



DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

Seventh Meeting (DGCA-MID/7) (Riyadh, Saudi Arabia, 19 – 20 May 2024)

Agenda Item 6: Environmental Protection

INDUSTRY NET ZERO TRACKING EFFORTS – THE IATA NET ZERO TRACKING METHODOLOGY

(Presented by IATA)

SUMMARY

This paper provides information on the status of the IATA Net Zero Tracking Methodology (the Methodology) published in 2023 and proposes that its metrics and processes for data collection be considered for the work of the DGCA-MID.

Action by the DGCA-MID in paragraph 4.1

Note the progress done by IATA and the industry in establishing a tracking methodology for the IATA Net Zero Carbon goal by 2050.

1. INTRODUCTION

1.1 Assembly Resolution A41-22 requested the Council to continuously monitor the implementation of all elements of the basket of measures for the Long-Term Aspirational Goal (LTAG).

1.2 IATA recognizes the importance of being able to track, measure, and report progress on the basket of measures to achieve ICAO's LTAG and offers its support to ICAO and its member states. Therefore, this paper details the status of the IATA Net Zero Tracking Methodology and subsequent tracking initiative, potentially offering a basis for future discussions.

2. STATUS OF IATA METHODOLOGY

2.1 Background

2.1.1 At the 77th IATA Annual General Meeting on 4 October 2021, IATA member airlines passed a resolution committing them to achieving net-zero carbon emissions from their operations by 2050. The Methodology was created to substantiate progress towards this 2050 goal and intends to track historical emissions based on primary operational data collected directly from airlines. The primary data collected in accordance with the Methodology can be compared against the IATA Net Zero Roadmaps to inform progress. The IATA Net Zero Roadmaps are being updated on an ad-hoc basis.

2.1.2 The Methodology defines the scope of emissions, identifies the data sources, and standardizes the metrics being reported on to enable transparency, comparability, allow ease of aggregation, and reduce the administrative burden for airlines.

2.1.3 The Methodology was developed with an expert working group of 11 airlines and 4 Original Equipment Manufacturers (OEMs). These members were separated into 4 focus areas: 1) fuel use, 2) Sustainable Aviation Fuel (SAF) use, 3) carbon offsets and carbon dioxide removal (CDR), and 4) hydrogen use and electric propulsion. The Methodology proposes 3 metrics and 11 sub-metrics that can be monitored and reported on by airlines.

2.2 Emissions Monitoring between the Basket of Measures

2.2.1 Technology Monitoring

2.2.1.1 The effects of new technologies such as electric, hybrid-electric, and hydrogen aircraft can be measured in comparison to a common baseline. The common baseline would be established at a later date as more data becomes available, as these new technologies are being developed and are still being demonstrated experimentally.

2.2.1.2 The lifecycle CO₂ emissions of electricity and hydrogen must be considered. Therefore, the Methodology proposes the following metrics:

- Average kg CO₂/kWh – to monitor the carbon intensity of the electricity used to power hybrid-electric and electric aircraft.
- Average share of electric propulsion in hybrid-electric aircraft – to determine the distribution between electricity and jet fuel (in terms of energy) in powering an electric aircraft.
- Average kg of CO₂/kg H₂ – to monitor the carbon intensity of hydrogen used to power hydrogen aircraft.
- CO₂ avoided as a result of new technologies – to provide insights into the contributions of different mitigation pathways.

2.2.1.3 The Methodology recognizes that new technologies that are not yet widely known can be developed. Therefore, metrics on new technologies remain flexible.

2.2.1.4 The Methodology notes the possibility of data being supported with other data from airports, OEMs, hydrogen producers, and reference databases.

2.2.2 Operations Monitoring

2.2.2.1 Ascertaining the causation between specific improvements in operations and improved fuel burn is a complex task. Therefore, to track progress on this basket of measure and potentially inform the “pathways” to Net Zero, it may be necessary to collect data from sources outside of airlines, such as airports and civil aviation authorities.

2.2.2.2 The Methodology proposes key metrics on two emissions intensity metrics (gCO₂/ATK and gCO₂/RTK). The two metrics provide insight into the types of operational improvements that affect emissions intensity.

2.2.3 Fuels and Cleaner Energy Monitoring

2.2.3.1 Conventional Jet Fuel

2.2.3.1.1 The scope of emissions should align with the industry’s goal of net zero carbon emissions from operations. Therefore, fuel emissions are measured in terms of CO₂. Also, the scope of emissions for conventional jet fuel is tank-to-wake, in alignment with CORSIA.

2.2.3.1.2 Net emissions are to be monitored in both absolute terms and intensity. The path to net zero carbon emissions does not imply that absolute emissions would immediately decrease. Intensity metrics capture progress when traffic growth exceeds the effects of the implemented mitigation measures. The Methodology proposes the following metrics:

- MtCO₂: to track the evolution of total CO₂ emissions, after accounting for all emissions and emissions reduction sources.
- gCO₂/RTK: to track the evolution of CO₂ emissions intensity, whilst accounting for changes in traffic volumes.
- gCO₂/ATK: to track the evolution of CO₂ emissions intensity, whilst accounting for changes in available capacity.

2.2.3.1.3 Emissions are calculated using data on fuel consumption. Both international and domestic emissions are tracked. With a separation between the two possible, the Methodology allows the tracking of total emissions of the industry while also being compatible with the LTAG scope.

2.2.3.2 SAF

2.2.3.2.1 Detailed metrics related to SAF provide information on the quantity and quality of SAF. The Methodology proposes the following metrics:

- Total neat SAF delivered (mass) – to monitor the progress in neat SAF uptake.
- Total blended SAF delivered (mass) – to monitor the progress in blended SAF uptake.
- Average SAF blend ratio (%) - in the case of blended SAF, to determine the mass of neat SAF in the system, and monitor the evolution of the blend ratio over time.
- Average lifecycle emissions factor (LSf) – to track the carbon intensity of SAF and the associated progress.
- Percentage of neat SAF of all fuel globally (%) – to track the share of SAF in global jet fuel use.

2.2.3.2.2 The Methodology recognizes the lack of universally accepted set of SAF accounting principles. Therefore, metrics on SAF will be updated when adequate accounting principles are in place. In accordance with the CAAF/3 agreement, the CORSIA Sustainability Criteria for CORSIA Eligible Fuels can serve as guidance on the eligibility of SAF batches.

2.2.3.2.3 The Methodology notes the possibility of data being supported with other data from suppliers and/or reference databases.

2.2.4 Out-of-Sector Measures

2.2.4.1 All types of certified offsets are accepted if funded by the airline. Passenger-funded offsets or removals should not be considered for to track progress toward the 2050 target. To understand the type of offsets and whether it is recognized under CORSIA, the Methodology proposes the following metrics:

- Total number of offsets retired, broken down as:
 - a) Mandatory vs voluntary – to help illustrate the rationale behind offset retirements.
 - b) CORSIA-eligible vs other – to understand the composition of offsets.

- CO₂ removed by CDR/CCS technology – to track the emissions reductions arising from the use of CDR technologies.

2.2.4.2 The Methodology recognizes that there are no universally accepted set of CO₂ accounting rules. Therefore, metrics on CDR/CCS may be updated when adequate accounting rules are established.

2.3 Processes for Data Collection

2.3.1 IATA is developing a tracking system which will be available in Q4 2024. It can be leveraged to understand the decarbonization efforts of the airline industry, demonstrate progress toward the 2050 goal, standardize data collection, and provide benchmarking for airlines in an anonymous manner.

2.3.2 Reporting – It is recommended that airlines apply CORSIA MRV practices when reporting data on conventional fuel and the basket of measures. Data submission is made possible in varying levels of granularity, taking into account the different reporting capabilities of airlines.

2.3.3 Calculating metrics and benchmarking – the metrics are calculated by IATA, supported by IATA Statistics reference data (e.g., RTK, ATK) when necessary. The results are placed on a blind benchmarking dashboard, where airlines can compare own performance against anonymized competitors.

2.3.5 Data validation – the data is validated by leveraging other IATA operational performance data collections, IATA Statistics data, and select third-party information such as airline fleet data or ADS-B traffic data.

2.3.6 Release of reports

- a) Industry Net Zero Progress Report – published by IATA based on aggregated data to inform the wider stakeholders such as the general public on the progress made by the industry.
- b) Airline-specific Net Zero Report – provided to airlines for use in sustainability disclosures to inform individual progress to stakeholders such as financial institutions and states.

3. CONCLUSION

3.1 The Methodology is based on industry best practices and was developed to define the scope of emissions, identify the data sources, and standardize metrics to substantiate progress on the industry's net zero carbon emissions goal. It is designed to track historical emissions using the primary data collected from the airlines. Therefore, it is integral for the data collection process to be feasible for airlines.

3.2 The Methodology includes out-of-sector measures, which will be crucial to address residual emissions and will remain even after investing in other decarbonization efforts. Therefore, it is necessary for these measures to be included in the basket of measures to achieve the LTAG.

4. ACTION BY THE MEETING

4.1 The meeting is invited to note the progress done by IATA and the industry in establishing a tracking methodology for the IATA Net Zero Carbon goal by 2050.