

-37% · -111 Mt

IMPROVEMENTS IN AIRCRAFT AND ENGINE TECHNOLOGIES

By 2050, improvements in aircraft and engine technologies and subsequent fleet replacement hold the largest promise for reducing aviation's contribution to climate change.



NET ZERO

We believe that together, policy-makers and the industry can make net zero CO₂ emissions a reality by 2050. In 2030, net CO₂ emissions from intra-European flights would be reduced by 55% compared to 1990 levels through a combination of fleet renewal, SAF, operational improvements and EU ETS/CORSIA, in line with the new EU climate goal for 2030.

To achieve net zero CO₂ aviation in Europe by 2050, while upholding international competitiveness and aviation's benefits to society – joint, coordinated and decisive industry and government efforts are required. **The time to act is now to make European aviation's climate ambitions for 2030 and 2050 a reality.**

Here is how improvements in aircraft and engine technologies can make a difference:



1 By 2035, aircraft with **highly efficient propulsion systems** and **30% less fuel consumption**, could become available.



2 Also by 2035, **hydrogen-powered aircraft suitable for short-range intra-European routes** have the potential to reduce CO₂ emissions by 100% as these aircraft progressively enter service.



3 Development of **more fuel-efficient aircraft**, engines and optimised range and capacity of **hybrid-electric rotorcraft** and regional aircraft would reduce CO₂ emissions per flight by 50% compared to 2018. These rotorcraft and regional aircraft should enter service between 2030 and 2035.



4 Both hydrogen-powered aircraft and hybrid-electric rotorcraft and regional aircraft **require dedicated technology readiness** by 2027 to 2030, at both aircraft and propulsion system level.



5 Following their readiness, **new technologies** should be swiftly incorporated in all commercial fixed and rotary wing products. This would require efficient new certification procedures for disruptive technologies.



6 Fleet renewal based on existing state-of-the-art products will continue to reduce CO₂ emissions, and even higher reductions could be achieved in the short term by **accelerated fleet renewal**.