



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



State Action Plan Development Process

ICAO Environment





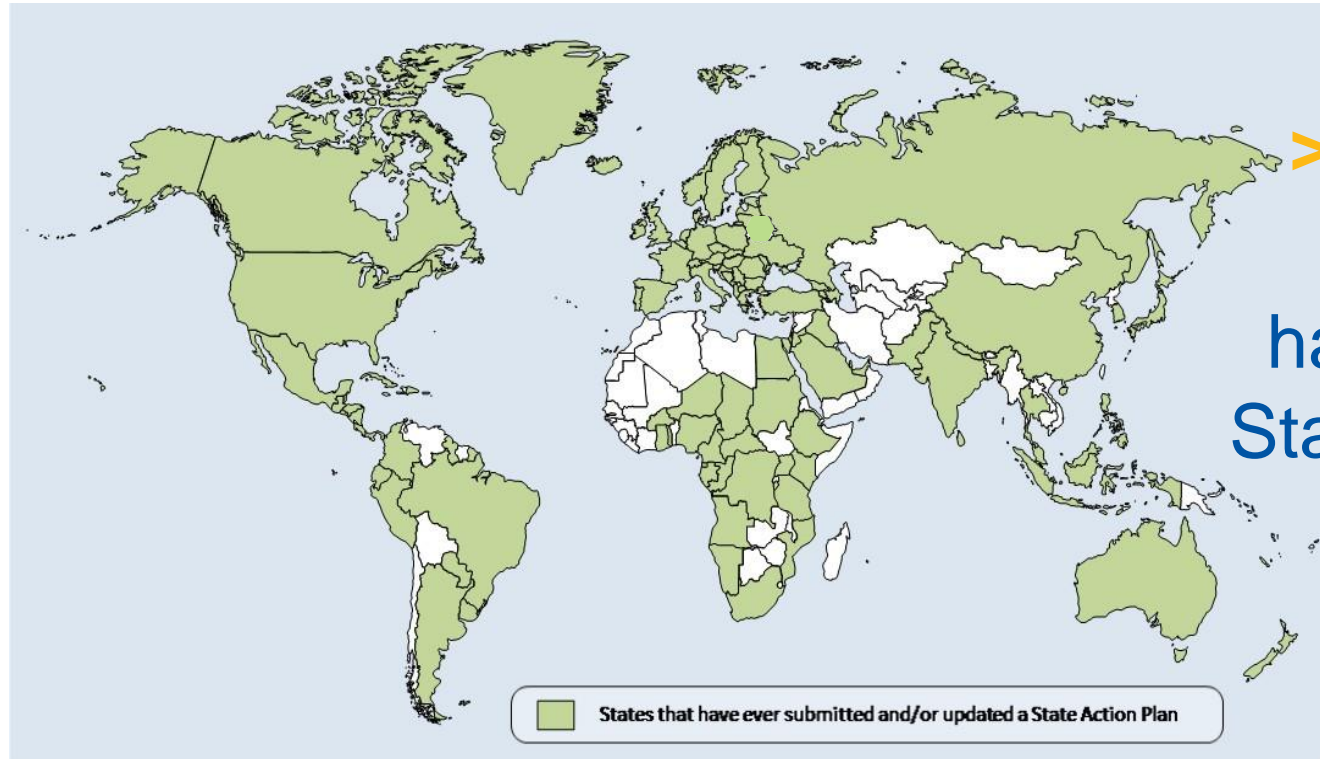
Current Status

120 States

representing

**>97% of global
RTK**

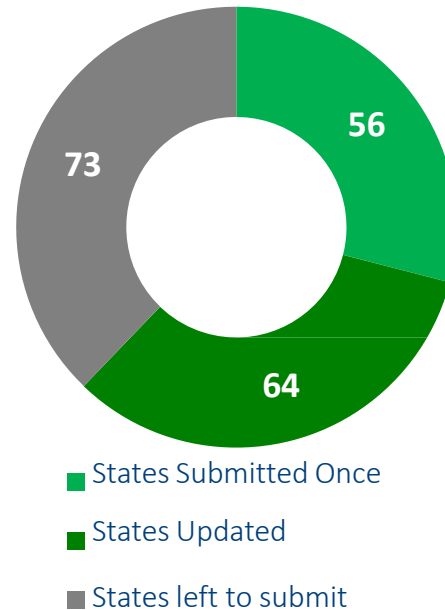
have submitted a
**State Action Plan to
ICAO**





Global SAP submissions / Updates

Global SAP Submissions / Updates





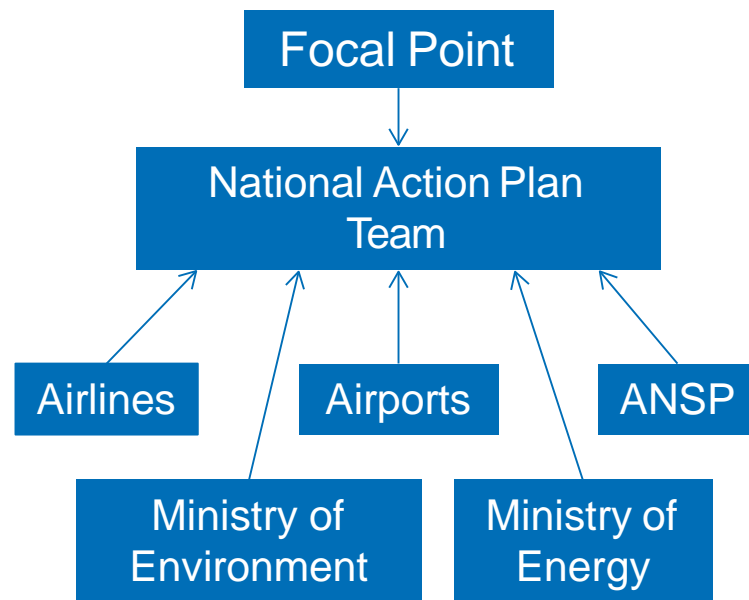
State Action Plans

- State Action Plans are a voluntary planning and reporting tool for States to communicate information on their activities to address CO₂ emissions from international civil aviation to ICAO
 - A living document that should be updated at least every three years
- To provide a big picture view of the State's activities
- For States
 - Opportunity to identify measures that will improve fuel efficiency and reduce emissions
- For ICAO
 - Assess future progress toward the achievement of ICAO global aspirational goals



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





State Action Plan Minimum Contents

1

State Action Plan Focal Point contact information

2

Baseline scenario – international fuel consumption, CO₂ emissions and traffic data projected to 2050 (without action)

3

List of selected emissions mitigation measures

4

Expected results – international fuel consumption and CO₂ emissions projected to 2050 (with the actions in #3)

5

Assistance needs (if needed)



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**)

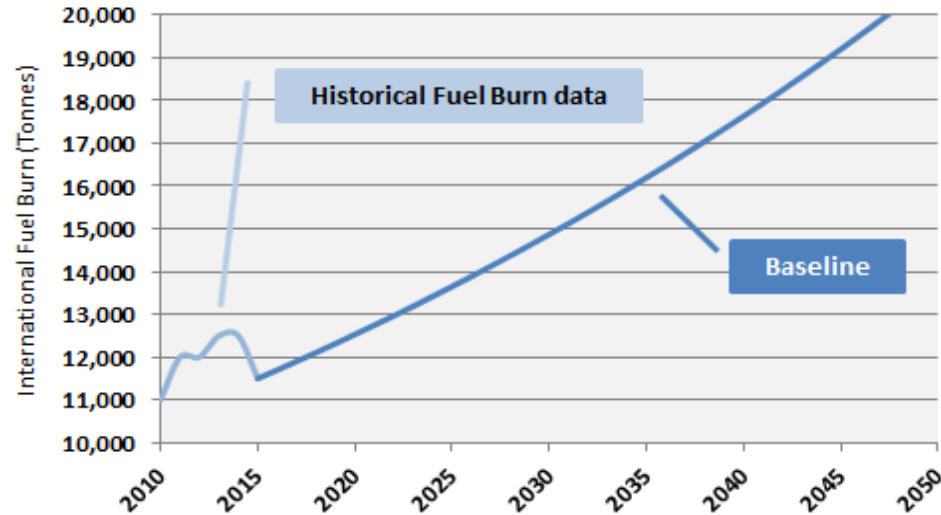


Doc 9988 Chapter 3

APER, EBT, ICEC

Baseline Scenario Example

| 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 |



* **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



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Assistance needs (if needed)



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



Basket of CO₂ mitigation measures

| | | |
|--|--|--|
| <p>Aircraft technology</p> | <p>First-ever global CO₂ certification Standard for new types and in-production aeroplanes. Fast-paced innovation (new designs, composite materials, hybrid-electric aircraft, renewable energy sources, etc.).</p> |  |
| <p>Operational improvements</p> | <p>CO₂ benefits from air traffic management; air navigation; green airports; etc.</p> |  |
| <p>Sustainable aviation fuels</p> | <p>Around 200,000 commercial flights with drop-in aviation fuels; 8 conversion processes; 9 airports distributing drop-in aviation fuels</p> |  |
| <p>Market-based measures</p> | <p>Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)</p> |  |

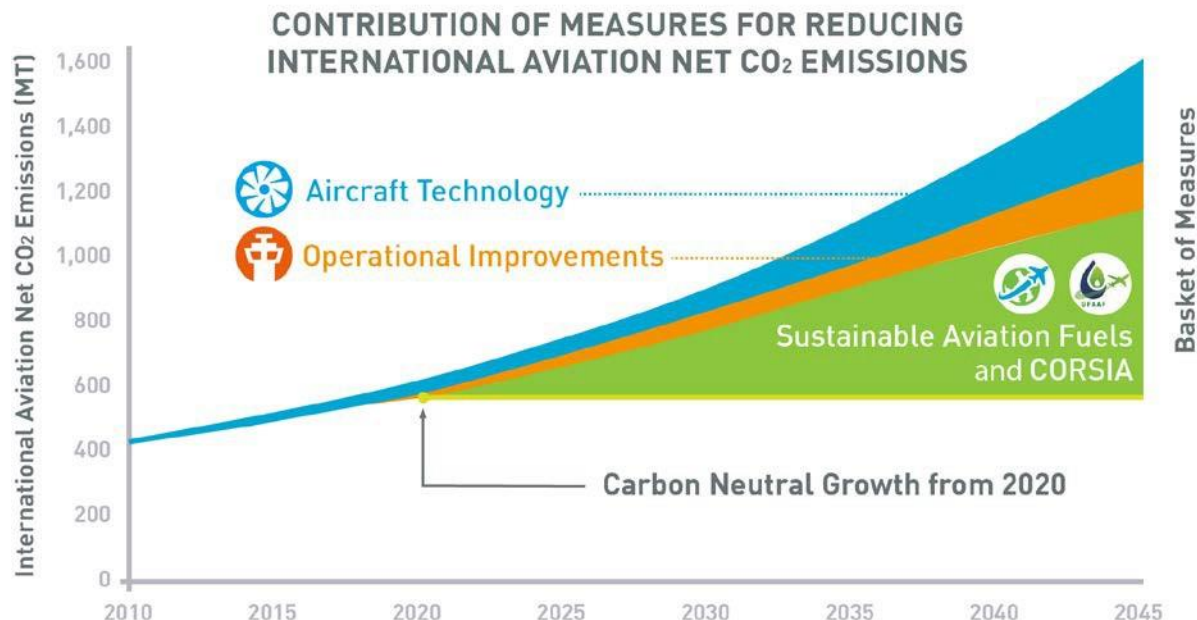


Doc 9988 Chapter 4

APER, EBT, IFSET, MACC

The Basket of Measures

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

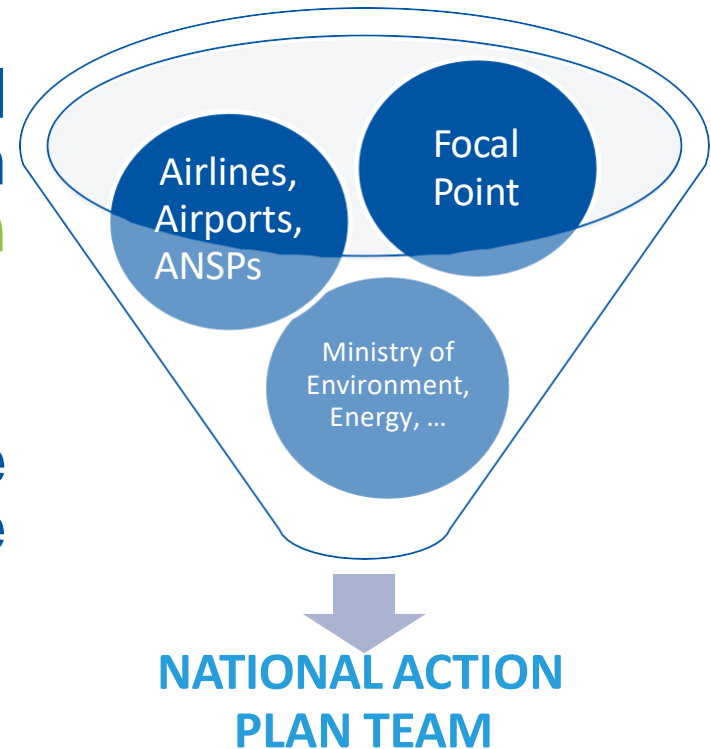


→ **Select measures and quantify their expected results:** feasibility, emissions reduction potential, prioritization of measures, quantification of fuel & CO₂ reduction results



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





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Assistance needs (if needed)

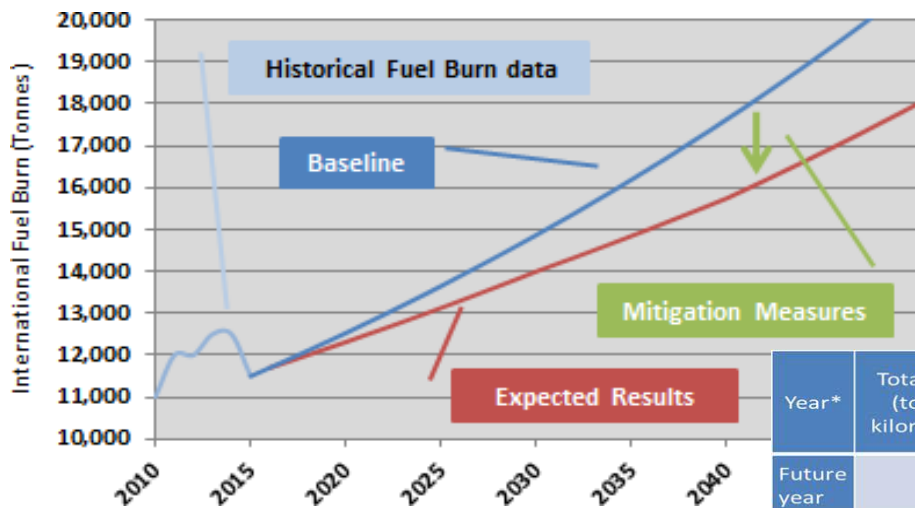


Expected Results

- The expected results provide the estimated fuel consumption and CO₂ emissions **with the implementation of the selected mitigation measures** from the latest available year to 2050.
- It should:
 - Project fuel consumption, emissions, and traffic for the same future years provided in the baseline scenario; and
 - Quantify the effect of the selected mitigation measures.



Expected Results



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.



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Assistance needs (if needed)



Assistance Needs

- Clearly define the assistance needed to implement mitigation measures and to achieve the expected results
 - Technical, financial, research, training/capacity building
- Could facilitate support from other government entities, financial institutions, potential future ICAO assistance projects



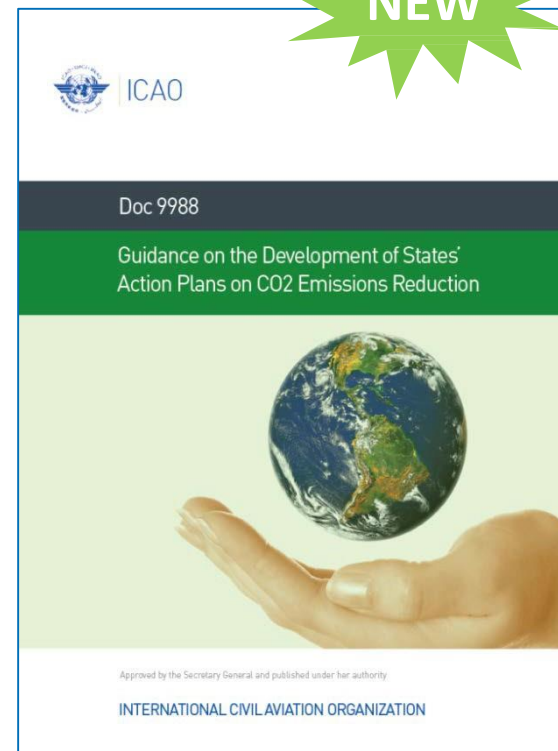
Data confidentiality

- To protect confidentiality, the State may elect not to make certain data publicly available, or aggregate/de-identify the data before including it in the action plan
- In the event that confidential data is collected (e.g., from individual air carriers or on specific international routes), appropriate procedures should be followed by the State for the designation and treatment of such information in accordance with the applicable national legislation and regulations
- A State could improve transparency by explaining in its action plan how confidential information has been treated
- Action plans are submitted to ICAO on a confidential basis. They are **only published on the ICAO public website at the request of the State**
- Assembly Resolution A40-18 *“Encourages States (...) to make the submitted action plans available to the public, taking into account the commercial sensitivity of information contained in States’ action plans;”*, in which case States can anonymize data, e.g. by aggregating/de-identifying the data before including it in the action plan



ICAO Doc 9988

- *Guidance on the Development of States' Action Plans on CO₂ Emissions Reduction Activities*
 - Describes what a State Action Plan should include and provides a step-by-step guide on how to develop it
- More details about everything presented in this Seminar can be found in this document
 - Overview and introduction
 - Baseline calculation
 - Mitigation measures and expected results
 - Implementation and assistance
 - Appendix with examples and detailed information





Next Steps

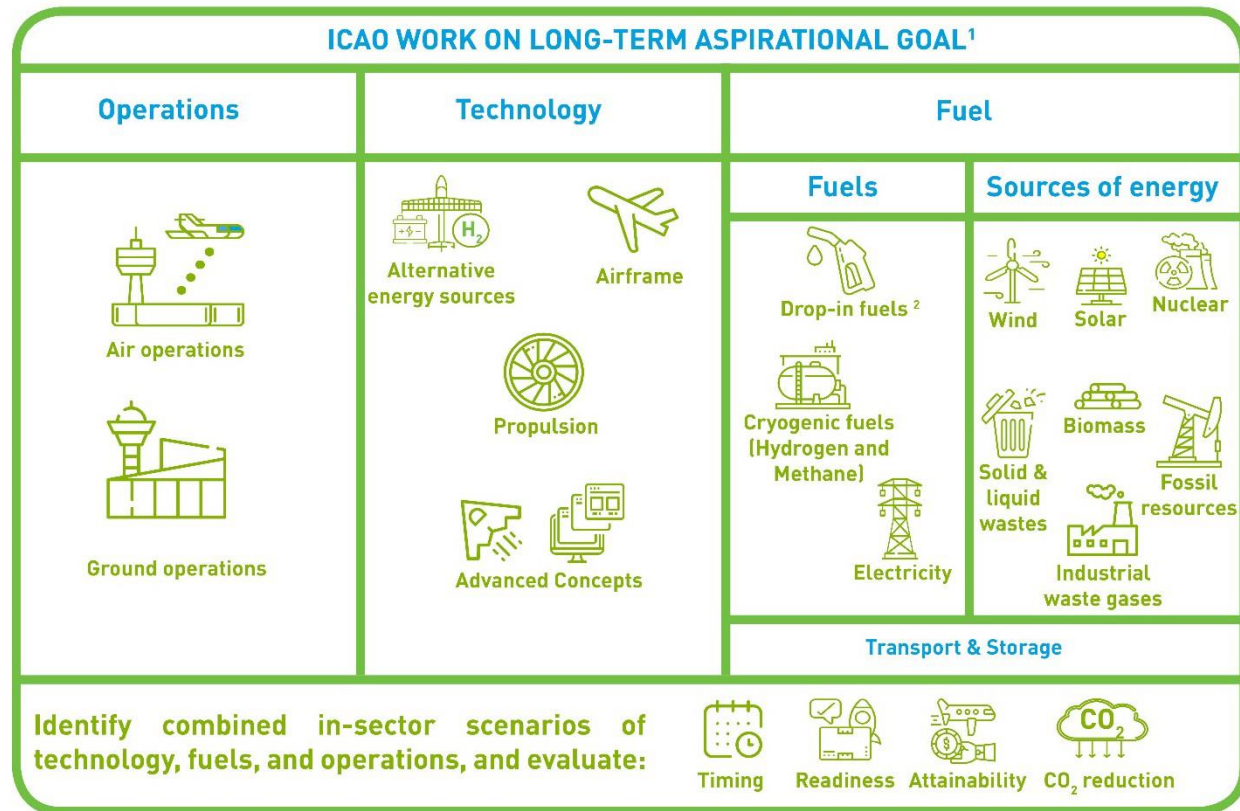
- Further engage with States to support the submission of quantified State Action Plans in 2021.
 - States will be called upon to submit or update their State Action Plans in preparation for assessing global progress towards Carbon Neutral Growth from 2020.
 - This information can also feed into ICAO's work on assessing the feasibility of a long-term aspirational goal for international aviation.
- Update ICAO Doc 9988, the APER website and the other ICAO tools.
- Continue to explore means to facilitate States' access to financial resources through new possible partnerships.

No Country Left Behind



Considering New Actions within the Basket of Measures

- New activities are arising which could further reduce aviation emissions
- Focused on assessing the three **in-sector** emissions reductions measures



¹ This work should identify and evaluate existing, foreseen, and innovative in-sector measures in technology, fuels and operations, and their enablers, including information of probable costs. This will assist in identifying gaps, and information and expertise needed, in order to complete a thorough assessment of all in sector CO₂ reductions for international aviation. This should include timing, readiness, attainability and the quantity of CO₂ reduction possible, based on a feasible roll out into the aviation sector.

² Sustainable Aviation Fuels (SAF), Low Carbon Aviation Fuels (LCAF), E-Fuels. Icons made by Freepik from www.flaticon.com



In Summary

- ICAO encourages all Member States to develop a State Action Plan and keep it up-to-date – every 3 years – **NEXT UPDATE 2021**
- State Action Plans provide States an opportunity to identify measures that will improve fuel efficiency and reduce emissions
- Assembly encourages robust and quantified State Action Plans allow ICAO to assess future progress toward the achievement of ICAO global aspirational goals
- Prompt the exchange of information between national stakeholders to facilitate the implementation of mitigation measures



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ENVIRONMENT

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South American
(SAM) Office
Lima

ICAO
Headquarters
Montréal

Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU