

International Civil Aviation Organization


ASBU/SIP/Lima/2012-WP/29

Measurement of environmental benefits

Saulo Da Silva

Workshop on preparations for ANConf/12 – ASBU methodology
(Lima, 16-20 April 2012)

OVERVIEW



- KPA
- ASSEMBLY RESOLUTION
- OPERATIONAL IMPROVEMENTS
- IFSET
- SUMMARY

ICAO SIP 2012 - ASBU workshops2

KPA



- ENVIRONMENT

The air navigation system should contribute to the protection of the environment by considering noise and **emissions** in the implementation and operation of the global air navigation system.

Assembly Resolution



- Climate change
- **A37-19-Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change**

Assembly resolution



- **A37-19**
- ***Resolves:***
- **to achieve a global annual average fuel efficiency improvement of 2 per cent until 2020.**
- **and an aspirational global fuel efficiency improvement rate of 2 per cent per annum from 2021 to 2050.**

Assembly resolution



- **A37-19**
- **Requests ICAO to:**
- **develop the necessary tools to assess the benefits associated with ATM improvements.**

OPERATIONAL IMPROVEMENTS



- **PBN**
- **CDO/CCO**
- **RVSM**
- **FUA**
- **ETC.**

ICAO SIP 2012 - ASBU workshops

7

IFSET



- **ICAO FUEL SAVINGS ESTIMATION TOOL**
 - Simple to use and scientific defensible
- States will begin reporting on fuel savings from operational improvements in 2012.
- Not all States have the ability to quantify these savings.

ICAO SIP 2012 - ASBU workshops

8

IFSET – WHAT IT DOES



- Allows those States without modelling and/or measurement capabilities to estimate fuel savings from operational improvements.
- Consistent with CAEP-approved GHG models.
- Consistent with Global Air Navigation Plan.
- Easy-to-use / minimal data requirements.

IFSET – WHAT IT DOES (Cont.)



- The tool can estimate:
 - Effects of shortening / eliminating level segments on departure and arrival.
 - Effects of shorter routes (either in time or distance).
 - Effects of cruising at different altitudes.
 - Effects of reduced taxi times.

IFSET – WHAT IT DOES NOT



- **The tool does not replace detailed modelling or measurement of fuel consumption already available in a State.**

IFSET – HOW IT WORKS



- Pre-compute aircraft performance
 - Level, climb and descent fuel consumption
 - By group of aircraft type
 - In 1000 foot intervals

IFSET – HOW IT WORKS – USER INPUT



- Fleet mix defined for baseline and post-implementation scenario
 - Aircraft type group
 - “Remaining flight distance” (as a surrogate for weight)
- User selects “elements” to define the baseline and “new” procedure
- Tool estimates the change in total fuel consumption between the 2 scenarios

ICAO SIP 2012 - ASBU workshops

13

IFSET – SCHEDULE

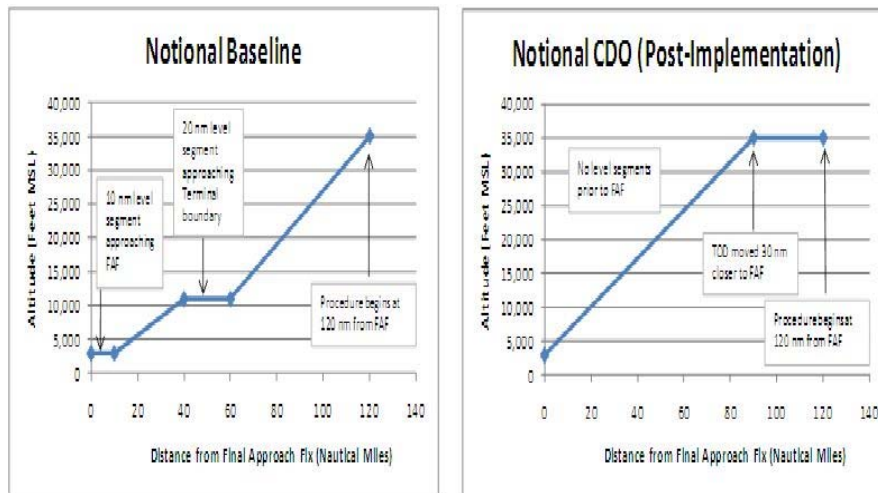


- **December 2011** – ICAO releases the first version of the IFSET. (SL AN 13/61-12/4, 6Jan 2012)
- **2011/2012** – Workshops on how to use IFSET.
- **2012** – States/ANSPs start estimation and reporting fuel savings accrued from operational improvements.
- **Dec 2012** – ICAO releases the environment report with the results obtained.

ICAO SIP 2012 - ASBU workshops

14

IFSET – example



ICAO SIP 2012 - ASBU workshops

15

IFSET – example



- IFSET

ICAO SIP 2012 - ASBU workshops

16

SUMMARY



- KPA
- ASSEMBLY RESOLUTION
- OPERATIONAL IMPROVEMENTS
- IFSET

ICAO

Uniting Aviation on

Safety | Security | Environment