



24 May 2021

Backgrounder

SUSTAINABILITY AT THE SINGAPORE AIRLINES GROUP

The Singapore Airlines (SIA) Group has remained focused on our sustainability goals even as we navigate the impact of the Covid-19 pandemic on our business. We know that this is also an increasingly important issue to both our customers and staff. The multiple initiatives that the SIA Group has undertaken towards our decarbonisation and sustainability objectives buttress our leadership position on this topic, and reinforce our commitment to finding ways to tackle our impact on the environment.

Reducing Carbon Emissions

Today, investing in new aircraft is the most effective and direct way for airlines to reduce their carbon emissions. As part of our strategy to reduce carbon emissions, the SIA Group operates one of the youngest fleets in the world with an average age of five years 10 months. These comprise technologically advanced new-generation **models such as Airbus' A350-900 and A320neo Family and Boeing's 777-9, 787 Family and 737-8 Max**. These are up to 30 per cent more fuel efficient than previous generation aircraft, and have reduced carbon emissions compared to older models.

There is also a relentless focus on increasing fuel efficiency through improvements in operational procedures. For example, the SIA Group has invested in engineering improvement packages for airframes and engines which help to reduce drag and improve engine efficiency. Our airlines continuously aim to improve fuel productivity through initiatives such as reducing fuel usage through aircraft weight management, and optimisation of flight routes. Innovations in technology and data analytics will also pave the way for more significant improvements, and we will continue to engage research institutions to explore such ideas.



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Singapore Airlines has been an active member of the Sustainable Aviation Fuel Users Group (SAFUG) since 2011. In 2017, SIA launched a series of *green package* flights from San Francisco to Singapore that incorporated sustainable aviation fuels, fuel-efficient aircraft and optimised air traffic management measures. In 2020, SIA **worked with Stockholm's Swedavia Airport to uplift sustainable aviation fuels on flights departing from the city. These activities have helped to improve the Group's** understanding of the logistics and procurement of renewable fuels. SIA is actively working with partners and stakeholders to explore opportunities to scale up the adoption of sustainable aviation fuels across our network.

Beyond reducing direct emissions, carbon offsetting can play an important and complementary role. The SIA Group is a participant in the International Civil Aviation Organisation's **Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)**, which seeks to cap the industry's growth in carbon emissions from 2020. While offsetting is particularly important in the mid-term, it is also expected to remain relevant in the long run to mitigate residual emissions. In order to secure high quality carbon offsets, the Group will continue exploring pathways through partnership that will allow us to source high quality carbon offsets.

Solar panels

On the ground, SIA has installed 20,000 rooftop solar panels on our office buildings across Singapore. These generate renewable energy that provides up to 18 per cent of our electricity demand, or enough to power around 2,300 four-room apartments in Singapore for a year. We remain committed to refreshing older equipment and exploring new technologies to enhance the energy efficiency of our buildings. These include longer-term initiatives such as adopting smart lighting systems in offices, and upgrading existing chiller plants and air handling units.



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Waste Management

We are committed to reducing the use of single-use plastics in the aircraft, and replacing them with alternative environmentally sustainable materials. For example, we have replaced plastic straws with paper straws, plastic swizzle sticks with wood-based ones, and polybags for children's toys with recyclable paper packaging. Paper products such as tissue paper and toilet rolls are made with Forest Stewardship Council (FSC)-certified paper, which is sourced in a sustainable manner.

Since December 2020, Scoot has been progressively replacing the plastic bottles of water offered for onboard purchase with a more sustainable Tetra-pack alternative, which is made mainly from paper and FSC-certified packaging material.

To cut paper waste, SIA no longer offers physical newspapers and magazines on board the aircraft. Customers can instead access more than 1,000 magazines and newspapers SIA via our e-Library, a digital feature available in the SingaporeAir mobile application.

Scoot also migrated all physical in-flight menus, duty-free shopping catalogues, and in-flight magazines to an in-flight portal, ScootHub, in December 2020. Customers can access ScootHub from their own devices by scanning a QR code on the seatback, or by connecting to an in-flight network that they can access and purchase from the Scoot Café menu and Scootalogue duty-free catalogue.

These initiatives have helped to reduce the take-off weight of SIA and Scoot aircraft. As a result, both airlines have reduced their fuel consumption on all flights and this translates into lower carbon emissions across the Group network.

In 2020, SIA rolled out a new regional Economy Class meal concept that offers more food varieties for customers. The plastic casserole service ware that was used on these routes has been replaced with a new packaging made of FSC paper and a cutlery pack made of bamboo with a paper wrap. This reduces the amount of single-



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use plastics on the meal tray by 80 per cent. The packaging weighs 50 per cent less, lowering fuel consumption. Leftovers on the tray, including the tableware and the food waste, will be sent to an eco-digester to be converted into refuse-derived energy pellets that can replace fossil fuel and coal.

SIA has partnered with Lumitics, a Singapore-based food waste management start-up, to co-develop a cutting-edge digital solution, which can cut the amount of food **waste generated on board SIA's aircraft. Lumitics' artificial intelligence solution** allows SIA to gather more accurate data on and better predict in-flight meal consumption patterns, further minimising food waste. SIA is also working with our caterers worldwide to better understand of the make-up of our waste. This allows us to step up our efforts to segregate and recycle waste, and promote circular economy concepts where possible.

More information on **Singapore Airlines' sustainability** initiatives can be found in our FY2019/20 Sustainability Report at <https://bit.ly/35yjvcc> and our Sustainability page at <https://bit.ly/3o86Q77>.

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