Aviation update

• Historic decision by 39th ICAO Assembly on 6 October 2016
• Culmination of several years collaborative action by States, industry and civil society
• Ensures aviation industry can continue to grow sustainably
Tackling the climate challenge

3 GLOBAL GOALS

4 PILLARS OF CLIMATE ACTION
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.

Savings already achieved.

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

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

With gradual introduction of radical new technologies and sustainable alternative fuels.

GOAL 2: CNG2020

GOAL 3: -50%
Paris Agreement provided momentum to ICAO discussions

- Paris Agreement expected to enter into force from 2020
- Based on ‘bottom-up’ principle through INDCs
- Secures use of market instruments for climate action
- Leaves aviation and shipping out – to be progressed through ICAO and IMO
Aviation’s global market-based measure has been agreed

Historic decision at ICAO Assembly
Nearly all 191 ICAO States supported ‘CORSIA’

Industry was instrumental in agreement
Seven years since industry set goals and started pushing for a global MBM
Aviation’s global market-based measure has been agreed

- Addresses increase in CO2 emissions from international civil aviation above 2020 levels
- The market-based measure applying to CO2 emissions from international aviation
- Complements a broader package of measures to achieve CNG2020
- Phased-implementation to address principles of Common but Differentiated Responsibilities (CBDR) and Special Circumstances and Respective Capabilities (SCRC)
Why did the industry support such action?

A COMMITMENT FROM INDUSTRY TO ACTION ON CLIMATE CHANGE

( across: technology and alternative fuels; operations; infrastructure and a market-based measure to close the gap between growth and a cap on emissions).

DESIRE TO AVOID A PATCHWORK OF WORLDWIDE MEASURES

These overlapping, uncoordinated mechanisms would bring extra cost and administrative burden to the sector.
ICAO had considered three MBM options

- Global levy
- Global emissions trading scheme
- Global offsetting
ICAO had considered three MBM options

**Offsetting:**
- Ties in with existing UNFCCC infrastructure
- Is simple enough to be implemented by all countries by 2020
- More cost-effective than a tax or levy
- Less complex than an emissions trading scheme
- Provides environmental integrity through funding of offset projects worldwide
How does CORSIA work?

<table>
<thead>
<tr>
<th>PILOT PHASE</th>
<th>FIRST PHASE</th>
<th>SECOND PHASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUNTARY</td>
<td>MANDATORY</td>
<td></td>
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</table>

- **VOLUNTARY**: 66 States have volunteered to be part of the scheme from 2021 (more States are encouraged to volunteer).
- **MANDATORY**: 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).

Operators in the States included will offset emissions based on the average CO₂ growth of the aviation sector.

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

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**
Which States are included in the first (voluntary) phases?

As of 12 October 2016, 66 states have volunteered to be part of CORSIA from the start.
Route-based approach means market distortion is limited.
## Other considerations of the CORSIA

### Technical Exemptions
- Humanitarian and fire-fighting flights
- Small operators (under 10,000 tonnes of CO₂ each year)
- Aircraft under 5.7 tonnes
- Military and State aircraft

### New Entrants
- Exempt for first three years of operation
- or
- unless they reach 0.1% of global RTKs

### Timeline for MRV
- **2017**: ICAO to develop SARPs, guidance and templates
- **2018**: States to implement national regulatory frameworks
- **2019/2020**: Monitoring, reporting and verification for baseline
- **2021**: Scheme starts

### Ongoing Actions
- **Operators**: develop, verify and submit annual CO₂ reports
- **States**: verify reports and transmit data to ICAO
- **ICAO**: 3-year reviews undertaken by Council / Assembly
- **Operators**: Surrender offsets at least every 3 years
### HOW MUCH WILL CORSIA COST PER FLIGHT?

<table>
<thead>
<tr>
<th>Sample flights (2030, operator growing at average industry growth rate)</th>
<th>Offsets Low estimate</th>
<th>Offsets High estimate</th>
<th>Fuel Cost, summer 2016 price</th>
<th>Fuel fluctuation (Cost at $10/barrel increase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casablanca → Madrid</td>
<td>$51</td>
<td>$131</td>
<td>$1,656</td>
<td>$778</td>
</tr>
<tr>
<td>Frankfurt → Addis Ababa</td>
<td>$578</td>
<td>$1,477</td>
<td>$18,920</td>
<td>$3,172</td>
</tr>
<tr>
<td>Mexico → Buenos Aires</td>
<td>$910</td>
<td>$2,357</td>
<td>$29,799</td>
<td>$4,996</td>
</tr>
<tr>
<td>Dubai → Sydney</td>
<td>$2,542</td>
<td>$6,585</td>
<td>$83,248</td>
<td>$10,957</td>
</tr>
</tbody>
</table>

It is difficult to determine the exact per passenger price impact, as airlines must individually determine how to allocate the cost of purchasing offsets.

Airlines operate in a hyper-competitive industry and cannot always pass on their full costs to their passengers.

However, based on the estimates above, we do not expect the cost of the scheme to adversely impact traffic growth. It is an additional cost, but it is manageable.

### ICAO projections of the cost of the global offsetting scheme to industry and percentage of industry revenues

<table>
<thead>
<tr>
<th>Year</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost to Industry</td>
<td>$1.5 bn</td>
<td>$2.2 bn</td>
<td>$23.9 bn</td>
</tr>
<tr>
<td>% of Industry Revenue</td>
<td>-0.2%</td>
<td>-0.7%</td>
<td>-1.8%</td>
</tr>
<tr>
<td>Cost at $10/barrel increase</td>
<td>$6.2 bn</td>
<td>$6.3 bn</td>
<td>$8.9 bn</td>
</tr>
<tr>
<td>TOTAL COST TO INDUSTRY</td>
<td></td>
<td>$12.4 bn</td>
<td>$23.9 bn</td>
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</table>
How will offsetting work for aviation?
Next steps in the implementation of CORSIA by 2020

• **Capacity building** to help States / operators to prepare for MRV and offset purchasing

• Finalisation of two remaining technical standards and guidance material:
  • *Monitoring, reporting and verification* protocols
  • *Emissions unit criteria* to determine credit eligibility under CORSIA

• The **architecture** of the scheme: national and global registries
Key take-aways from the industry

• Aviation sector is fully committed to climate action
  • Across all pillars: technology, operations, infrastructure
  • A market-based measure in the form of a global mandatory offsetting scheme is a vital part of that plan
  • Industry is already undertaking significant action
  • But is not enough to meet goals of industry, expectations of global community vis-à-vis Paris Agreement

• A well-designed single MBM to support our sustainable growth
  • To meet the needs of the world economy, responsibly

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