

RMI is a global, independent nonprofit organization of over 600 diverse experts working to accelerate the clean energy transition. We are transforming the global energy system to secure a clean, prosperous, zero-carbon future for all.



RMI's Work Focuses on Four Key Areas to Accelerate Net-Zero Aviation



SAF Supply

Expand high-integrity SAF production



SAFc Demand

Mobilize corporate and airline commitments for SAF procurement



Contrails

Address the full climate impact of aviation and advance solutions



Net-Zero Airports

Develop infrastructure for next-generation aircraft and fuels



SAF Market Overview



Two macro factors underpin growth of SAF market

1

Mandates

Minimum Blended SAF and Synthetic Aviation Fuel Shares for Flights Departing EU Airports (2025–2050)

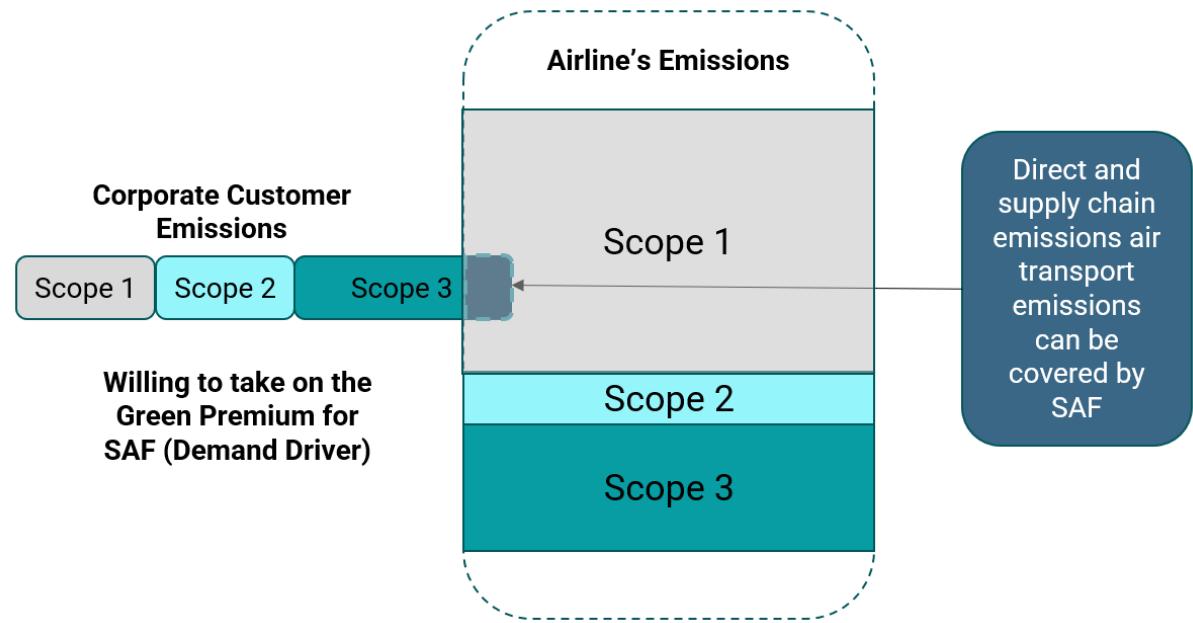
Year	SAF (%)	eFuels (%)
2025	2	-
2030	6	1.2
2032	6	2
2035	20	5
2040	34	15
2045	42	20
2050	70	35

- The escalating SAF quotas provide a clear trajectory for industry growth, signaling **long-term commitment to sustainable aviation**.
- Penalty structures **make non-compliance costlier than meeting mandates**, encouraging suppliers to prioritize SAF blending.
- Asia Pacific nations will soon follow suit with mandates of their own – this is **not just a European phenomenon**.

2

Voluntary Market

Overlap in an airline's Scope 1 emissions and a Corporate Customer's Scope 3 Emissions

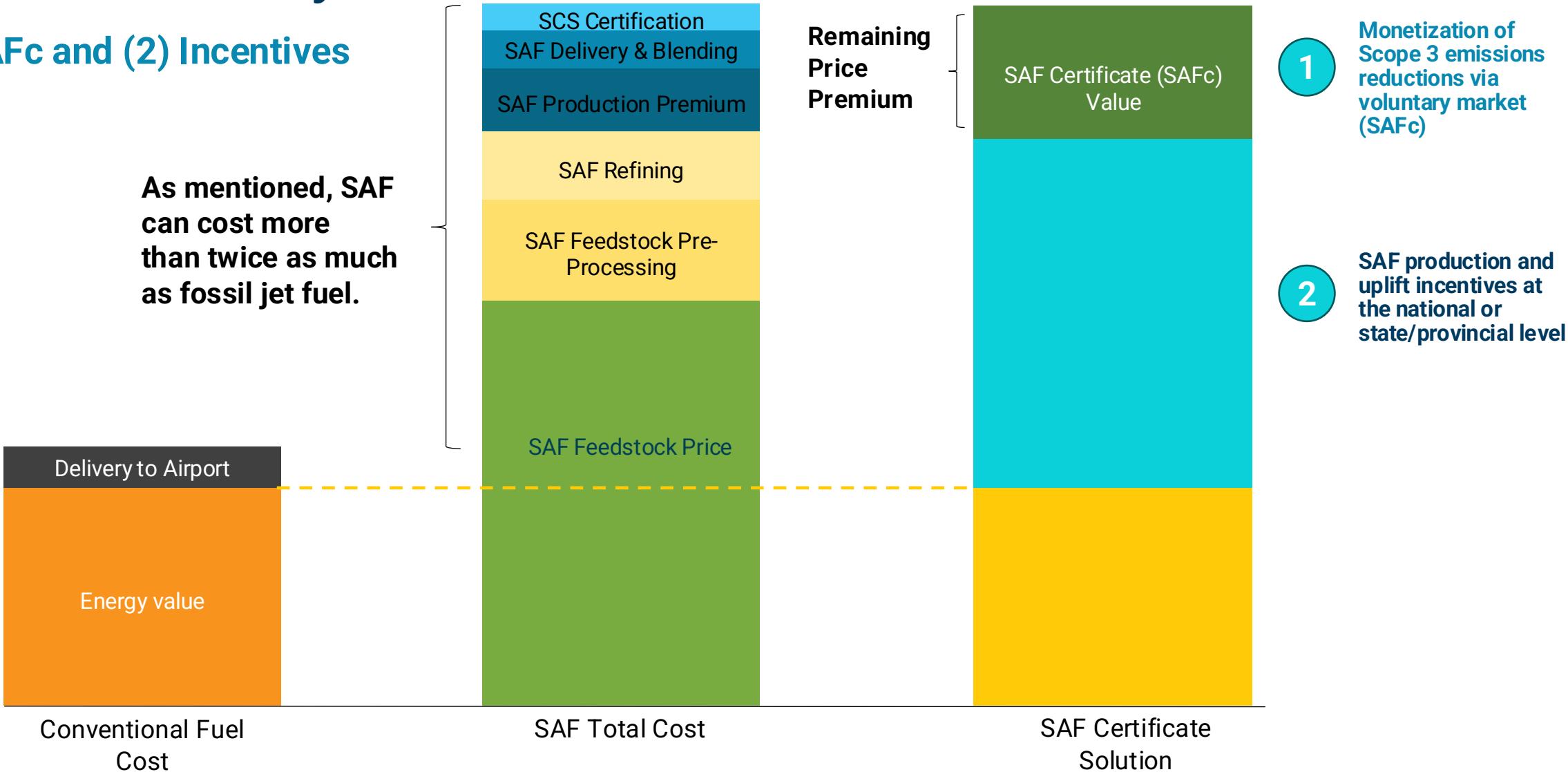


- Voluntary SAF programs **enable corporate customers to reduce Scope 3 emissions from business travel, aligning with airlines' Scope 1 reductions** and enhancing reputational value.
- Airlines gain diversified revenue streams, increased brand loyalty, and stronger partnerships with ESG-focused corporations, **boosting their market appeal and resilience**.
- Investing in voluntary SAF markets **helps airlines mitigate regulatory risks, secure access to international routes**, and prepare infrastructure for future carbon compliance.

What can be done to address the price gap between Jet-A and SAF in a voluntary market?

(1) SAFc and (2) Incentives

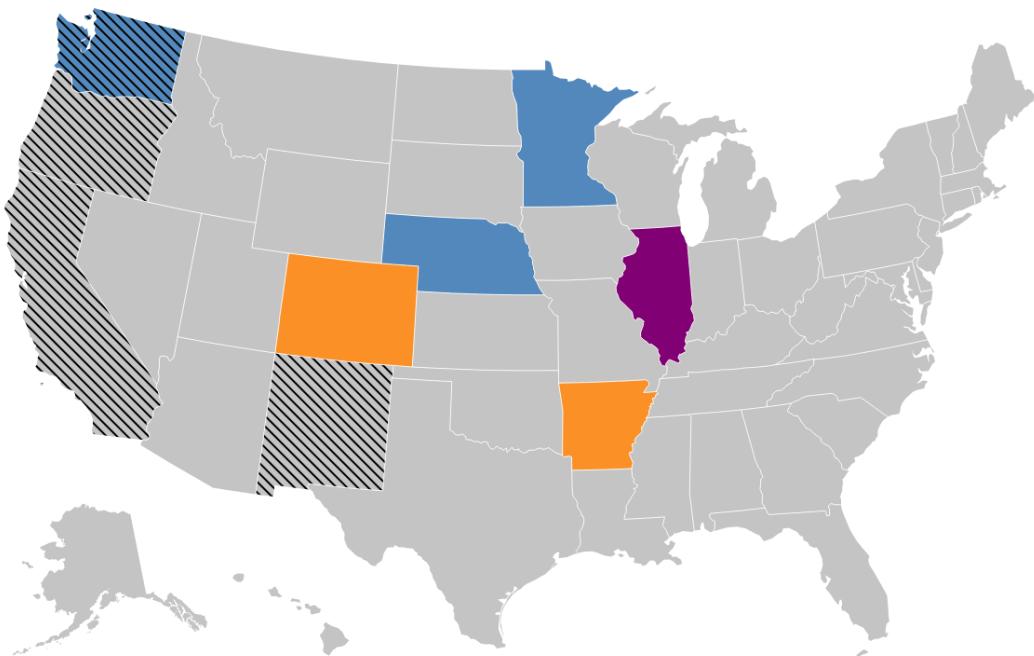
% of conventional fuel cost



Federal incentives and state-level incentives are in place for SAF and can be stacked on top of each other

Active State Level SAF Policy

No State Policy Infrastructure Incentive Supply Incentive Demand Incentive LCFS Market



Map: RMI • Created with Datawrapper

Federal

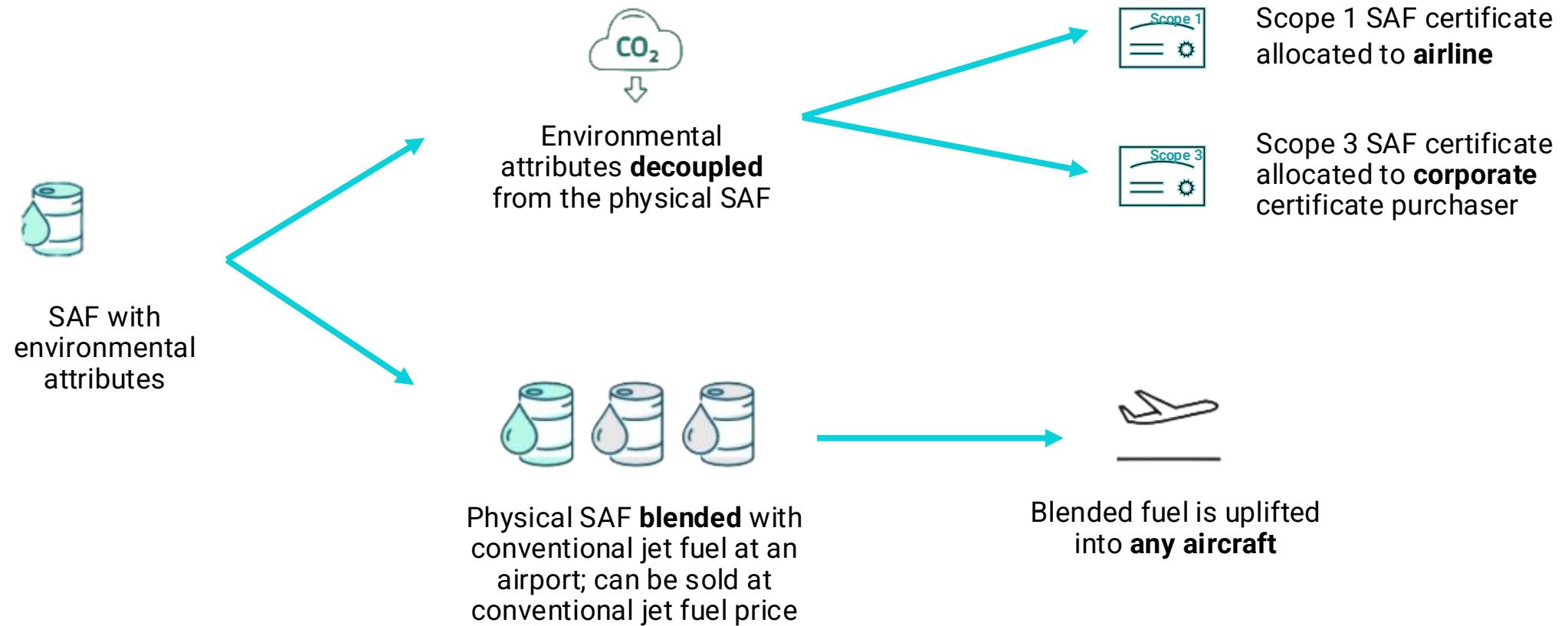
- Federal incentives currently provide revenue to producers, including generating **RINs** through the **Renewable Fuel Standard (RFS)** and qualifying for additional **45Z tax credits** from the **Inflation Reduction Act (IRA)**.

State

- A **low-carbon fuel standard (LCFS)** places a cap on the CI of transportation fuels.
 - Fuel producers and importers earn credits for achieving a lower-than-required CI and sell them to regulated parties unable to meet the cap.
 - Jet fuel is not a mandated fuel in active LCFS markets, meaning it does not generate deficits, but SAF can be used to generate credits.
 - States: California, Oregon, Washington, New Mexico
- Non-LCFS **direct supplier incentives** are production credits per gallon of SAF blended and/or consumed
 - Some states only require in-state blending (NE), while others require both blending and consumption within their borders (WA & MN)
 - States: Washington, Nebraska, Minnesota
- A **demand-side incentive** is a credit per gallon of SAF purchased for use in-state. Only one currently exists, and it does not require in-state blending
 - State: Illinois

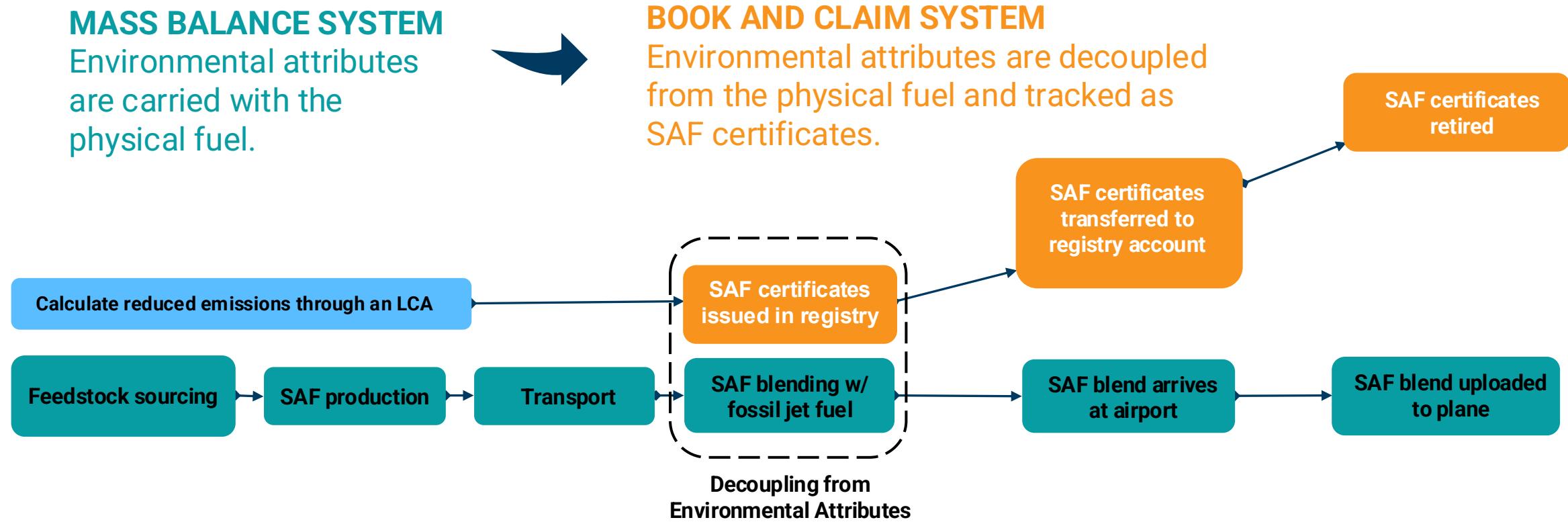
How does this airline-corporate customer transaction of emission reductions actually happen?

SAF Certificates (SAFc) allow corporates to provide direct investment to fuel producers and fuel purchasers to close the cost gap while both receiving environmental credit.



SAFc Credibility Lies in Strong Market Infrastructure

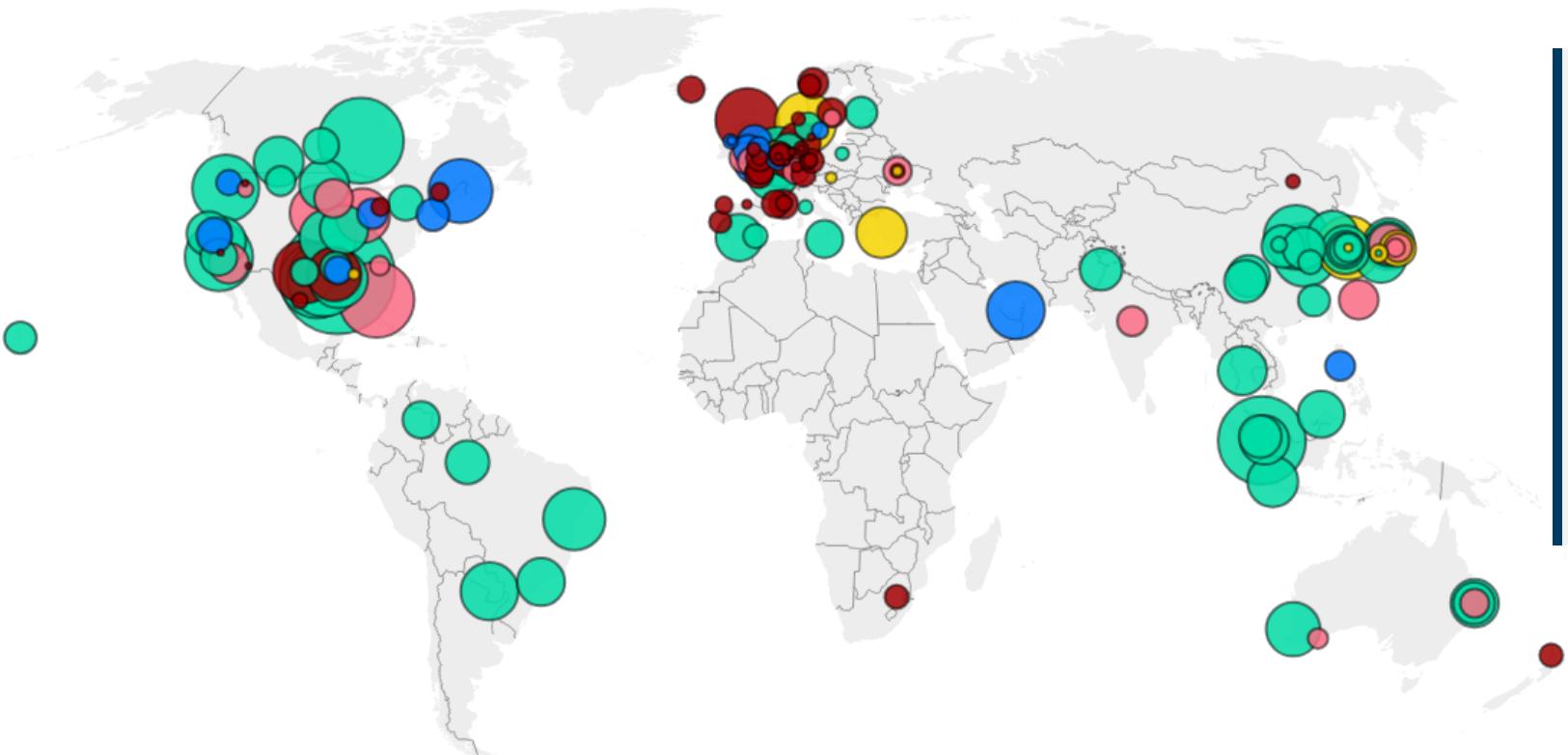
The environmental attributes of a fuel are certified, registered, and retired through a robust book and claim infrastructure system to prevent error and fraud. Making claims that do not stand up to scrutiny can bring reputational risks to corporates, airlines, etc.



Announced SAF capacity for 2030 suggests growth – 9.5 billion gallons expected vs. ~2 billion current capacity

■ Other ■ AtJ ■ G-FT ■ HEFA ■ PtL

MGal/yr
○ 60
○ 250
○ 600



KEY TAKEAWAYS

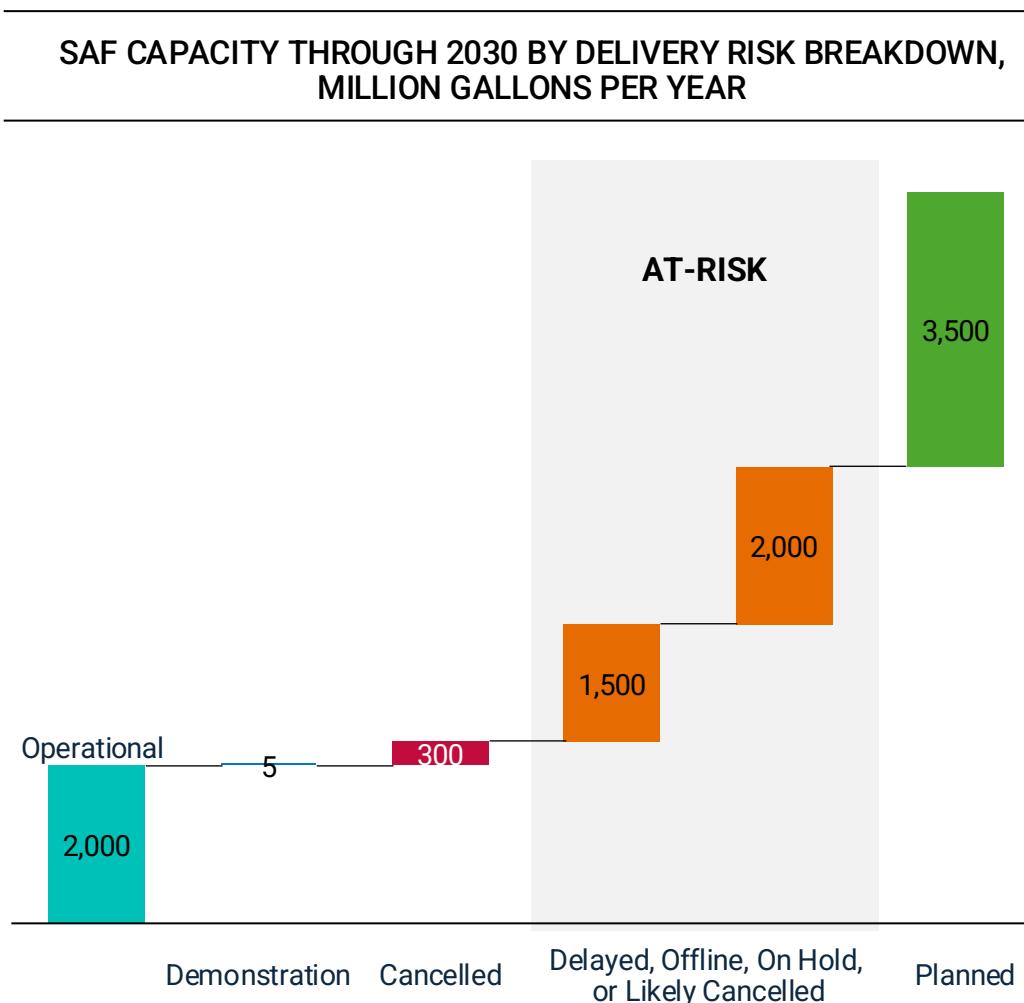
- HEFA is leading the way in project announcements
- Announcements are generally concentrated in regions with policy support (either mandates or incentives)
- Announced capacity is not the same as production, now and in the future

Source: Argus • Created with Datawrapper

Note: Not all projects have announced capacity. Co-Processing sites appear under "other" on the map but are not a part of 9.5-billion-gallon calculation.

Announced capacity is not guaranteed – about 40% is at risk of non-delivery

Capacity can be at-risk due to feedstock, technology, infrastructure, policy, and/or finance hurdles



FEEDSTOCK, TECH & INFRA HURDLES

- Limited feedstock availability and sustainability constraints
- Technology readiness gaps, for non-HEFA pathways incl. low yields & scale challenges
- Delays in permitting & certification (ASTM or EPA/CARB) and Underdeveloped SAF logistics (blending, storage, airport delivery)

POLICY HURDLES

- Inconsistent global mandates for SAF blending or sustainability criteria.
- Export/import regulatory friction esp. with carbon accounting

FINANCE HURDLES

- Unclear price signals & long payback periods for producers
- Insufficient de-risking capital (esp. for FOAK) because of weak or novel offtake contracting precedence (short duration, non-binding, airlines' limited creditworthiness)
- Regulatory risk exposure, Carbon credit value volatility (LCFS, 45Z, RINs, ETS)



RMI Resources



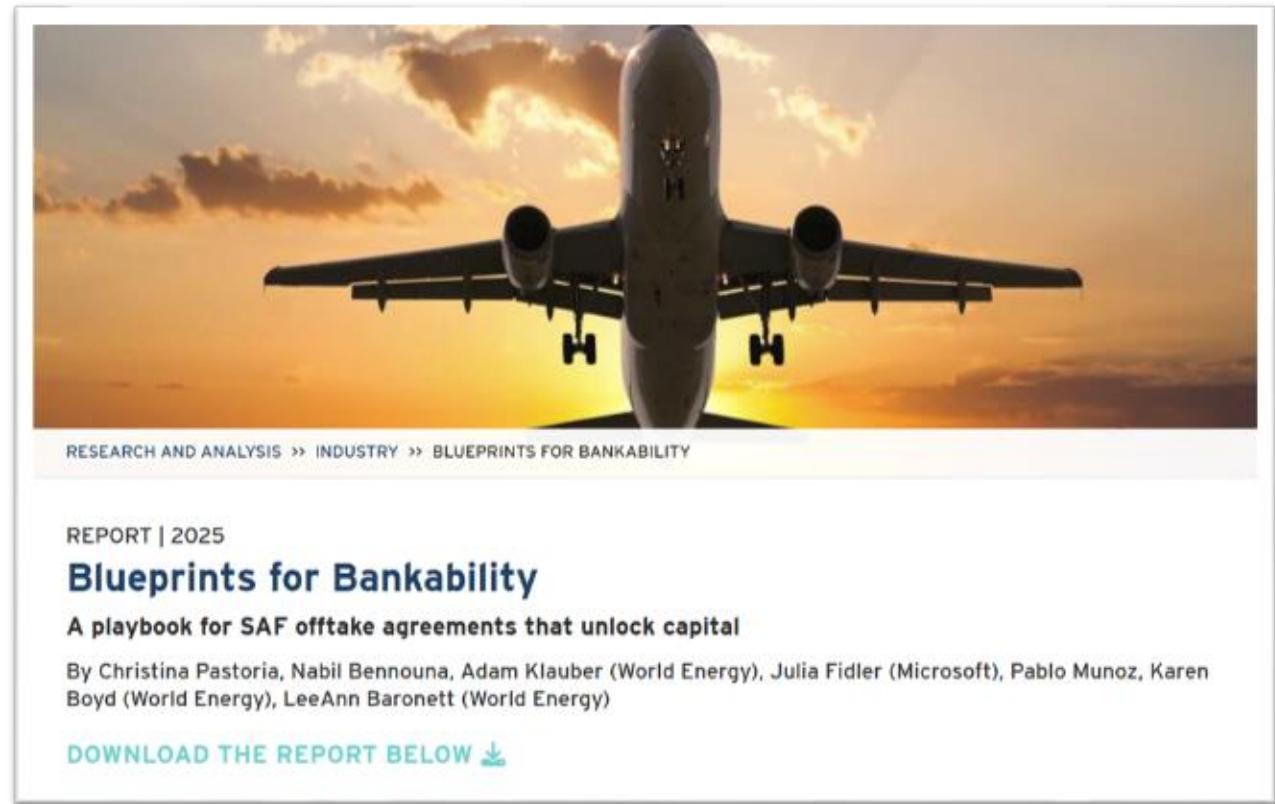
RMI recently published “Blueprints for Bankability” playbook

What are banks looking for; and how can SAF offtake agreements structure themselves to unlock more private capital?

Many SAF projects still struggle to secure low-cost debt, even when offtakers are willing to commit.

This playbook lays out five practical insights to help buyers, developers, and financiers design offtake structures and supporting infrastructure that make SAF projects more investable:

- Corporate clients enable risk-sharing and unlock scale.
- Contracts should give lenders what they need.
- Book and Claim transfer can power SAF deals.
- Tradability is the goal, not commoditization.
- Contracted cashflow stability for both EACs and physical fuel is critical.



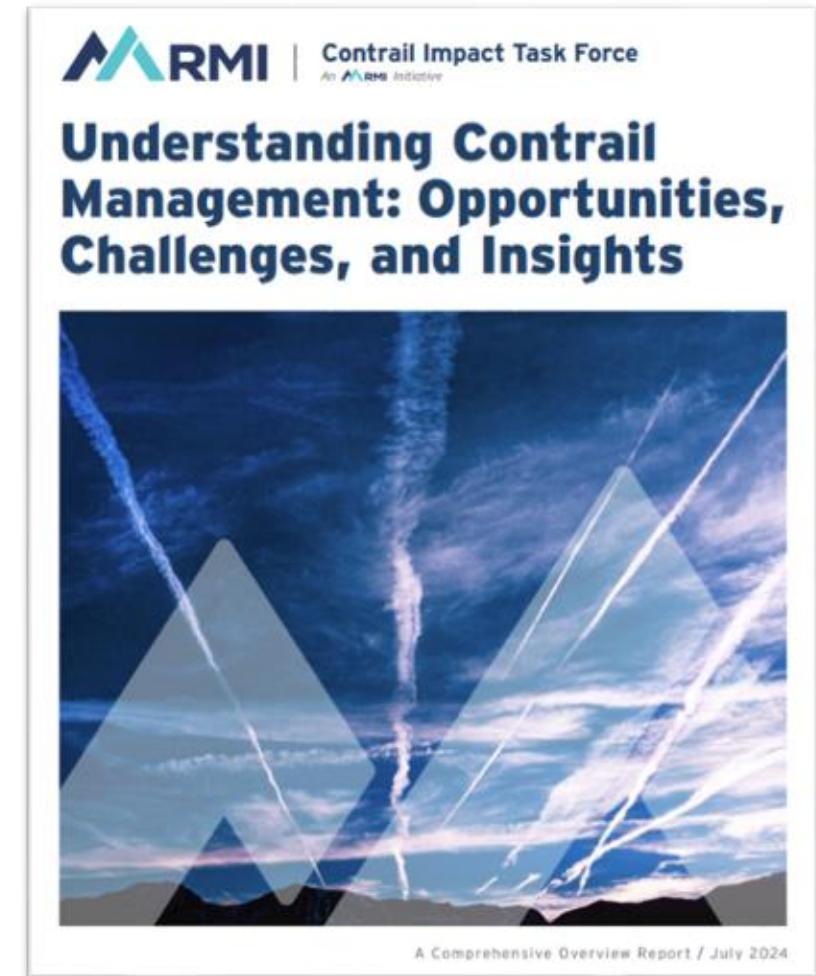
<https://rmi.org/insight/blueprints-for-bankability/>

Contrails: Mitigating Contrail Impacts on Climate

Objective: Significantly reduce climate warming impact from aviation contrails through operational adjustments.

What we have done so far:

- Release first of its kind report that examines the state of the science and the mitigation of contrails and provides a comprehensive overview of the current approaches and efforts to better understand and address their significant climate impact.
- Report was created in collaboration with participants of the RMI-convened Contrail Impact Task Force, which comprises stakeholders across the aviation sector, including industry organizations, airlines, academic institutions, nongovernmental organizations, private companies, and government entities.
- Convened seven Contrail Impact Task Force workshops since 2022 to disseminate contrail climate impact research and mitigation trial findings.

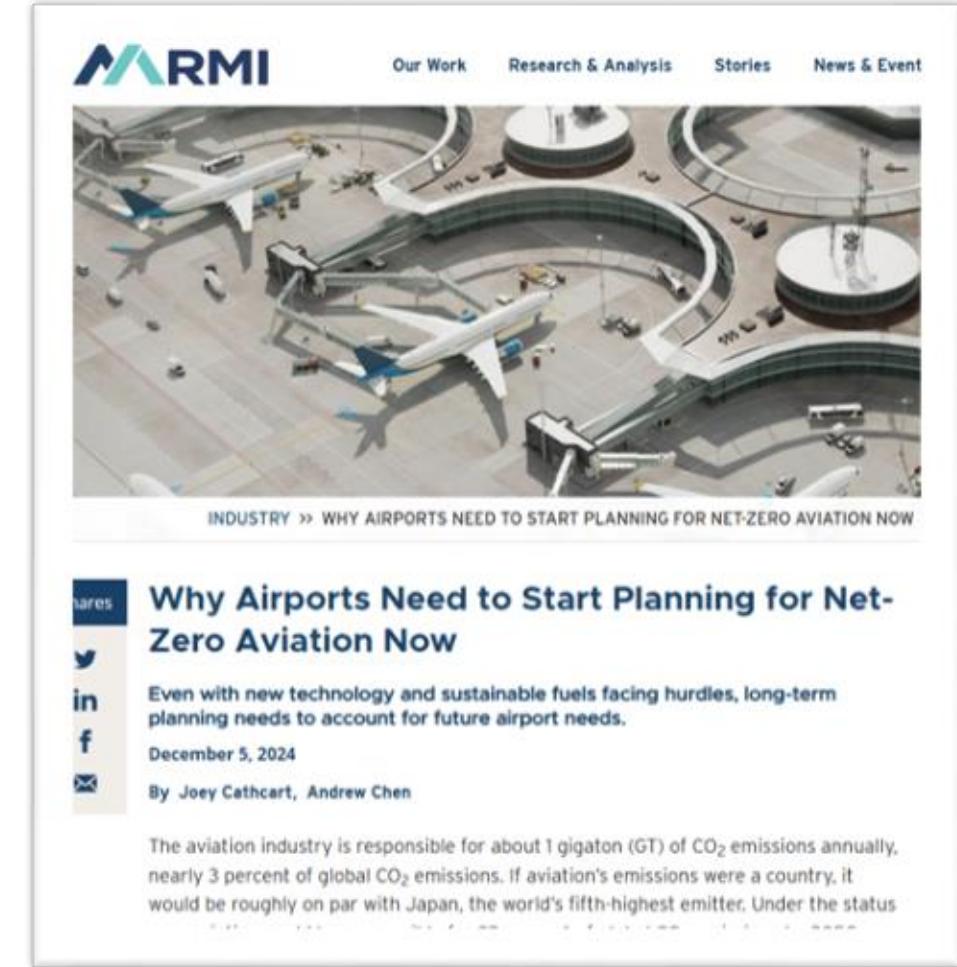


Net-Zero Airports: Enabling Infrastructure for H2 and Electric Aviation

Objective: Facilitate infrastructure planning/implementation to support deployment of the next generation of net-zero aircraft.

What we have done so far:

- Series of facilitated workshops with airports, airlines, OEMs, fuel producers, utilities and policymakers on regional net-zero airport planning in Utah and Colorado
- Collaboration with Rocky Mountain regional stakeholders and policymakers on regional roadmap development for net-zero aviation
- Supported the development of a white paper on hydrogen adoption in California's aviation sector
- Developed a preliminary hydrogen aviation route analysis model to assess projected demand



The screenshot shows the RMI website with the title 'Why Airports Need to Start Planning for Net-Zero Aviation Now'. The page features an aerial photograph of an airport terminal with several aircraft parked at gates. Below the image is a sub-headline: 'Even with new technology and sustainable fuels facing hurdles, long-term planning needs to account for future airport needs.' The author is listed as 'By Joey Cathcart, Andrew Chen'. A summary at the bottom states: 'The aviation industry is responsible for about 1 gigaton (GT) of CO₂ emissions annually, nearly 3 percent of global CO₂ emissions. If aviation's emissions were a country, it would be roughly on par with Japan, the world's fifth-highest emitter. Under the status quo, that number is projected to grow to 2.5 GT by 2050.'



Thank You!

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