IATA Media briefing: Environment

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Global concern about carbon emissions has been rising, particularly since 2017. In the past six months the ‘Flying Shame’ movement and Flight Free 2019 or 2020 petitions / public commitments have garnered media attention in various places worldwide, however the actual uptake is low at this stage. But climate scrutiny on aviation is not new. That is why the industry has had tough carbon targets and a robust strategy for more than a decade. And real progress has already been made.
Our industry recognizes that our operations contribute to climate change - currently 2% of man-made CO2 emissions - and we are taking the responsibility to lessen this impact extremely seriously.

Aviation is approaching the challenge of achieving its climate goals through a comprehensive strategy:

- The development of new, more efficient aircraft and engines can substantially decrease CO2 emissions. New technology aircraft are, on average, around 15-20% more fuel-efficient than the models they replace. Sustainable aviation fuels, which are already being used on certain commercial flights, will have the potential to cut emissions by up to 80%.

- Operational measures which include identifying weight savings in the current fleet, allowing the aircraft to burn less fuel. Airlines have been investing in lightweight seats and cabin equipment and even replacing heavy pilot manuals with tablet computers. Other operational measures include single-engine taxiing, idle reverse thrust, and ATC procedures such as continuous descents into airports and traffic flow management that prevent unnecessary airborne holding.

- ‘infrastructure which relates mainly to navigational improvements, making better use of airspace and streamlining the routes taken by aircraft to cut down on flight time, and optimizing airport layout to improve throughput.
The industry remains confident that technology, operational measures and better infrastructure will provide long term solutions to ensure the sustainable growth of the aviation industry through partnership between industry and government. However, we also acknowledge that a global market-based measure is needed until those other measures have taken full effect.
In 2016, the International Civil Aviation Organization (ICAO) adopted the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to address CO2 emissions from international aviation. This historic decision is the first time that a single industry sector has agreed to a global market-based measure in the climate change field. The industry first proposed this measure in 2009 and has supported the ICAO process ever since.

The international standards for the implementation of CORSIA have in the meantime been adopted as an Annex to the Chicago Convention, which all of ICAO’s 192 member states must apply since 1 January 2019.

There are many ways to achieve CO2 reductions that can be used as offsets, many of which bring other social, environmental or economic benefits relevant to sustainable development. Such offsets can be sourced from various types of project activities, including, for example, wind energy, clean cook stoves, methane capture, forestry and other emissions-reducing or avoidance projects.

It is forecast that CORSIA will mitigate around 2.5 billion tonnes of CO2 between 2021 and 2035, which is an annual average of 164 million tonnes of CO2.
This is equivalent to the annual CO2 emissions from the Netherlands, all sectors included.

CORSIA will also generate investment in climate projects of at least USD40 billion.
There is evidence people want to personally mitigate the carbon impact of their flights through offsetting.

In 2010 IATA set up a system for airlines to offer robust, high-quality and independently verified carbon offsetting to customers. To date more than 40 airlines have used the IATA scheme or set up their own in conjunction with third-party providers. Although take-up rates vary, it is an important option for concerned passengers.

Carbon credits invested by passengers generate genuine, permanent CO2 reductions.
It is important to note that the industry is delivering against its targets. We are meeting our first goal to improve efficiency by 1.5% per year. Currently the rolling average fuel efficiency improvement sits at 2.3%.

The implementation of CORSIA will be instrumental in ensuring we achieve our second goal of capping our net emissions at 2020 levels.

For over ten years, the aviation industry has also had a long-term goal for air transport: a 50% reduction in net CO2 by 2050, compared with 2005. This is in line with the Paris Agreement two degrees goal.
Technology is a strong driver to achieve substantial contributions to the Industry’s ambitious carbon reduction goals.

• Manufacturers undertake continuous strong efforts in developing new aircraft designs and technologies. Each new generation of aircraft is typically 15 to 20% more fuel efficient than its predecessors. These aircraft are brought into service through airlines continuously investing in fleet renewal and modernization.

• So far, all commercial aircraft have a tube-and-wing configuration and are powered with liquid hydrocarbon fuel. The traditional concept

• Revolutionary aircraft designs, e.g. blended wing bodies, and forms of propulsion, such as hybrid and battery-electric, could be ready for entry into service from about 2035, and allow significant steps in carbon emissions reduction.

• In parallel, sustainable fuels are starting to be deployed. Since 2016, airports in Norway and Sweden have been offering blends of sustainable jet fuel in the standard airport fuel supply. Last week, KLM announced an offtake agreement of 75 000 tonnes of sustainable fuel per year from supplier SkyNRG.

• In time, liquid fuels will start to be replaced by other forms of clean energy, in particular electric power, for some categories of aircraft.

• The ambitious 2050 industry target can only be achieved with combined efforts from the different strategy areas. Aircraft technology and sustainable fuels and energies provide strong contributions, but need to be complemented by market-
based measures, operational and infrastructural improvements.
New low-carbon technologies are required as an important contribution to achieve the industry emissions reduction targets. To implement them, strong support from all aviation stakeholders (manufacturers, research establishments, airlines, airports, ANSPs and governments) is required.

From 2035 radically new aircraft technologies can become reality. To make this possible, their development and plans for industrial deployment need to start now, and we are seeing many positive examples. Also, industrial deployment needs to be planned as well as potentially necessary infrastructure adaptations, such as battery recharging facilities at airports.

Some airlines already support the development of new technologies by partnering with specialized companies.

Governments’ support for low-carbon aircraft technologies is important.

Governments in some countries have developed, in conjunction with the industry, multi-stakeholder action roadmaps for sustainable aviation. These could act as blueprint for efforts in other countries. [Examples are the UK and the Netherlands]

In various countries [examples: EU, US, Canada, Australia, Japan, South Korea etc.] there are well-established public funding systems for aviation technology. It is helpful that some of them already start increasing their focus on radically new aircraft technologies, which should be extended.

With the current global focus on climate action, a lot of research and technology
development is taking place in the renewable energy sector. Strong synergies between this sector and aviation should be established for the benefit of low-carbon aviation.

- It is important that governments support the implementation of new low-carbon aviation technologies and related infrastructure adaptation with smart regulation.
Cabin Waste

- This is a significant issue for airlines but is not solely in airlines’ power to resolve
- In 2018, airline sector generated approx. 6.1 M tonnes of cabin waste including 20-30% untouched food and drink
- Regulatory restrictions inhibit reuse and recycling
- IATA has developed cabin waste recycling guidance
- Industry and regulators met at the Sustainable Cabin Forum in May to discuss collaboration – aim of promoting technical solutions that support the circular economy and reduce industry costs
- With better regulation we can reduce waste

- Airlines cannot solve the issue of cabin waste on their own. Regulations are very strict in this area. We are undertaking research to understand the problem.
- IATA conducted a pilot study at London’s Heathrow airport in 2012 and 2013 to develop a standard cabin waste audit methodology. The study indicated that a typical passenger generates 1.43 kilos of cabin waste (average across both short and long-haul international flights) of which 23% was untouched food and drink and a further 17% comprised of recyclable materials (e.g. plastic bottles and newspapers). In 2018, this equates to approximately 6.1 million tones of cabin waste.
- All cabin waste is subject to national waste management controls that limit pollution, but many countries have gone further with their regulations, introducing restrictions on catering waste from international flights to protect their agricultural sector (in respect to animal health). The regulations often lead to the incineration of all cabin waste with limited ability to reuse and recycle.
- IATA has developed cabin waste recycling guidance for international flights to ensure airlines are able to meet the requirements of the most stringent regulatory regimes globally, is flexible enough to accommodate a wide variety of airline operating models and incorporates best waste management practices from within the aviation industry.
- Working in partnership with IATA and under the patronage of European
Commissioner Karmenu Vella, on 16th May 2019, Hi Fly and the Mirpuri Foundation held the first Sustainable Cabin Forum in order to develop and share best practices for stakeholders on single-use plastic and catering waste. The day’s discussions assessed the challenges lying ahead and the perceived adequacy of the industry’s current regulatory framework.
The inappropriate disposal of single-use plastics (SUP) and its impact on the marine environment is a key challenge for our society. According to National Geographic, 8.3 billion tonnes of plastic has been produced since 1950 and 6.3 billion tonnes has ended up as waste. Recent information published by the World Economic Forum (WEF) expects plastic production to double in the next 20 years however plastic recycling rates remain low with around 30% in Europe, 9% in the U.S., and zero or close to it in much of the developing world.

The number and scope of regulations placing restrictions on SUP have increased significantly in-line with public interest and are aimed at addressing the problems of harmful marine litter and its impact on the environment and potentially human health. Although not specifically focused on the aviation sector, many of these regulations have implications for airlines.

Although airlines are supportive of reducing marine litter, the selection of alternative solutions should consider not only its environmental characteristics, but all issues of availability, affordability, hygiene, food safety and the weight and space it takes on board. Environmental impacts to take into consideration include increased energy and water consumption from cleaning and return logistics, water pollution from washing, as well as CO$_2$ emissions that result from heavier materials carried on board aircraft.