Update on carbon offsetting for international aviation

Workshop on the role of carbon markets in global climate action and implications for market development activities

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World Bank, Partnership for Market Readiness

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Overview

Goals and measures
How it functions
Ongoing work
Eligibility of offsets
Expectations of demand
Interaction with Article 6
Some implications for suppliers

CORSIA =
Carbon Offsetting and Reduction Scheme for International Aviation
ICAO’s aspirational goals

2% annual fuel efficiency improvement through 2050

Carbon neutral growth from 2020 onwards ("CNG2020")

Sector is 1.3% of global emissions, but traffic is growing at 5% each year and fuel consumption by 2040 is to be 2.8 to 3.9 times 2010 levels

Source: ICAO
How it functions

• Route-based system
  ◦ Emissions aggregated for all routes across CORSIA states
  ◦ ICAO compiles information and determines annual sectoral growth factors over a baseline of 2019-2020 average emissions

• Aircraft operators offset obligations set by sectoral (and individual) growth rates (de minimis and new entrant exemptions apply)

• Three-year compliance cycles with annual reporting

• Compliance and enforcement lies with the national governments

• Offset mechanism but initially little carbon pricing incentive
  ◦ Obligation primarily determined by sector-wide growth
  ◦ Slow growers subsidize faster growers
  ◦ However an adjustment for biofuel use is planned
### Cycles and phases

<table>
<thead>
<tr>
<th>Compliance cycles</th>
<th>Calculation of offset obligation</th>
<th>Periodic reviews every 3 years</th>
<th>Special review by 2032 on future of CORSIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021-2023</td>
<td>Allows application to 2020 emissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024-2026</td>
<td>Normal formula (100% on sector growth)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2027-2029</td>
<td>Normal formula (100% on sector growth)</td>
<td></td>
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<tr>
<td>2030-2032</td>
<td>Normal formula (minimum 20% on individual growth, exact rate to be decided)</td>
<td></td>
<td></td>
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<tr>
<td>2033-2035</td>
<td>Normal formula (minimum 70% on individual growth exact rate to be decided)</td>
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CORSIA is voluntary for LDCs, SIDS and LLDCs in all phases.
Voluntary participation in the pilot phase

72 States with 87.7% of international aviation (as of Aug 2017)

Data source: ICAO, graphic source: BMUB
Ongoing work - MRV

• Draft standards and recommended practices (SARPs) and related guidance are prepared and undergoing review
  ◦ Annual data on emissions through attribution of flights to airlines
  ◦ Fixed fuel burn ratio (1 tonne of fuel = 3.16 tonnes of CO2)
  ◦ Simplified procedure for small emitters
  ◦ Quantities of sustainable alternative fuel use

• Data flow: operators ➔ State authority ➔ ICAO
  ◦ Third party verification undertaken by operators
  ◦ Order of magnitude review by State Authorities

• External verification based on existing ISO standards

• MRV SARPs to be adopted in 2018, as pilot phase States need to MRV their 2019-2020 data for the baseline setting
• Tracking through electronic databases
  ◦ Operator emissions and offsetting obligations
  ◦ Emission units – purchase, ownership and surrender
• Registries operated by States (or groups of States)
• Information to be sent to the CORSIA central registry
  ◦ Maintains and publishes information
  ◦ Determines sectoral growth rates and offsetting requirements
• Registry SARPs to be adopted in 2018, to allow implementation by pilot phase States in time for 2021
• EUC will determine the eligibility of external programmes to supply units into CORSIA

• EUC are applicable to both programme and unit level, which may allow for full programme eligibility or only specific activity types

• Draft SARPs and related guidance currently undergoing review
  ◦ Expected to be mandatory
  ◦ May undergo testing before finalization
  ◦ Expected to be agreed in 2018

• Units from mechanisms established by the UNFCCC and Paris Agreement are eligible, if they align with ICAO decisions on avoiding double counting and on eligible vintage and timeframe
## EUC at the programme level

<table>
<thead>
<tr>
<th>Clear methodologies and protocols, and their development process</th>
<th>Programme governance</th>
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<tbody>
<tr>
<td>Scope considerations</td>
<td>Transparency and public participation provisions</td>
</tr>
<tr>
<td>Offset credit issuance and retirement procedures</td>
<td>Safeguarding systems to address environmental and social risks</td>
</tr>
<tr>
<td>Identification and tracking</td>
<td>Sustainable development criteria</td>
</tr>
<tr>
<td>Legal nature and transfer of units</td>
<td>Avoidance of double counting, issuance and claiming</td>
</tr>
<tr>
<td>Validation and verification procedures</td>
<td></td>
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</table>
## EUC at the unit level

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td>Are additional</td>
<td>Represent permanent emissions reductions</td>
</tr>
<tr>
<td>Are based on a realistic and credible baseline</td>
<td>Assess and mitigate against potential increase in emissions elsewhere</td>
</tr>
<tr>
<td>Are quantified, monitored, reported, and verified</td>
<td>Are only counted once towards a mitigation obligation</td>
</tr>
<tr>
<td>Have a clear and transparent chain of custody</td>
<td>Do no net harm</td>
</tr>
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</table>
Expectations of demand, slow at first

Source: ICAO

<table>
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<tr>
<th>Year</th>
<th>Less optimistic</th>
<th>Optimistic</th>
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<tbody>
<tr>
<td>2020</td>
<td>174</td>
<td>142</td>
</tr>
<tr>
<td>2025</td>
<td>376</td>
<td>288</td>
</tr>
<tr>
<td>2030</td>
<td>596</td>
<td>443</td>
</tr>
<tr>
<td>2035</td>
<td>816</td>
<td>590</td>
</tr>
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Quantity to offset (Mt CO2)
Possible “early action” package

- Possible supply to the pilot phase from reductions made prior to 2020, from the CDM and voluntary carbon standards
- No decision yet on appropriate vintage restrictions, for example
  - 2013 (decision to develop a market-based measure)
  - 2016 (adoption of CORSIA)
- Unclear if restrictions would be dates of registration or issuance
- Demand in the pilot phase is anyway relatively low
- Not clear if pre-2020 reductions will be allowed at all
Both ICAO and Paris require avoidance of double counting
- Aircraft operator purchase of units from Paris needs an adjustment to “add back” emissions to transferring country’s inventory
- May also require attestation by transferring country that the units are not being used against another target or supplied to others

Adjustments can be implemented by
- Treating transfers to aircraft operators as being transfers to CORSIA as a “country” (full integration of CORSIA into Article 6 accounting)
- ICAO requiring reliable demonstration that units are cancelled (maintaining ICAO and Article 6 separate but creating a bridge)

Full integration offers many benefits … universal accounting, universal system of serial numbers, integrated registries, etc
Some implications for credit suppliers

- Consider adapting to the emerging EUC and assessment process – CORSIA may set the standard if Article 6 guidance is limited.
- Information on transfers made will be needed for adjustments.
- Clarify entity authorizations to make international transfers and make internal cancellations for units being used under CORSIA.
- Take advantage of integration possibilities with Article 6, in particular for systems of tracking and accounting.
- Be aware that CORSIA is a system of multi-year targets and may require vintage information on the timing of reductions – this may have implications for accounting in supplier countries.
- Set reasonable expectations for demand, and competition, especially for pre-2020 reductions and the early years of CORSIA.