IATA-IETA Workshop on Aviation and Carbon Markets

24 July 2018
IATA Executive HQ, Geneva
IATA Anti-trust guidelines

The exchange of information of the following types of information is for example prohibited:

• Individual airline rates, charges or surcharges;
• Individual airline costs;
• An individual airline’s intentions regarding increasing, reducing or reallocating aircraft capacity (including entering or exiting routes);
• An individual airline’s intentions regarding charging for certain products or services or changes to the existing charges for such products or services;
• Information on individual airlines customers; and
• Any other sensitive commercial or proprietary information that the company would not disclose in the absence of an express or implied agreement to exchange such information for the purpose of reducing or restricting competition in the airline industry.
Agenda

1. 13.00pm  Welcome and Introduction
2. 13.15pm - 13.45pm  CORSIA latest progress
3. 13.45pm - 15.00pm  UNFCCC/Paris Agreement
4. 15pm - 15.15pm  Coffee Break
5. 15.15pm - 16.30pm  Double-counting
6. 16.30pm - 17.00pm  Technical Advisory Board
7. 17.00pm - 17.45pm  Roundtable discussion
8. 18.00pm  Evening Social
Welcome and introduction

Michel Adam
Senior Manager,
Aviation Environment
The International Air Transport Association (IATA) is the trade association for the world’s airlines, representing some 290 airlines or 82% of total air traffic.

† Our Vision
To be the force for value creation and innovation driving a safe, secure and profitable air transport industry that sustainably connects and enriches our world.

† Our Mission
to represent, lead, and serve the airline industry.
814 million tonnes of CO2

2% of global man-made carbon emissions
Tackling the climate challenge

3 GLOBAL GOALS

4 PILLARS OF CLIMATE ACTION
The industry’s targets

**GOAL 1**
Pre-2020 Ambition

1.5% Annual Average Fuel Efficiency Improvement from 2009 to 2020.

**GOAL 2**
In line with the Next UNFCCC Commitment Period

Stabilise Net Aviation CO₂ Emissions at 2020 Levels with Carbon-Neutral Growth.

**GOAL 3**
On the 2°C Pathway

Reduce Aviation’s Net CO₂ Emissions to 50% of What They Were in 2005, by 2050.
Tactical improvements across the system

- TECHNOLOGY
- OPERATIONS
- INFRASTRUCTURE
- MARKET-BASED MEASURE
MARKET-BASED MEASURE

Through new technology, improved operational measures and more efficient infrastructure, the industry has avoided 8.5 billion tonnes of CO₂ since 1990.

Emissions trajectory if we were still operating at the same efficiency levels as in 1990.

GOAL 2: CNG2020

Where emissions would be if efficiency does not improve from today.

Savings already achieved

GOAL 3: -50%

With constant efficiency improvement through the pillars of technology, operations and infrastructure.

With gradual introduction of radical new technologies and sustainable alternative fuels.
A growing number of patchwork of measures

Regional, national and subnational carbon pricing initiatives

“Carbon Offsetting and Reduction Scheme for International Aviation” (CORSIA)
- Aim is to address growth in CO₂ emissions from international civil aviation above 2020 levels
- Applies to international flights only
Countdown to CORSIA

28  SEPTEMBER  2015
29  OCTOBER     2016
30  NOVEMBER    2017
31  DECEMBER    2018
01  JANUARY     2019
02  FEBRUARY    2020
03  MARCH       2021
04  APRIL       2022
05  MAY         2023
It is IETA’s policy to comply fully with all applicable laws, including competition and antitrust laws. IETA has developed a Competition Policy to govern the conduct of participants both at formal meetings and in informal discussions that take place at events before or after formal meetings.

In particular participants should not discuss or agree confidential information about:

- matters relating to their pricing practices;
- plans to expand or reduce output;
- arrangements relating to specific customers; or
- any other matter on which participants compete in the market place.

Infringement of competition law may bring with it serious consequences for you as an individual, the companies you represent and IETA itself. If the chair considers that discussions might be construed as being sensitive from a competition law perspective, the chair will bring an end to that topic of discussion. Meeting participants should likewise not hesitate to voice any concerns they may have. Participants should also familiarise themselves with IETA’s Competition Policy and the Guidelines in the Do’s and Don’t’s document. A copy is available online at www.ieta.org
What is IETA?

Global Cross-Sector Business Association

+130 companies from oil, electricity, banking, industry, traders and brokers, law, consulting, project developers, exchanges, verifiers, etc.

... Collectively providing a global business voice on carbon markets

Principles:

• GHG trading systems = most efficient means of achieving environmental objectives

• LT policy certainty is necessary to achieve cost-effective reductions

• Use of offsets/linkages to a global carbon market are effective ways to contain costs
Carbon Markets Worldwide

- California
- Oregon
- Washington
- British Columbia
- Alberta
- Manitoba
- Ontario
- Quebec
- New Brunswick
- Nova Scotia
- RGGI
- US
- Canada
- Mexico
- Colombia
- Trinidad and Tobago
- South Africa
- Australia
- New Zealand
- Tokyo & Saitama
- South Korea
- China
- Kazakhstan
- Turkey
- Ukraine
- Turkey
- Hybrid Carbon Pricing
- Linkages
IETA engagement

- ICAO (International Civil Aviation Organization)
- CARBON PRICING LEADERSHIP COALITION
- WORLD BANK
- ICROA (International Carbon Reduction & Offset Alliance)
- Green Climate Fund
- Partnership for Market Readiness
The IETA offering

- Access to IETA intelligence and WG activities
- Intelligence on carbon market developments
- Engagement with policy-makers
- Insights from service providers
- Networking opportunities
- Global reach
Carbon Market Readiness Training Guide (+ videos)

ieta.org/Carbon-Market-Readiness-Training-Guide

Chapters:
1. The ‘Golden Rules’ - 10 Key Lessons on ETS Readiness
2. Corporate governance and organisation on emissions trading
3. Carbon accounts and risk management
4. Emissions trading compliance: key lessons on compliance and policy awareness
5. All about allowances: carbon management strategies
6. Allocation: how to navigate benchmarking
7. Carbon leakage and competitiveness issues
8. The Exchange: how carbon is traded and the importance of liquidity
9. Developing an internal and external offset strategy: what is key to engage and invest in offset projects
10. MRV and the challenges accompanying offset generation
11. Carbon price forecasts
12. Emissions Trading and Risk Management
IETA’s resource library
CORSIA Progress Update

Yue HUANG
Manager, Aviation Environment
CORSIA Progress

- ICAO Process
- CORSIA Building Blocks
- Emission Units Criteria under CORSIA
ICAO 214th Council Session

✓ ICAO Council adopted CORSIA SARPs on June 27, 2018, which is now known as the First Edition of Annex 16, Volume IV, to the Chicago Convention.

✓ A strong momentum of get CORSIA into operation.
ICAO PROCESS

States: Adoption of national legislations
 Operators: Development of emissions monitoring plans

State Letter (SL)
5 December 2017
Deadline for comments
20 April 2018

Air Navigation Commission
20 April 2018

214th Council
June 11 to 29, 2018
Adoption of Annex 16, Vol. IV
June 27, 2018
Submission of EMP
30 Sept. 2018
(recommended)

MRV on all international flights
1 January 2019
CORSIA: key elements

Assembly Resolution A39-3
- Political agreement
- Establishes core rules
CORSIA: key elements

Annex 16, Volume IV
- International standards and recommended practices (SARPs)
- To be implemented by ICAO member states in accordance with Chicago Convention
CORSIA: key elements

Environmental Technical Manual
→ Guidance for the implementation of Annex 16
CORSIA: key elements

Implementation elements and supporting documents

- Essential for the implementation of CORSIA
- Contain Emissions Unit Criteria and SAF Sustainability Criteria
- Remain to be adopted by the ICAO Council
What activities are covered under CORSIA?
Which activities are covered by CORSIA?

- Domestic flights
- International flights
Domestic vs international flights

- Solely based on origin and destination of flight segment
- Nationality of operator not taken into account
Domestic vs international flights

Each flight segment considered individually

*Ex: Flight from NRT to JFK, with technical stop in ANC*

- NRT to ANC
- ANC to JFK
Which activities are covered by CORSIA?

- Civil international flights
- Non-civil international flights
Civil vs non-civil flights

Civil flights include:

- Scheduled flights
- Non-scheduled flights
- Cargo
- Business aviation
- General aviation

But not:

- Heads of State flights
- Military
- Customs and police
Which activities are covered by CORSIA?

- All helicopters + aeroplanes with MTOM < 5,700kg
- Civil international flights with aeroplanes with MTOM > 5,700 kg
Aeroplanes NOT subject to CORSIA

Helicopters (aeroplanes = fixed wings)
MTOM < 5,700 kg (e.g. DHC-6 Twin Otter, Cessna C208)
Which activities are covered by CORSIA?

- Humanitarian, firefighting and medical flights
- Civil international flights with aeroplanes with MTOM > 5,700 kg except humanitarian, firefighting and medical
Which activities are covered by CORSIA?

Civil international flights with aeroplanes with MTOM > 5,700 kg except humanitarian, firefighting and medical

If operator’s annual CO₂ > 10,000 tonnes
Phased Implementation
**Phased implementation**

**PILOT PHASE**
2019 - 2020

- **VOLUNTARY**
  - States are volunteering to be part of the scheme from 2021 (more States are encouraged to volunteer).
  - Operators flying routes between volunteering States will offset emissions based on the average CO2 growth of the aviation sector.

**FIRST PHASE**
2021 - 2026

- Operators will offset based on average CO2 growth of the sector.

**SECOND PHASE**
2027 - 2035

- **MANDATORY**
  - With exemptions for: Small Islands, Least Developed Countries, Land-locked Developing Countries and States which have less than 0.5% of air traffic (although they can still volunteer).
  - Offset obligations shift to include over 20% of individual operator growth.
  - Offset obligations shift to be over 70% based on individual operator growth.

**OVER 80% OF THE GROWTH IN AIR TRAFFIC CO2 AFTER 2020 WILL BE OFFSET**
CORSIA Coverage

CORSIA COVERAGE
CURRENT AS OF 2 JULY 2018

75+% OF POST-2020 GROWTH IN CO2 EMISSIONS COVERED

76% OF INTL AVIATION ACTIVITY IN COVERED STATES

- STATES VOLUNTEERING FROM 2021
- EXPECTED TO JOIN FROM 2027 (Forecast)
- STATES EXPECTED TO BE EXEMPT
  (LDCs, LLDCs, SIDS, low levels of activity)
Compliance requirements

Offsetting requirements
ICAO publishes Annual Sector Growth Factor (SGF) of CORSIA

Authorities notify operators about their final offsetting requirements at the end of each compliance year.
After the notification of their final offsetting requirements, operators have 60 days to ensure sufficient emissions units have been cancelled.

Operators can purchase and cancel emissions units at any time.
Operators must compile information on emissions units cancelled in an “Emissions Unit Cancellation Report” (EUCR).

The operator must engage a verification body to verify the EUCR before it submits it to the State.
Working Mechanism under ICAO for CORSIA
Working Mechanism under ICAO

ICAO Council

ICAO’s Committee on Aviation Environmental Protection

WG1 Noise
WG2 Airports and Operations
WG3 Emissions
AFTF Alternative Fuels
GMTF Market Based Measures

ACCS Aviation Carbon Calculator Support Group
ISG Impacts and Science Group
MDG Modelling and Database Group
FESG Forecast and Economic Analysis Support Group
Global Emission from International Aviation

- International aviation CO₂ emissions between 2010 - 2040.

<table>
<thead>
<tr>
<th>International Aviation CO₂ Emissions (in Million tonnes)</th>
<th>2010</th>
<th>2018-2020</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Optimistic Scenario</td>
<td>438</td>
<td>671</td>
<td>704</td>
<td>879</td>
<td>1,048</td>
<td>1,270</td>
<td>1,491</td>
</tr>
<tr>
<td>Optimistic Scenario</td>
<td>438</td>
<td>656</td>
<td>686</td>
<td>828</td>
<td>945</td>
<td>1,101</td>
<td>1,249</td>
</tr>
</tbody>
</table>

**Quantity of CO₂ Emissions to Offset** *without adjustments*
CO2 Emissions to be Offset

- Final quantity to offset after adjustments

![Graph showing CO2 emissions offsets from 2020 to 2040 across two scenarios: Less Optimistic and Optimistic. The table below the graph provides specific offset quantities for each scenario year:]

<table>
<thead>
<tr>
<th>Final Quantity to Offset after adjustments (in Million tonnes of CO2 emissions)</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Optimistic Scenario</td>
<td>-</td>
<td>174</td>
<td>376</td>
<td>596</td>
<td>816</td>
</tr>
<tr>
<td>Optimistic Scenario</td>
<td>-</td>
<td>142</td>
<td>288</td>
<td>443</td>
<td>590</td>
</tr>
</tbody>
</table>
Cost from offsetting CO2 Emissions from International Aviation

- Assumptions on unit carbon price are driving significant uncertainty in total cost impacts of offsetting CO₂ emissions from international aviation.

<table>
<thead>
<tr>
<th>Carbon Price Assumptions:</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEA High</td>
<td>20 $/ton</td>
<td>33 $/ton</td>
<td>40 $/ton</td>
<td></td>
</tr>
<tr>
<td>IEA Low</td>
<td>8 $/ton</td>
<td>15 $/ton</td>
<td>20 $/ton</td>
<td></td>
</tr>
<tr>
<td>Alternative Low*</td>
<td>6 $/ton</td>
<td>10 $/ton</td>
<td>12 $/ton</td>
<td></td>
</tr>
</tbody>
</table>

IEA WEO 2013 carbon price paths reflect allowance prices only.

The alternative low carbon price path takes into account a larger pool of emissions units with lower abatement costs.

* New case with alternative low carbon price
Approaching carbon markets under CORSIA

- 1.94 Gt CERs issued by 17 July, 2018
- 63.4 Mt 2016 voluntary offset market
- 2.6+ Gt 2021-2035
Key Message from the industry

- ICAO remains the **sole authority** of deciding EUC
- Ensuring **environmental integrity** and **sufficient supply**
- All operators should have access to all but only those units approved by the Council, to ensure no market distortion.
Thank you!