Brussels, 29 May 2015

To: EU Ministers of Climate and Transport and EU Commissioners Bulc and Arias Cañete

Europe must push for an environmentally effective ICAO CO2 standard

Along with agreeing a global MBM in 2016, development of a CO_2 (fuel efficiency) standard for new aircraft is a key element of ICAO's global role to reduce aviation emissions. The fuel efficiency of new commercial jet aircraft has improved on average 3% every year but this slowed to about 1% from 2010 and now lags ICAO's technology goals by 10 to 15 years. Having rejected the idea in 2002, ICAO only agreed to develop a CO_2 standard for new aircraft in 2009 when EU action on aviation emissions was imminent. Work is now expected to be completed in 2016, three years later than planned, with the standard taking effect in 2020 (or 2023 or 2025) for new aircraft types. Critical issues that remain to be decided over the coming months include cost effectiveness calculations to help determine final stringency, whether to regulate new in-production aircraft by applying production cut-off dates, and decisions on publicising aircraft emission efficiency scores.

EU and US members of the NGO ICAO Observer coalition, ICSA, remain determined to see the standard meet its purpose - to deliver emission reductions beyond the historical improvement trend. However that will almost surely not happen unless the highest stringency levels and production cut-off dates for in-production aircraft[1] are included. The group of experts and member state representatives on ICAO's environmental committee, CAEP, who will decide - including those from Europe - have invariably sided with industry efforts to render the standard ineffective. What remains is for Europe to ensure that the poor options left on the table are made as effective as possible.

Current plans will have the CO_2 standard only cover new aircraft types certified from 2020 (or 2023 or 2025) onwards. All currently foreseen project aircraft (over 20 are under development) will be in production by 2020 and thus not caught by a standard commencing then. Since aircraft have an operational life of 25 to 30 years, the standard as currently planned will take over a generation to cover the global fleet – with less than 5% of all aircraft flying being regulated by 2030.

A proposal to also regulate new in-production aircraft, as opposed to just new type designs, continues to be strongly resisted by industry - meaning that all versions of aircraft types that will be certified before the standard takes effect – should that be 2020 - will be grandfathered including in some cases aircraft being produced today which were type certified as early as the late 1980s. So under current plans, new in-production aircraft that will dominate future aircraft deliveries such as the A320neo, 737MAX, 787, A330neo, A350, 777X and potentially an A380neo, will all not be regulated under the standard. This very significantly further reduces its effectiveness.

In 2013, and under concerted pressure from industry, CAEP overrode strong objections and decided that the most advanced technologies to be used to set the upper bound of potential CO_2 standard stringencies would be 2016 state of the art technology (technology readiness level [TRL] 8 and above). This, for a standard to commence in 2020 (or 2023 or 2025) and to apply to applications

[1] The effects may range between almost zero to several per cent maximum as compared to BAU.

for design certification of new aircraft entering into service typically within 5 years of the standard entering into force. Meanwhile, even though the current intention is not to regulate them, new in production aircraft (aircraft currently under development) would have no difficulty meeting any stringency level being considered by CAEP because they will have had 4-9 years of new technology development from the 2016 TRL 8 technology baseline imposed by CAEP members, before the standard would have cut in. This further degrades the standard.

CAEP modelling applies a range of conservative assumptions about aircraft currently in development making them fail stringency level SO10 in most cases and SO9 in many cases. However, were CAEP to deploy more realistic modelling assumptions, as we have argued, all aircraft currently in development are capable of meeting SO9 and in many cases SO10. So an effective standard should focus on these stringency options.

Due to the way the metric is designed, the CO_2 standard will also - remarkably for a fuel efficiency standard - not directly incentivise the use of fuel-efficient, lightweight materials. The metric also only covers long-range cruise fuel burn, raising the question of how representative it will be for daily (optimum operating costs) cruise and shorter range operations in which a larger fraction of fuel is consumed in landing, take-off, climb and descent.

What should Europe do?

ICSA has long considered walking away from the process but chose to remain inside in an effort to retain some influence. A number of critical decisions remain to be decided and we call on Ministers to clearly instruct their CAEP representatives to pursue maximum environmental effectiveness in the next critical months. In particular European members of CAEP should:

1. Insist that the standard also cover in-production aircraft with a start date of 2023 and a production cut-off of 2023 or no later than 2025. In Production stringency may be one step lower (at 2025) or two steps lower (at 2023) than for new types.
2. At the CAEP Steering Group in July, support SO10/SO9 stringency for aircraft types certified on or after 2020 and refuse to compromise below SO8.
3. It is essential that Europe insist that all aircraft emission efficiency factors (CO_2 emissions per aircraft km flown) be made public as is currently the case in EU legislation for the CO_2 performance of new cars and vans and all ships calling at EU ports. Eurocaep members should resist all attempts to restrict transparency of data in the CO_2 metric value database to the metric value margin only. This database should publish emission efficiency factors of all certified aircraft - including the three measured Emission efficiency factors (kg per aircraft km) and the speed and altitude these three points were measured on.

Yours sincerely,

Members of ICSA,

Jos Dings
Transport & Environment

Tim Johnson
Director, Aviation Environment Federation

Annex I

Impact of inclusion or non-inclusion of In-Production aircraft

	Number of aircraft			
	2010	2020	2030 (NT)	2030 (InP)
Unregulated	19732	29872	39921	19089
Regulated			2321	23153
% Regulated			5%	55%