



Partnership Proposal

Commercialization of Biorefinery's Lignin Material

Biorefinery

Operating company

- Nordfuel Oy

Lignin material consulting company

- Brightplus Oy

investment budget refinery

- 400 000 000€
- Renovation of premises of former Nordfuel peat power plant

Refinery production



Bioethanol

60500

tons per year



Ligin

230 000

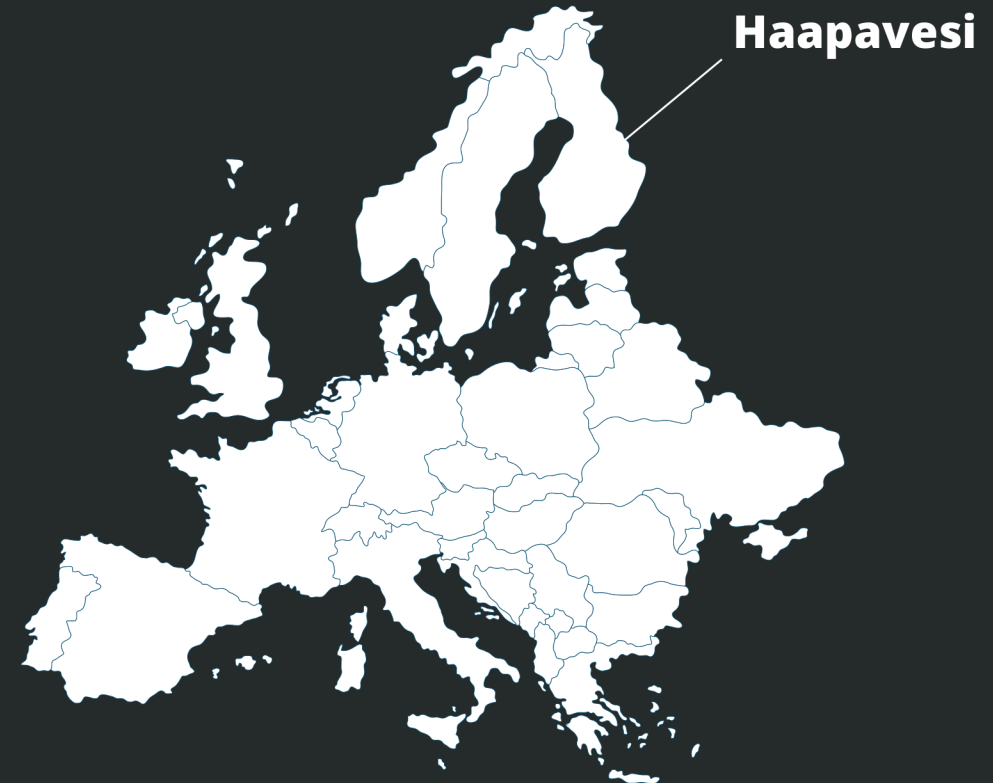
tons per year



Biogas

150

GWh/a



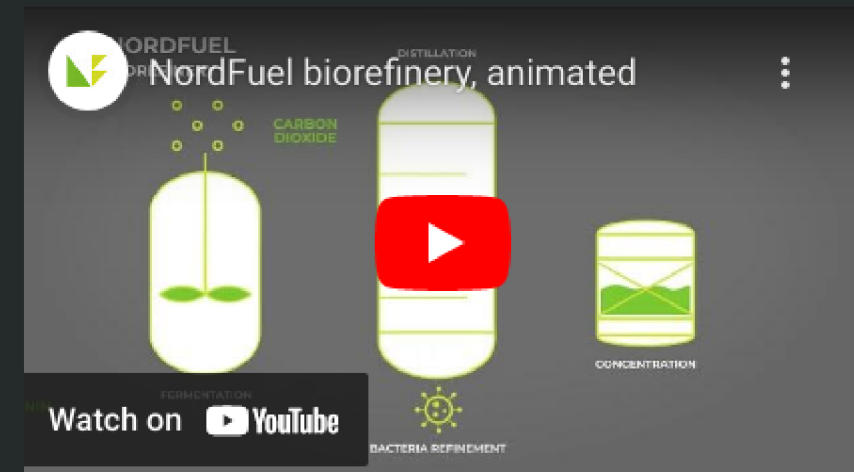
Lignin Material Status

Raw Materials

- Sawdust produced as a byproduct of the sawmill industry, logging residues from the forestry as well as small-diameter wood from young stands
- Volume about 350,000 tons (dry weight) per year
- The raw material is procured from a radius of 150 kilometers

Ligning separation processing

- Enzymatically hydrolyzed lignin
- 2 process option: NFL101 and NFL102
 - Technical data sheets available for both
- There is a possibility to influence the properties within the options



**Raw material base process : NFL101
and NFL102**

Partnering Proposals

Purchase agreement for co-development lignin

Partner's responsibility

- Specifies the choice of lignin NF101 or NF102
- Lead product development for lignin processing
- Lignin purchase agreement

Nordfuel's responsibilities:

- Helps achieve the features of Lignin's product goals
- Reserve the capacity in accordance with the purchase agreement

Purchase agreement for NF lignin

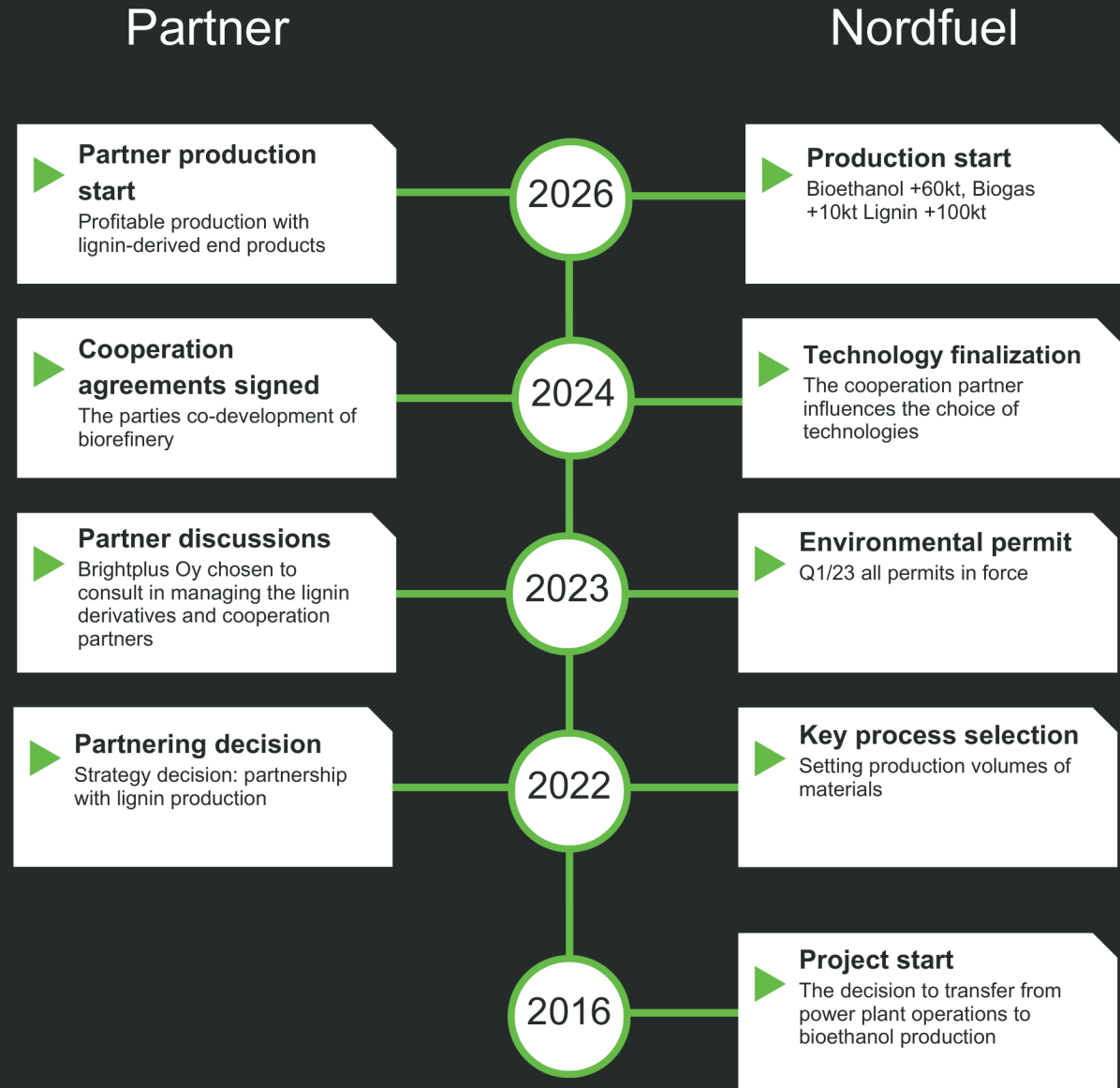
Responsibilities of the partner

- Lignin purchase agreement

Nordfuel's responsibilities:

- Delivery lignin material in accordance with the specification (TDS)
- Reserve the capacity in accordance with the purchase agreement

Schedule



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