

ADVERTISEMENT

Science

Ireland's growing aviation sector is a cause for concern

When it comes to climate action, individual efforts are only effective if backed by systemic change

Expand



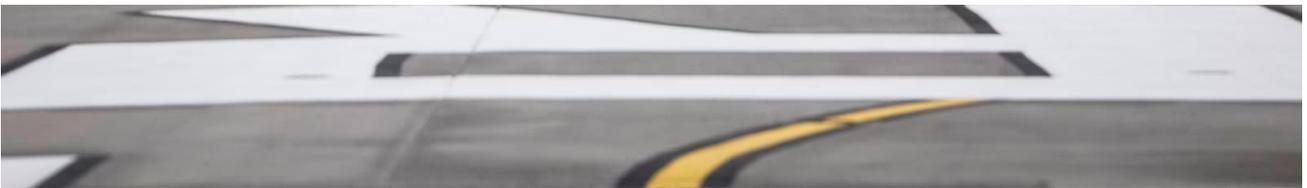
Sections

THE IRISH TIMES

16°

Subscribe

Sign In



The Dublin Airport Authority says the new runway will result in a 31 per cent gain in connectivity. Photograph: Conor McCabe Photography

Cormac O'Raiheartaigh

Thu Sep 29 2022 - 06:00



Last month saw the opening of a second runway at Dublin Airport. First proposed in the 1960s, the project was approved in 2007 but was delayed by more than a decade by the economic crash.

The Dublin Airport Authority (DAA) says the new runway will allow the servicing of larger long-haul aircraft, permitting the airport to function as an important transatlantic hub and resulting in a 31 per cent gain in connectivity. In short, the new facility will greatly facilitate the continued growth of the aviation sector in Ireland.

In the news reports I saw on the topic, almost no one asked if this growth is a good thing in a world experiencing the first impacts of a warming climate — from devastating heatwaves in continental Europe to catastrophic flooding in Pakistan. We have recently seen a heated debate in this country regarding caps on greenhouse gas emissions from the agricultural sector — do such concerns not apply to aviation?

One answer is that the contribution of aviation to greenhouse gas emissions is surprisingly low in comparison with other sectors. It is estimated that carbon dioxide emissions from aviation account for about 2.5 per cent of emissions overall. This figure seems puzzling when compared with the rule of thumb that one return long-haul flight generates emissions roughly equivalent to that produced by driving a diesel car for a year. However, the estimate is the global average and includes countries where many citizens do not have the opportunity to fly. For richer nations, the figure is likely much higher.

READ MORE

Jennifer Zamparelli doesn't normally censor herself. Then she reaches a line she won't cross



Irish in London in 2022: A vibrant new generation amid an ageing population



Netflix, Prime Video, Disney+, Apple TV+: 10 of the best new shows to watch in October



Dublin Theatre Festival: Good Sex is raw, unsettling, seductive, provocative and very, very funny



Another issue is that the 2.5 per cent estimate pertains to carbon dioxide emissions only and is calculated on the basis of fuel used. In reality flights cause warming of the atmosphere in many other ways, notably in the emission of aerosols and contrails at high altitude. The effects of these phenomena are harder to calculate but when included, emissions from aviation are estimated at about 3.5 per cent overall (source: US Environment and Energy Study Institute).

In international treaties, such as the Paris Agreement, only emissions from domestic flights are considered in national emissions targets

That said, I suspect the real reason we haven't seen major debates on greenhouse gas emissions from the aviation sector is due to anomalies in the way emissions from international flights are counted. In international treaties, such as the Paris Agreement, only emissions from domestic flights are considered in national emissions targets. For example, the emissions associated with a return flight from Dublin to New York are not counted in the national emissions budget of either country. For this reason, there is little incentive for nations to reduce emissions associated with international flights.

ADVERTISEMENT

It should be pointed out the aviation sector has achieved enormous efficiencies in recent decades, in terms of fuel consumption and passenger loads. However, looking at the rise in emissions from the sector over recent years, it is clear that such efficiencies are swamped by a dramatic increase in passenger numbers. Indeed, it seems that increased efficiency begets cheaper flights, which beget more passengers. The cost of flying is also held low because of a lack of excise duty on aviation fuel, a curious anomaly that doesn't pertain to other modes of transport.

Similarly, it might be argued that the extra runway will reduce emissions because it will allow aircraft to spend less time queuing to land or take off. However, once again we can expect any such gains to be swamped by the increase in the number of aircraft using the airport, as specified in the DAA projections.

So what is the solution? In the long term, the aviation sector will probably be one of the most difficult sectors to decarbonise. This is because there are no obvious non-fossil fuel technologies that can be employed, at least for commercial flights. As there is no pressure on individual nations to reduce

emissions from international flights, we can expect this sector to continue to grow unabated for some time.

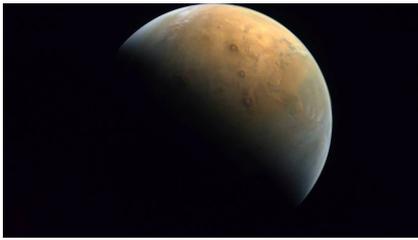
Of course, responsible citizens can do their bit by cutting down on unnecessary flying. However, actions on an individual level are only effective if backed by systemic change. As always with climate matters, the longer we delay, the more severe the corrective action will have to be. My fear is that for the next generation, air travel may become a luxury restricted to the wealthy few.

Dr Cormac O’Raifeartaigh lectures in physics at the South East Technological University (Waterford) and is a visiting associate professor of physics at University College Dublin – He blogs at www.antimatter.ie

Climate change

ADVERTISEMENT

IN THIS SECTION



Scientists find further evidence of liquid water on Mars

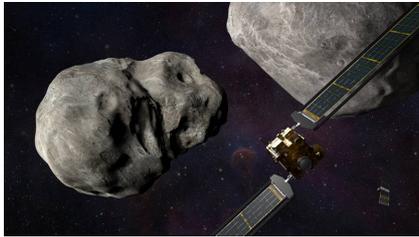
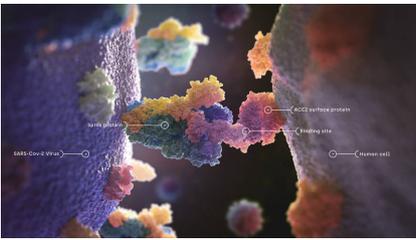


Essential skills for a career in research



Ireland's growing aviation sector is a cause for concern

Could a pandemic have been avoided if Covid-19 had been called Sars 2?



Nasa smashes spacecraft into asteroid in bid to change object's course

ADVERTISEMENT



LATEST STORIES >

Any attack on annexed territories will be an attack on Russia, Kremlin says

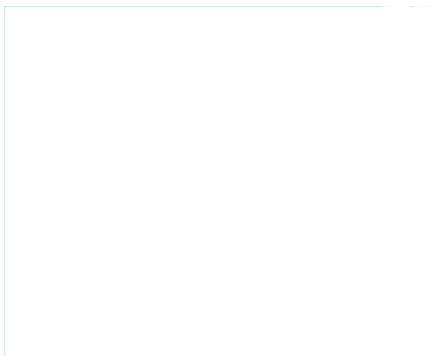
Man arrested after car crashes through gates at Sinn Féin TD's home

Largest teachers' union votes overwhelmingly to accept public sector pay deal

Boy (5) killed in collision with van while riding bike in Co Derry

Irish nuclear emergency training exercise takes place

ADVERTISEMENT



MOST READ >



EU gives Ireland two months to halt peat-cutting in conservation areas or face court



Jennifer Zamparelli doesn't normally censor herself. Then she reaches a line she won't cross



Why do parents allow children to continue doing homework when they can just opt them out?



My doctor wife and I couldn't buy the house we wanted. So we moved abroad – and life is much better



This new Korean restaurant is the place to go for delicious, inexpensive food

ADVERTISEMENT





ADVERTISEMENT



Grant Thornton Ireland announces new partner appointment as demand for financial services continues to grow

ADVERTISEMENT



Delivering Ireland's largest self-generation

Download the app



OUR PARTNERS: MyHome.ie • Top 1000 • The Gloss • Recruit Ireland • Irish Times Training

[Terms & Conditions](#) | [Privacy Policy](#) | [Cookie Information](#) | [Cookie Settings](#) | [Community Standards](#) | [Copyright](#)