



The HEFA type Renewable Jet Fuel

- Views from the refiner

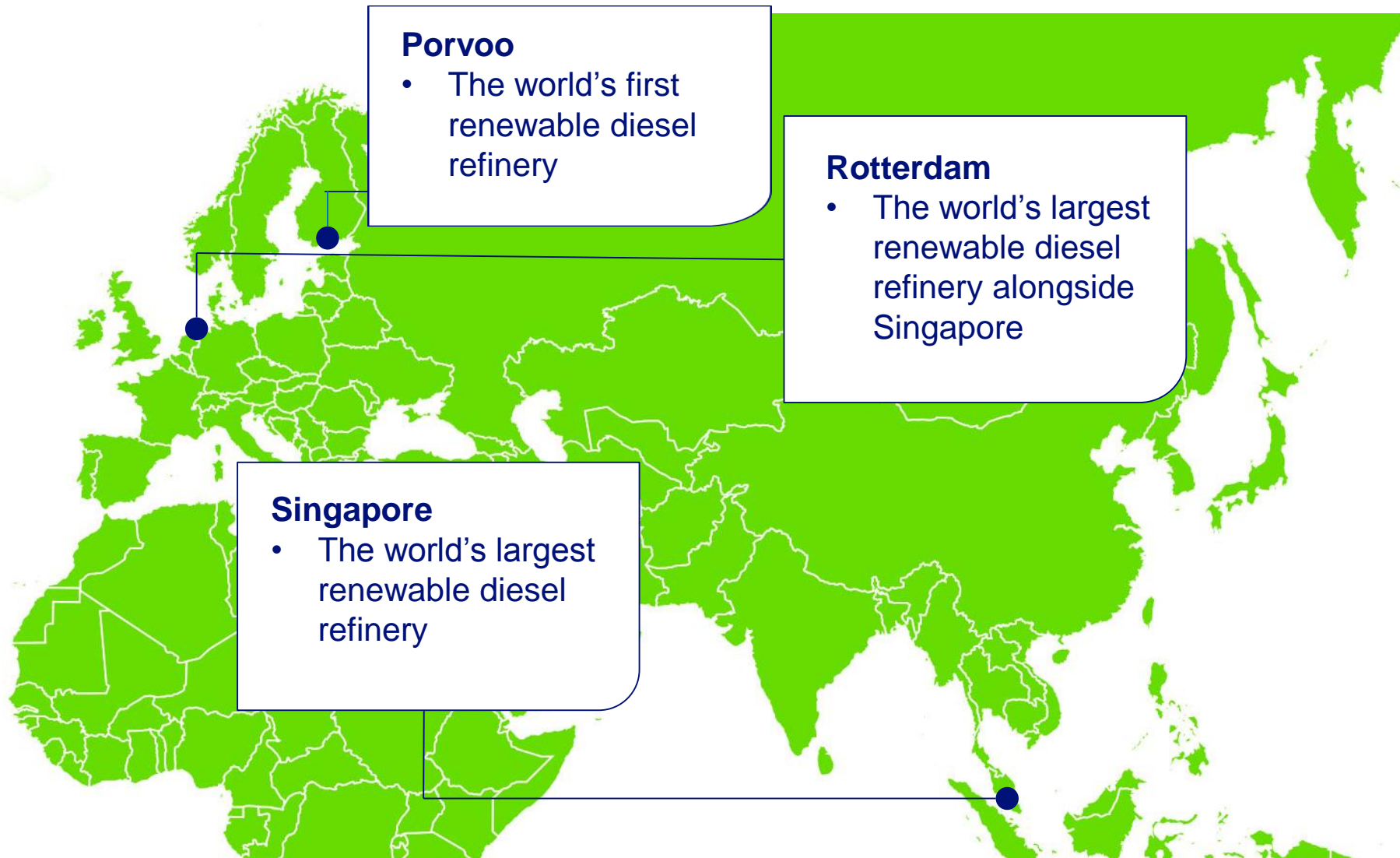
Henrik Erämetsä

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NESTE

Neste renewable products refineries – production capacity 2.6 Mt/a



Proven high-level performance already in 2011

Demonstration in the same year as the “HEFA” renewable jet fuel was approved by ASTM

1,187

Commercial
Lufthansa flights


1,600 tons

of Neste Renewable Jet
Fuel
blend consumed
(50% blend)

1,500 tons

reduction in CO₂
emissions

Fuel standard specification development

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- Boeing is leading the effort and Neste collaborates with Boeing
 - Target is to amend the existing ASTM D7566 fuel standard specification (Annex A2) to include **“High Freeze Point HEFA” or “HEFA+”**
 - In Dec 2014, Boeing successfully tested Neste HEFA+ 15% blend in Boeing’s 787 ecoDemonstrator

Why new fuel, HEFA vs. HEFA+?

- Targeted benefits:
 - Fuel supply should increase
 - Lower blends should encourage airlines to use the fuel
- What remains the same: High quality fuel that is safe to use by all aircrafts
- Main difference:
 - Blend ratios: HEFA* max. 50%, HEFA+ max. 15% (estimate)

*HEFA=Hydroprocessed Esters and Fatty Acids



Sustainable feedstock

- Legislation should include a high-standard for sustainable feedstock
 - Multi-stakeholder approach to develop sustainability
 - Sustainability should be cross-sectoral and industry wide
- Each existing and future feedstock will include different sustainability challenges
- EU's ambition towards circular economy offers great opportunities for biofuel production

Viable economics

- Generally, the production of aviation quality biofuels is more expensive than on-road fuel production
- Existing renewable energy directive requirements are not enough to compensate the price gap
- The “RED II” proposal for the years 2021 - 2030 is including a multiplier for aviation biofuels. However, proposed level of 1.2 is not sufficient

Thank you!
Kiitos!



Henrik Erämetsä, Head of Aviation Regulation

Email: henrik.erametsa@neste.com

Mobile: +358 50 458 4482

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