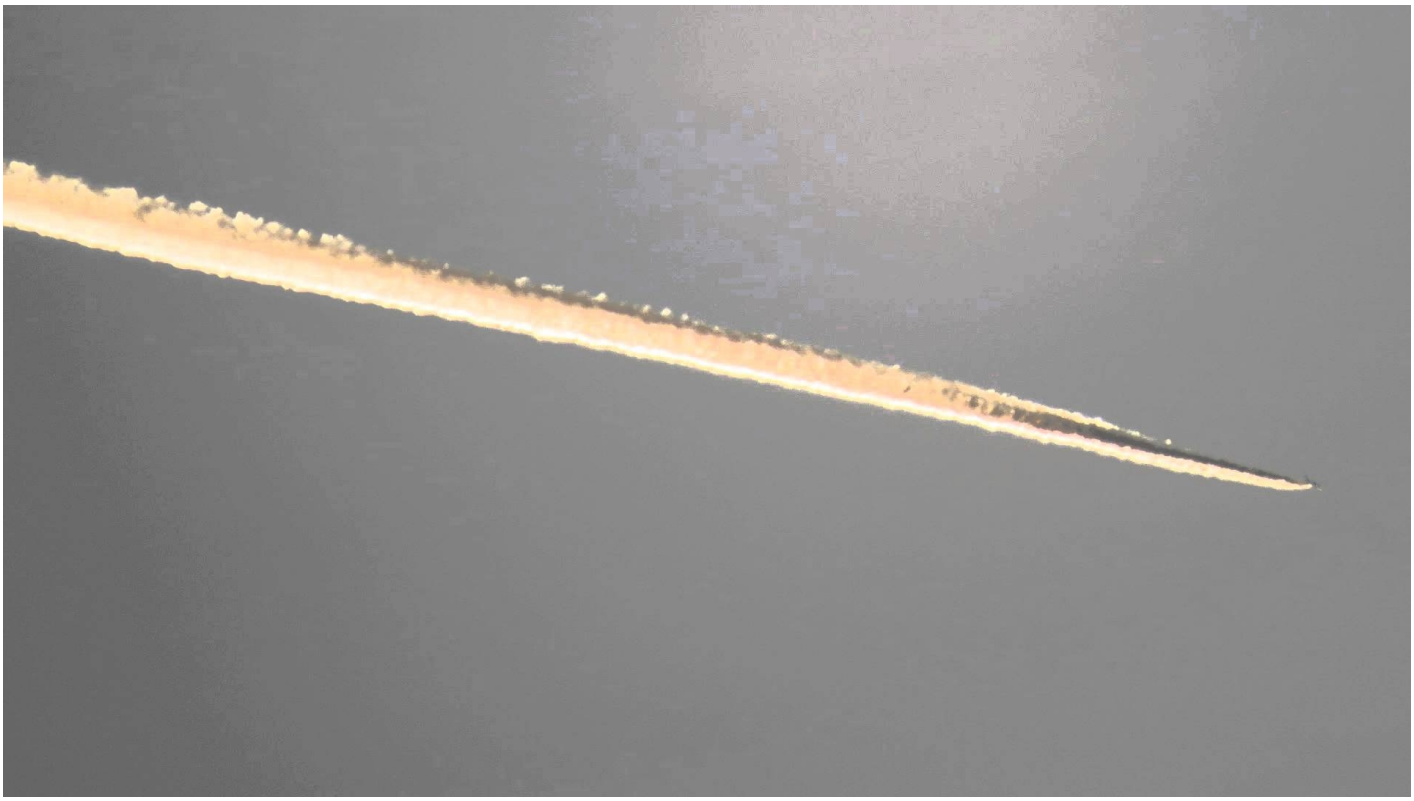
AIRLINE INDUSTRY SET TO SHOW IT IS SERIOUS ABOUT CO2

News / Airlines



Six years of collaboration and planning paid off in February when the first-ever global carbon dioxide efficiency standard for aircraft was agreed and put forward by an ICAO committee. Manufacturers have largely welcomed the proposed standard and say they are already prepared for it, while environmental campaigners believe it could have been more ambitious and represents a missed opportunity.

The new measure was recommended on 8 February by ICAO's committee on aviation environmental protection (CAEP). It is awaiting full adoption by the UN body's governing council during the ICAO assembly this autumn. This timing coincides with the deadline for a proposal to be put forward on a global market-based measure to regulate international aviation emissions, potentially making 2016 a year when the industry shows it is serious about addressing its impact on climate change.

The CO2 standard applies to new aircraft type-certificated after 1 January 2020, and to today's in-production aircraft from 2023, but only if they undergo modifications that require re-certification. ICAO has designated 2028 as the "cut-off date" for compliance by all remaining in-service aircraft. The measure covers all jet aircraft with a maximum certificated take-off weight of over 5.7t, as well as turboprops with a maximum certificated take-off weight of over 8.6t, and it spans the passenger, cargo and business aviation sectors.

Calculations are made using a complex metric based on an aircraft's cruise phase – the portion of flight in which the most fuel is consumed – and expressed in kilograms of fuel per kilometre of flight, which is then adjusted to account for the size of the fuselage, says the Air Transport Action Group (ATAG) in a document outlining how the proposed standard will work.

Aircraft manufacturers were quick to commend the standard when it was announced this year. Boeing described it as "ambitious" and said it represented "real progress" beyond the industry's other "substantial" emissions-reducing achievements, while Airbus said it welcomed the agreement which, it added, would ensure that "older aircraft are replaced by newer, more efficient designs".

Julie Felgar, managing director of environmental strategy and integration at Boeing Commercial Airplanes, tells Flightglobal the standard put forward by CAEP was "more stringent than where we thought we would be a few years ago", but the US airframer was "absolutely" prepared for it, having played an "active" role in the development process.

"The CO2 standard sets the bar at a certain point in time and all aircraft delivered after those dates will have to hit that efficiency metric going forward," says Felgar, adding Boeing had "kept the standard in mind" when designing the 737 Max and 777X. The latter, with its expected 2020 service-entry date, falls under the standard's current in-production category, but will already "meet the new type standard" when it comes to market.

In-production aircraft will only have to meet the standard from 2023 if they make "a significant change" to their design, such as "a new wing or a new engine", says Felgar. If no such changes are made, they will not be required to comply until the 2028 cut-off date.

When it comes to older aircraft, however, a question mark hangs over the course of action manufacturers will take to ensure compliance with the standard. "Older product lines will definitely be affected and OEMs [original equipment manufacturers] will have to assess over time… what the business case is on whether to invest in efficiency improvements on older aircraft," says Felgar. But she adds "we don't anticipate any effect on the residual value of older aircraft in service today".

Not everybody is satisfied with the proposed measure and environmental groups have complained compliance dates are too far into the future to make meaningful emissions reductions. When the standard was announced, the International Council on Clean Transportation (ICCT) agreed it was an "historic milestone", but added: "It does not detract from that achievement to note that in terms of effective, real-world reductions in carbon emissions from aircraft, it falls short."

ICCT programme director for marine and aviation, Daniel Rutherford, stands by this assertion, describing the agreed standard as "a missed opportunity" which "came up short" of what could have been achieved.

"The targets that matter are those that don't take effect until 2028," says Rutherford, adding that the proposal for new aircraft will only result in a 4% reduction in aviation fuel consumption over 12 years.

But Felgar argues the timings set out in the proposal take into account the long lead times associated with designing and developing aircraft.

"Aviation is a long-lead business – it's a seven- to 10-year process to develop a new aircraft, and a

significant change takes three to five years," she says, pointing out that because aviation is "one of the most heavily regulated industries in the world" when it comes to safety, the timeframes are realistic.

Rutherford agrees with Felgar's point for new aircraft type designs and even goes as far as to suggest the 2020 timeframe for this category is "too short", noting a 10-15 year lead time would increase the likelihood of more efficient aircraft that are not just "business-as-usual" being developed. However, he does not believe the rules for aircraft that are flying, or in production and expected to be introduced to the market by 2024, come into effect soon enough.

"To me, by the time we get to 2028 those aircraft will have been in production for 10 to 25 years, so the lead time doesn't come into it," says Rutherford.

The ICCT believes the spotlight will now shift to the USA, where the Environmental Protection Agency (EPA) last year issued an endangerment finding based on concerns greenhouse gas emissions from aircraft could pose a threat to human health. The agency issued a proposed rulemaking which the ICCT believes signalled its intention to adopt the ICAO aircraft standard, provided it was consistent with the goal of requiring additional fuel efficiency improvements from domestic aircraft.

Rutherford says, because the ICAO standard for in-production aircraft does not take effect until 2028, the EPA could decide to implement it "on a more aggressive schedule".

Full adoption of the proposed standard by the ICAO governing council this autumn is largely seen as a formality. "My expectation is that the [CAEP] recommendation is pretty much final," says Rutherford.

Boeing's Felgar agrees. "I'm very confident it will be agreed at the general assembly in September. Individual nations will then have to decide how they enforce it nationally," she says, adding "how they get there will be different but the metric will be the same".

Felgar believes, for "a first go around" the proposed standard is "extremely strong" and "aggressive", but notes it is "not static" and will probably be reviewed by ICAO in the next decade: "The standard pushes the industry and makes us examine older products. There is no backsliding from the industry that can happen now."

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