



# Decarbonising Aviation: Neste's View on the SAF Market



Netherlands Aerospace Group  
September 2023

# Agenda

**Short introduction to Neste**

**Putting sustainable aviation into perspective**

**SAF Supply Chain - from waste to fuel**

**Drivers for SAF use, outlook, and Neste's plans**



We removed  
“oil” from our  
name in 2015,  
and are  
committed to  
**phasing out  
fossil fuels** by  
the mid-2030s.



# Driven by our purpose

## Being a global leader in renewable and circular solutions

Producer of Sustainable Aviation Fuel (SAF)  
since

# 2011

Today, we are

# #1

in SAF with a production capacity of  
**1.5 Mt in 2023**

Neste's renewable products reduced GHG  
emissions by

# 11.1 Mt

equal to an annual carbon footprint of  
**+4 Million** cars in 2022

R&D spend in innovation, research, and  
development in 2022

# 85 M€

~25% of the workforce in engineering and R&D



# Driven by our purpose

## Being a global leader in renewable and circular solutions

Producer of Sustainable Aviation Fuel (SAF)  
since

# 2011

Tesla customers avoided releasing about **13.4 M metric tons** of CO2e into the atmosphere in 2022

Today, we are

in capacity of  
2023

Neste's renewable products reduced GHG emissions by

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equal to an annual carbon footprint of  
**+4 Million** cars in 2022

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# Solutions to four 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.

## Sustainable Shipping

Neste Marine™ 0.1 Co-processed is a new tool for reducing GHG emissions by up to 80% over the lifecycle compared to fossil fuels.

## 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™ 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.

**NESTE**

# Putting sustainable aviation in perspective



To keep all commercial aircraft up in the air  
we need **~12,500 L of Jet Fuel per second**



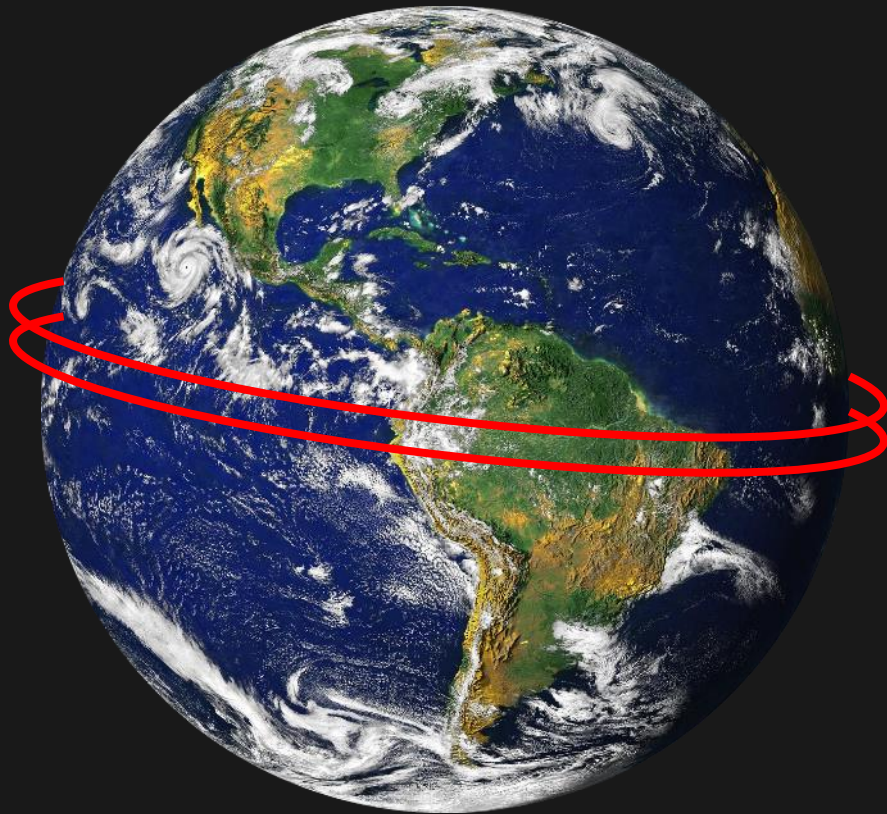
= ~1 container / 2 seconds



= ~2 large container ships / day



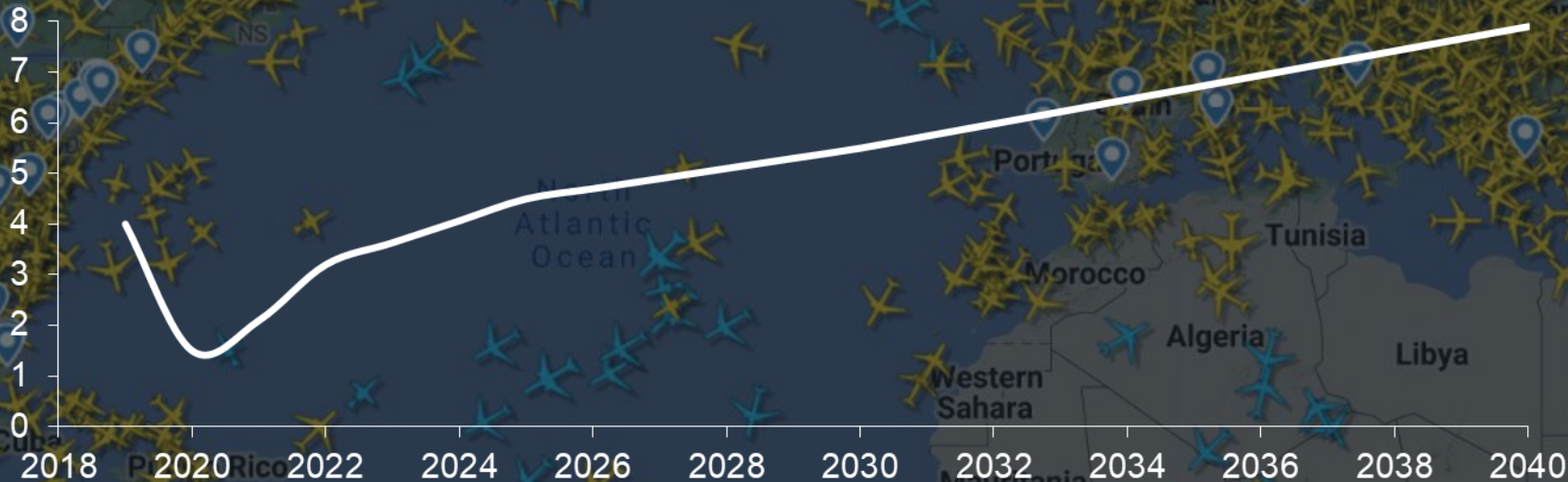
**= +2x round the world / year**



# Global air passengers are expected to double by 2040, while emissions should go to zero

## Global air passengers | IATA

Billions



Source: IATA, Flightradar24

# And that's why aviation is under pressure...



**Amsterdam Schiphol  
wants to ban late-night  
flying and private jets**



**April 5<sup>th</sup> – Business Traveller**

**Eighty Extinction Rebellion  
climate activists arrested at  
Eindhoven Airport**



**March 25<sup>th</sup> – Aviation24**

**Airlines sue Dutch  
government over flight  
cuts**

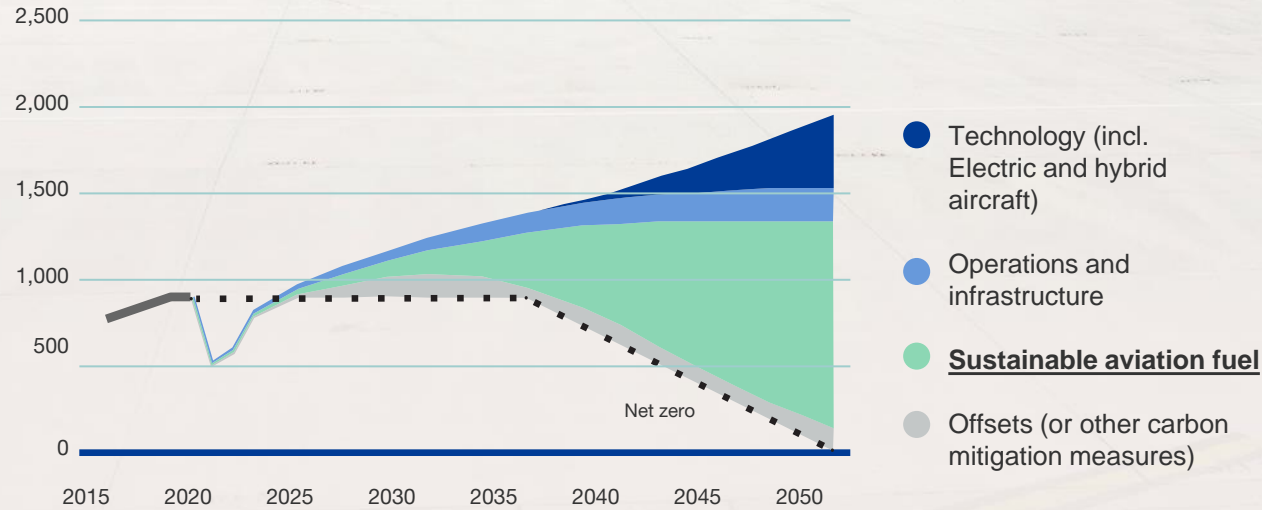


**March 3<sup>rd</sup> – BBC**

# Aviation needs to radically **reduce emissions** and accelerate SAF uptake to reach Net Zero ambition by 2050

## Aviation CO<sub>2</sub> emissions trajectory and reductions by measure

Mt CO<sub>2</sub>e



Despite other pathways, aviation continues to rely heavily on liquid jet fuel, **SAF today presents less than 1%.**

# Collaboration between stakeholders will be critical for SAF market growth



Corporate &  
Cargo  
providers

Airports

Airlines

Private  
customers

Fuel  
distributors

OEMs

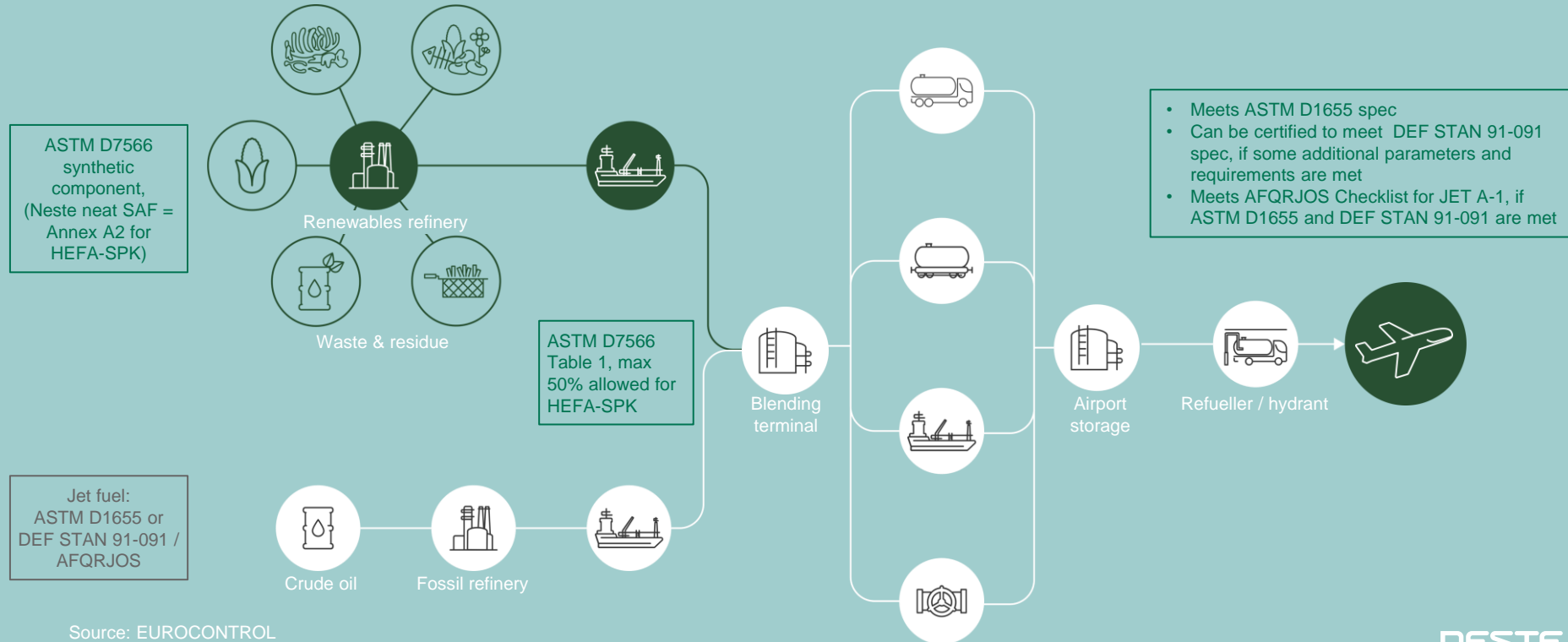
Industry  
associations

SAF  
producers  
(Neste)

NGOs

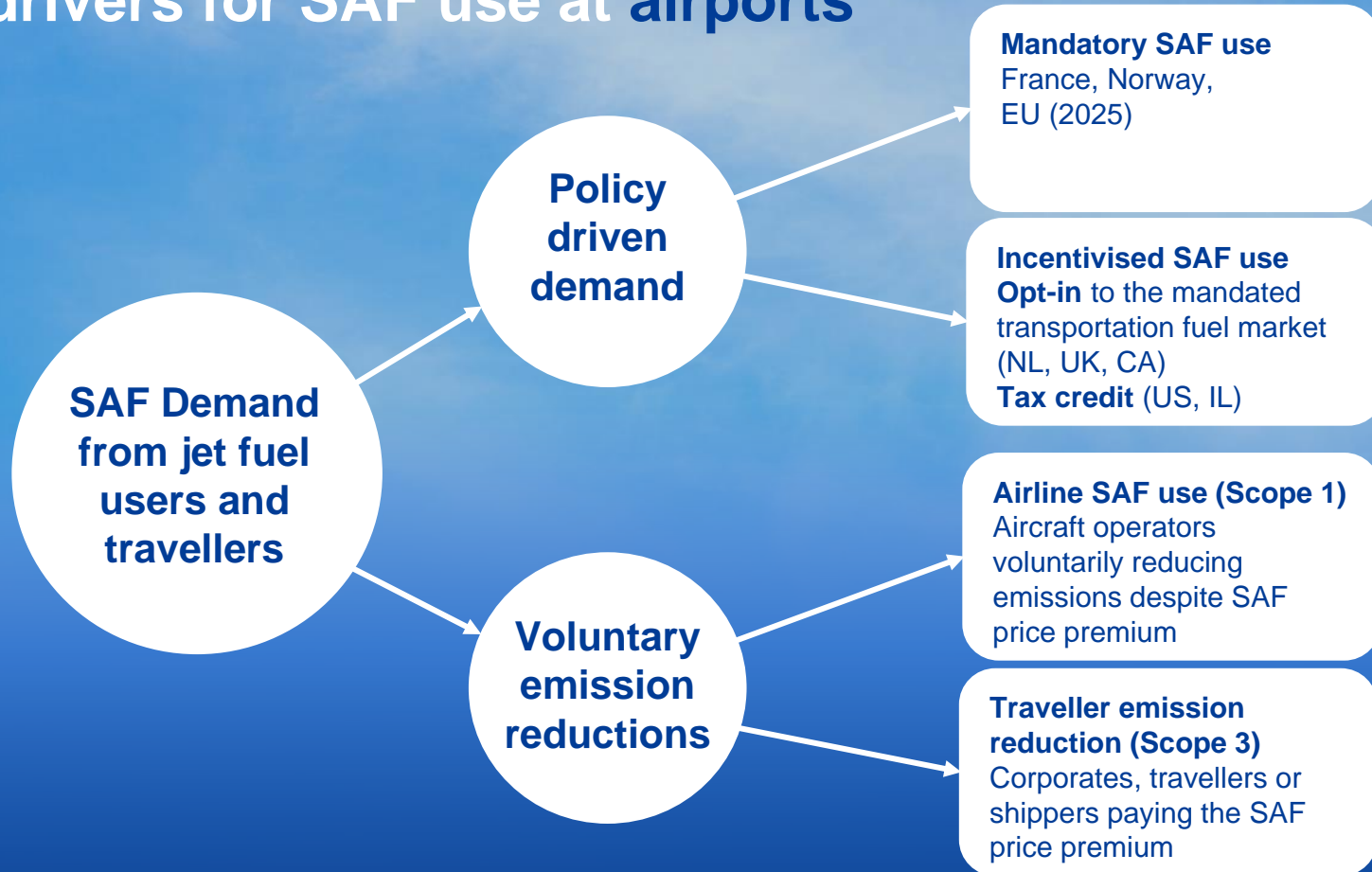
We work together with aviation stakeholders to enable wider use of sustainable aviation fuel

# SAF supply chain and quality certification from raw materials to airplane



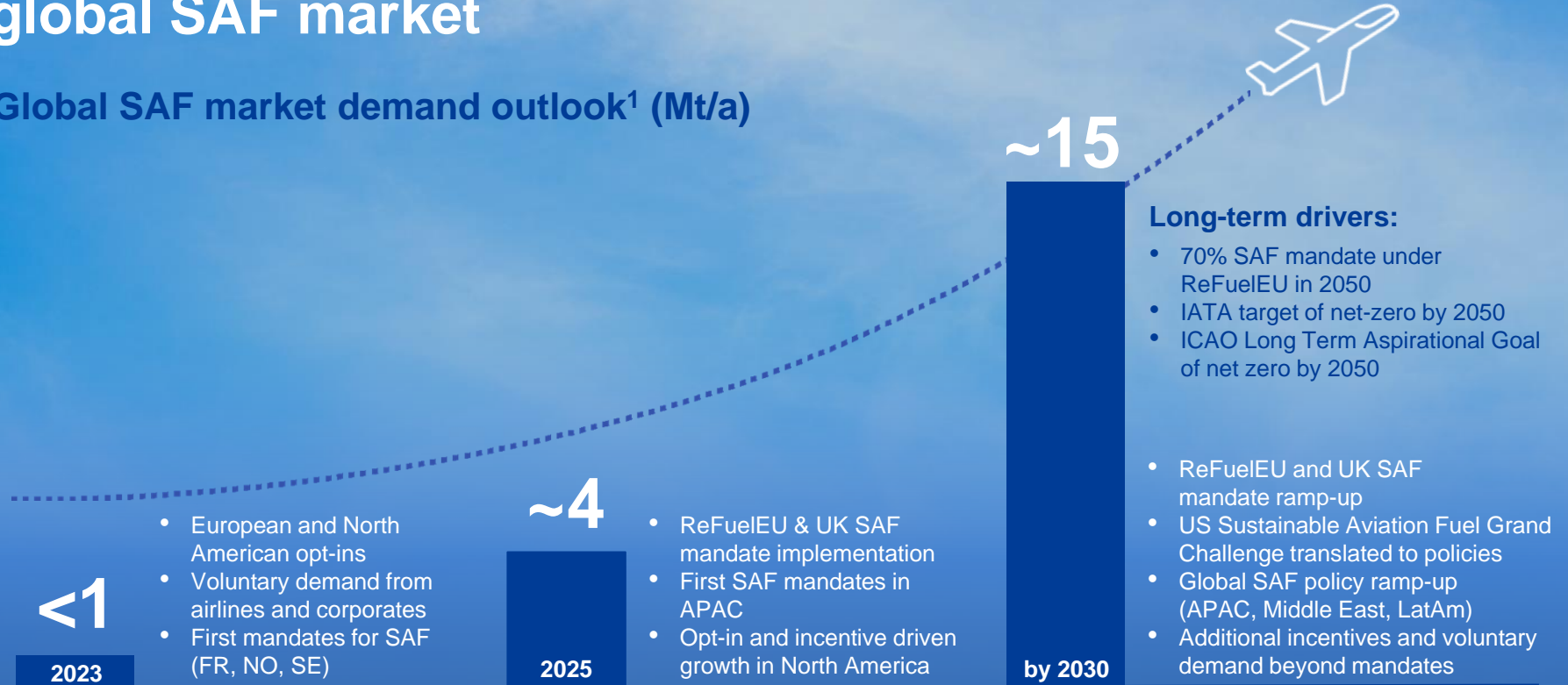


# Main drivers for SAF use at airports



# Regulations are driving the accelerating growth of the global SAF market

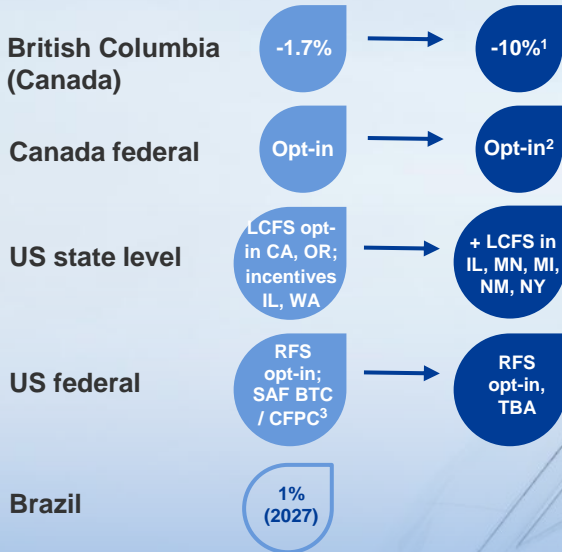
## Global SAF market demand outlook<sup>1</sup> (Mt/a)



1) Including opt-in into road mandates and voluntary demand. Source: Neste estimates.

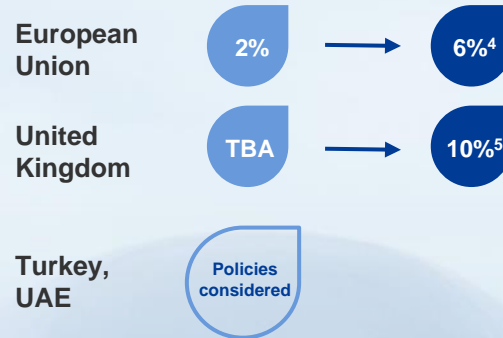
# Continuing growth of the SAF market will require policy support to create demand certainty for investments

## Americas



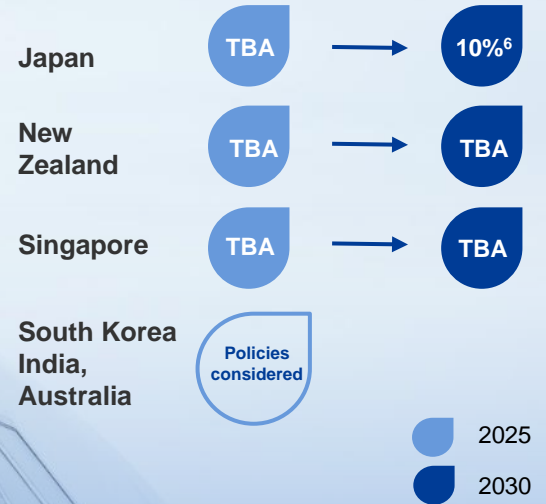
- Market growth in the US driven by a mix of federal and state level incentives (opt-ins and tax credits)
- British Columbia plans to implement an aviation specific emission reduction target
- First LatAm SAF mandate expected for Brazil

## EMEA



- SAF mandates in place (NOR, SWE, FRA) to be superseded by an EU-wide SAF mandate in 2025
- UK plans to follow similar timeline
- Policy discussion starting in the Middle East

## Asia Pacific

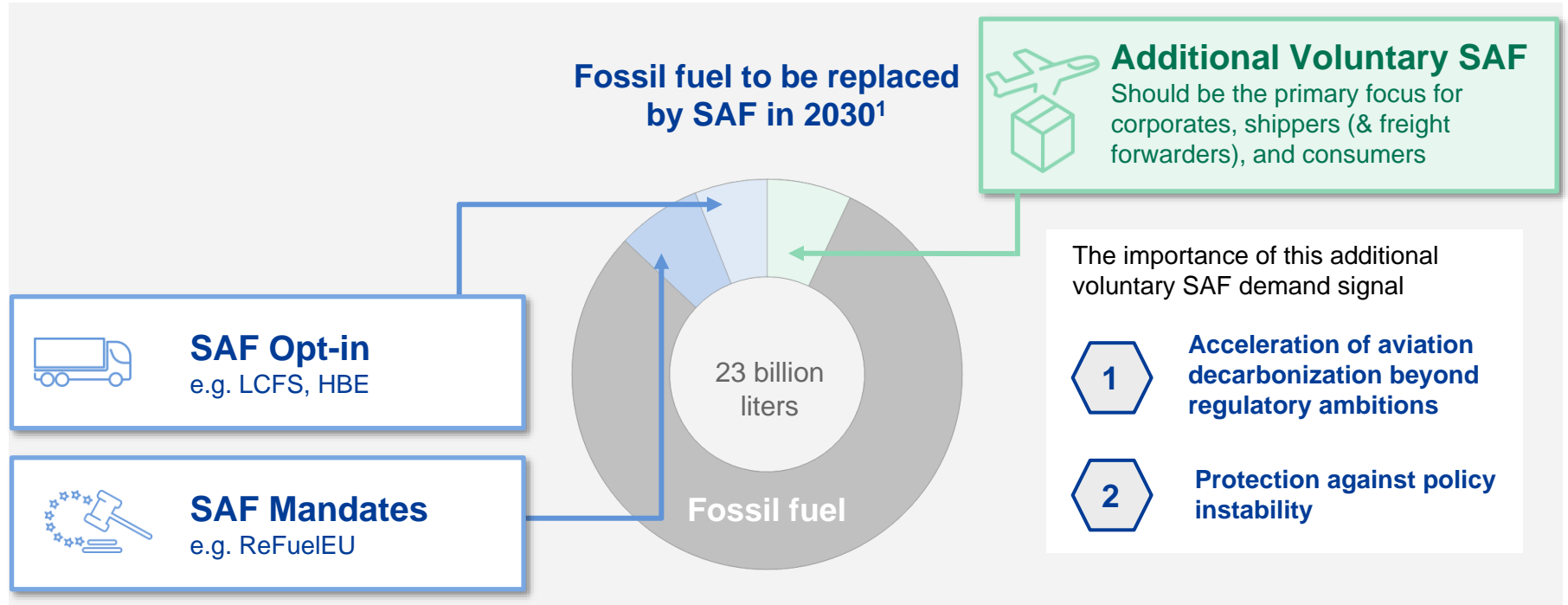


- Frontrunner countries such as Japan and New Zealand setting comparable targets and timelines for SAF adoption as Western peers
- SAF policy discussion spreading to an increasing number of countries



1) Intentions Paper proposal to introduce a carbon intensity reduction target for jet fuel starting in 2024, with -10% CI target in 2030; 2) Canada federal Clean Fuel Standard 3) BTC (Blenders Tax Credit) expected to change to a CFPC (Clean Fuel Production Credit) in 2025; 4) Provisional agreement on ReFuelEU Aviation with 2030 level of 6% including 1.2% RFNBO sub-mandate; 5) UK Net Zero Strategy; 6) METI proposal on May 26, 2023.

# To replace 23B liters of fossil fuel by SAF in 2030, we need end-customers to scale-up **Additional Voluntary SAF**



Note: Illustrative only - not in scale

1) IATA's guidance to Net Zero in 2050

# Path to reportable emission reductions from corporate air travel



Premium SAF price

Determine and share your carbon footprint and reduction targets with Neste

**Customer**



Customer emission reduction (Scope 3)

Indicate your global aviation footprint, we will deliver SAF to our partner aircraft operators

**Airlines**



Airline emission reduction (mainly Scope 1)

Verification / Audit (E2E process)



Delivering additional SAF volumes and GHG reduction



Reportable towards SBTi targets and GHG scope reporting



3rd party verification. No double counting.



Credible message on sustainability commitments to employees and stakeholders

**NESTE**



Fossil jet fuel price

SAF physical delivery

# Neste SAF production capacity to increase 15-fold by early 2024

**2019**

**100 kton SAF**

total global  
production  
capacity

**2024**

**1.5 Mton SAF**

total global capacity  
through investments in  
Rotterdam and  
Singapore

**2026**

**2.2 Mton SAF**

total global capacity  
through further  
investments in  
Rotterdam

**Beyond**

Continuing  
growth with current  
and new  
technologies

# Neste global supply chain capabilities and channel partners enable growth and serving diverse customer segments

Global supply chain has been expanded...

...to serve global customers across the key regions

Network of key airports where Neste MY SAF is available<sup>1</sup>

7

2021

>25

2023

Distribution and blending hubs

2

2021

5

2023

Pipeline deliveries

**US:** Colonial and Buckeye Pipeline, SFPP  
**Europe:** CEPS, CIM, Exolum UK

North America



Europe



APAC



● Airport with Neste MY SAF availability<sup>1</sup>

● Distribution and blending hub

Selected customers and channel partners:



<sup>1</sup> Including airports with over 1 million passengers where branded Neste MY Sustainable Aviation Fuel is available to airline customers, either directly from Neste or via a channel partner; Neste MY SAF is also available at several smaller and general aviation airports.

**Next time you board a flight...**

**It's a joint mission**

**...Think how you and your company need to be part of the movement for sustainable aviation!**