustainability drives value

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9 September 2020

UPM BIOFORE - BEYOND FOSSILS

Future beyond fossils is a key driver for us

MEGATRENDS

- Population growth
- Urbanisation
- Higher living standards
- Digitalisation
- Climate change

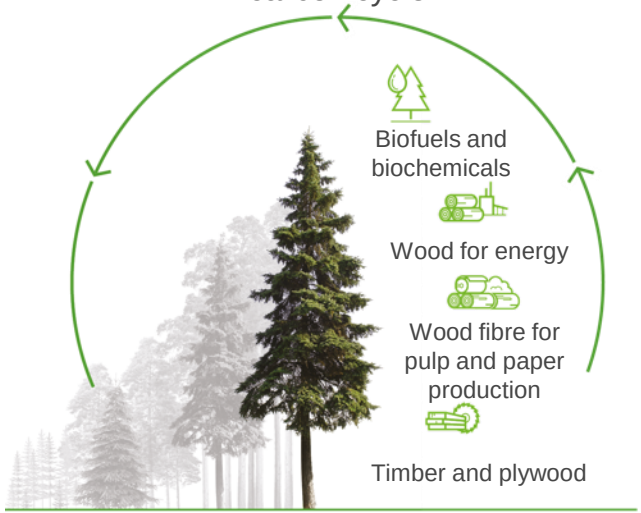
2 billion
middle class consumers in Asia

UPM SOLUTIONS

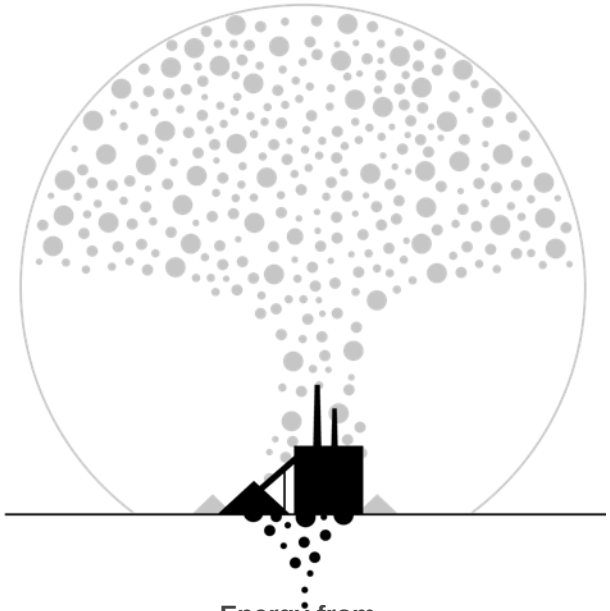
- Sustainable forestry and land use
- Resource efficiency
- Circular economy
- Responsible business conduct
- Renewable materials
- Replacing fossil-based materials

Bioeconomy offers a sustainable alternative to fossil-based economy

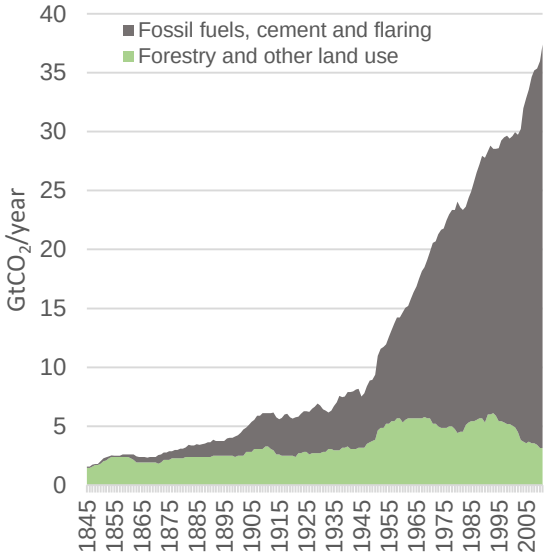
Sustainable biomass use ensures raw material availability and does not increase CO_2 in carbon cycle



Use of fossil resources faces resource scarcity and increases CO_2 in the cycle



Use of fossil fuels has increased global CO_2-emissions, and needs to decreased



Source: IPCC AR5

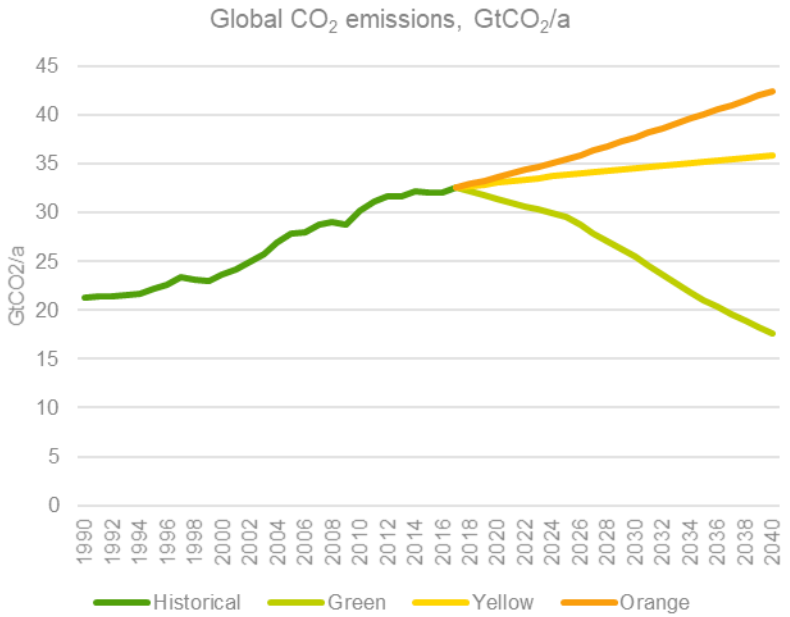
Our climate commitment

Climate change:
one of the biggest challenges of our time

Mitigating climate crisis requires decisive action

- Reducing emissions
- Finding alternatives for fossil-based materials
- Serving the needs of a growing population with circular economy and renewable materials

Active risk and opportunity management: Global CO2-emission paths in UPM scenarios



Increasing emissions, high warming
Weak commitment to climate change mitigation. Globally, CO_2 emissions increase, resulting in over 4 degrees warming.

Current commitment level, moderate warming
In aggregate, countries keep their current commitment level in climate change mitigation. Total CO_2 emissions increase, but at a low pace. Resulting global warming is almost 3 degrees.

Low carbon transition, low warming
Strong global response and rapid low-carbon transition. Change is driven by both regulation and customer demand. Global emissions peak in 2020 and then enter a steep and sustained decline. Resulting global warming stays below 2 degrees.

Active risk and opportunity management: Key findings from climate change scenarios

Physical changes in climate

- Site risks mostly relate to more frequent and severe extreme weather events locally
- Forests will grow faster in Finland, although this may be partly offset by increasing disturbances
- In Uruguay, projected changes are limited to slight increase in rainfall, continuing to support forestry and industrial operations

Low-carbon transition

- UPM is well positioned due to its renewable raw materials, circular economy practices, significant opportunity to lower fossil emissions and a range of products that replace fossil-based materials

Conclusions:

- In the low- and medium-emission scenarios the transition impacts play a bigger role
- UPM is well positioned, as our business portfolio allows for flexibility to manage recognized risks and to capture the opportunities

Driving long-term value creation - mitigating climate change

UPM

UPM BIOFORE – BEYOND FOSSILS

We act through **FORESTS**

Climate-positive forestry

We act through **EMISSIONS**

65% less CO_2 emissions

We act through **PRODUCTS**

Innovate novel products

BUSINESS AMBITION FOR 1.5°C

OUR ONLY FUTURE

2030 TARGETS

13 CLIMATE ACTION

15 LIFE ON LAND


UPM
We act through forests

We act through FORESTS

Sustainably managed forests grow more, while taking care of biodiversity and carbon sinks

We plant over **100** trees per minute.

We act through FORESTS

Sustainable forestry preserves forests and increases carbon sinks

UPM in Finland

A carbon storage of

390M

Annual carbon sink of

1.3M

tonnes in own forests

UPM in Uruguay

A new carbon storage of

40M

tonnes in 30 years

Annual carbon sink of

3.5M

tonnes during the plantation expansion

Forests are the **2nd LARGEST ABSORBER OF CO_2** after the oceans

Committed to net-positive biodiversity

- Indicators and measures based on the comparison of natural and commercial forests and the gap analysis identifying the key differences.
- The status of forest nature monitored by using selected biodiversity indicators: tree species, forest age, forest structure, protected areas, valuable habitats, habitat restoration, species and habitat projects and indicator development.

2030 TARGETS

15 LIFE ON LAND

We act through efficiency and emissions

We act through emissions

- Our target is to reduce CO_2 emissions significantly according to Science Based Targets (SBT).
- Our target is also to reduce the CO_2 emissions related to materials and logistics.

–65% reduction from CO_2 emissions from the 2015 levels by 2030 *

–30% reduction of emission levels of our supply chain from the 2018 level by 2030.

2030 TARGETS

13 CLIMATE ACTION

* From use of fuels and purchased electricity

We act through products

Molecular bioproducts – solutions to meet climate and other sustainability commitments

Decarbonising traffic and petrochemicals with UPM Biofuels

Unparalleled sustainability and high performance with UPM Biochemicals

New innovative businesses with large value creation potential and high barriers to entry

2030 TARGETS

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

Specialty packaging materials – for more sustainable packaging

Answers to the plastic challenge
Reduce, **R**ecycle, **R**enew, **R**eplace

Attractive growth businesses with strong competitive position in UPM Raflatac and UPM Specialty Papers

2030 TARGETS
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

Low emission electricity

Fossil carbon-free energy sources

Competitive agile electricity generation in UPM Energy

UPM Energy

97%

CO_2-free

Sustainable and safe products

PULP BASED MATERIALS for tissue and hygiene products, packaging, specialty papers, biocomposites, biomedicals, etc.

ELECTRICITY everywhere

LABEL MATERIALS for information and branding labelling

SPECIALTY PAPERS for packaging

OFFICE PAPERS for printing

PUBLICATION PAPERS for reading and advertising

PLYWOOD for construction, vehicle flooring, LNG vessels and design

TIMBER for building, furniture and home

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