



ICAO EUR/NAT Environment Task Force Seminar

on State Action Plan, SAF and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)



Tbilisi, Georgia, 17 - 19 October 2023



საქართველოს სამოქალაქო ავიაციის სააგენტო
Georgian Civil Aviation Agency



| ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY





ICAO

ENVIRONMENT

Update on State Action Plans (SAP) Initiative





Overview of State Action Plans



SAP Achievement Updates



ICAO Tools



Next Steps for the State Action Plan Initiative



OVERVIEW OF STATE ACTION PLANS



- **Resolution A37-19 (2010): *Resolution on Climate change*** established the State Action Plan initiative
- **Resolution A38-18 (2013), Resolution A39-2 (2016) , Resolution A40-18 (2019):** reaffirmed this initiative.
- **Resolution A41-21 (2022): *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*** → (...) *Recognizing the need to **further develop and update State Action Plans**, including the quantification of CO₂ emissions reduction benefits with practical tools, for sustainable aviation and infrastructure with the focus on environment-driven innovations;*



Encourages States to submit and update their **voluntary action plans** outlining respective policies, actions and roadmaps, including long-term projections

(A41-21 Para. 10)



Invites States to **prepare or update** action plans to submit them to ICAO **as soon as possible preferably by the end of June 2024** and once every three years thereafter

(A41-21 Para. 11)



Encourages to share information contained in action plans and **build partnerships** with other Member States

(A41-21 Para. 11)



ICAO 41st Assembly Session – Adoption of LTAG

Level of Ambition – A41-21 para. 7 and 8

7. *Further resolves* that, in addition to the medium-term global aspirational goal in paragraph 6 above, **ICAO and its Member States are encouraged to work together to strive to achieve a collective long-term global aspirational goal for international aviation (LTAG) of net-zero carbon emissions by 2050**, in support of the Paris Agreement’s temperature goal, recognizing that each State’s special circumstances and respective capabilities (e.g., the level of development, maturity of aviation markets, sustainable growth of its international aviation, just transition, and national priorities of air transport development) will inform the ability of each State to contribute to the LTAG within its own national timeframe;

8. *While recognizing* that the LTAG is a collective global aspirational goal, and it does not attribute specific obligations or commitments in the form of emissions reduction goals to individual States, *urges* each State to contribute to achieving the goal in a socially, economically and environmentally sustainable manner and in accordance with national circumstances;



LTAG Means of implementation – A41-21 para. 17

17. Recognizes that **means of implementation commensurate to the level of ambition**, including financing, will promote the achievement of the LTAG. It **requires substantial investments for States**, according to **their national circumstances**, and that various possible **modalities and/or funding mechanisms could be used by ICAO to facilitate financing** and investment support for implementation of specific aviation CO₂ emissions reduction measures;



Strong link with the LTAG decision : Net-zero carbon emissions by 2050

- LTAG Progress Monitoring – A41-21 para. 9:

(The Assembly:)

Requests the Council to regularly monitor progress on the implementation of all elements of the basket of measures towards the achievement of the LTAG, including through: the ICAO environment stocktaking process; the review of the ICAO Vision for SAF; further assessment of the CO₂ emissions reduction and cost impacts of a changing climate on international aviation, regions and countries, in particular developing countries, and the impact on the development of the sector, as well as the cost impacts of the efforts to achieve the LTAG; **monitoring of information from State Action Plans for international aviation CO₂ emissions reduction;** and means of implementation. To this purpose, the Council will consider necessary methodologies for the monitoring of progress, and report to a future Session of the ICAO Assembly;



SAPs for LTAG Progress Monitoring



Long-term global aspirational goal for international aviation

Incorporating States LTAG implementation into its SAP

Inclusion of long-term aviation emissions commitments and ambitious low-carbon strategies and roadmaps to the SAPs



- Enables **accountability**
- Provides a **roadmap for achieving the LTAG**
- Facilitates **international cooperation** among ICAO Member States
- Encourages **innovation** in technology, operations and sustainable aviation fuels
- Facilitates **financing** and attracts **investments** for emissions reduction projects





What is a State Action Plan?

State Action Plans (SAPs)



A State Action Plan is a living document that defines a State's actions to reduce their CO₂ emissions from international civil aviation.

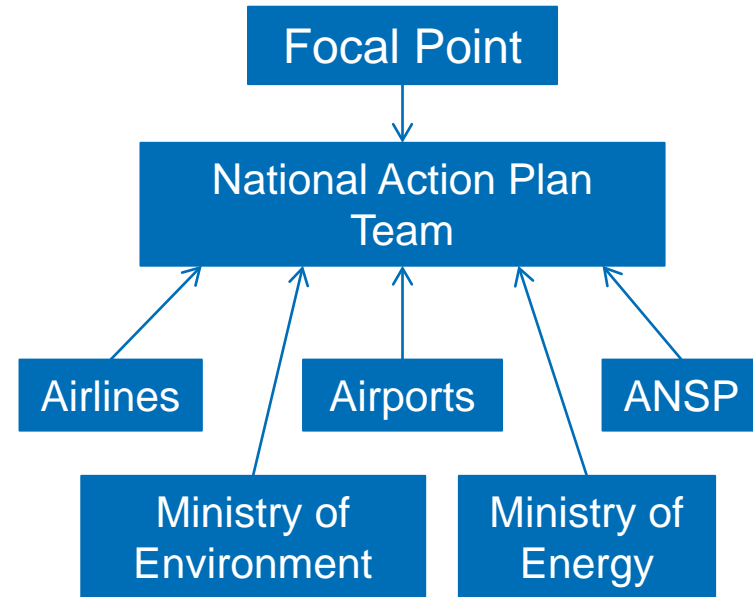


Within a State it is a planning and coordination tool, and it provides a clear communication route to ICAO.



The State Action Plan Process

- **The State:**
 - Designates a State Action Plan Focal Point and communicates their contact information to ICAO
- **The Focal Point:**
 - Coordinates with ICAO
 - Establishes a National Action Plan Team
 - Develops the State Action Plan and submits the document to ICAO





Baseline Scenario

- The baseline scenario describes the historic **evolution** of fuel consumption, CO₂ emissions, and traffic in the State and the expected **future evolution in the absence of action**
- Key points:
 - Differentiating between international and domestic emissions
 - Data from all air carriers can be aggregated
 - Understood to be an estimation only
 - Not the same as the CORSIA baseline



Differentiating between international and domestic emissions

- **International flight:** the operation of an aircraft from take-off at an **aerodrome of a State** or its territories, and landing at an **aerodrome of another State** or its territories.
- **Domestic flight:** the operation of an aircraft from take-off at an **aerodrome of a State** or its territories, and landing at an **aerodrome of the same State** or its territories.
- **Methodologies** to account for the CO₂ emissions attributed to international flights:
 - a) **ICAO:** each State reports the CO₂ emissions from the international flights operated by aircraft registered in the State (**State of Registry**)
 - b) **IPCC:** each State reports the CO₂ emissions from the international flights departing from all aerodromes located in the State or its territories (**State of Origin**)

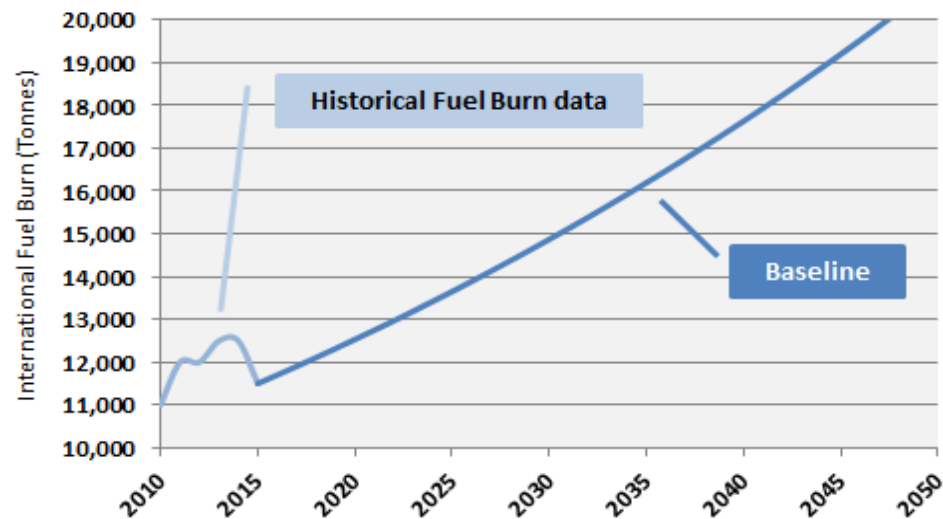


Doc 9988 Chapter 3

APER, EBT, ICEC

Example			
Year	Historical Data		Fuel efficiency
	RTK * ('000)	Fuel Burn (tonnes)	
2010	25'000	11'000	0.440
2011	30'000	12'000	0.400
2012	32'000	12'000	0.375
2013	33'000	12'500	0.379
2014	32'000	12'500	0.391
2015	30'000	11'500	0.383

Baseline Scenario Example



* **Revenue-Tonne Kilometre (RTK)** = revenue load (persons and cargo) in tonnes (t) * distance flown in kilometres (km)
 RTK represents a measure of the size of air transport



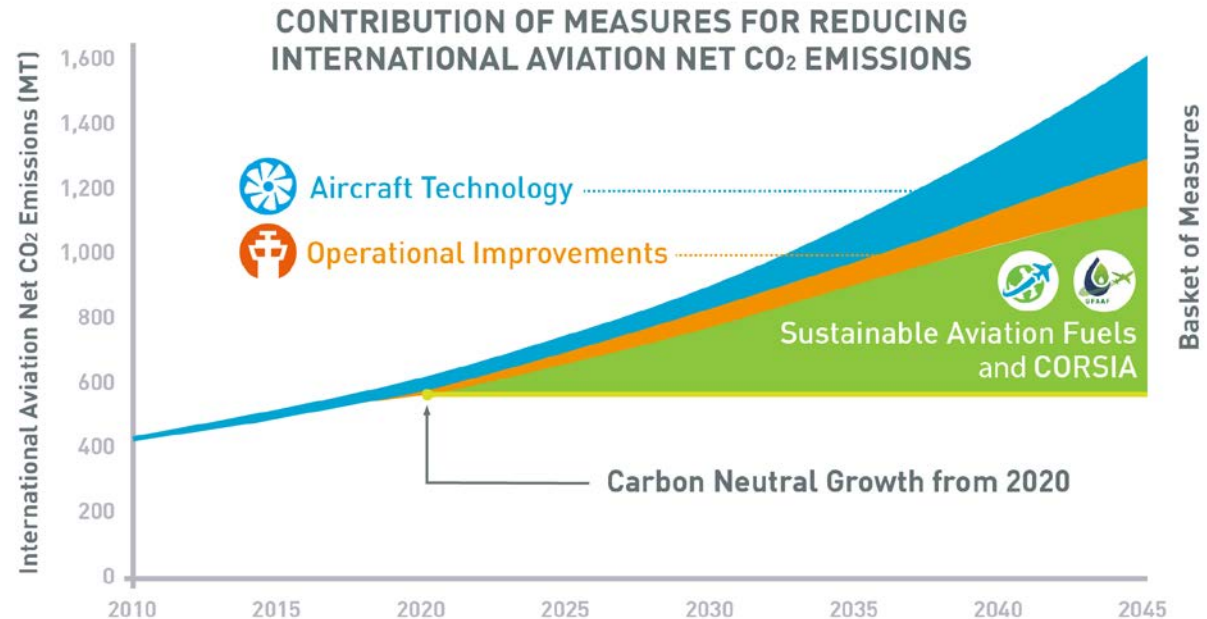
Mitigation Measures

- Selection of measures and quantifying their expected results
 - Review of the basket of measures, their feasibility and emissions reduction potential
 - Prioritization and selection of mitigation measures
 - **Quantifying the effects** on fuel consumption and CO₂ emissions from the measures selected



The Basket of Measures

- Aircraft Technology
- Operational Improvements
- Sustainable Aviation Fuels (SAF)
- Market-Based Measures

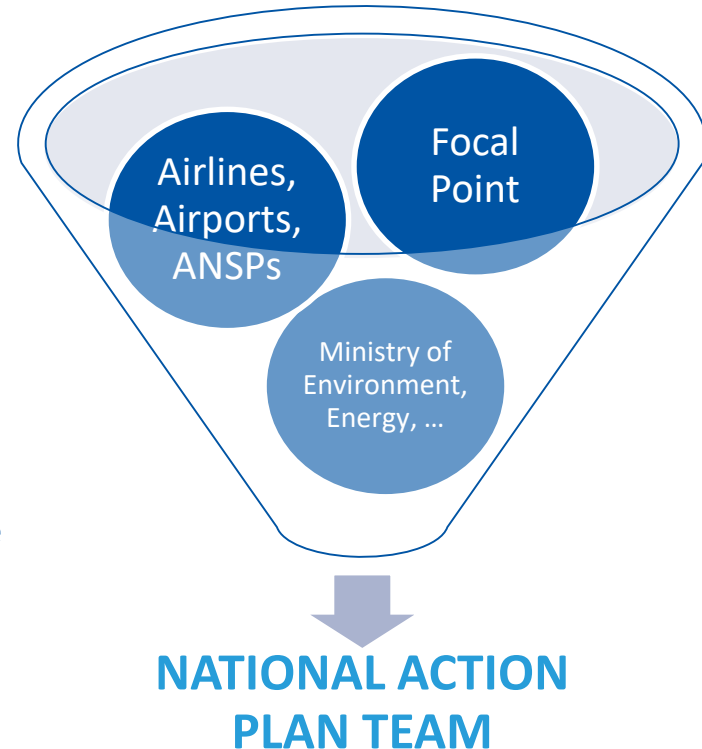


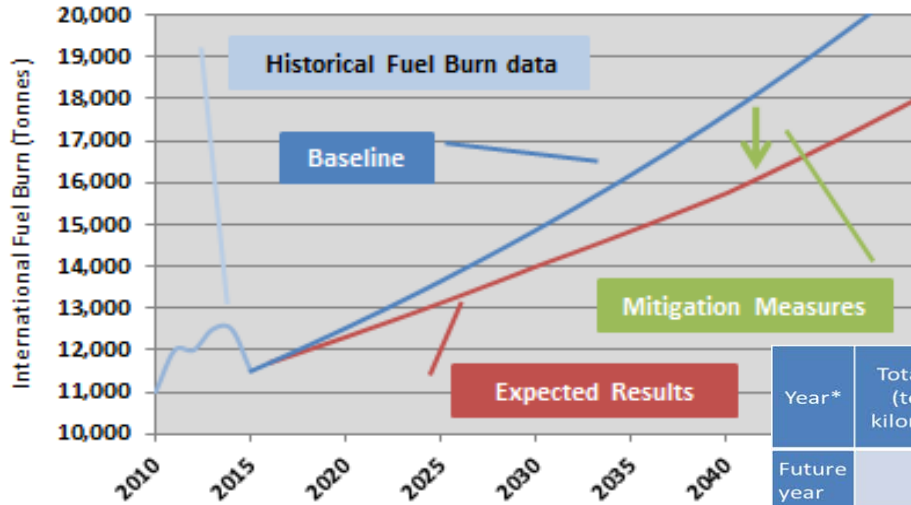
→ **Select measures and quantify their expected results:** feasibility, emissions reduction potential, prioritization of measures, quantification of fuel & CO₂ reduction results



Selection of Mitigation Measures

- The Focal Point should always work in collaboration with the **National Action Plan Team**
- **Context** is key for the selection of appropriate mitigation measures





Baseline scenario

List of Mitigation Measures

Expected Results

Year*	Total RTKs (tonne-kilometres)	International RTKs* (tonne-kilometres)	Total fuel (litres)	International fuel (litres)*	Total CO ₂ emissions (metric tonnes)	International CO ₂ emissions* (metric tonnes)
Future year						
2020						
Future year						
2050						

*Minimum data to be entered.
 Note: the future years should match the baseline's future years.
 Note: the traffic data (RTK) may not be identical to the baseline. Some measures may enable an increase in traffic or aim to reduce demand.



SAP Achievement Updates

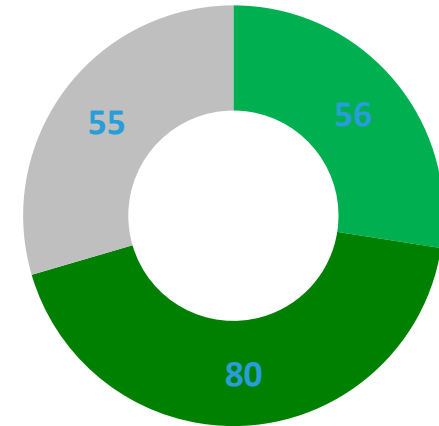


State Action Plans Achievements

140 States representing 98.53% of global RTK
have voluntarily submitted their State Action Plan



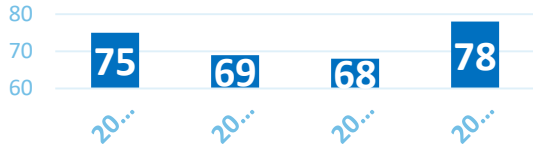
Global SAP Submissions /Updates



- States Submitted Once
- States Updated
- States left to submit



SAP Submissions and Updates by triennium

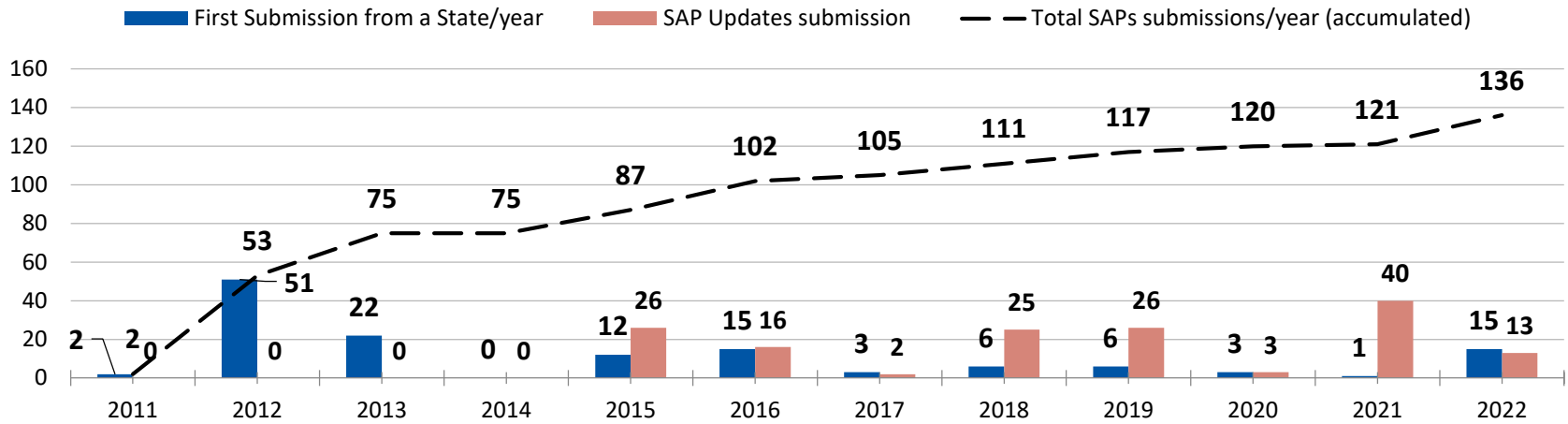


SAP Updates by triennium

Triennium	Value
2011 - 2013 (A-38)	0
2014 - 2016 (A-39)	42
2017 - 2019 (A-40)	53
2020 - 2022 (A-41)	56

✓ 2020-2022 triennium was the triennium with the **highest number of SAP updates from States (56)**

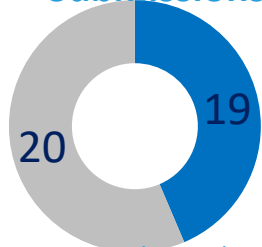
Timeline of State Action Plan Submissions





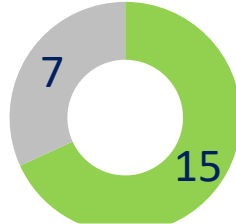
SAP submissions by Regions

APAC SAP Submissions



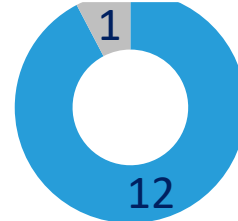
■ States Submitted
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NACC SAP Submissions



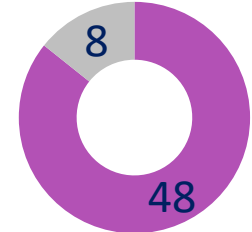
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SAM SAP Submissions



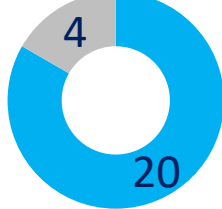
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EUR/NAT SAP Submissions



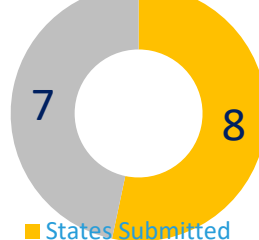
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WACAF SAP Submissions



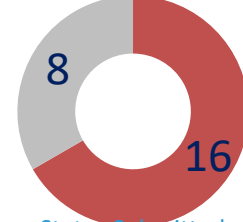
■ States Submitted
■ States left to submit

MID SAP Submissions



■ States Submitted
■ States left to submit

ESAF SAP Submissions



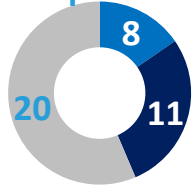
■ States Submitted
■ States left to submit



SAP Updates by Regions

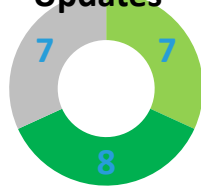


APAC SAP Submissions / Updates



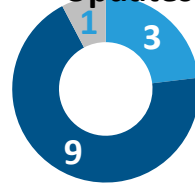
- States Submitted Once
- States Updated
- States left to submit

NACC SAP Submissions / Updates



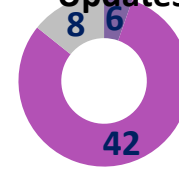
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- States left to submit

SAM SAP Submissions / Updates



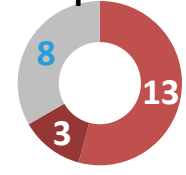
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EUR/NAT SAP Submissions / Updates



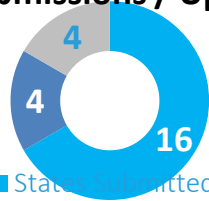
- States Submitted Once
- States Updated
- States left to submit

ESAF SAP Submissions / Updates



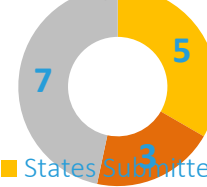
- States Submitted Once
- States Updated
- States left to submit

WACAF SAP Submissions / Updates



- States Submitted Once
- States Updated
- States left to submit

MID SAP Submissions / Updates



- States Submitted Once
- States Updated
- States left to submit



ICAO TOOLS



Action Plan on Emissions Reduction (APER) Website

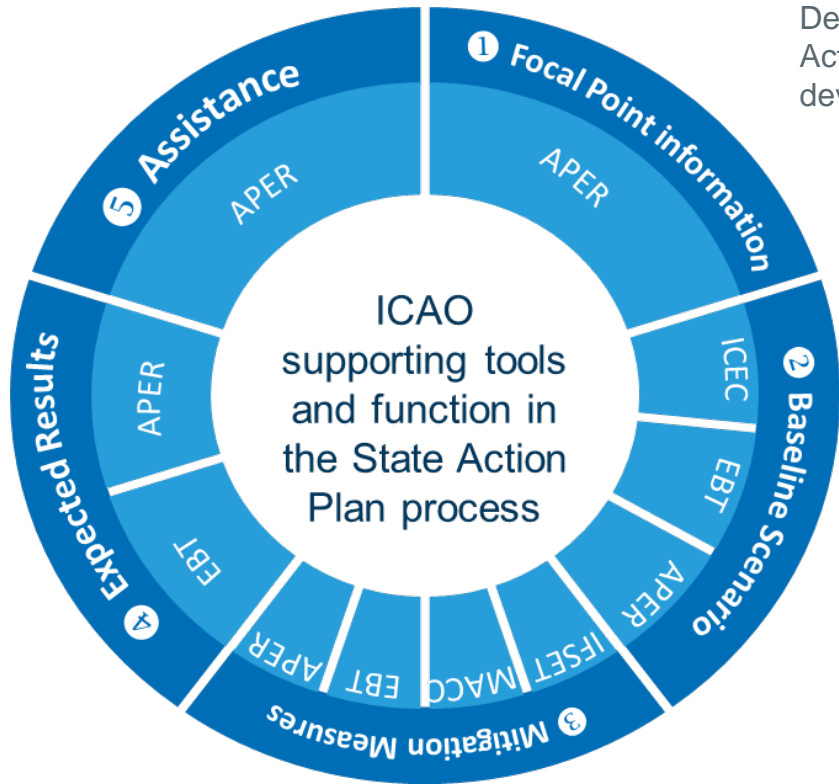
Developed to assist States that want to prepare and submit their State Action Plan to ICAO, providing access to tools that facilitate the SAP development.

- Environmental Benefit Tool (EBT)

This tool has been designed by ICAO to assist States in the process of defining a baseline scenario, estimating the quantifiable benefits resulting from the selected mitigation measures, and it provides estimated expected results. This tool can support a State with establishing a quantified State Action Plan, while requiring minimal data inputs. All State Action Plan Focal Points are encouraged to utilize this tool while developing or updating a State Action Plan.

Other supporting tools under APER website:

- Marginal Abatement Cost (MAC) Curve Tool
- ICAO Fuel Savings Estimation Tool (IFSET)
- ICAO Carbon Emissions Calculator for States (ICEC)





EBT (v2.8.2) uploaded on APER Website

- Compatibility issue resolved
- Text was added in Baseline A, B and C spreadsheets to help the user format the inputted numbers correctly according to the parameters of Excel.
- RTK table was updated with 2020 data for all states
- Member State Names updated

The screenshot shows the EBT tool interface with the following components:

- HISTORICAL DATA & BASELINE** section with two steps:
 1. Historical data
 2. Baseline
- MEASURES** section with seven categories:
 1. Aircraft-related technology development
 2. Alternative fuels
 3. Improved air traffic management and infrastructure use
 4. More efficient operations
 5. Economic/Market-based measures
 6. Regulatory measures / other
 7. Airport improvements
- EXPECTED RESULTS** section with two outcomes:
 1. Fuel savings
 2. CO₂ savings
- Navigation**: 'Input' and 'Next (Baseline)' buttons.
- HISTORICAL DATA** table:

Year	International RTK ('000)	International Fuel burn (Tonnes)	Efficiency (intl. Fuel burn / intl. RTK)
- Help/Instructions** (highlighted in yellow):
 - * Please input the numbers with the appropriate decimal separator (comma ',' or '.') according to your version of Excel.
 - * The inputted numbers should NOT include thousands separator.
 - * You can check the advanced parameters of Excel to check the default decimal separator on your version.
- METHOD B** (highlighted in red):

To change the methodology to estimate historic fuel consumption, please click the button below.

[Change the methodology](#)

EBT is the Environmental Benefits Tool



NEXT STEPS



State Action Plans – next steps

ICAO

Update of ICAO Doc 9988

Engagement with States to support more robust, quantitative and forward-looking State Action Plans

Continue to explore means to facilitate States' access to financial resources through new possible partnerships

States

To consider implementation of new green technologies and innovations within the ICAO Basket of Measures

- Activities are arising which could further reduce aviation emissions
- Focused on assessing the in-sector emissions reductions measures

Develop/update State Action Plans which include long-term emission reduction initiatives

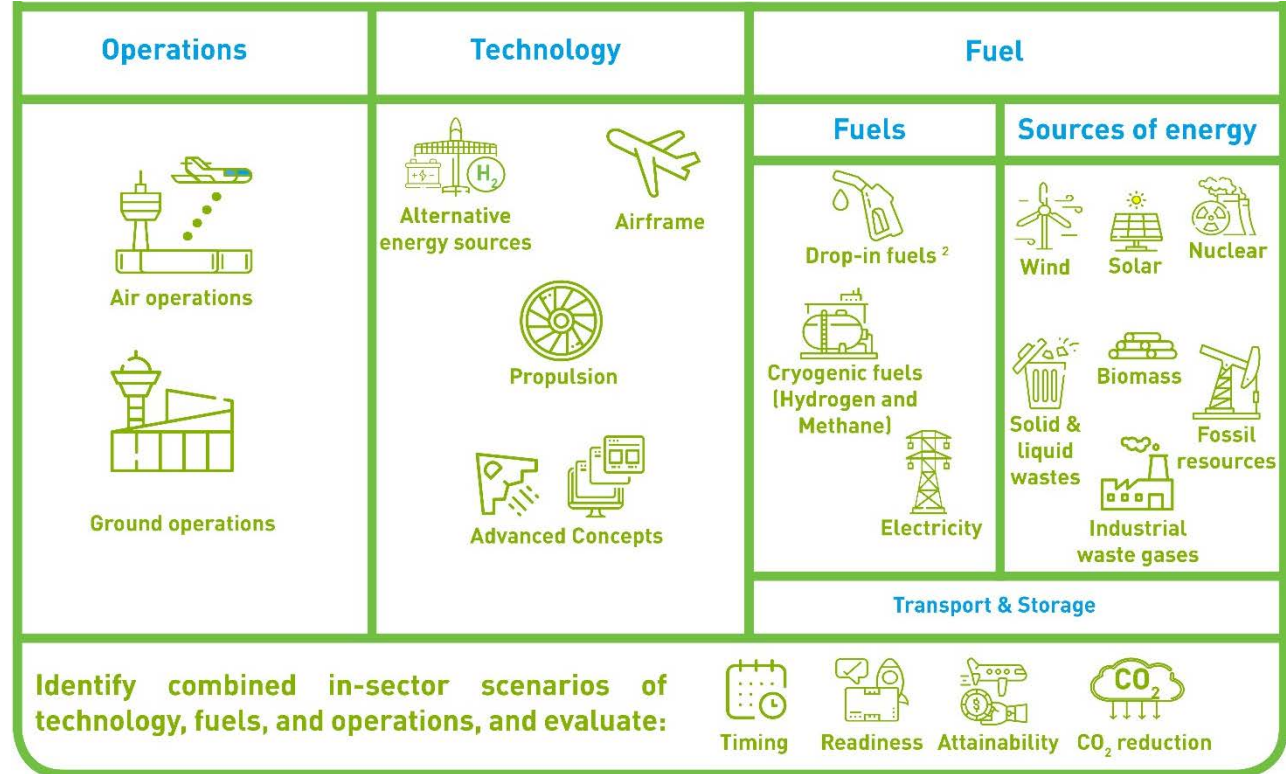


New mitigation measures

Innovations:



In-sector focused:

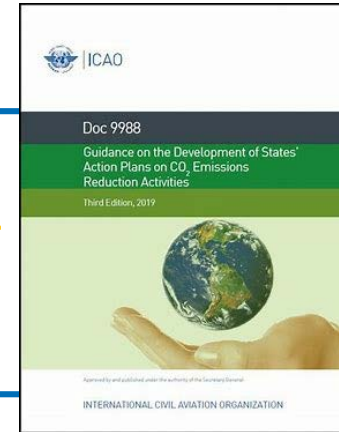




ICAO (Cont.):

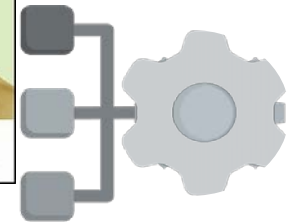
SAP Guidance update (ICAO Doc. 9988) objectives:

- provide guidance for States to incorporate **their long-term emission reduction initiatives**
- facilitate **the LTAG monitoring with SAP data**



Update will include:

- Integration of Latest Assembly decisions and update of sections with latest information
- Additional guidance and support for States to incorporate their initiatives in SAPs and contribute to the achievement of collective ICAO global aspirational goals
- Additional information for States on how to reach financial institutions
- Improvement of data reporting format in SAP
- Baseline (guidance on addressing 2020 Covid year data)
- APER Portal Update
- Revised SAP Feedback Form Template



UPDATING...





- ICAO encourages all Member States to update their State Action Plan and keep it up-to-date – every 3 years – **NEXT UPDATE 2024**
- Assembly encourages robust and quantified State Action Plans allow ICAO to assess future progress toward the achievement of ICAO global aspirational goals
- Opportunity for States to identify **long term measures** that will improve fuel efficiency and reduce emissions
- **implementation of new green technologies and innovations and clean energies**



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THANK YOU