CORSIA: Quantification of the Offset Demand

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Berlin, June 2017
Participation in CORSIA

- No implementation in any phase
- Implementation from start pilot phase in 2021
- Implementation from start second phase in 2027
Overview of CORSIA (offset beyond 2020)

- **Baseline CO₂ emissions (average of 2019 and 2020 emissions)**
- **Voluntary phases (2021-2026) with 69 States signed up to participate**
- **Mandatory second phase (2027-2035) for Developed States with RTK contribution > 0.5% or cumulative RTK share of States reaches 90%**
- **CO₂ emissions on routes between included States for which offsets need to be surrendered**
- **Non covered emission growth because of non-included States**

**CO₂ emissions aviation**

- **2020**
- **2035**
Previous assessments ….

- Offset demand (2021-35) ranges from 2.4 to 4.5 Gt due to ….
  - **Baseline emissions** (majority of assessments use the average of 2019/2020 emissions)
  - **Coverage** (country participation varies based on timing of assessment)
  - **Emission projection** (majority based on CAEP’s most likely growth scenario)
  - **Modelling approach** (different models adopted)
Building upon previous work …..
CORSIA offset demand (2021-35)
Timing of CORSIA offset demand …
CORSIA impact on aviation emissions  

<table>
<thead>
<tr>
<th>Carbon price: New policies scenario</th>
<th>Medium emission growth scenario</th>
<th>High emission growth scenario</th>
<th>Low emission growth scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offset demand (no reduction in aviation sector)</td>
<td>2,732</td>
<td>3,770</td>
<td>1,637</td>
</tr>
<tr>
<td>Reduction in aviation sector</td>
<td>81</td>
<td>115</td>
<td>47</td>
</tr>
<tr>
<td>Resulting offset demand</td>
<td>2,651</td>
<td>3,655</td>
<td>1,591</td>
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<td>Reduction in aviation sector</td>
<td>209</td>
<td>292</td>
<td>122</td>
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<td>Resulting offset demand</td>
<td>2,523</td>
<td>3,478</td>
<td>1,515</td>
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Conclusions

- CORSIA covers only emission growth of non-exempted routes and participation phased in, therefore it will not offset all emissions from international aviation above the baseline from 2021 onwards;

- Our estimates of offset demand from CORSIA (2021-2035) builds on previous assessments by considering different growth scenarios: Higher / lower growth in emissions leads inevitably to a greater / less demand for offsets (i.e. 3.7 Gt / 1.6 Gt);

- Timing of the demand for offsets important to consider with a considerable increase after the start of the Second Phase in 2027

- CORSIA expected to encourage abatement in the aviation sector, but majority of gap between actual and baseline emissions met by offsets