Decarbonizing the **Aviation Industry** with **C3**

Industry's State and Future

The aviation industry is a vital pillar of global connectivity. However, it is also accounting for over 2.5% of global CO_2 emissions. When factoring in non-CO_2 effects, such as contrails and high-altitude emissions, its climate impact is even more significant. The sector faces growing pressure to decarbonize, most notably:

- **CORSIA**: The Carbon Offsetting and Reduction Scheme for International Aviation aims to stabilize CO_2 emissions from international flights at 2020 levels through various measures.
- **EU ETS:** Aviation is already included in the EU ETS for intra-European flights, with discussions to expand its scope and tighten regulations.

Abatement Challenges

- **CapEx**: Investing in aircrafts with improved fuel efficiency or alternative propulsion systems demands significant capital, new models can cost billions of euros.
- **OpEx**: SAF as drop-in solution can reduce lifecycle emissions by up to 80%, but is 2 to 5 times more expensive than conventional jet fuel, substantially increasing operational costs.
- **Infrastructure**: Scaling SAF production and distribution networks at airports requires major investment and industry-wide coordination.
- **Compliance**: Meeting CORSIA and EU ETS necessitates either direct emission reductions or the purchase of carbon offsets.

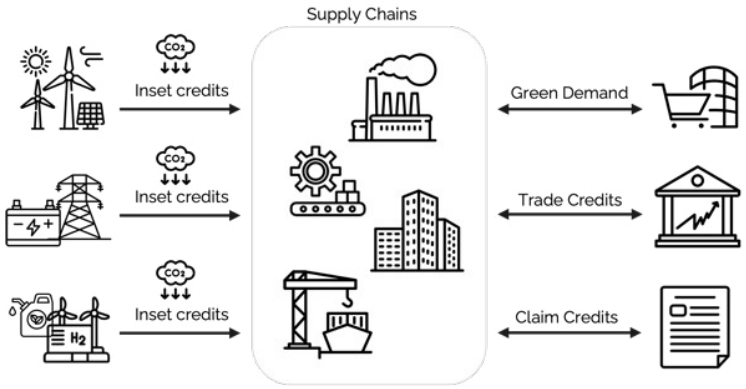
Impact on Compliance Costs

By 2030, failure to comply with CORSIA and EU ETS regulations could impose billions of euros in annual costs on the aviation industry. For example:

- **EU ETS Costs**: Airlines could face carbon costs of €100-200 per ton of CO_2, translating to thousands of euros per flight.
- **CORSIA Offsets**: The cost of purchasing offsets to meet CORSIA obligations could rise significantly as carbon prices increase, adding further financial pressure.

C3 as a Financial Instrument

Carbon3 (C3) provides a market-driven solution by certifying incremental emission reductions—such as SAF fuels, efficiency improvements, or investments in new technologies—as tradable "inset credits." These credits can be sold, generating revenue to help offset the high costs of these projects and incentivizing sustainable practices across the industry.



Financial and Strategic Benefits

For Airline Companies

- **Revenue Generation**: Selling inset credits can offset a portion of the costs associated with SAF adoption or new technologies. For instance, credit sales could cover 10-20% of SAF's cost.
- **Cost Savings**: Enhancing fuel efficiency through better aircraft design or operations reduces fuel consumption and lowers operational expenses.
- **Competitive Advantage**: Airlines can appeal to ESG conscious passengers and corporate clients, while also positioning themselves to avoid future penalties, and enable value chain stakeholders to directly tackle their Scope 3 emissions.

For Value Chain Stakeholders

- **Airports**: Leverage C3 to fund SAF storage and distribution infrastructure or electrify operations.
- **Fuel Producers**: Invest in SAF production and distribution facilities, with certified emission reductions turned into inset credits to attract more capital and scale operations.
- **Manufacturers**: Benefit from rising demand for fuel-efficient or low-emission aircrafts.

By integrating C3, stakeholders across the aviation value chain can reduce their Scope 1-3 emissions, while avoiding penalties and reinvesting savings into further sustainability efforts.

Visit carbon3.net to learn more and get in touch.