



## ISSUE 2

# ASPIRING TO FLY GREEN

**Focused efforts from ASPIRE see civil aviation moving towards greener, cleaner skies.**

When it comes to carbon emissions, the aviation industry is known to emit approximately 600-700 million tonnes each year. Although aviation contributes only two per cent of CO<sub>2</sub> emissions, the aviation industry is eager to play its part to reduce emissions. Towards this, the Asia and Pacific Initiative to Reduce Emissions (ASPIRE) partnership has been championing the need for green civil aviation despite growing air traffic volume.

Established in 2008, ASPIRE has worked closely with governments, air navigation service providers (ANSP) and airlines to implement fuel and cost saving methods through best practices in air traffic management. These methods are promoted through demonstration flights, which see aircraft collaborating to operate the most eco-friendly flights possible. To date, ASPIRE has five successful demonstration flights under its belt.

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Greg Houghton, Senior Advisor ATM Planning, Air Traffic Control, Airservices Australia and member of ASPIRE explained, "The aviation sector has a long and distinguished record of environmental achievement. Technological advancement has significantly reduced aircraft fuel consumption and emission on a per passenger basis over the last 30 years. In order to improve on this record, aggressive action is required to ensure that the aviation industry takes advantage of innovations in aircraft and air management technology to ensure proper stewardship of the environment."

With this in view, cooperation was key in ensuring the success of ASPIRE's first multi-sector green demonstration flight. This was clearly evident from the first-time collaboration between ASPIRE and new ASPIRE members, Civil Aviation Authority of Singapore (CAAS) and Singapore Airlines, which saw SQ 11 flying from Los Angeles to Singapore via Tokyo with significant fuel, time and carbon emission savings.

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The results were indeed impressive: carbon emissions were cut by 33,769 kg, total flight time was reduced by 30 minutes, which translates to considerable fuel savings in aviation, and 10,686 kg of fuel was saved – enough to power five cars for a year.

Aviation authorities in Singapore, US and Japan collaborated to ensure that the Singapore ASPIRE flight exercise encountered no unnecessary delays – the aircraft was granted the all clear from air traffic control and could take off without speed or aircraft level restrictions, reducing fuel consumption and carbon emissions. Close communication between the pilot and the respective air traffic control officers(ATCOs) also ensured that the plane could utilise existing wind patterns to adjust its flight path and shorten flight time, thus achieving greater flight efficiency.

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These findings are of great importance as it acts as a reference for airlines and airports to improve their flight operations. “The data collected from the ASPIRE flight will be used as a benchmark for [Singapore Airlines] to create more efficient and environmentally sound flights,” said Nicholas Ionides, Vice-President, Public Affairs, Singapore Airlines.

Airlines can also use the results of the exercise to improve on their best practices. Singapore Airlines has integrated many of these fuel-efficient initiatives, which include engine wash and airframe wash and polish programmes on its planes. These measures might seem small, but they go a long way in reducing fuel burn. “The ASPIRE concept has heightened the focus on ensuring that planned technology and procedure improvements deliver on the expectation to produce emission–saving services,” said Houghton.

Fuel-saving initiatives are not limited to airplanes; airports are also being targeted. This is especially so with the entry of CAAS and the Japanese Civil Aviation Bureau (JCAB), ASPIRE's newest members. Houghton added: "The latest inclusion of JCAB and CAAS will bring significant experience and added dimension to ASPIRE's development. As these ANSP partners come with vast experience within congested complex airspaces, ASPIRE can now start looking at emission-saving measures within terminal areas and generate further emission savings."

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CAAS is also looking forward to doing its part for civil aviation. Said Ng Tee Chiou, Director (Air Traffic Services), CAAS, "CAAS has signed the ASPIRE joint agreement as a commitment of its environmental stewardship. As an Asia Pacific ANSP, CAAS is pleased to partake in the active collaborative effort with fellow ANSPs to reduce aviation carbon emissions and enhance operational improvements for greater efficiency, as well as better fuel savings for airlines." With more demonstration flights in store, the aviation industry is committed to drive more fuel-efficient practices, reduce its carbon footprint and start giving back to the environment.