Opinion: Hitting turbulence? Aviation and the climate crisis

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Credit: AI-generated image (disclaimer)

In the U.K., there is a legal commitment to reducing the net carbon account for all six greenhouse gases by 80 percent (1990-2050) under the Climate Change Act 2008, and recently this target has been raised to 100 percent. By 2050 U.K. greenhouse gas emissions will be cut to net zero. At present the aviation sector has been allowed to set and deliver

voluntary targets. As globalization progresses, more goods and people are being transported further and more frequently at ever-increasing CO_2 costs. The aviation sector accounts for 7.3 percent of U.K. CO_2 emissions, but by 2050, aviation may account for over 20 percent of all U.K. CO_2 emissions. This radically changing position is a combination of other sectors reducing their levels of CO_2 emissions whilst international aviation's share of the total continues to increase.

This pattern of growth in long distance travel is not just restricted to the U.K., but it is characteristic of all developed and many emerging economies. Globalisation has shrunk the planet, and society is now dependent on long distance and high quality supply chains as continued specialization and concentration of production has kept prices low. Business practices have been transformed, but it is for leisure activities, together with visiting friends and relatives, that are now the fastest growing sectors of international travel. Leisure travel and visiting friends and relatives now account for about 85 percent of U.K. air travel.

International aviation cannot be excluded from making a substantial contribution to CO_2 reduction, as many planes will still be in operation in 2050. Offsetting emissions is not a solution to the problem, as it only serves to delay having to make more fundamental decisions. Substantially increasing the costs of flying through taxation on aviation fuel and through charging VAT on tickets, together with appropriate measures to account of the emissions at high altitude, will all help. But the only means to significantly reduce aviation CO_2 emissions levels is to fly less.

The options available to reduce emissions for aviation are very limited, with some scope for electric or hybrid planes, alternative fuels (e.g. biofuels), lighter-weight materials, innovative design, improved fuel efficiency, and more efficient air traffic control and routing. But the main problem is the scale of change required and the time frame needed

for effective action. The aviation industry has failed to address the climate crisis in terms of new aircraft or its operating practices.

Globally, this inaction is compounded by more aviation capacity is being constructed. The third runway at London Heathrow is currently going through its final stages of approval, and this will increase the number of annual flights from 473,000 to 740,000 (+56 percent) and passenger numbers from 78m to 130m (+67 percent). Currently London Heathrow produces 20.83 Mt CO2e each year, about 95 percent of which can be attributed to flights (PEIR, 2019), and that with the expected growth in travel CO_2 emissions will increase by about a half, even with optimistic assumptions on the introduction of technological innovations. Expansion on this scale at one major airport makes the U.K. net zero target unachievable.

Heathrow will offset all increases in CO_2 emissions thought the UN Corsia scheme that is being introduced as a pilot scheme in 2021, with the voluntary first stage starting in 2024, and a subsequent mandatory phase in 2027, prior to a review in 2032. Yet there is very little detail on the exact rules to be followed, on eligible offset projects, and on the links with the existing EU Emissions Trading System. The International Coalition for Sustainable Aviation have calculated that only 6 percent of all projected CO_2 emissions from international aviation (2015-2050) will be covered. Such an imprecisely specified scheme will have no real impact for at least 10 years, and by that time projected CO_2 emissions from aviation could have doubled.

There are huge inconsistencies between the rhetoric and the reality. It is hard enough to set the targets for reductions in CO_2 emissions, but decisions are still being made to increase capacity. Such a strategy is entirely at odds with the net zero emissions targets. It is no longer only a matter of economics, but one of societal values, social pressure and personal choice. It is ultimately one about the quality of life now and in

the future, and the consequences of not addressing the climate crisis in a connected and holistic way that accepts the complexities and interactions between all decisions made.

Provided by University of Oxford

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