

# Sustainable Aviation Fuel, LCAF, and Cleaner Energies: Development and Deployment

Second Arab Forum  
Environmental Protection -  
ACAO

# Presentation Agenda

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Global Commitment

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ICAO CAAF/3 outcome

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Regional / national policies – 2030

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Airline commitments – 2030

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Production outlook – 2030

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Production today

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Role of policy in upscaling and deploying SAF

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Way Forward

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Our commitment:

**TO ACHIEVE NET ZERO CARBON EMISSIONS BY 2050**

Target aligned with Paris Agreement goal  
to keep global warming under 1.5 °C  
Aimed at keeping the benefit of global  
connectivity for future generations

# Background: IATA's Net Zero 2050 Pledge



*“Global civil aviation operations will achieve net-zero carbon emissions by 2050, supported by accelerated efficiency measures, energy transition and innovation across the aviation sector and in partnership with governments around the world.”*

- F** A transition away from fossil fuels by mid-century as part of a wider aviation energy shift.
- T** Research, development and deployment of evolutionary and revolutionary airframe and propulsion systems (potentially electric and hydrogen )
- O** Continued improvements in efficiency of operations and infrastructure across the system.
- M** Investments in high-quality offsets in the near-term and carbon removals opportunities to address residual CO<sub>2</sub> emissions in the longer-term.

Commitment by the full air transport sector:



Supported by innovation and action throughout the supply chain:



# From Industry Commitment to UN Approval

**IATA Net Zero 2050  
Pledge Committed**

**2021**

**ICAO Long-Term  
Aspirational Goal  
(LTAG) is Adopted**

**2022**

The confirmation of the UN aviation body, ICAO, aligning themselves with the Long-Term Aspirational Goal was a landmark agreement for the aviation industry. In attaining this approval from over 190+ member state countries, it represented:

- A firm global commitment from governments toward aviation's Net Zero 2050 goal
- A clear recognition and acceptance that SAF would be the key driver of achieving the success of the goal

# ICAO CAAF/3 outcome

## What is the Global Vision?

**5% CO<sub>2</sub> emissions reduction** in international aviation by 2030 through SAF and LCAF

What does this mean?

- **682Mt of CO<sub>2</sub>** expected to be produced by international flights in 2030
- **34Mt** CO<sub>2</sub> should be reduced through SAF & LCAF and other clean energies
- This corresponds to ~ **14 Mt SAF (With the REF 75%)**

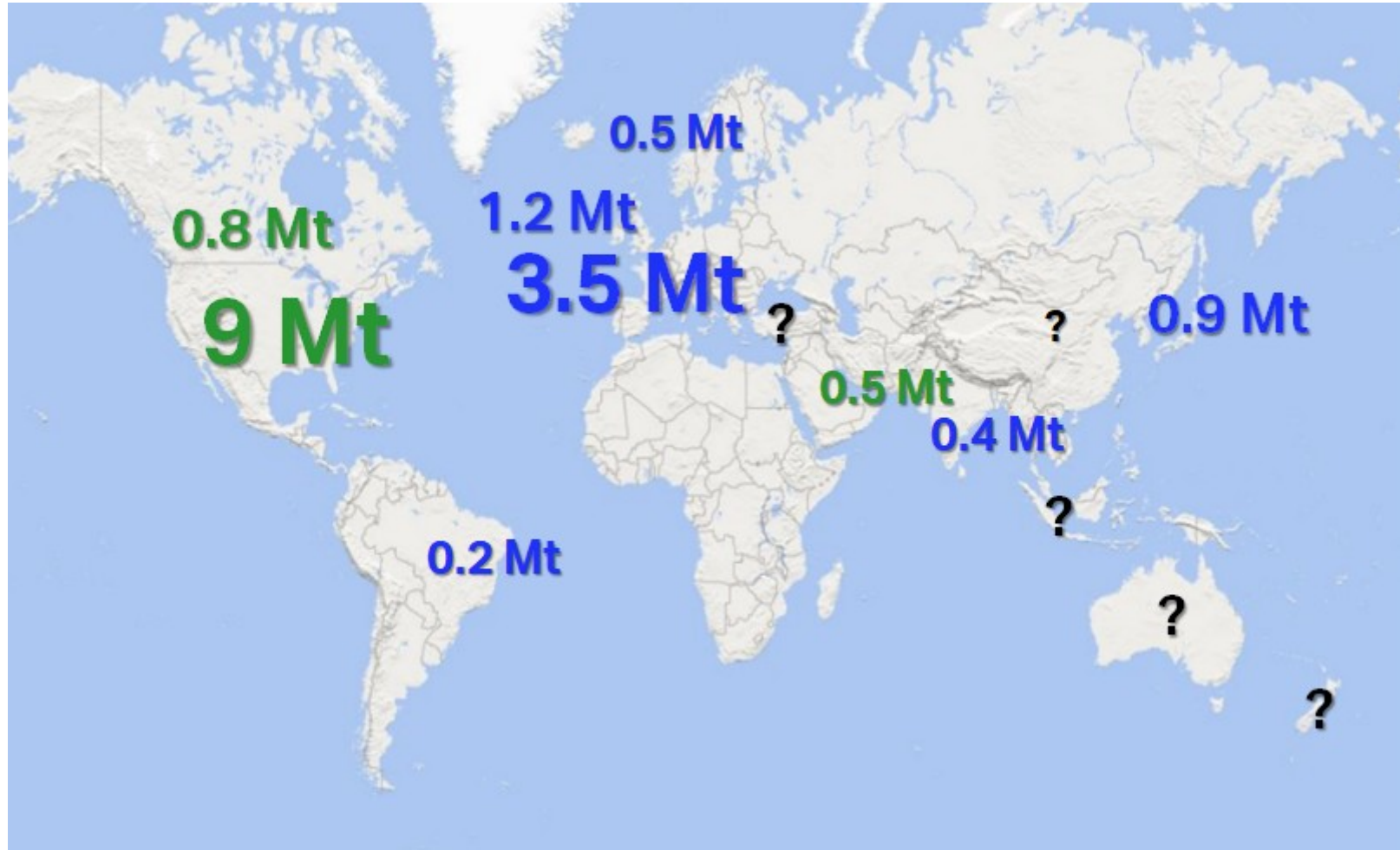
Mt: million tonnes; 1 tonne = 1,250 liters

ERF: Emission reduction factor

## How?

- A global policy framework to promote SAF production
- Capacity building, including a “Finvest Hub”
- Recommendations for robust SAF accounting framework

## 2. Regional / national policies – 2030



**10.3Mt** through incentivizing policies: government / industry collaboration

**6.7Mt** through mandates: government imposed targets on industry

# 3. Airline commitments - 2030

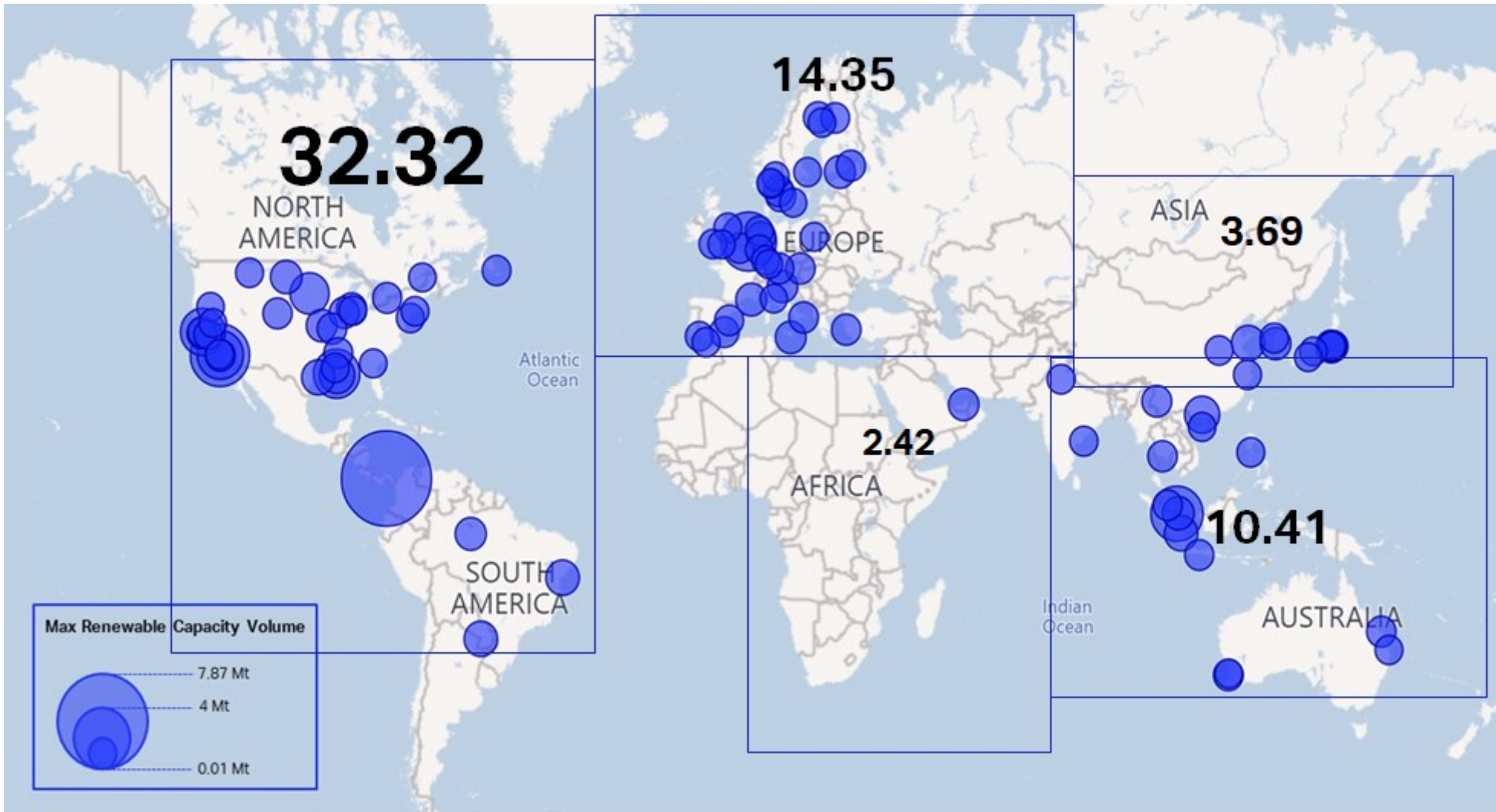


**43 airlines**  
around the globe  
have SAF  
voluntary  
commitments /  
agreements

Corresponding to  
**~13 Mt of SAF**  
use by 2030



# 4. Production outlook – 2030



Global forecast for Renewable Fuel capacity **~63 Mt**

**We need ~25-30% SAF output**

# 5. SAF production today

Year	2019	2020	2021	2022	2023e	2024f
<b>Estimated SAF Output (Mt)</b>	<0.02	0.05	0.08	0.24	<b>0.45-0.5**</b> (625 million liters or 3% RF output)	1.5*** (1.875 bn liters or 6% RF output)
<b>Global Jet Fuel (Mt)*</b>	287	157	189	233	<b>286*</b>	301
<b>SAF % of Global Jet Fuel</b>	<0.01 %	0.03%	0.04%	0.1%	<b>0.2%*</b>	0.5%

\* IATA Economics

\*\* Based on current insights; Q4 2023 numbers to be confirmed in retrospect in Q1 2024

\*\*\* Based on current projections and assumptions that delayed 2023 capacity will fully commercialize in 2024

2023 SAF  
Production:  
**~0.5Mt of SAF  
in 2023**  
**Average SAF  
output only**  
~3% of total  
Renewable Fuel  
output  
Need incentives for  
optimal SAF output



# Effective SAF policies should be able to:

- Scale up SAF supply
- Enhance the price competitiveness of SAF to CAJ
- Assist SAF facility operation
- Recognize SAF environmental benefits
- Create structural SAF demand
- Promote R&D of new production technology (pathways) and the required supply chain.

# We need to see more:

- Standalone policy options to attract capital to expand SAF supply
- Policy efforts to reduce disincentives to produce SAF relative to other renewable fuels
- Mandates paired with program design and fiscal measures to help reduce the cost gap between SAF and CAJ
- Policy consistency, harmonization, and stackable options.

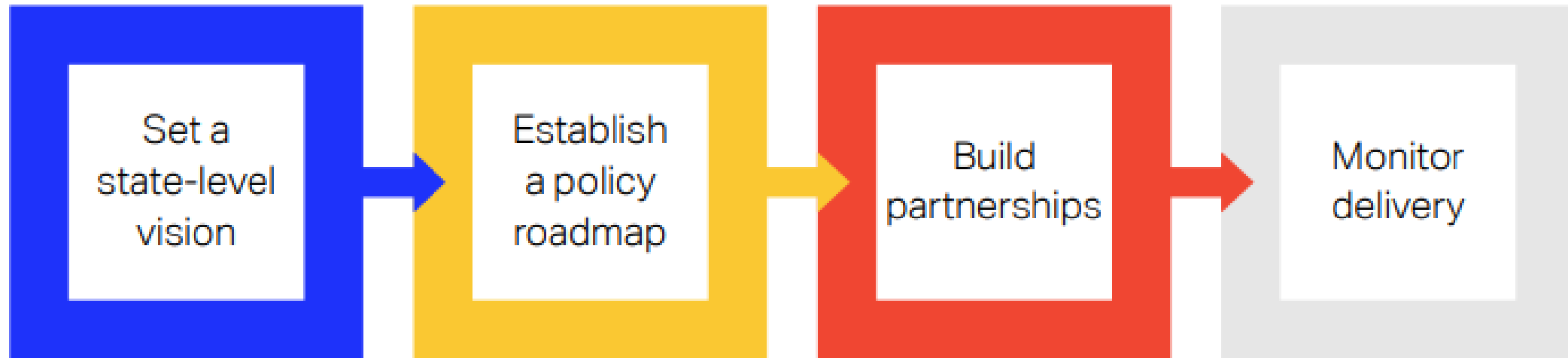
# Policies must be



- ✓ Harmonized
- ✓ Technology-agnostic
- ✓ Stable and predictable
- ✓ Aligned to strategy
- ✓ Discussed among all stakeholders

# Policy Needs for Setting a Framework

Chart 1: Steps for creating a national policy framework



Source: IATA Sustainability and Economics



## Policy Needs for Each Development Stage

### **Policies for creating new markets**

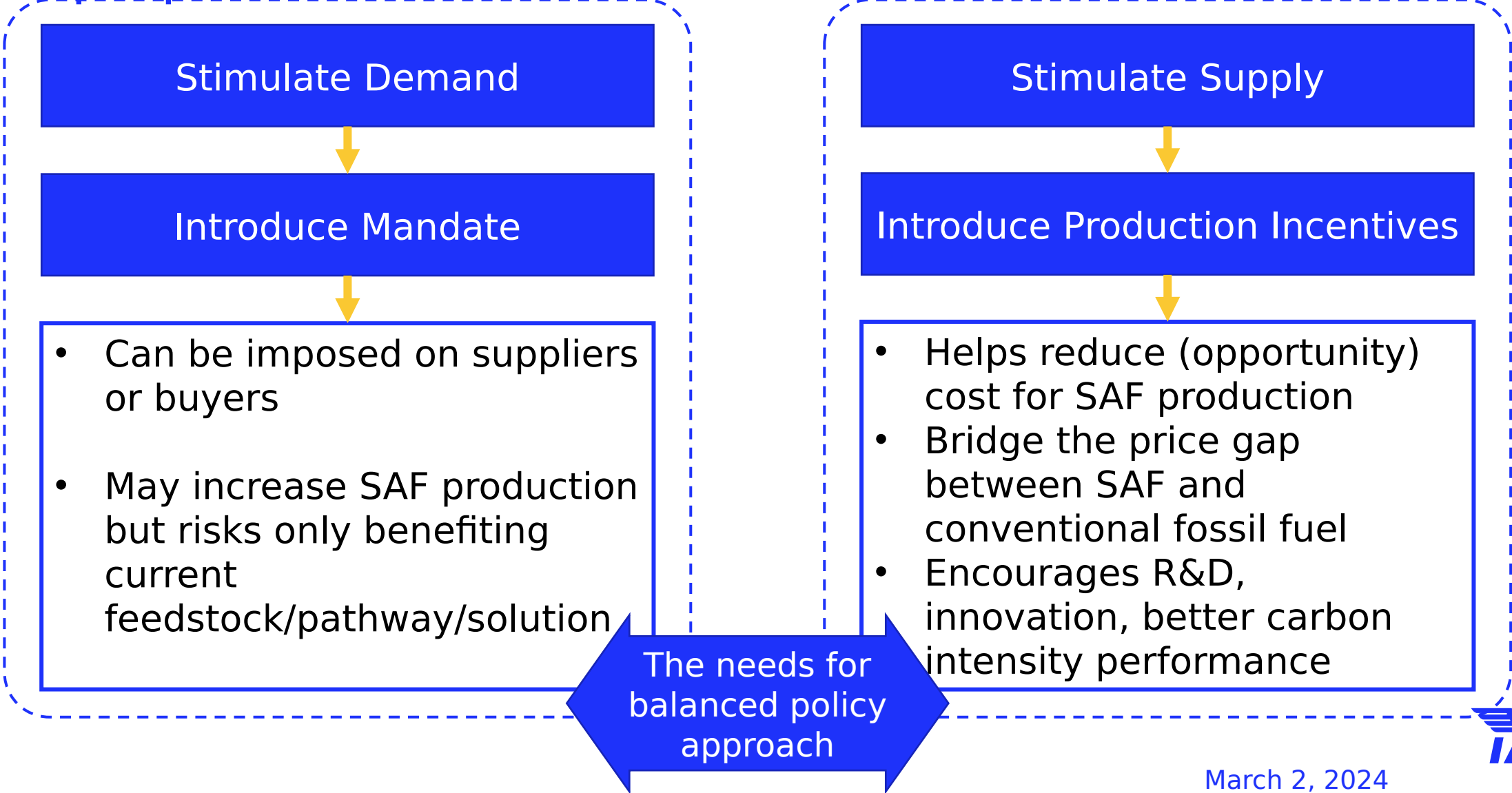
- Unblock institutional barriers
- Incentivize research and development
- Seek harmonization

### **Policies for building market capacity**

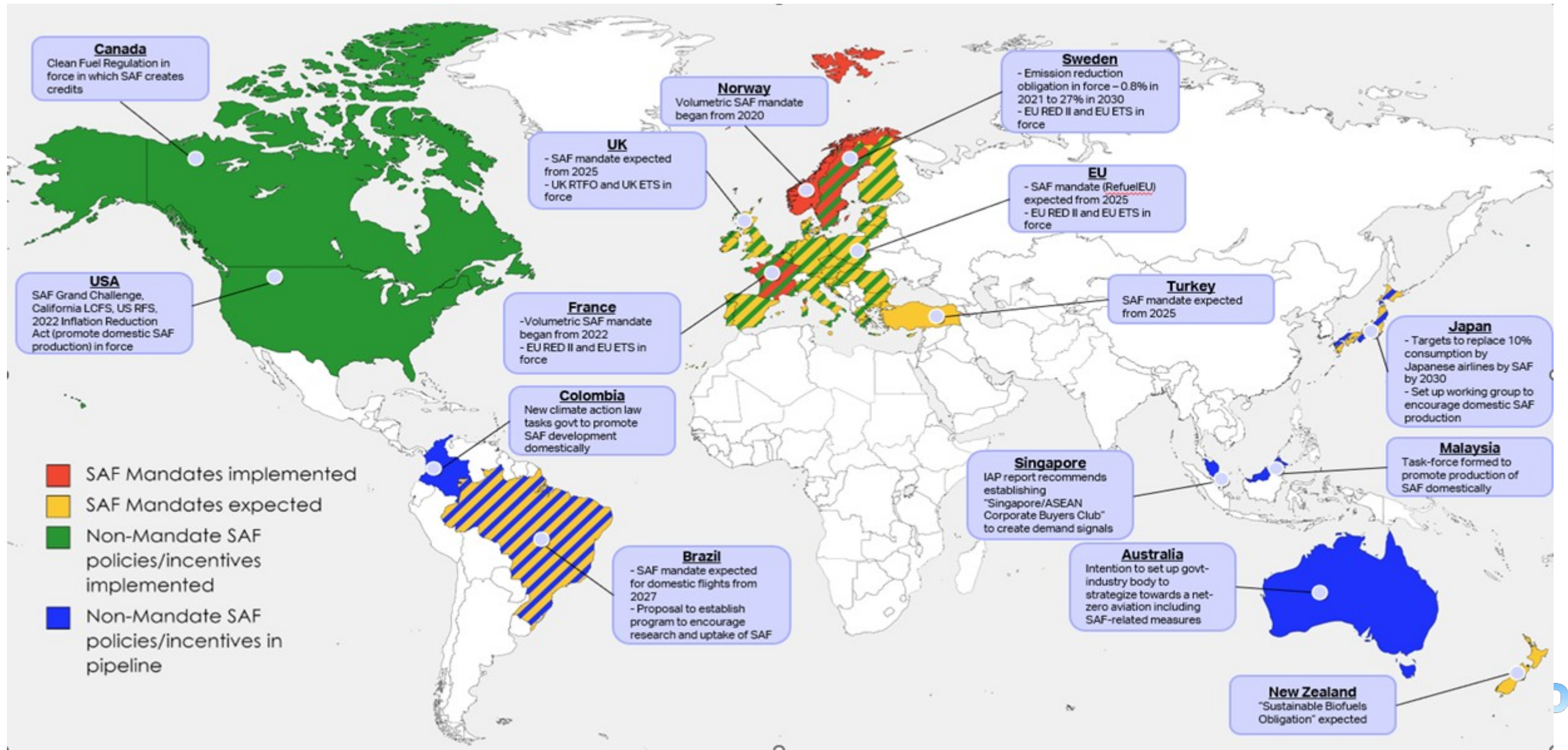
- Give clear and consistent policy signals
- Incentivize and support production and deployment



# Appropriate Govt Policy: Central in driving the SAF ramp-up



# SAF Policy Landscape: Mandates vs. Incentives





# Essential for continued progress

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Accelerated **investment** into sustainable aviation fuels by traditional and new fuel companies

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Government **incentives** to facilitate optimal SAF outputs from renewable fuel refineries

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Regional **diversification** of feedstock and SAF production

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Use and recognition of global **SAF Accounting framework** by all parties

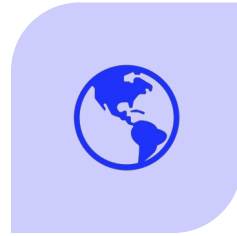
# Call to Action!



FACILITATE  
COOPERATION AND  
PROMOTE PUBLIC-  
PRIVATE PARTNERSHIPS



WORK TOWARDS  
REMOVING BARRIERS TO  
THE REALIZATION OF A  
COST-COMPETITIVE SAF  
MARKET



PROMOTE THE GLOBAL  
HARMONIZATION OF  
SUSTAINABILITY  
CRITERIA FOR SAF



SUPPORT THE  
DEVELOPMENT OF SAF  
INDUSTRY, BY DE-  
RISKING EARLY  
INVESTMENTS  
INCLUDING ATTRACTING  
INVESTMENT



IMPLEMENT SAF  
RESEARCH PROGRAMS  
AIMED TO EXPAND SAF  
FEEDSTOCKS AND  
PRODUCTION PATHWAYS



# Thank You

