

Module SAF Basics Topic Book-and-Claim Fundamentals

Introduction

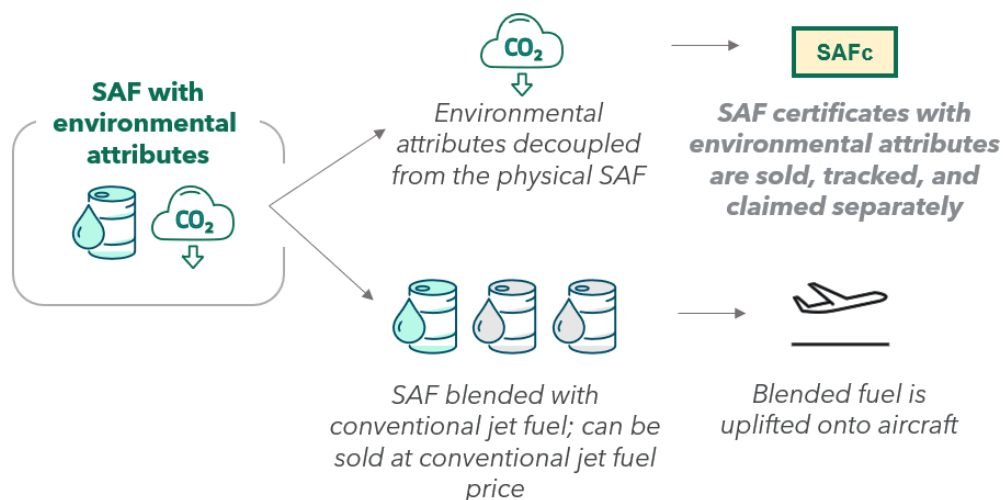
A “book-and-claim” chain of custody model allows the decoupling of physical SAF from its environmental attributes, similar to the renewable energy certificate (REC) and Guarantee of Origin (GO) systems used in several countries. Book-and-claim for SAF is different than with RECs, however, in that both the scope 1 (air transport providers) and the scope 3 (aviation customers) environmental attributes can be booked and claimed. Separately booking scope 3 attributes allows aviation customers who do not purchase physical fuel to purchase the environmental attributes from SAF for use toward their voluntary climate targets. These attributes are codified in SAF certificates (SAFc), whose value typically corresponds to the SAF “green premium,” i.e. the incremental price of SAF compared to conventional jet fuel.

As a result of book-and-claim, companies who are aviation customers can support the uptake of SAF through SAFc purchases even if they do not purchase physical fuel.

What is the book-and-claim chain of custody model?

A book-and-claim chain of custody model is a process whereby the environmental attributes of a low-emission transport fuel or other climate solution are decoupled and tracked separately from its physical delivery as it moves through the supply chain, as shown in Diagram 1.

Exhibit 1: Book-and-Claim for Aviation



In a book-and-claim system for aviation, the environmental attributes of SAF are decoupled when the SAF is blended with conventional jet fuel. At the point of blending, the environmental attributes of the SAF – including the lifecycle emission reductions when compared to conventional jet fuel – can be “booked” in an electronic ledger in the form of a SAFc.

The environmental attributes of SAF apply equally to scope 1 and scope 3 emitters. More specifically, SAFc enables aircraft operators to make reduction claims for their direct scope 1 emissions from SAF combustion and simultaneously allows aviation customers to do the same for their indirect scope 3 emissions from air travel and goods transport. For any given volume of SAF, the emissions reductions associated with the use of SAF can be claimed by a scope 1 claimant and a scope 3 claimant, so long as the SAFcs are linked to one another and the underlying volume of SAF.

SAFc allows aircraft operators to reduce their scope 1 emissions even if they do not have physical access to SAF at the airports they serve. Similarly, the corresponding, linked SAFc representing the scope 3 emissions can be used by aviation customers to make reduction claims for their indirect scope 3 emissions, even if the actual flights carrying their passengers and freight do not burn SAF.

Finally, for a book-and-claim model to work, there needs to be a registry system in place that ensures the credibility, transparency, and standardization of SAFcs. There are a handful of SAFc registries available and in development today with the purpose of serving as a ledger for the issuance, transfer, and retirement of SAFc. Registries that are recognized by an International Civil Aviation Association (ICAO)-approved [Sustainability Certification System](#) (SCS) are strongly recommended, as they follow a common, robust set of rules that protect the environmental integrity of the SAFc.

What problem does book-and-claim solve?

For many companies that have set ambitious climate targets, employee air travel or transport of goods by air is a significant source of Scope 3 emissions. However, while SAF is the most viable solution to decarbonize aviation today, companies with aviation-related Scope 3 emissions cannot directly purchase physical SAF as they don't buy jet fuel. Nor is it feasible to limit employee travel or freight transport to flights fueled by SAF, as SAF makes up less than 0.1% of jet fuel today and is available at a small number of airports globally.

At the same time, SAF supply remains constrained largely due to its significantly higher cost of production compared to conventional jet fuel. This “green premium” is a barrier to scale the availability of SAF.

With the book-and-claim model, corporate aviation customers can support the “green premium” of SAF production by purchasing scope 3 environmental attributes associated with a particular volume of physical SAF in the form of SAFcs. This brings the cost of SAF to parity with conventional jet fuel for aircraft operators and sends a demand signal to producers so they can confidently invest in expanding SAF supply.

In this way, the book-and-claim model bridges the gap between corporate demand for decarbonized air travel and transport and SAF suppliers to finance the expansion of a nascent market and accelerate the path to aviation decarbonization.