Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

Coalition on Agricultural Greenhouse Gases meeting
Sacramento, CA
March 9, 2017
Aviation Emissions

- 2% of global CO2 emissions and growing
- 3 – 5% of warming impact
  - Other emissions
  - Contrails
  - Altitude
- Exempted from UNFCCC negotiations since Kyoto Protocol (1997)
- EU-ETS attempt to cover aviation from 2012 prompted action
International Aviation Governance

- International Civil Aviation Organization (ICAO)
  - UN agency
  - Established under the Convention on Civil International Aviation, the “Chicago Convention,” signed in 1944
Oct. 2016, 39th Assembly passed Resolution A39-3
A39-3 decided that the Global Market-Based Mechanism (GMBM) would be fulfilled with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)
Carbon Neutral Growth from 2020 (CNG20)

Contribution of Measures for Reducing International Aviation Net CO₂ Emissions

Source: ICAO
Potential Offsetting Requirements

**Final Quantity to Offset after Adjustments (in Million tonnes of CO₂ emissions)**

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Less Optimistic Scenario</strong></td>
<td>-</td>
<td>174</td>
<td>376</td>
<td>596</td>
<td>816</td>
</tr>
<tr>
<td><strong>Optimistic Scenario</strong></td>
<td>-</td>
<td>142</td>
<td>288</td>
<td>443</td>
<td>590</td>
</tr>
</tbody>
</table>

Source: ICAO

Source: CAEP analysis presented at EAG/15
Potential Offsetting Costs

Monetization of International Aviation CO₂ Emissions requiring Offsets (in 2012$)

<table>
<thead>
<tr>
<th>Year</th>
<th>IEA High</th>
<th>IEA Low</th>
<th>Additional Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>1.5 $/ton</td>
<td>2.2 $/ton</td>
<td>1.5 $/ton</td>
</tr>
<tr>
<td>2025</td>
<td>4.8 $/ton</td>
<td>4.8 $/ton</td>
<td>4.8 $/ton</td>
</tr>
<tr>
<td>2030</td>
<td>6.2 $/ton</td>
<td>9.5 $/ton</td>
<td>9.5 $/ton</td>
</tr>
<tr>
<td>2035</td>
<td>8.9 $/ton</td>
<td>12.4 $/ton</td>
<td>12.4 $/ton</td>
</tr>
</tbody>
</table>

Carbon Price Assumptions:
- IEA High: 20 $/ton
- IEA Low: 8 $/ton
- Additional Low: 6 $/ton

Source: CAEP analysis presented at EAG/15

Source: ICAO
Phases and Participation

- **2021-2023: Phase 1 (Pilot)** – Countries can voluntarily opt-in.
- **2024-2026: Phase 2 (CP1)** – First implementation phase, but also on a voluntary basis. Countries can voluntarily opt-in.
- **2027-2035: Phase 3 (CP2)** – Second implementation phase to include most states. Mandatory compliance, unless exempted.
- **Reviews every 3 years, starting in 2022.** Special review in 2032 will assess whether to extend GMBM.

*Source: IETA*
Participation and CNG20

Cumulative emission reductions to be achieved depending on participation in ICAO MBM

- **Coverage gap**
- **Emissions covered**

<table>
<thead>
<tr>
<th>Years</th>
<th>Coverage Gap</th>
<th>Emissions Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot + Phase 1 (2021-2026)</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>Phase 2 (2027-2035)</td>
<td>79%</td>
<td>79%</td>
</tr>
<tr>
<td>2021-2035</td>
<td>77%</td>
<td>77%</td>
</tr>
</tbody>
</table>

Source: EDF, 3/3/17
Establishing Infrastructure

- CORSIA MRV system will be implemented through ICAO Standards and Recommended Practices (SARPs).
- Emissions Units Criteria (EUC) system will be implemented through SARPs. Explicit support for UN-backed credits to be accepted (i.e., UNFCCC mechanisms under Paris may be eligible for use in CORSIA provided they align with ICAO technical quality criteria and avoid double-counting).
- Registry implementation work ahead.
- SARPs are to be agreed by the ICAO Council by 2018 – states must implement by 2019.

Source: IETA
CAEP is currently working on the criteria for emissions units to be purchased by operators under the global MBM:

- Programmes that generate offset credits should have: clear methodologies and protocols; validation and verification procedures; avoidance of double counting/claiming, etc.;

- Offset credits should be: additional; based on a realistic and credible baseline; represent permanent emissions reductions, etc.;
Challenges

• Double counting with Paris commitments
• Emissions Unit Criteria
• Emissions tracking
• Ongoing deferment of EU-ETS coverage
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