



ICAO Environmental Benefit Tool (EBT)

2026 ICAO APAC Online Training on
State Action Plan (SAP) to Reduce
CO₂ Emissions from International
Aviation

Bangkok, 29 – 30 July 2026

**INTERNATIONAL
CIVIL AVIATION
ORGANIZATION**



ICAO EBT Tool to develop an Action Plan

- The ICAO Environmental Benefits Tool (EBT) and
- Rules of thumbs (Appendix C) provided in ICAO Doc 9988

can be used to quantify annual CO₂ emission reductions and fuel savings from the selected mitigation measures.

Action Plan Emissions Reduction (APER) Website

3

 ICAO SECURE PORTAL

APER

ICAO Secure Portal > APER

Action Plan on Emissions Reduction

SUBMIT A STATE ACTION PLAN

CONTACT ICAO

Welcome Page

Welcome to the Action Plan on Emissions Reduction (APER) Website



This website has been developed to assist States that want to prepare and submit their State Action Plan to ICAO. State Action Plans enable all ICAO Member States to establish a long-term strategy on climate change for the international aviation sector, involving all interested parties at national level. The level of detail submitted within a State Action Plan will ultimately enable ICAO to compile global progress towards meeting the goals set by Assembly Resolution A37-19, and reaffirmed by A38-18, A39-2, and A40-18. States are invited to update their State Action Plans every three years, so that ICAO can continue to compile the quantified information submitted. As defined within ICAO Document 9988 (provided below) a complete State Action Plan should contain:

1. **Contact information** for the officially nominated State Action Plan Focal Point;
2. **Baseline Scenario**: Projected international aviation traffic for the State, fuel consumption and CO₂ emissions for the State until 2050 (without action);
3. List of **selected measures** proposed for mitigating CO₂ emissions from international civil aviation;
4. **Expected Results**: Estimated impact of the selected mitigation measures on the baseline scenario until 2050 (including fuel consumption and CO₂ emissions); and
5. Identification of any **assistance needs** (financial, technological, training, etc.) for the State.

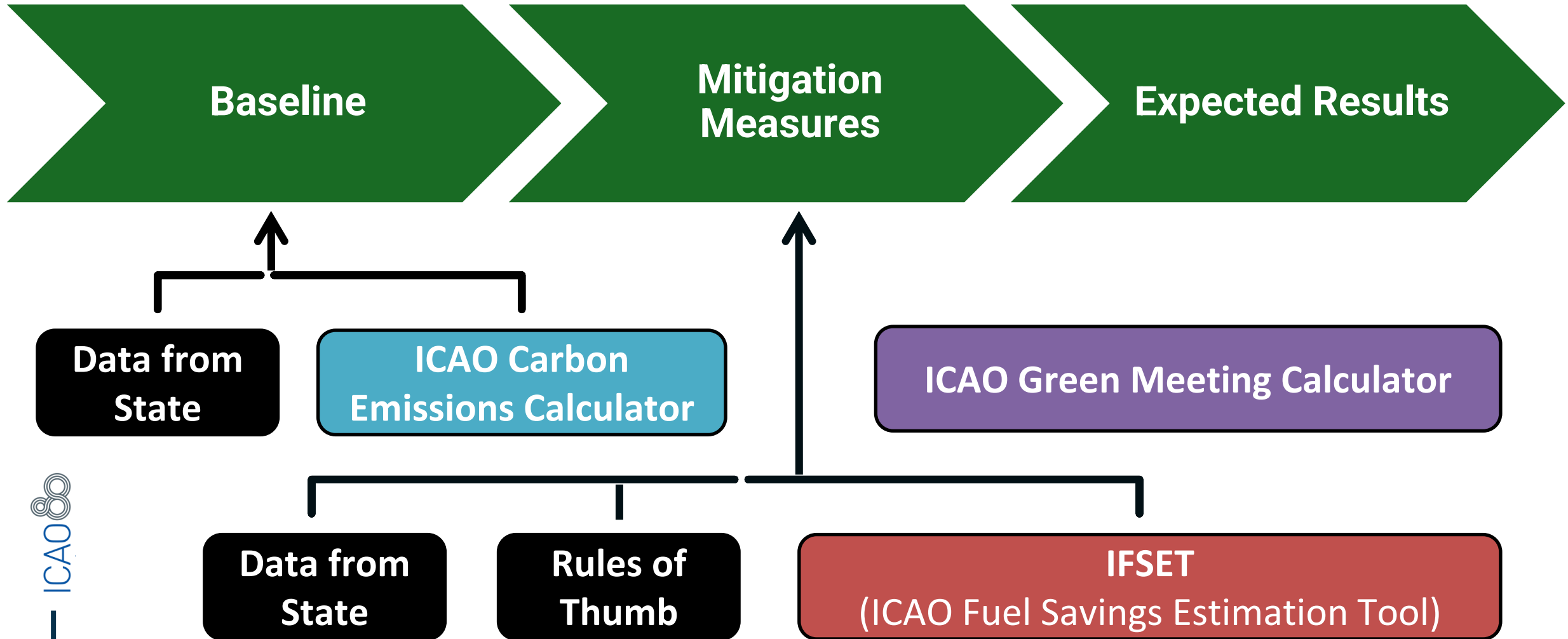
The main resources that all State Action Plan Focal Points are encouraged to utilise are ICAO Document 9988, the Environmental Benefits Tool (EBT), and the UNITAR Training Course.

Please note that the ICAO Secretariat will not translate any State Action Plans or supporting documentation submitted in a language other than the six official languages of the UN. Furthermore, it is emphasized that if a State submits its State Action Plan in a language other than the six official languages of the UN, then the State should also use the web interface to provide (at least) the minimum information described above in English. If the State does not do so, the ICAO Secretariat will not process the submitted information.

To access to the ICAO Portal APER (Action Plan Emissions Reduction) please go to:
<http://portallogin.icao.int/>

Environmental Benefits Tool (EBT) Background

4



- Rules of Thumb
- Excel spreadsheet to calculate the baseline
- RTK table
- ...

● Guidance Document for the Development of States' Action Plans (Doc 9988)

● **EBT**

What EBT does...

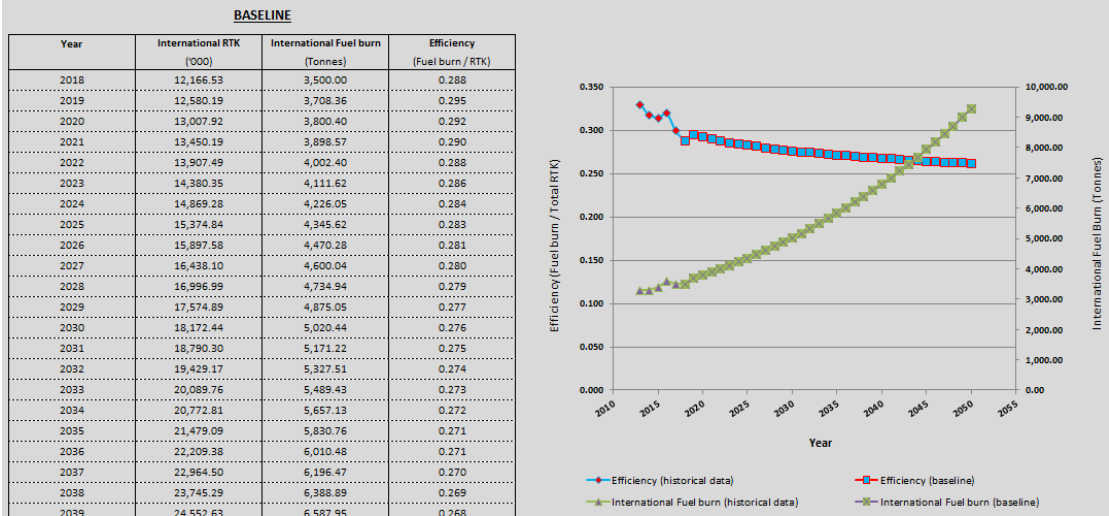
- Helps to develop the **Baseline**
- Helps to estimate the **Mitigation Measures**
- Helps to generate the **Expected Results**



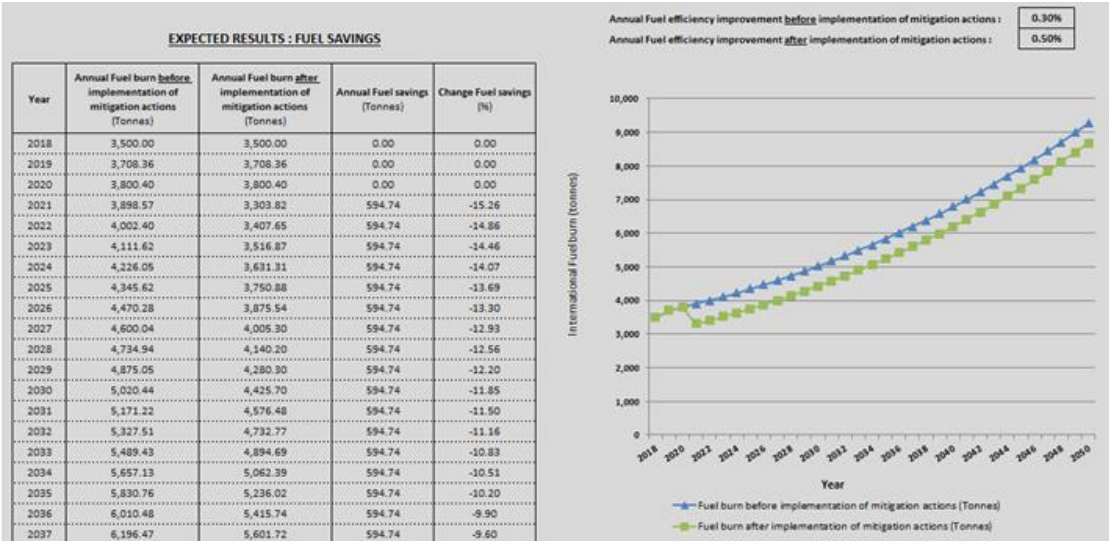
Environmental Benefits Tool (EBT)

Description:

- The EBT is a tool developed for supporting States in the development of their State Action Plan.
- This tool allows easily generating a baseline scenario, estimating the impact of mitigation measures and finally generating expected results.



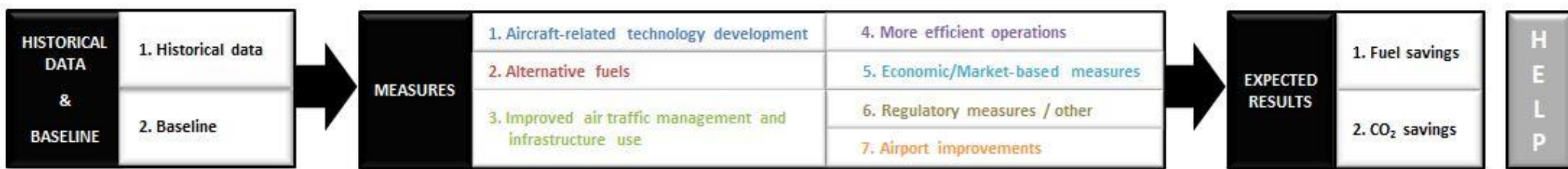
Baseline
Scenario



Expected
Results

Environmental Benefits Tool (EBT) Framework

8



Part 1 : Historical Data & Baseline

1. Select baseline methodology:

- *Method A* – The main national air carrier of the State has a fleet of no more than 10 aircraft
- *Method B* – The State has access to data for 2 years or more
- *Method C* – The State only has data available for a single year

2. Generate the baseline up to 2050

Part 2 : Mitigation Measures

Calculate the impacts of the mitigation measures based on Rules of Thumb, IFSET or State data

Part 3 : Expected Results

Generate the expected results by combining baseline and mitigation measures information

Environmental Benefits Tool (EBT)

Part 1: Historical Data 9

Example based on Method C - fleet size of more than ten aircraft and data available for a single

Import baseline

BASELINE DEFINITION

Help

Methodology for a fleet of no more than 10 aircraft

Method A

The State only has national carriers with fleets of no more than 10 aircraft per airline

Select

Methodologies for a fleet over 10 aircraft

Method B

The State has access to data for 5 years or more

Select

Method C

The State only has data available for a single year

Select

Year : 2022

International RTK ('000) : 1100000

International fuel burn (tonnes) : 415000

Continue

HISTORICAL DATA & BASELINE

1. Historical data

2. Baseline

MEASURES

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

1. Fuel savings

2. CO₂ savings

HELP

2 Input

3 Next (Baseline)

HISTORICAL DATA

Year	International RTK ('000)	International Fuel burn (Tonnes)	Efficiency (Intl. Fuel burn / Intl. RTK)
2022	1100000.00	415000.00	0.377

Environmental Benefits Tool (EBT)

Part 1: Baseline

10

Enter the last year of the baseline (e.g. 2050) :

4

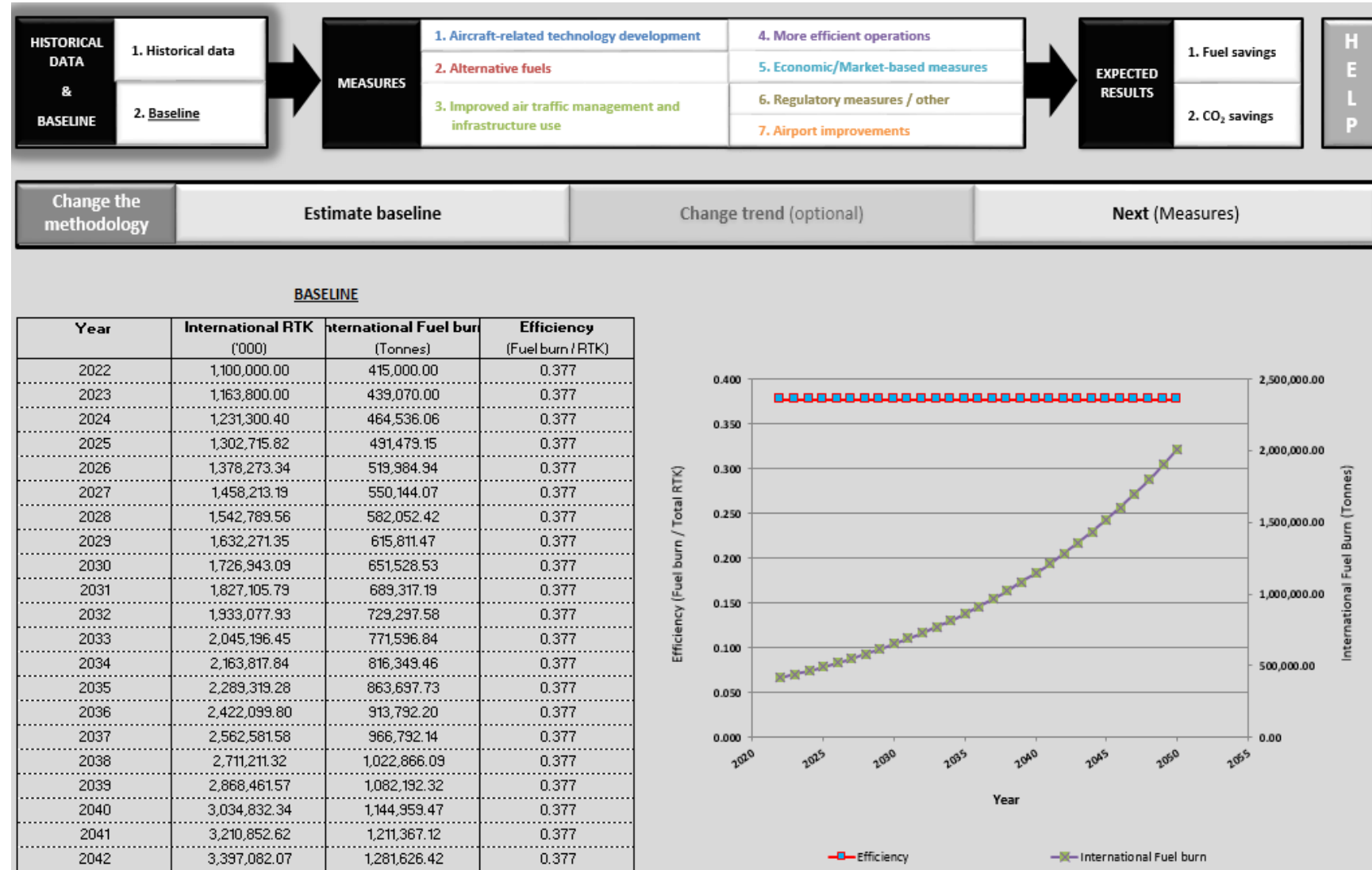
Annual International RTK growth rate

Annual International RTK growth rate

Based on ICAO Circular 333, the Annual International RTK growth rate is for the following region is:

Asia/Pacific 5.80%

Taking into consideration the information above, please enter the Annual International RTK growth rate you wish to use for the baseline in the box below, or click the "Continue" button to validate the Annual International RTK growth rate of : **5.80%**



Mitigation Measures

Front end

Back end

Minimising weight

Level of automation selected: **Low** **Help** **Note** **Close**

ICAO methodology

From (year)

To (year)

Aircraft category

Total number of aircraft / year

Annual flight time / aircraft (hr)

Weight reduction / aircraft (kg)

% of implementation

Add **Clear** **Multi-entry**

State methodology

From (year)

To (year)

Annual fuel savings (tonnes)

Annual growth rate (%) - Optional

Add **Clear**

```
Dim ctrl As Control
For Each ctrl In Me.Frame1.Controls
    If TypeOf ctrl Is msforms.TextBox Or TypeOf ctrl Is msforms.ComboBox
        If ctrl.Text = "" And ctrl.Enabled = 1
            MsgBox "Please fill the form entirely"
            Exit Sub
        End If
    End If
Next
```

Environmental Benefits Tool (EBT)

Part 2: Mitigation Measures – Front end

12

Minimising weight

Inputs from State:

- Time period (from, to)
- Aircraft category
- Total number of aircraft per year
- Annual flight time per aircraft
- Weight reduction per aircraft
- % of implementation

Minimising weight

Level of automation selected : **Low** **Help** **Note** **Close**

ICAO methodology

From (year)

To (year)

Aircraft category

Total number of aircraft / year

Annual flight time / aircraft (hr)

Weight reduction / aircraft (Kg)

% of implementation

Add **Clear** **Multi-entry**

State methodology

From (year)

To (year)

Annual fuel savings (tonnes)

Annual growth rate (%) - Optional

Add **Clear**

What are the Rules of Thumb ?

“Method or procedure derived from practice or experience, rather than theory or scientific knowledge.”

Environmental Benefits Tool (EBT)

Part 2: Mitigation Measures – Back end (cont.)

15

Minimising weight

Inputs from State:

- Time period (from, to)
- Aircraft category
- **Total number of aircraft per year**
- **Annual flight time per aircraft**
- Weight reduction per aircraft
- % of implementation

Minimising weight

Level of automation selected : **Low** **Help** **Note** **Close**

ICAO methodology

From (year)

To (year)

Aircraft category

Total number of aircraft / year

Annual flight time / aircraft (hr)

Weight reduction / aircraft (Kg)

% of implementation

Add **Clear** **Multi-entry**

State methodology

From (year)

To (year)

Annual fuel savings (tonnes)

Annual growth rate (%) - Optional

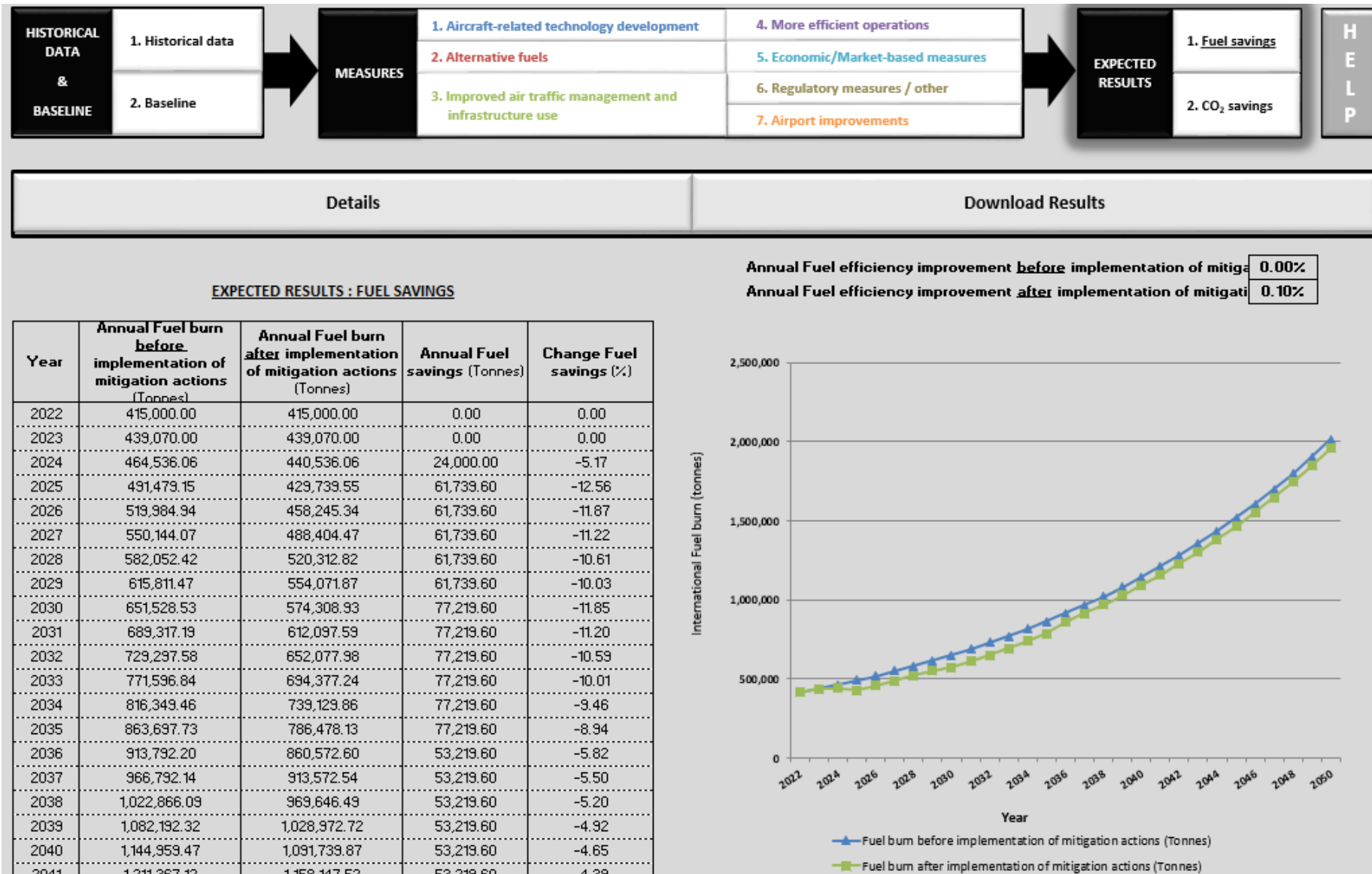
Add **Clear**

Annual Fuel Savings = Weight reduction factor * Annual flight time * Weight reduction * Number of aircraft

Environmental Benefits Tool (EBT)

Part 3: Expected Results

16



Thank You

