

# Advanced biofuels - a fast lane for transport decarbonization

Climate change mitigation requires innovative solutions and firm action from all of us

Currently more carbon is being emitted to the atmosphere than is bound to plants, soils and oceans - resulting in too high concentrations of carbon in the atmosphere. Need for rapid emission reduction and replacement of use of fossil resources creates demand for sustainable solutions and increasing supply of renewable resources. Advanced biofuels from sustainable feedstocks are a fast track to decarbonize transport that accounts for 25% of greenhouse gas emissions in Europe.

The sustainable use of wastes and residues as advanced biofuel feedstock continues to be scaled up - but has limited potential in the long term. Transition towards a bioeconomy will need sustainable land-based feedstocks, production of which both improves soil health and creates additional biomass. The productivity of available agricultural and forest land and land management practices play a key role.



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## UPM Biofuels - an advanced biofuel and biomaterial pioneer

UPM Biofuels produces advanced biofuels and biomaterials from crude tall oil, a wood-based residue of pulp production, at its Lappeenranta biorefinery in Finland. Production is, uniquely, sustainability certified with the international sustainability standards RSB and ISCC. The feedstock also holds RSB's low ILUC risk certification demonstrating that the use of crude tall oil for biofuels has a low risk of causing indirect emissions elsewhere. UPM's biofuels have reduced transport emissions equal to the removal of more than 100,000 cars from the roads annually. In addition, the streams from the biorefinery are used to produce wood-based plastics and fragrances.



The development of unique production concepts continues as UPM Biofuels is in the early planning phase of a new production unit to be built potentially in Kotka, Finland. This refinery would use both solid and liquid biomass residues and Brassica Carinata. UPM is developing a sequential cropping concept by cultivating Brassica Carinata during the winter in Uruguay. This concept has been created to bring additional biomass into use for the bioeconomy. In addition, UPM continues to develop land management practices that reduce or even reverse typical climate and soil impacts from agriculture.

UPM has world leading expertise in sustainable forest and plantation land management. Therefore sustainable agricultural land management is a natural extension that will be developed in the coming years. New policies should allow and incentivize positive and sustainable development of the sector.

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## Bioeconomy offers limitless opportunities

The challenge created by climate change is enormous and requires a fast response from all countries around the world. It is also a source of new sustainable business opportunities beyond traditional sector limits. Many sectors are brought together to find solutions for transport decarbonization. Industries and policy makers need to work together to take steps in the right direction.

Sustainable development is all about gradual change. As the changes in infrastructure, production systems and consumer behaviour are slow, policy support needs to have a clear direction and continuity. The policy framework must aim to support the most sustainable feedstocks and novel technologies to encourage both new and the most sustainable fuels into the market. Scaling up a healthy and sustainable bioeconomy can be achieved through increased supply and use of sustainable biomass. The possibilities are limitless.

