



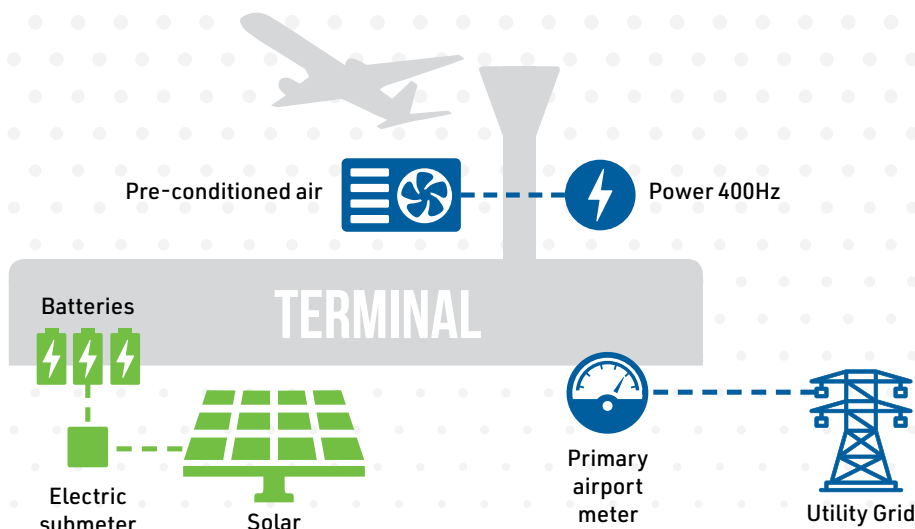
SOLAR-AT-GATE PILOT PROJECT



One of the main deliverables under the ICAO-UNDP-GEF project was a small-scale project that could be easily replicated, and which would illustrate both the use of clean energy and the associated CO₂ emissions reductions for international aviation operations. Following the assessment of several potential measures, a solar-at-gate pilot project was implemented at Norman Manley International Airport in Kingston, Jamaica.

While focusing the pilot project on the reality of Small Island Developing States (SIDS), this climate change mitigation action also embeds a climate change adaptation measure, as it was designed to withstand category 5 weather events.

Through the use of their development funds, developing States and SIDS can use the pilot project as a model for installing solar power facilities to feed the aircraft energy needs at the gates where international flights are serviced, thus avoiding the CO₂ emissions resulting from the use of aircraft auxiliary power units (APUs).



BENEFITS OF SOLAR-AT-GATE PROJECT

176,000 kg CO₂ avoided per year and 4,400 t CO₂ avoided over the project's life cycle

Solar energy enhances power stability and resilience at the airport

Reduces the amount of local pollutants from APU usage

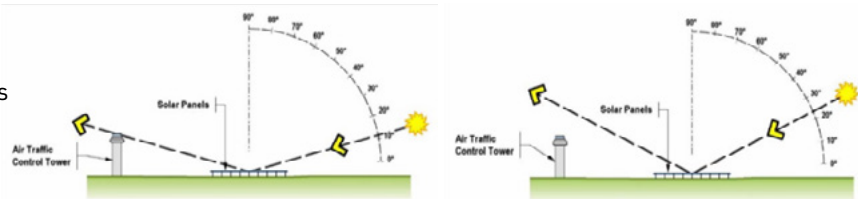
New technology demonstration serves as a model for other airports

KEY PROJECT STEPS

- 1** Develop concept with local partners
- 2** Conduct glare analysis
- 3** Secure funding
- 4** Prepare tender
- 5** Hold bidders' conference
- 6** Review bids and select contractor
- 7** Design and construct solar components and gate components

GLARE ANALYSIS

- Employ modeling tool
- Assess airport's sensitive receptors
 - Control tower
 - Aircraft on final approach
- Ensure no adverse impacts



Conventionally, airports have taken electric power only from the grid. With solar power generation, airports can take electric power from the grid or sell excess electricity back to the grid or store it in a battery for later use.

- Excess energy not used by airport that goes back to the grid
- Energy used by airport from the grid or battery



The solar-at-gate pilot project was developed through ICAO's **Transforming the Global Aviation Sector: Emissions Reductions from International Aviation** joint assistance project with the United Nations Development Programme (UNDP), financed by the Global Environment Facility (GEF). ICAO is supporting developing States and SIDS in their efforts to reduce CO₂ emissions from international aviation, under the overarching ICAO initiative on States' Action Plans on CO₂ emissions reduction activities. The deliverables of the ICAO-UNDP-GEF project aim to increase the capacity of States and their stakeholders to take meaningful and coordinated action to address international aviation environmental issues.

Information on the process, lessons learned, best practices, and collected data is available from a recent ICAO publication on emission reductions from international aviation. Visit ICAO's website at www.icao.int/environmental-protection/Pages/ICAO_UNDP.aspx