

Uusiutuvat lentopolttoaineet ja St1

28.10.2025



Gothenburg Biorefinery

- A joint venture with SCA, located at the St1 refinery area in Gothenburg
- Annual design production capacity is 200,000 tonnes renewable fuels
 - Sustainable aviation fuels (SAF), Bio-Diesel (HVO), Bio-Naphtha, and Bio-LPG
- The design of the biorefinery allows the use of a wide range of feedstocks, such as used cooking oil, animal fats, and tall oil fatty acids
 - St1's food waste recycling company, Brocklesby Ltd, plays a pivotal role in feedstock collection
 - SCA will provide tall oil fatty acids from their paper and pulp mills



Feedstock Business

- Our food waste collection company Brocklesby Ltd in the United Kingdom strengthens our value chain further upstream
 - Our waste collection of used cooking oil and fatty food waste is based on strong partnerships with a large number of restaurants, retailers and food manufacturers in the UK
 - Brocklesby is one of the UK's leading refiners in this field, providing feedstocks for renewable diesel and sustainable aviation fuel (SAF) production

Biorefinery

Östrand



From Forest to Future

- Biorefinery Östrand - A concrete example of decarbonizing transport through innovation



SCA is Europe's largest private forest owner with the growing forest as the core of its business.

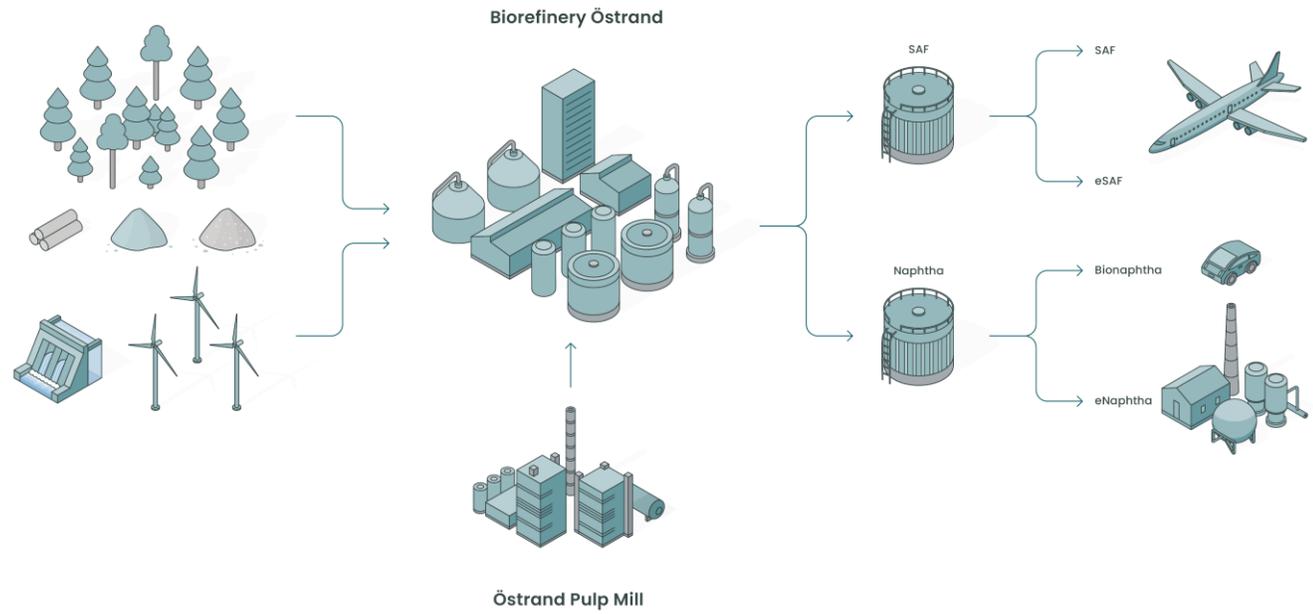
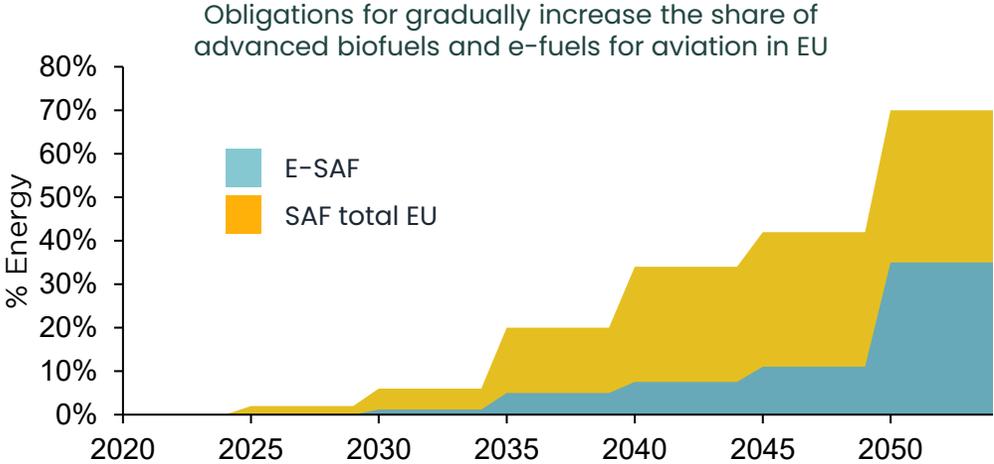


St1 is a Nordic energy group whose vision is to be the leading producer and seller of CO2-aware energy.

Biorefinery
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Driving Transport Decarbonization Through an Integrated Value Chain



RED III, Annex 9x = EU Renewable Energy Directive. List of accepted feedstocks for advanced biofuels (A) and biofuels (B)
 SAF = Sustainable Aviation Fuel
 E-SAF, Synthetic fuels or RFNBOs are the same molecule as SAF but has no biological origin.





HARBOUR / JETTY

WATER TREATMENT
(process)

RAW WATER TOWER

STORAGE

FISCHER-TROPSCH
SYNTHESIS

GAS CLEANING

GASIFICATION

BIOMASS PRE-TREATMENT

PRODUCT UPGRADE

ELECTROLYSIS / HYDROGEN

WATER TREATMENT
(stormwater)

AIR SEPARATION

HIGH VOLTAGE
SWITCHGEAR, FILTER
& TRANSFORMERS

Biorefinery
Oststrand

What will be produced?

Production of renewable blending component



At Östrand Site

Primary production of FT-SPK (Fischer Tropsch Synthesized Paraffinic Kerosene) blending component, according to ASTM D7566-22a, Annex A1.

Blending of JET A/A-1 and final quality control



At another facility

Blending of FT-SPK from Östrand with conventional fossil D1655 Jet A/A-1 fuel and performance property testing according to ASTM D7566-22a, Annex X2, to **ensure that the aviation fuel is fit for purpose.**

Sales of SAF and e-SAF to end customers



At the airport

Sale of **SAF and e-SAF**, manufactured, certified, and released to airlines/airports in Europe in compliance with all requirements of ASTM D7566 (designated as D1655). The fuels must meet ReFuel EU Aviation legislation and mandates for both SAF and e-SAF (referred to as synthetic fuels or RFNBOs).

Biorefinery
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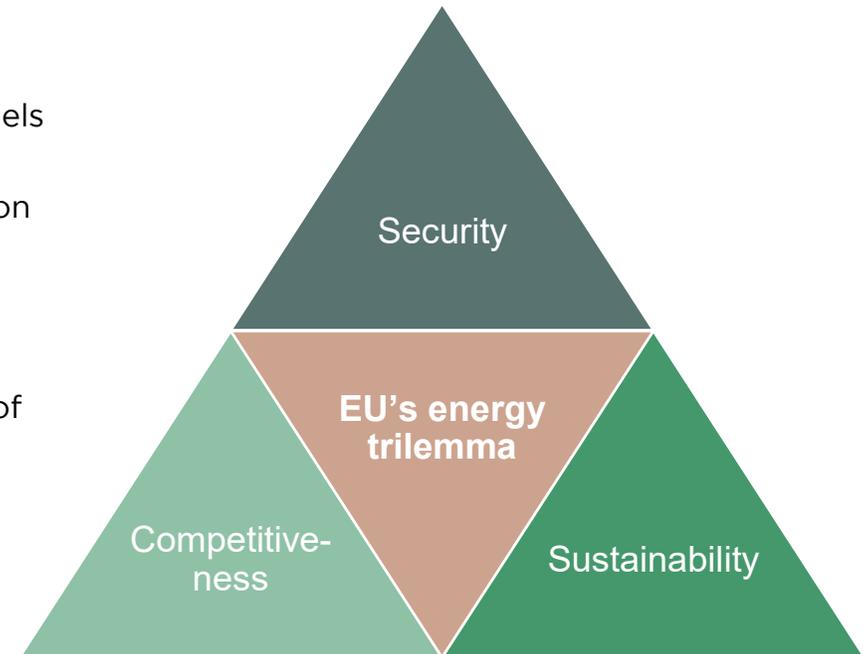
Biorefinery Östrand creates value that makes a real difference

THE PROBLEM IN SHORT

- Aviation is a fast-growing source of GHG emissions. Europe needs both synthetic fuels (e-fuels) and liquid biofuels to be able to meet its climate targets.
- As these fuels are significantly more expensive than traditional jet fuels, the transition will not be based on economics, but political will.

NEW POLICY TOOLS NEEDED

- Biorefinery Östrand's solution of using sustainable solid biomass in the production of aviation fuels broadens the available feedstock pool for SAF, but the value of this advanced production pathway is currently not recognized by regulation.
- Both for e-SAF and SAF, producers need long-term commitments from buyers, but airlines have limited willingness to pay. An introduction of a revenue certainty mechanism would restore investment environment and create an early moved advantage for first-of-a-kind projects like Biorefinery Östrand.



Thank you!