Message from Joyce Msuya

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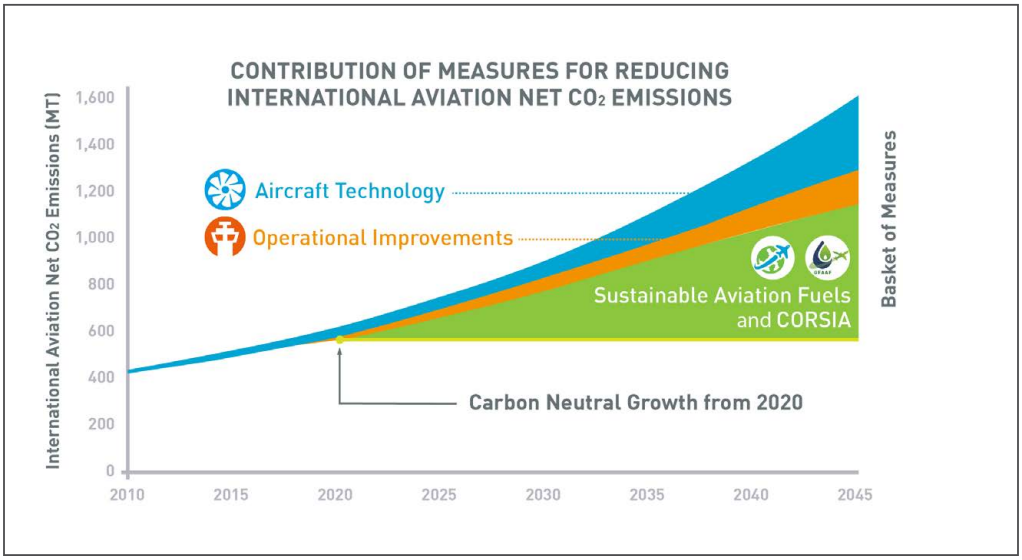
In 2018, the total number of air passengers worldwide reached a record-breaking high of 4.3 billion. Just as the aviation industry's passenger numbers have risen, so too have the sector's climate-warming emissions: since 2000, CO_2 emissions in the sector have grown by almost 60 per cent (IEA).

Climate change is one of humanity's most urgent challenges, and a major focus of our work at UN Environment. In March 2019, we published the sixth edition of the Global Environment Outlook (GEO-6), our flagship integrated environmental assessment. GEO-6 clearly shows that trends in global greenhouse gas emissions are going in the wrong direction. The report also reinforces the findings of the Intergovernmental Panel on Climate Change as well as UN Environment's Emissions Gap Report: that we must at least increase five fold, our ambitions to limit temperature rise to 1.5 degrees. To avoid the most severe impacts of climate change, GEO-6 concludes, we need to remove at least 45 per cent of fossil fuels from our energy mix by 2030.

International civil aviation must be an important part of achieving these science-based targets, but faces a significant challenge, since emissions from this sector are projected to increase by 2.2 to 3.1 times by 2045 compared to 2015 (compared to the growth in international air traffic of 3.3 times over the same time period) (see Figure 1). While the Paris Agreement applies to all domestic sectors, the international civil aviation, under the leadership of ICAO, has agreed to mid-term aspirational goals of 2 per cent fuel efficiency improvement per annum and carbon neutral growth from 2020. It also adopted a range of carbon mitigation measures, showing a concrete way forward to attain climate change goals. This demonstrates the willingness of international civil aviation to be an important part of the change required to halt global warming. That is why it is encouraging to see that the sector is working to support the transformation that is needed in our energy and transport sectors. While the energy intensity of international and domestic civil aviation decreased by 2.9 per cent every year between 2000 and 2016, (IEA) this was still not enough to keep pace with the annual 6 per cent increase in passenger traffic. As a

FIGURE 1: ICAO Global Environmental Trends on CO_2 Emissions and Contribution of Measures for Reducing International Aviation Net CO_2 Emissions



result, overall absolute emissions have increased as shown in Figure 1. The gains in energy intensity were achieved through better aircraft scheduling, higher passenger loads, and the commissioning of new and more efficient aircraft. Without these improvements, energy consumption in the aviation sector would have been 70 per cent higher in 2016 (IEA).

We have seen progress on the policy front as well. The International Civil Aviation Organization, our sister UN agency, has adopted CO_2 emissions standards for aircraft that will be enforced by national aviation authorities. These standards will ensure that the latest technologies are included in aircraft designs from 2020. Moreover, the International Civil Aviation Organization has adopted a carbon-offset scheme, CORSIA[1], which will launch in 2021. The initiative will help the aviation industry achieve carbon-neutral growth from 2020. The industry also continues to make progress towards the International Air Transport Association's long-term goal of halving net CO_2 emissions by 2050[2].

Clearly, the international aviation industry is working to curb its CO_2 emissions and reduce its impact on the climate. The International Civil Aviation Organization, working in close collaboration with industry players, is spearheading many of these efforts. But much more work needs to be done. If growth in the aviation industry outpaces the recent improvements in efficiency, then absolute emissions from the sector will continue to grow, albeit at a slower pace. New technologies showcased in the 2019 ICAO Environmental Report, such as sustainable aviation fuels and electrification, can help the sector lower its absolute emissions, which is exactly the kind of progress that we need to see. Indeed, to achieve the Paris Agreement targets, absolute emission reductions will be required in all domestic sectors of the economy, and international civil aviation stakeholders could significantly complement this ambition.

I am pleased to be able to provide UN Environment's perspective within this flagship ICAO report. We at UN Environment are focusing all of our efforts on promoting a healthy planet with healthy people, the theme of the sixth Global Environment Outlook. We commend the work of ICAO and the aviation sector more broadly. We look forward to continuing to work together to build a sustainable future.

1 https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx
2 https://www.atag.org/