Submission for the ICAO pre-CAAF/3 Outcomes Consultation

The aviation industry was one of the first global sectors to set ambitious worldwide CO_2 emission reduction goals, updated in 2021 with a commitment to achieving net zero CO_2 emissions for civil aviation by 2050. This was endorsed by the world's Governments at the 41st ICAO Assembly in 2022. CAAF/3 will provide an opportunity to advance a global framework for one of the key elements of aviation decarbonisation: highlighting the importance of the production, distribution, and availability of qualified sustainable aviation fuel (SAF) needed to achieve net-zero.

Multiple analyses, including ICAO's LTAG Report, confirm that greater availability of SAF is necessary to mitigate the projected growth in aviation CO_2 emissions as the demand for global air travel increases. The CAAF/3 meeting positions ICAO to demonstrate leadership to help achieve significant increases in SAF production and availability globally. A 'package' of supportive measures would improve market certainty for financiers and fuel producers, consequently increasing available SAF volumes and helping to drive down the price. Coupled with a vision for deployment of SAF, CAAF/3 could send a strong signal to the markets of how the energy transition in aviation can progress. Maximising the amount of SAF available to the fleet at competitive prices is key to the rapid decarbonisation of aviation, supporting the sector's ability to grow sustainably and connect more of the world in the future.

Global framework of supportive measures

The current year-on-year growth in SAF supply and demand is impressive, but it is coming off a very small base: the production of SAF is estimated at less than 0.1% of the global demand for jet fuel today, or around 240,000 tonnes in 2022. Moreover, SAF cost of production is typically two to five times higher than the price of conventional (fossil) jet fuel[1]. The supply is further constrained by competition for renewable fuels from other sectors that have alternative decarbonisation options, such as surface transportation and heating.

Unlocking the potential of SAF, including the significant opportunities for many developing nations to drive local new energy industries, will require a catalyst beyond the current growth. Vital to this will be several key steps:

- Regional and national policies that genuinely drive the supply of SAF, based on locally-appropriate and sustainable feedstocks – SAF should be seen as an important part of national energy transition plans;

[1] ICAO CAEP Rule of Thumb analysis

- Supportive activities to help ensure SAF deployment can take place globally, including: comprehensive capacity building; financing availability for all States; the frameworks and tools needed for the efficient production and distribution of SAF;
- Strong support from industry, including the aviation sector, but importantly the finance and investment sector and the energy industry; and
- A global Vision for SAF deployment identified at ICAO in support of the long-term aspirational goal.

Government policies and initiatives should stimulate investment in innovation of new SAF production and feedstock technologies, promote a dramatic increase in production capacity, enable a reduction in costs/price, and encourage greater industry uptake.

Public-private partnerships can play a key role in increasing the development and use of SAF through policy definition and alignment, along with financial incentives. Blended finance can help bridge the gap between development agency support, national policy support and private financing to help drive the significant scale-up required. Policymakers have the chance to accelerate these processes by providing sustained and predictable support to the multi-year development of novel technologies, and by stimulating the ramp-up of capacity.

Recognising the technical challenges associated with decarbonising aviation, greater public policy and financial support to accelerate SAF production and distribution is essential. Additionally, close collaboration with the aviation industry and fuel suppliers is required in the development of SAF production capacity to accelerate availability in support of demand.

ICAO has an important role to play

ICAO Member States can demonstrate leadership on aviation and climate change through a successful outcome at CAAF/3 that sets an ambitious ICAO Vision for SAF and offers a package of policy and implementation measures. The deliverables from CAAF/3 are important in the context of the LTAG ambition and implementation roadmaps.

CAAF/3 should encourage Member States to develop policies and regulations to foster the deployment of SAF, noting that there are unique approaches to the same challenges in the different regions of the world. Lower Carbon Aviation Fuel (LCAF), can play an important transitional element, but it is likely that SAF will provide the greatest opportunity for aviation decarbonisation and net-zero by 2050. ICAO can help guide Member States to implement the right policies and take the relevant actions to ensure sustainable aviation fuels will be available to the aviation sector while, depending on local conditions and economic variables.

ICAO can also provide technical assistance, facilitate financing and encourage capacity building projects (ACT-SAF). Industry supports ICAO initiatives on SAF as part of the implementation of the ICAO long term aspirational goal to reach net zero CO_2 emissions for international aviation in 2050.

CAAF/3 is a powerful and unique opportunity to join forces again to recognise and support the role of SAF in meeting the LTAG. Noting the impressive progress from airlines and business operators in the form of offtake commitments since the CAAF/2, significant scale-up in production and supportive policy measures will be needed to achieve the net zero trajectory and to send a strong signal to the

energy sector, address demand and avoid market distortion. States must do their part to facilitate economies of SAF scale, helping to lower SAF prices through increasing volumes:

- Policies: each Member State should implement policies to encourage SAF development in its own country and contributing to the global objective of net zero 2050. Policies should be holistic in nature, focusing on a supply side push for SAF production volume and encouraging demand where needed. These nationally-appropriate strategic roadmaps should be developed in conjunction with all stakeholders and seek to:
    - De-risk investments in SAF production facilities through, notably, guarantees, pricing mechanisms, and grants.
    - Remain agnostic in terms of feedstock and technologies, keeping in mind important sustainability criteria.
    - Redirect current production subsidies of fossil fuels to renewable alternatives, including SAF.
    - Provide at least equal support to SAF production as to other renewable products and consider an emphasis on SAF as the end use with the greatest societal benefits.
    - Exempt SAF from tax.
    - Ensure that revenue from any existing environmental taxes levied by States on aviation is attributed to aviation-based environmental initiatives, including scaled SAF production.
- Implementation assistance, capacity-building and training, feasibility studies, pilot projects will be essential for a smooth transition.
- Adequate and harmonised guidance for SAF accounting methodologies such as 'book and claim', training and toolkits that could be used as the reference for local implementation.
- Continued and harmonised approach on fuel sustainability criteria – already matured through the CORSIA eligible fuels standards, fuel approval and equipment certification schemes.
- Access to public and private finance for the development and deployment of SAF.

A global framework can support an ICAO Vision

To establish a trajectory that enables achieving the net-zero goal, the industry will require significant volumes of SAF to be produced and deployed in a relatively short time frame. Governments and the energy and finance sectors will need to be active in ensuring the right framework for this transition is in place. Part of that process will be facilitated by a globally-harmonised approach to an aspirational ICAO Vision and an associated global framework which can be progressed at the ICAO CAAF/3 meeting.

Various analyses have shown the extent of SAF needed to decarbonise the sector. From the ATAG *Waypoint 2050* (modelling shows between 380 and 490 Mt of SAF needed in 2050) and IATA net zero roadmap (513Mt of SAF by 2050) to the ICAO LTAG Report (164-620Mt SAF in 2050, depending on the scenario), all agree that the scale-up is aggressive, but achievable, given the right policies are delivered and a concerted investment effort.

The next 25 years will be crucial, but **an ICAO Vision of around an 80% reduction in carbon intensity from the use of SAF in 2050, compared to traditional fossil fuel, should provide the needed impetus for development.** Such a Vision should be periodically reviewed as the situation evolves and should be on a global average basis and should not be attributable to individual States and regions as each State will need to chart its own most appropriate path.

The most important indicator is the speed of the scale-up from 2030 to 2050. The fastest acceleration of scale in SAF production growth will likely be seen after 2030, with the time between now and 2030 dedicated toward commercialising technologies and building infrastructure.

As we work towards the significant quantities needed in 2050, we must remember that SAF supply is not able to be switched on immediately. Given the timeline for policy development, financing and construction, production requirements for 2032 (as an example) will need to be settled by around 2027. In addition, facilities that can generate SAF can typically also produce other products including low carbon ground transport fuels and chemicals, etc. A policy environment which emphasises SAF in light of the lack of alternatives for aviation and the additional co-benefits of improved air quality and non-CO2 would help the scale-up process. The urgency of addressing this scale-up, particularly supporting scale-up in developing economies, should be a key outcome of the CAAF/3 meeting.

What is needed from CAAF/3

ATAG members are committed to supporting policies that maximise the supply of SAF to meet expected increasing demand and stand ready to support States' initiatives in this regard. We invite the deliberations at CAAF/3 to:

- identify and promote to member States the best policy options available that help maximise SAF production and develop supply;
- provide guidance to ICAO on the role the organisation can fulfil in promoting a rapid and widespread programme of capacity building (ACT-SAF), undertake a commitment to develop a SAF finance 'matchmaking' service in the form of the proposed Finvest Hub;
- undertake regular reviews of the outcomes including the level of ICAO Vision ambition and implementation elements of the Global Framework, with expectation that CAAF/4 should be convened before the 43rd ICAO Assembly in 2028.