

Aviation emissions and the Paris Agreement

Europe and ICAO must ensure aviation makes a fair contribution to the Paris Agreement's goals

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Aviation is one of the fastest growing sources of GHG emissions and the most climate-intensive form of transport. Its CO₂ and non-CO₂ impacts are responsible for some 4.9% of man-made global warming¹. Aviation always gets treated special, it's not subject to fuel tax or VAT and 75% of its emissions were removed from the aviation EU ETS under stop-the-clock.

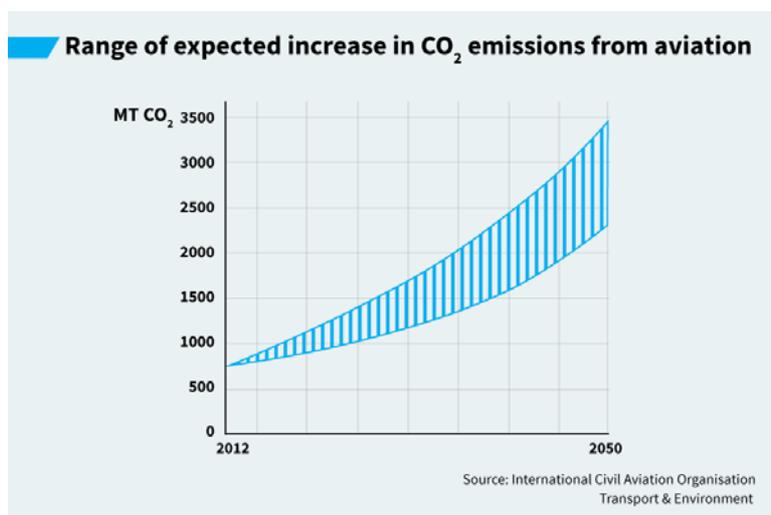
Given aviation's climate impact, it is imperative that effective measures are taken at global and European-level to reduce its emissions. Failure to do so would clearly undermine the Paris Agreement's objective to limit an increase in temperature to 1.5 °C.

Action this year should be pursued through ICAO, which must demonstrate at its 2016 triennial Assembly the capacity to adopt ambitious climate measures. The EU has a central role to play by ensuring ICAO does so and by adopting further measures at EU level.

1. The challenge of international aviation emissions

1.1. A large and growing source of emissions

UNFCCC decided that emissions from international aviation should not be included in national inventories. Instead, the Kyoto Protocol requested Parties to work through ICAO to reduce emissions from the sector. ICAO and its parties have since delayed and presided over almost two decades of inaction. Meantime emissions from international aviation grew by over 75% between 1990 and 2012². This is almost double the average emissions growth rate from all other sectors of the economy.



¹ Lee et al *Aviation and global climate change in the 21st century* (2009)

² <http://unfccc.int/resource/docs/2014/sbi/eng/20.pdf>

There are many factors contributing to this rapid growth. Fuel used remains tax free, which artificially inflates demand while reducing the incentive to purchase more efficient aircraft. Passenger demand is growing at between 5 and 6% per annum, while fleet-wide efficiency gains are running close to 1%³. Even ICAO predicts that aviation emissions are expected to grow by up to 300% in 2050 unless action is taken⁴.

1.2. Paris requires ambition from all sectors

While the Paris Agreement made no explicit reference to emissions from international aviation, it did put in place an ambitious and legally binding long-term global goal. This requires all Parties to the Agreement to pursue a limit in temperature increase to 1.5 °C, which is more ambitious than the 2°C target on which the EU's climate policies have been based to date.

The 1.5°C target requires emissions to peak and then decline rapidly. These reductions must be economy-wide. It is therefore essential that all sectors of the economy contribute, including aviation. The alternative is that the 1.5°C target is missed, or other sectors of the economy must make additional emissions reductions. Under a 2°C scenario with other sectors taking ambitious action, international aviation could be responsible for 22% of global CO₂ emissions by 2050⁵.

2. Pre-2020 action

A 1.5°C scenario requires global emissions to peak before 2020. International aviation is growing rapidly and accounts for two thirds of the sector's global emissions so must contribute to this objective. However the measures being pursued by ICAO, such as the CO₂ standard for new aircraft and the global Market Based Mechanism (GMBM), will only come into effect post-2020. And they are focussed only on CO₂ mitigation – ignoring contrail effects, NO_x and cloud formation. There is therefore a need for Europe, which accounts for a third of international aviation emissions, to pursue vigorously greater pre-2020 ambition at both the international and EU level. There are a number of options available to do so.

2.1. Expand scope of EU ETS

European aviation emissions – both intra and extra-EU - were included in EU ETS from 2012. However the scope was drastically reduced to just intra-EU flights by stop-the-clock legislation in late 2012. It was enacted in record time after extraordinary foreign and industry pressure and ostensibly in order to give ICAO time to work on a GMBM. That reduced scope will expire at the end of 2016 and international aviation will 'snap back' to full scope unless stop-the-clock is further amended. This offers a chance to increase pre-2020 ambition as the ICAO GMBM, if it's agreed, will only operate from 2021.

Along with recalibrating the scope of aviation in EU ETS to include 50% of all emissions from each extra-EU departing and arriving international flight, ambition should be further raised by removing free allowances and progressively reducing the cap as is the case with other ETS sectors. Airlines can pass costs onto consumers and there is no practical alternative to long-haul flying, so carbon leakage is not a danger.

2.2. Pursue all efforts to reduce emissions

The EU has a number of tools at its disposal to accelerate emissions reductions pre-2020. It could finally resolve all the political differences and complete the Single European Sky, generating efficiencies which would reduce millions of tonnes of avoidable emissions each year. Record-low oil prices are an incentive for operators to lease old and cheap gas guzzlers rather than purchase new, efficient and more expensive models. Introducing fuel taxation, which is legally possible at least on intra-EU routes, would address this

³ <http://www.transportenvironment.org/news/aviation-industry-12-years-2020-fuel-efficiency-target>

⁴ http://www.icao.int/environmental-protection/GIACC/Giacc-4/CENV_GIACC4_IP1_IP2%20IP3.pdf

⁵ [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU\(2015\)569964_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU(2015)569964_EN.pdf)

and help curb artificially inflated demand growth arising from this fossil fuel subsidy. Ending aviation's VAT exemption on intra-EU flights would further curb artificial demand creating a level playing field with other less carbon intensive, modes of transport.

The EU and its member states continue to pour money into airports and airlines through state aid, subsidies, lending etc despite the sector's carbon intensity and the fact that such investment is potentially locking in decades of increased fossil fuel consumption. The EU should reform its state aid rules and its procedures for regional funding to eliminate public finance for airports and airlines, and should ensure strict enforcement so that member states do not provide such support.

3. Long-term climate ambition for the sector

The long-term emissions growth projections for aviation are alarming in a climate change context. There needs to be a complete rethink about policies and measures if the sector is to support, rather than undermine, the objectives of the Paris Agreement. While Paris is silent on how emissions from international aviation are regulated, there is a clear role for global measures introduced through ICAO. But ICAO must finally demonstrate in 2016 that it is a competent and appropriate venue to do so. Experience has shown that any agreement amongst ICAO's 191 parties will always fall short of necessary climate ambition. Developed countries and regions, such as the EU, must therefore take complementary action.

3.1. Matching ICAO's efforts with EU ambition

Later this year, ICAO's triennial Assembly will decide whether states should implement a global MBM from 2021 to offset emissions above 2020 levels. Agreement on such a measure with high environmental integrity and requiring all major emitters to act, would be a historic first step. However carbon neutral growth from 2020 doesn't cut it for a 2°C scenario, let alone 1.5°C. And there are many obstacles to overcome before such a scheme would come into operation. Even if agreed, it's not yet clear if the ICAO proposal will contain a ratchet and review mechanism to increase ambition over time, as Paris says is necessary for all states and sectors. So it will be necessary to integrate the ambition of EU ETS within the framework of the global MBM.

If ICAO fails to agree this year to implement a credible GMBM by 2020, the EU should expand aviation's inclusion in EU ETS and work with supportive countries bilaterally or multilaterally to further increase the sectors' emissions under carbon pricing mechanisms by, for example, linking with emissions trading schemes established or to be established by third countries.

3.2. Developing effective efficiency standards

ICAO is due to agree a first-ever CO₂ efficiency standard for new aircraft next month - February 2016 - concluding a highly contentious development process which began in 2009. ICAO previously agreed that the standard should require efficiency gains beyond what would have occurred under a business-as-usual scenario. But intense industry lobbying and low ambition from transport ministries weakened all this to the point where it is now questionable whether the standard will have any environmental impact on new aircraft deliveries. They will number over 15,000 aircraft between 2015 and 2030 by which time the global fleet will have grown 50%, over 90% being Boeing and Airbus aircraft.

The EU should push for the highest possible stringency requirements in the ICAO standard. The US, under pressure from its Environment Protection Agency, is demonstrating commendable leadership. Unlike the US, EU legislation prevents the EU from exceeding environmental standards set by ICAO. Both the US and EU can and do set safety standards which exceed ICAO's. The European Commission should follow through its commitment in the December 2015 Aviation Package to amend the European Aviation Safety Authority (EASA)'s 2008 Basic Regulation to permit Europe to exceed ICAO environmental standards where appropriate.

3.3 Other measures

Pre-2020 measures such as fuel taxation, VAT and reforms to state aid, should continue beyond 2020. Industry sees alternative fuels as the key to aviation sustainability. But they are in limited supply, expensive and must meet strict environmental and social criteria and to ensure they result in actual emission reductions and to do compete with food. The EU should fix and promote intra-European rail travel and encourage investment in alternatives such as video conferencing.

4. Climate finance

Implementing the Paris Agreement will depend heavily on climate finance to help decarbonise developing countries and fund their adaptation to climate change impacts. At least \$100bn annually by 2020 has been promised but developed countries are struggling to even reach this interim target. Aviation is dominated by business travel and the world's richest 5%, while its climate impacts are visited on all 100% of us – rich and poor. It is reasonable that the sector contributes to raising climate finance. Ticket taxes are possibly the simplest way to generate government revenues and predictable. The IMF has suggested that fuel taxation could raise \$25bn⁶. Thomas Piketty proposes a progressive levy that could reduce demand and raise €150bn⁷.

5. Conclusions

The Paris Agreement requires all sectors and Parties to increase in line with the 1.5°C target. International aviation can be no exception and there is no time for delay. ICAO must in 2016 prove that it is capable of adopting effective climate measures. Action at the global level is essential; but it seems only a lowest common denominator approach is possible in ICAO. The EU is the world's largest aviation emitter. Intra-EU aviation is set to grow by over 80% by 2030. The EU must work for the best possible agreement at global level supplemented by ambitious European measures.

Further information

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⁶ <http://www.imf.org/external/pubs/ft/sdn/2016/sdn1601.pdf>

⁷ <http://www.theguardian.com/environment/2015/nov/05/thomas-piketty-proposes-flight-tax-to-raise-climate-funds>