



Adam Klauber

Vice President of Sustainability & Digital Supply Chain at World Energy LLC

2024 Individual Leadership Award

World Energy is a low-carbon solution pioneer working with leading companies to help meet their net-zero commitments. With sustainable aviation fuel, clean hydrogen, advanced biofuels, World Energy is collaborating to decarbonize the hardest-to-abate sectors, and was the world's first commercial-scale sustainable aviation fuel producer. Today, World Energy is investing over \$15 billion into major new projects in California, Texas, and Newfoundland to help leaders accelerate their efforts to make net-zero real.

The company's current annual emissions reductions, resulting from the reduced life-cycle carbon intensity of products across World Energy's portfolio, are over 500,000 metric tons of carbon dioxide. This will increase to over 6 million tons annually by 2028.

Adam's has a pioneering role in World Energy's decarbonization services. His efforts enable novel carbon emissions mitigation in air transport and amplify the impact of the voluntary market – an approach that can work across all hard-to-abate industries. He collaborates across the aviation value chain and has built a robust ecosystem of support for voluntary climate actions in aviation and beyond, to accelerate the uptake of renewable fuels and increase trust in digital supply chains.

Key Activities:

Historic Book & Claim SAF contracts, Commercial Co-lead and Sustainability lead

In 2023, Adam pioneered historic long-term contracts for the environmental attributes associated with sustainable aviation fuel (SAF) with both Microsoft, DHL, and World Fuel Services. These contracts were the first long-term agreements for a virtual product called Sustainable Aviation Fuel certificates (SAFc) and they established a precedent for corporate Scope 3 customers to sign off-take commitments to renewable fuel producers. This type of contract will accelerate capital investments like the virtual Power Purchase Agreements (vPPAs) did for solar and wind. Adam played a crucial role in cultivating customer relationships and shaping the commercial terms of the contract regarding environmental attribute transfer. Ultimately, these two agreements totaled over 300

million SAF gallons over 10 years and will result in over 3 million MTCO_{2e} in life cycle emission reductions.

Global NGO Leadership, Board Chair

Adam serves on the Board of Directors of the Roundtable on Sustainable Biomaterials (RSB) a global NGO and standards body that advances market solutions for a bio-circular economy and creates rules around sustainability certification and verification. He was elected to the Board in 2022 and chosen as Chair in Spring of 2023. Adam has contributed global strategy for the organization's Book & Claim activities, recruiting board candidates for sustainable finance and sustainable materials expert roles, and helping to expand North American fundraising.

Global Market Based Measure Coalition, Champion and Co-founder

Smart Freight Centre (SFC) and Rocky Mountain Institute's (RMI) Book & Claim Community formed to establish robust requirements for carbon insets, including a carbon accounting system, registry interoperability, and direct engagement with the Greenhouse Gas Protocol and Science Based Targets initiative (SBTi) to gain acceptance for mitigation. Adam was the champion of a 2022 Climate Week Book & Claim workshop facilitated by the SFC that included the World Resources Institute (WRI), SBTi, and RMI. Based on the success of that workshop, SFC and RMI formed the Book & Claim Community in 2023 to advance carbon insetting for hard-to-abate industries, and Adam serves on the board as a co-founder.

Sustainable Aviation Buyer's Alliance (SABA), Co-founder and sustainable aviation fuel technical expert

Sustainable Aviation Buyer's Alliance (SABA), a collaboration between RMI and Environmental Defense Fund (EDF) with over 20 corporate members, is the first corporate buyer's group for SAF. The group promotes sustainability standards for SAF feedstock, establishes an industry-leading registry, and pools buying power for scaling SAFc procurement. In 2020, Adam, then at RMI, identified the idea of SABA with Annie Petsonk and Kelley Kizzier from EDF. He helped to develop the program within the Secretariat working with Kim Carnahan, and serving as the RMI technical lead on aviation and SAF. SABA was publicly launched in 2021.

Sustainable Aviation Fuel Certificate (SAFc) concept, Lead author

The SAFc Framework Report was a pioneering report on the SAF credit system with the World Economic Forum, PwC Netherlands, and contributors across the aviation value chain. SAFc is the unit of trade used by SABA and their registry (the SAFc registry) and has become the accepted term for sustainable aviation credits.

Key Milestones:

2019 – Adam worked with colleagues Ned Harvey at RMI and Christoph Wolfe at the World Economic Forum to launch the “Clean Skies for Tomorrow” (CST) Program to address aviation climate impacts. Adam developed the agenda and workshop table discussion topics for CEO participants at the World Economic Forum’s annual meeting in Davos. After Davos, Adam chose to lead the CST “Demand Signal” workstream, tasked with determining how voluntary payments could scale the industry. At a San Francisco Presidio workshop that Adam led, participants agreed that a credit instrument could be developed for SAF that generated multiple beneficiaries (Scope 1 and 3).

2020 – Seeing the tremendous impact of the Clean Energy Buyer’s Alliance (CEBA) that RMI started with the EDF, Adam contacted EDF and pitched a collaboration to create an aviation buyer’s group. The Demand Signal stakeholders, aerospace, airline, airport, SAF suppliers, and NGO representatives continued to support the program remotely through the pandemic.

2021 – SABA was publicly launched, and Adam continued to lead the CST Demand Signal group and finalized the SAF certificate framework report explaining how “Book & Claim” transfers ownership of the environmental attributes separate from the physical fuel. Adam was an expert reviewer for the MIT/Smart Freight Centre’s aviation insetting accounting guidance report. To understand the causes of the SAF supply shortage firsthand, Adam joined World Energy, leading sustainability initiatives and working with the World Energy team to further develop the SAFc framework.

2022 – At World Energy, Adam advanced acceptance of “Book & Claim” through a NYC Climate Week workshop with WRI and SBTi, and helped develop a transparent long-term contract for different SAF agreements that incentivizes improved SAF carbon intensity. He worked with JetBlue to supply SABA with its first SAFc for members, and he pitched and managed the first net-zero flight with Etihad during COP27.

2023 – Adam worked with Evident (20+ years running registries in the renewable electricity markets) to ensure that an experienced registry operator supported aviation and develop the Fly-I registry which will provide recognition for long-term contracts for SAFc. He also proposed guidance to the United Nations International Civil Aviation Organization (ICAO) group to ensure that policy requirements match the lifespan of the renewable fuel asset.

Thought Leadership:

COP 27 World First Net-zero Flight with Etihad Airlines Youtube Panel Recording, 2022

https://www.youtube.com/watch?v=caNr9wRLTcY&ab_channel=OfficeOfTheUAESpecialEnvoyForClimateChange

Adam managed the “net-zero” flight partnership with World Energy and Etihad Airlines as part of the United Nations Climate Change Conference (COP27). The flight reduced carbon output by 260 MTCO_{2e} through delivery of SAFc via Book & Claim transfer.

Lead Author – SAF Certificate Framework. Published, 2021

[Powering Sustainable Aviation Through Consumer Demand: The Clean Skies for Tomorrow Sustainable Aviation Fuel Certificate \(SAFc\) Framework | World Economic Forum \(weforum.org\)](#)

This article was the product of two years of collaboration between airlines, aerospace manufacturers, airports, corporate air transport customers, and NGOs. The SAF certificate was viewed as a tailored renewable energy credit for the aviation sector that could enact sharing benefits between the airlines and their customers, and enable potential for virtual supply chains via Book & Claim.

Co-Author and SAF credit thought leader, SFO SAF Feasibility Study, San Francisco International Airport, 2019

https://www.flysfo.com/sites/default/files/SFO_Sustainable_Aviation_Fuel_Feasibility_Study_Report.pdf

In this report, Adam contributed the R-SAF (resilient-sustainable aviation fuel) concept which served as the building block for the SAFc in the 2021 Clean Skies for Tomorrow report referenced above. The R-SAF concept is intended to equip airports to contribute to SAF’s cost premium to generate additional funding needed to cover the cost premium.

Lead Author – Innovative Funding for Sustainable Aviation Fuels and U.S. Airports, RMI with Seattle-Tacoma, 2018

https://www.portseattle.org/sites/default/files/201803/RMI_Sustainable_Aviation_Innovative_Funding_SAF_2017.pdf

As the lead author of this report, Adam led the team that evaluated creative revenue and payment options for airports to pay for SAF’s premium. The core concept was that voluntary contributions could deliver meaningful funding for sustainable aviation fuel. Seattle-Tacoma used the report to propose the first SAF mandate for airlines in the United States.

Lead Author - Sustainable Aviation Fuels: An Airport Approach, United Nations ICAO 2016 Environmental Report

https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2016/ENVReport2016_pg159-162.pdf

This article was the first publication that described the potential for airport involvement with SSAF. It was the basis of the voluntary market-based measures including the SAFc concept that followed.