



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

RECONNECTING **THE** WORLD



ICAO

ENVIRONMENT



SAF Financing

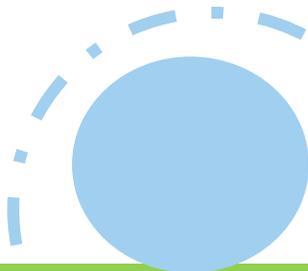
ICAO-CASSOA-RCAA ENV Workshop

Kigali, Rwanda (23-26 May 2023)

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- I. Assembly request on financing**
- II. ICAO outreach activities with financial institutions**
- III. Basics of SAF projects financing**
- IV. Next steps on financing and ACT-SAF**

LTAG financing – A41-21 requests to Council

18. a) initiate specific measures or mechanisms so as to facilitate, in particular for developing countries and States having particular needs, better access to private investment capacities, as well as funding from financial institutions, such as development banks, for projects contributing to the decarbonisation of international aviation, as well as encourage new and additional funding to this purpose;

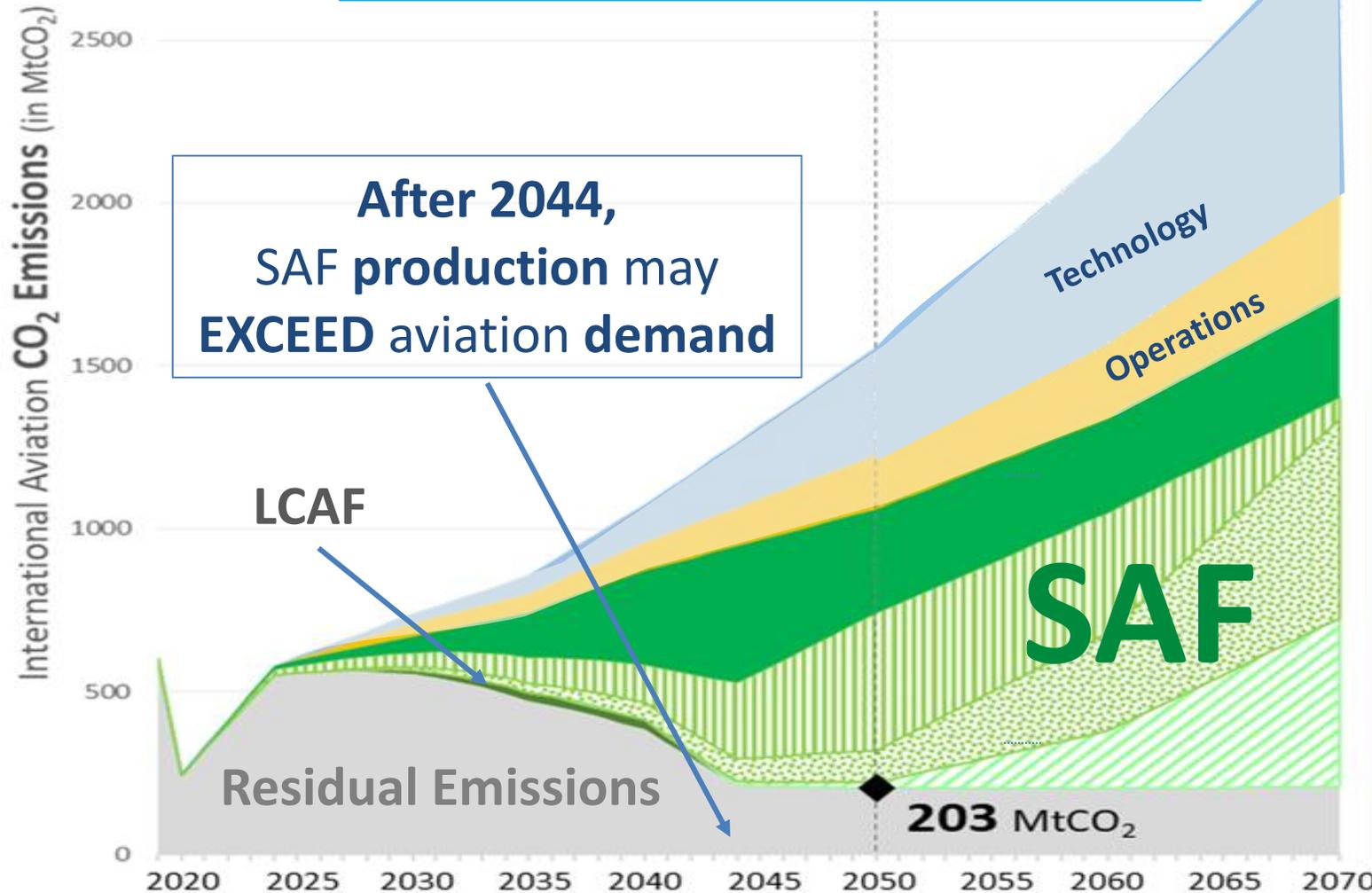
b) further consider the establishment of a climate finance initiative or funding mechanism under ICAO, while addressing the possible financial, institutional and legal challenges, and report to the 42nd Session of the ICAO Assembly.

(...)

28. d): Requests the Council to work with financial institutions to facilitate access to financing infrastructure development projects dedicated to SAF and LCAF and incentives to overcome initial market hurdles;

High investment needs for SAF and LCAF

IS3 LTAG Integrated Scenario 3



2022: 0.15 Billion Liters of SAF being produced



2045: 636 billion liters needed to replace all fossil fuels



By 2050: ca. USD 3,200 billion investment needs



Need for close cooperation with financing institutions

References:
<https://www.icao.int/environmental-protection/LTAG/Pages/LTAG-data-spreadsheet.aspx>
<https://www.iata.org/en/iata-repository/pressroom/fact-sheets/fact-sheet---alternative-fuels/>

In the context of the ICAO ACT-SAF Programme, **ICAO is connecting with financial institutions across all regions** with the objectives to:

1. **Raise awareness of financial institutions** on the role of SAF to achieve the LTAG, and on the interest of aviation/fuel industries for immediate and massive SAF scale-up;
2. **Inform financial institutions of the significant investments needs** to scale-up SAF production capacity across all regions, in particular for developing countries.
3. **Explore financial institutions' existing or future financing instruments** to support SAF deployment and inform financing institutions of ways in which they can best contribute to SAF deployment.

- Since September 2022, ICAO has organised workshops and initial discussions with 35 public and private financing institutions and foundations
 - 13 public institutions: Brazil Development Bank (BNDES), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Emirates Development Bank (EDB), Arab Bank for Economic Development in Africa (BADEA), Asian Development Bank (ADB), World Bank, Green Climate Fund (GCF), Caribbean Development Bank (CDB), Asian Infrastructure Investment Bank, European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Finance Lab (Climate Policy Initiative), UNEP Financing Initiative (UNEP FI).
 - 18 private investment institutions: SmartEnergy, ING Group, Green Investment Group, The Arab Investment & Export Credit Guarantee Corporation (Dhaman), Genzero, Deutsche Bank, Investor Group on Climate Change, Banque de Montreal (BMO), First Abu Dhabi Bank (FAB), Hamilton Clark and Breakthrough Energy, Barclays, ING, Societe Generale, Credit Agricole, BNP Paribas, KWF, Standard Chartered.
 - 1 foundation: ClimateWorks Foundation.
- On March 28th 2023, the Council held an informal meeting with high-level representatives from international financing institutions (IFIs)



Asian Development Bank

- Non-sovereign finance window of \$4.5bn in 2020 to stimulate private sector investments, including in renewable energy projects (25% of project cost covered).

Bank of America

- Mobilizing \$2 billion in sustainable finance for the production of SAF and other low-carbon aviation solutions.

Green Investment Group

- USD 30+bn committed and arranged to support green energy projects by Q1 2021.

Green Climate Fund

- USD 11.3bn committed through a range of financing instruments, including on energy and transport projects.

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First Abu Dhabi Bank

- Committed to facilitate sustainable financing of more than USD 75 billion by 2030, with aviation/SAF being a key topic.

Banque de Montreal

- Sustainable financing guarantee programme sharing 50% of the risk up to USD 60m on loans. Bio energy, CCS and hydrogen are eligible sectors.

Brasil Development Bank

- Climate Fund is open for clean energy investments and comes with low interest rates and a ceiling of 80 million Reals

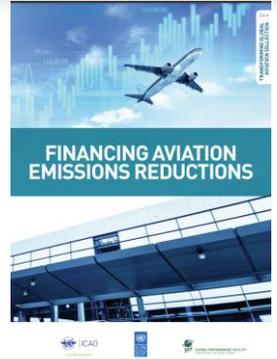
Many alliances and initiatives and support the financing of sustainable aviation fuels. Examples include the following:

- **Clean Skies for Tomorrow** is an initiative supported by the **World Economic Forum** including actors of the aviation and energy industries, aiming to align on a transition to sustainable aviation fuels as part of a meaningful and proactive pathway for the industry to achieve carbon-neutral flying.
- **Renewable and Low-Carbon Fuels Value Chain Industrial Alliance** is an initiative of the European Commission, which gathers stakeholders from across the transport fuels and other relevant value chains, including financing institutions. Objectives of the alliance include to identify pathways for access to finance and fund the scaling-up of SAF.
- The **Sustainable Aviation Buyers Alliance (SABA)** aims to accelerate the path to net zero aviation by driving investment in and adoption of sustainable aviation fuel.
- The **Net-Zero Banking Alliance** has working groups involving financing institutions, aiming to define roadmaps for actors of the economy to decarbonize their activities thanks to the financing of SAF.

- **Main takeaways from the discussions:**

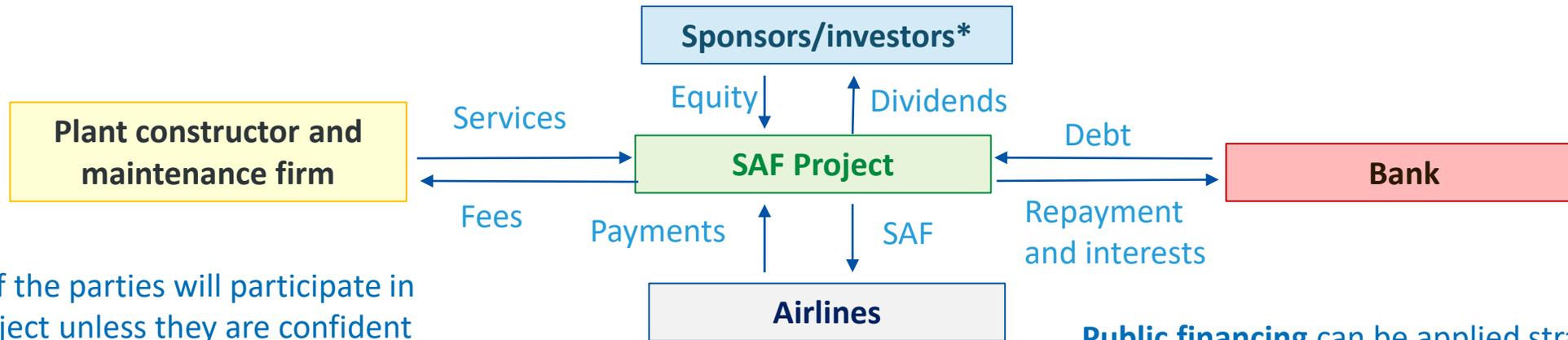
- Strong interest from banks for decarbonization of aviation and deployment of SAF
- **The transition towards SAF is key;** it will require significant investments across all world regions.
- Both public and private investments will have a key role
- **Blended finance (public and private)** can act as a catalyst to de-risk SAF projects.
- **Clear criteria and harmonized frameworks for SAF financing** will support IFIs' analysis of SAF projects and facilitate investments.
- **Predictability of SAF offtakes and reliability of the regulatory landscape** are essential to provide confidence to investors and reduce risk

ICAO Guidance on financing Aviation Emission Reductions – guidance on how to finance projects to reduce CO2 emissions from international aviation activities



Available at <https://www.icao.int/environmental-protection/Pages/financing.aspx>

Basics on SAF project financing



None of the parties will participate in the project unless they are confident that they will **earn an adequate return on their investment** for their effort

Public financing can be applied strategically in the development of a project where there exist market weaknesses **to support project success.**

* Investors can be a large variety of actors, including banks, airlines, SAF producers, and many others



Defining and understanding the economic potential of a project is essential before it can be financed.

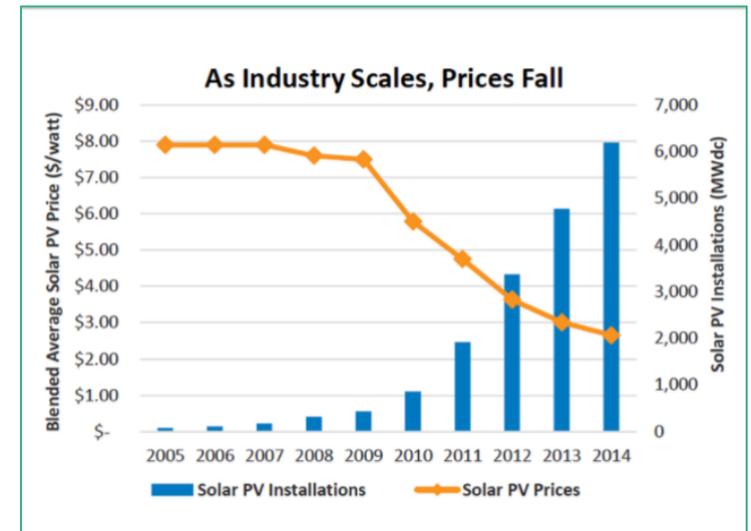
- A project sponsor takes financial risks by spending money to identify a project site, evaluate its resources, and obtain regulatory permits and approvals.
- These expenditures build equity in the project and are essential to its success.
- Financial analyses are needed to assess the risk of investment by financing entities.
- Only after all necessary information is collected can all parties fully understand the project economics and investment risks.
- **SAF feasibility studies**, such as the ones ICAO will carry out under ACT-SAF for several States, provide essential insights on the viability of a SAF project in a given State.

Equity and debt are the two primary options for financing project construction

- The percentage of equity versus debt can vary depending on available resources and the cost of borrowed money.
- Interest rates on loans are determined by the creditworthiness of the borrower and the risk of the project to generate sufficient revenue for repayment.
- To finance a first project, the cost of borrowing may be high, but if this project is successful, the cost of borrowing to finance an n^{th} project will likely decrease.
- Where States have higher credit ratings resulting in higher interest rates, public financing through organizations like the World Bank can provide concessionary loans to improve project economics in developing states.

Public and **private** financing are both important in developing SAF projects.

- The amount of public financing depends on the maturity of the project. Too much public financing can crowd out private sector investment, but insufficient public financing presents a high risk to private sector investments.
- Public financing is initially required to create markets, but as markets mature, the role of public financing should decrease, and private sector financing should meet the investment needs.
- Private capital is easier mobilized when projects are forecast to produce sufficient revenue to repay outstanding obligations and provide a return on investment.



Both public and private investments are currently needed to scale up SAF production

- **Grants** are sums of money given by a government/organisation for a specific purpose, which do not have to be paid back. Grants can be used to support a SAF project, e.g. to cover project development costs (ICAO is currently collecting grants from ACT-SAF Partners to launch feasibility studies in various ICAO Member States). Grants can also serve to fund capacity-building programmes (e.g. the ACT-SAF programme) or to support policy development.
- **Loans** are a crucial component to finance a SAF project. Banks may be reluctant to agree a loan if they identify too big a risk regarding the ability of the project to pay back. Public entities (governments, multilateral development banks, others) can assume some of the risk of such loans, thereby protecting the bank from the risk and reducing the cost borrowing money.
- **Bonds** (including **green bonds**) provide a stable source of long-term financing for large-scale projects. They can be structured to match the expected cash-flow of the project (thus reducing risks for investors and minimizing financing costs), and can be traded in financial markets.



Industry actors (airlines, SAF producers, others) resort to various financing strategies to invest in SAF.

On August 7, 2014, Cathay Pacific Airways, a Hong Kong-based airline, announced that it has made a strategic equity investment in Fulcrum BioEnergy Inc., a U.S.-based leader in the development and commercialization of converting municipal solid waste into sustainable aviation fuel. Cravath represented Cathay Pacific in connection with this transaction.

United Airlines Launches \$100 Million Investment Vehicle for SAF

Governments and organisations also deploy financing instruments to kick-start their domestic market

How LPO Can Support the Sustainable Aviation Fuel Grand Challenge

The Department of Energy today announced the **Sustainable Aviation Fuel Grand Challenge**, a government-wide effort to reduce the cost, enhance the sustainability, and expand the production and use of Sustainable Aviation Fuel (SAF). The effort is part of the Biden-Harris Administration's overall strategy to decarbonize the aviation sector by 2050. Read more in the [White House fact sheet](#).

Commercial-scale SAF projects that utilize innovative technology and avoid, reduce, or sequester greenhouse gas emissions and meet other program requirements may be eligible for loan guarantees under the LPO's Title 17 Innovative Energy Loan Guarantee Program. LPO has received strong interest from SAF project developers about the potential for DOE financing of SAF production facilities.



3 June 2022

Neste signs a green term loan agreement

Published in [Releases and news](#) under [Investors](#)

Neste Corporation, Press Release, 3 June 2022 at 11:45 a.m. (EET)

Neste has signed today a EUR 500 million green term loan agreement. The proceeds of the loan will be used to finance Eligible Assets and Projects in accordance with Neste's Green Finance Framework. The loan has a tenor of 3 years with two 1-year extension options.

International Airlines Group (IAG), the airline's parent company, is investing \$400 million over the next 20 years into the development of SAF and British Airways has existing partnerships with several companies to develop plants and purchase the sustainable fuel.

Advanced Fuels Fund (AFF) competition winners

Each organisation will receive a share of £165 million for the development of sustainable aviation fuel (SAF) production plants in the UK. The following projects have been awarded funding.

- ICAO will further explore collaborations with financial institutions, exchanging information on current projects, in order to facilitate new initiatives.
- Council will continue dialogues with public and private IFIs during its 229th Session (May / June 2023).
- ICAO will continue to invite financial institutions to participate and contribute to all ACT-SAF activities and projects
- ICAO will explore the establishment of a climate finance initiative or funding mechanism under ICAO.



Thank You