Plug the Loopholes in ICAO's Plan

BY PARTH VAISHNAV

In September 2013, the International Civil Aviation Organization (ICAO) declared that it would implement a market-based mechanism (MBM) that would require airlines to offset any growth in their carbon dioxide emissions after 2020 by buying carbon credits. In March this year, ICAO published a draft text for the MBM, which was debated in a high-level meeting on May 11-13.

Getting close to an agreement on controls for CO_2 emissions is a good thing. Unfortunately, the March proposal contained a loophole large enough to fly an Airbus A380 through. The meeting in May has not closed it. ICAO's scheme still exempts a big chunk of the emissions from international aviation. On top of that, the absence of corresponding efforts to curb emissions from domestic aviation, particularly in the U.S., could tilt the playing field to favor some airlines over others.

My analysis suggests the MBM would cover only about two-thirds of the total emissions from international aviation in the first five years (2021-25). The rules are more stringent for the rest of the scheme's duration (2026-35) but would still cover just 85% of international aviation's emissions.

The March proposal exempts, among others, states that make small contributions to international traffic. ICAO defines a nation's contribution on the basis of the traffic carried by airlines that have been issued air operator certificates by it. In conjunction with the (laudable) rule that the "same requirements and rules shall apply to all aircraft operators on the same routes," this greatly expands the scope of the exemptions.

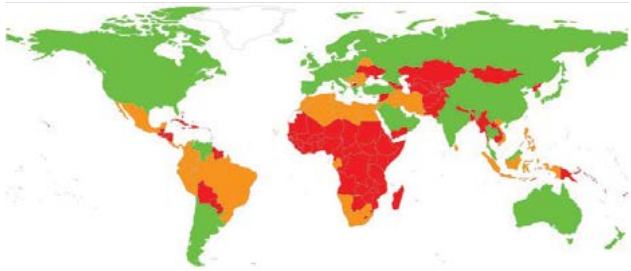
Take the case of South Africa. I estimate that South African airlines will account for just 0.5% of global international traffic in 2018. On that basis, the mechanism would exempt, until 2026, all traffic—on any airline—in and out of the country. Such traffic will account for 2% of the global total, not 0.5%.

The leak could be plugged by basing exemptions on the total traffic in and out of a country. This would cover 88% of total emissions in 2021-25 and 95% in 2026-35. More countries will be included in the mechanism, reducing the scope for market distortions. For example, while Nigeria would be permanently exempt under the operating-certificate-based approach, it would be included in the scheme from 2026 onward if exemptions were based on total traffic. South Africa, Brazil and Indonesia would enter the MBM sooner than they otherwise would.

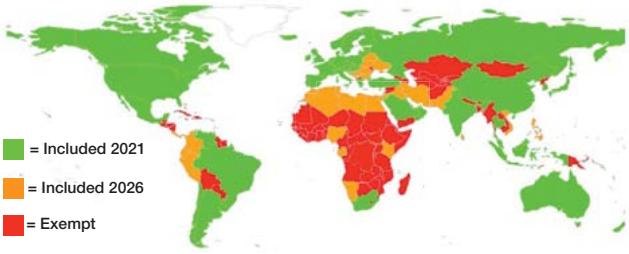
After the May meeting, ICAO said it may consider basing exemptions on traffic rather than operating certificates. However, it has suspended the national income criteria that brought small, rich nations into the scheme. If income criteria are jettisoned, and exemptions remain based on operating certificates, the MBM will cover only half of international aviation's global emissions up to 2025 and 75% after that. Denmark would be permanently exempt.

Countries in ICAO CO_2 Reduction Scheme

Based on Operating Certificates



Based on Traffic In and Out



Source: Parth Vaishnav

If the traffic-based approach were used, junking the income criteria would include 80% of emissions in 2021-25 and 90% thereafter. Even then, abandoning income criteria would exempt the Baltic states (for example), as well as the Bahamas and Monaco. This would warp the market and be unacceptable to countries such as India and China, which would be included in all cases. If ICAO wants to avoid basing exemptions on national income, it will have to find another way to ensure that the scheme's coverage does not become embarrassingly skimpy.

There are other ways in which the MBM could be gamed. Large airlines could allocate new, efficient aircraft to the routes that fall under the MBM and older, less efficient aircraft to the exempted routes. In effect, they could transfer some of their emissions out of the scheme, like a corporation moving earnings from a high-tax to a low-tax jurisdiction.

Carriers with large domestic operations could shift their least efficient planes to domestic routes and lobby to prevent their home governments from implementing efficiency standards for aircraft. Around 65% of the traffic carried by U.S. airlines is domestic. That number is 3% for British airlines and zero for Singaporean airlines. To keep the playing field level, international regulation must be matched by domestic efforts to cut emissions.

Even in poor countries, it is the well-off who fly internationally and are likely to benefit from exemptions. Recognizing this, and in light of the distortions they can introduce, perhaps the ICAO Council should do away with exemptions altogether.

As the first mechanism that will address CO_2 emissions from an entire sector of the global economy, ICAO's market-based mechanism may serve as a template for other sectors, for example, ocean shipping. It is important to get it right.

Parth Vaishnav is a research engineer in the Department of Engineering and Public Policy at Carnegie Mellon University. *His analysis was supported by the Center for Climate and Energy Decision Making, through a cooperative agreement between the National Science Foundation and Carnegie Mellon.* parthv@cmu.edu