# Energy in 2060

Susanne Bouma 4 April 2023

# Investors are committing to align their portfolio to net zero



- Already achieved a net zero business model
  - Committed to reach net zero by 2050
- Committed to reduce emissions but not to net zero
  - Exploring transition but not yet committed
    - No viable pathway to transition /
  - not currently considering pathway to transition

DESTE

### Voices & choices – consumers' expectations drive companies to boost sustainability in their offerings

Growing wealth drives consumption but also increases access to education, which strengthens environmental awareness. Consumers globally are willing to choose products and services from companies that demonstrate strong environmental values.







### **Our transformation**

From a regional oil refiner to becoming a global leader in renewable and circular solutions.

Renewable Products make up 94% of Neste's profits\*

2020

d nd's **1996** Experimenting to develop 100% renewable diesel Porvoo, Singapore and Rotterdam

#### Establishing the broadened sustainability vision



**NESTE** 

\* Comparable operating profit

1948

Neste is founded

oil supply

to secure Finland's

# "An all-hands-on-deck moment" – greater urgency for fossil fuel alternatives than ever





#### Solutions to three main markets

Renewable Road Transportation

Over the life-cycle, Neste MY Renewable Diesel reduces greenhouse gas (GHG) emissions by up to 90% compared to fossil diesel. Renewable Aviation

Over the life-cycle, Neste MY Sustainable Aviation Fuel has up to 80% smaller carbon footprint compared to fossil jet fuel. Renewable Polymers and Chemicals

Neste RE Renewable and Recycled<sup>™</sup> is Neste's solution for the plastics and chemicals sectors to help them reduce crude oil dependency while also tackling climate change and plastic waste challenge.



### Aviation needs growing volumes of sustainable aviation fuels to cut emissions



Aviation CO<sub>2</sub> emissions trajectory and reductions by measure (Mt CO<sub>2</sub>e)

- Technology (incl. Electric and hybrid
- Operations and infrastructure

Sustainable aviation fuel

Offsets (or other carbon mitigation measures)

Aviation continues to rely heavily on liquid jet fuel, even with efficiency improvements and emergence of (shorthaul) electric planes in the future. SAF will be the most important tool in the aviation sector's transition towards net zero.



## The growth path of sustainable aviation fuels is based on continuously expanding raw material base



Current



Used cooking oil Waste oil from food cooking



Animal fat Food industry waste



Residues from vegetable oil processing



Technical corn oil Residue from ethanol production



**Fish fat** Fish processing waste **Near future** 5 - 10 years



Lignocellulosic



Municipal solid waste Future > 10 years



Algae



**Power-to-X** 

# SAF can reduce the GHG emissions up to 80% over the lifecycle compared to fossil jet fuel



Sources: ICAO, RED

Calculation method complies with ICAO (CORSIA supporting document for CORSIA eligible fuels – LCA Methodology) Based on CORSIA: The first internationally adopted approach to calculate life-cvcle GHG emissions for aviation fuels **NESTE** 

# SAF will remain more expensive than fossil jet fuel, prices will come down as technologies mature

Development of production costs of SAF and comparison to fossil jet fuel

