

The International Civil Aviation Organisation (ICAO) is currently developing a global market-based measure to address greenhouse gas emissions from international aviation. An agreement is expected in September 2013 at ICAO's triennial Assembly. A group of experts was established in 2012 to provide technical advice to ICAO's Council. The group's technical suggestions now include a mandatory global offsetting system and a cap-and-trade scheme. Both options involve the use of offset credits to compensate for emission reductions. While an offsetting system would require airlines to pay into a central fund that would purchase carbon offsets, a cap-and-trade scheme would allocate a number of emissions allowances equivalent to the tonnes of CO₂ an airline operator is allowed to emit. To meet their obligations under a cap-and-trade scheme, an operator can either reduce emissions, purchase emissions allowances from other operators or buy carbon offsets from an offsetting mechanism that is approved under the cap-and-trade scheme.

Potential types of offset credits and emissions allowances

It is still unclear what types of offset credits would be approved for compliance under either system. A large variety of offset credits exist. However, only certain types of offsets are allowed on the international compliance market and these must comply with a set of minimum standards. They include offset credits from the Clean Development Mechanism (CDM) and Joint Implementation (JI) set up under the Kyoto Protocol (KP). A New Market Mechanism (NMM) is currently being developed under the UNFCCC and could potentially generate additional offset credits. Offset credits are also produced outside the UNFCCC. These include voluntary offset programmes (e.g. Verified Carbon Standard), national offset programmes (e.g. Australia's Carbon Farming Initiative), bilateral offset mechanisms (e.g. Japan's Bilateral Offset Credit Mechanism) and regional offset programmes (e.g. Climate Action Reserve offsets allowed under California's cap and trade scheme). Emission permits could also be acquired in the form of allowances from cap-and-trade schemes, such as European Allowances (EUAs) from the European Emissions Trading Scheme (EU ETS).

Offset credits must be real, permanent, additional and verified

One offset credit represents one tonne of emissions reductions and can be used by entities with emission reduction obligations to compensate for their emissions. It is therefore essential to ensure that every offset credit is "real, permanent, additional and verified." Every credit that does not comply with these principles causes an increase in global emissions. Also, low quality offsets compromise the economic integrity of an offsetting scheme because they artificially inflate supply. Below is a brief summary of main offset credit types:

1) Clean Development Mechanism (CDM): CDM offset credits are called Certified Emission Reduction (CER) and are approved under the UNFCCC. CERs are issued for projects that reduce emissions in developing countries. Despite international oversight, an independent study commissioned by the [CDM Policy Dialogue in 2012](#) has found that potentially two thirds of all CDM credits expected between 2013 and 2020 could come from business-as-usual power supply projects and therefore cause an **increase in emissions of up to 3.6 billion tonnes of CO₂-eq.** if used for compliance. Also industrial gas projects have been found to represent artificial reductions. This has led the European Union, Australia and New Zealand to ban industrial gas credits from their national emissions trading schemes. **Recommendation:** Quality restrictions should be placed on CDM offset credits to ensure that only CERs that come from projects with high environmental quality could be used for compliance under an ICAO scheme.

2) Joint Implementation (JI): JI offset credits or Emission Reduction Units (ERUs) are issued for projects that reduce emissions in developed countries that have signed the Kyoto Protocol. JI has been repeatedly criticised for a severe lack of quality control. 95% of all ERUs issued to date are issued by host countries without any international oversight. Despite the on-going reform it is unlikely that JI projects post 2012 will be of significantly better quality. **Recommendation:** Offset credits from JI should not be eligible under an ICAO scheme.

3) New Market Mechanism (NMM): A new offsetting mechanism was approved in 2011 and is being developed under the UNFCCC framework. It will likely take many years until emission reduction units will be issued under this new mechanism. **Recommendation:** NMM credits should only be eligible under an ICAO scheme if they are verified to be real, permanent and additional.

4) Voluntary offset programmes: There are a variety of voluntary offset programmes currently operating. None of them would deliver large enough volumes to satisfy the needs of ICAOs potential scheme. Also, offsets from such voluntary schemes are often of low quality due to limited or no regulatory oversight. **Recommendation:** Offset credits from the voluntary market should not be eligible under an ICAO scheme.

5) Bilateral offset mechanisms: Several countries are developing bilateral offsetting schemes without oversight of the UNFCCC. Due to the lack of international oversight, especially related to additionality testing, the quality of bilateral offset credits is likely to be lower than CDM credits. **Recommendation:** Offset credits from bilateral offsetting mechanisms should not be eligible under an ICAO scheme.

Cap-and-trade schemes must have a tight cap to avoid over-allocation

Cap-and-trade systems only lead to emissions reductions if there is a scarcity of allowances. The two biggest emissions trading schemes are severely oversupplied. The EU ETS and International Emissions Trading (ET) under the Kyoto Protocol are oversupplied with 2 and 13 billion allowances respectively. These two systems therefore do not lead to new emissions reductions. **Recommendation:** A potential ICAO cap-and-trade scheme must have a stringent cap based on conservative emission estimates. Surplus allowances from over-supplied schemes such as the EU-ETS or ET should not be eligible under an ICAO scheme.

Conclusion

Any decision to allow offset credits in a global market-based measure to reduce greenhouse gas emissions from international aviation must be based on stringent requirements that ensure real, permanent, additional and verified emissions reductions. Only offset credits issued under the guidance and authority of the UNFCCC should be eligible for compliance. Additional quality restrictions should be placed on CDM offset credits to address the additionality concerns outlined above. Moreover, the use of offset credits should be supplementary to own in-sector reductions.

Any decision to allow cap-and-trade allowances in a mechanism designed by ICAO should ensure that allowances from oversupplied cap-and-trade systems are prohibited. If ICAO decides to establish its own cap-and-trade system it must be based on a stringent cap and avoid over-allocation of allowances. Also, such a cap-and-trade mechanism must not be linked to an oversupplied system, such as the current EU-ETS, as this would severely compromise the environmental and economic effectiveness of an ICAO trading mechanism.