

# ICAO, UNDP AND GEF – PROGRESSING THE GLOBAL CLIMATE AGENDA TOGETHER

BY ICAO SECRETARIAT

In March 2015, ICAO formed a partnership with the United Nations Development Programme (UNDP) with financing from the Global Environment Facility (GEF), in order to design and implement a pilot project demonstrating CO<sub>2</sub> emissions reductions in international aviation.

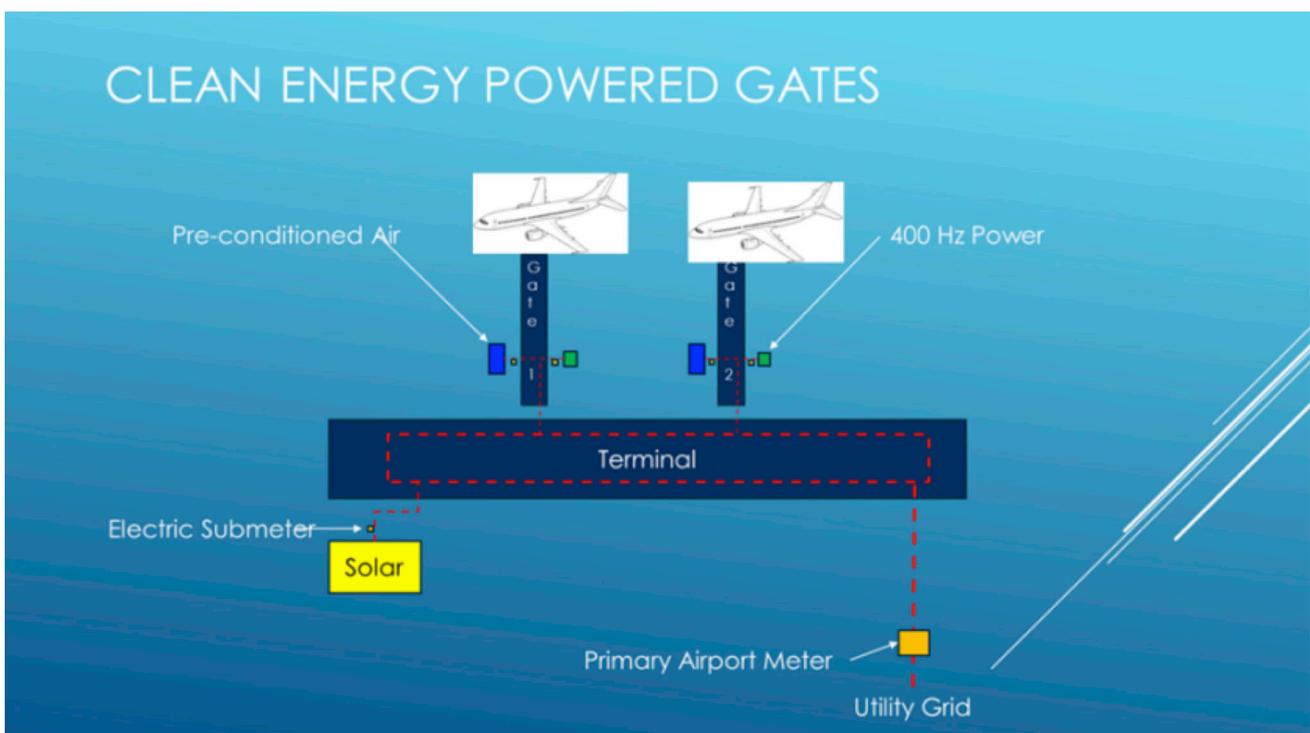
Under of the design elements of this pilot project, ensuring a high level of replicability for developing States and Small Developing Island States (SIDS) was considered as being critical. The administrative and financial modalities of the pilot project should be easily reproduced. Indeed, individual States would be able to easily implement similar projects using a variety of possible financing mechanisms, including their own GEF national allocation, if they wished to do so. These States would also have access to specific guidance developed on the administrative, financial and technical components of the pilot project to implement their own CO<sub>2</sub> emissions reduction project.

ICAO and UNDP agreed on the design elements of their joint project, they then had to decide which mitigation measure they would showcase. After a thorough assessment of the options available and based on an in-depth understanding of the needs of developing States and SIDS, it was decided to implement a “solar-to-gate” project.

Indeed, after landing at the airport or prior to departing for another flight, an aircraft has to keep a number of on-board system functionalities running. Air conditioning and heating are the most commonly experienced of these functionalities by passengers. Thus, aircraft need energy when they are parked on the ground. Aircraft are equipped with an Auxiliary Power Unit (APU), in general located at the aircraft tail. APUs generate the electricity required to keep the essential on-board systems. This energy can come from the kerosene loaded on-board the aircraft or from a diesel generator connected to the aircraft when it is at the airport gate. The objective of the ICAO-UNDP-GEF pilot project is to substitute the use of kerosene or diesel with electricity from a clean, renewable source. Hence, the willingness to bring solar energy to the aircraft, when parked at the airport gate.

To bring this concept to life, the following three components are covered by the pilot project (see **figure 1**):

1. The installation of solar panels;
2. A convertor to transform the solar energy into electricity; and
3. The acquisition of an electric Pre-Conditioned Air (PCA) unit and an electric Ground Power Unit (GPU). The PCA and GPU are available at the gate and can replace fully the use of the APU, as soon as they are connected to the aircraft.



**Figure 1.** The components covered by the pilot project



**Figure 2.** Consultation with main partners (from left to right: Ms. Jane Hupe, Deputy Director Environment, ICAO , Ms. Laurence-Chounoune, Deputy Resident Representative and Mr. Pouezat, Resident Representative, UNDP Jamaica, Bahamas, Bermuda, Turks & Caicos and Cayman Islands in Kingston, Jamaica).

Last but not least, decision had to be made on where to implement the pilot project. Initially, it was foreseen to identify one international airport in Jamaica as implementation site. Following a detailed analysis by leading experts in the field of renewable energy and aviation and a series of consultations, it was found possible with the same budget to implement smaller scale projects at two airports, thus giving the opportunity to promote two different business models. In one case, all three components of the project will be financed by the GEF project budget itself, in the second case, the solar panel component will be installed on a cost recovery basis, thus stimulating partnerships between the public and private sectors.

*“This initiative by ICAO/UNDP is welcomed by the Ministry of Transport, and the entire Government of Jamaica. The Government pledges its support in this venture, and looks forward to the commencement of this emissions saving project”,* says LM Henry, Minister of Transport and Mining of Jamaica.

*“Jamaica Civil Aviation Authority on behalf of the Government of Jamaica is committed to provide the necessary support to the project,”* says Nari Williams-Singh, Director General of Jamaica Civil Aviation Authority.

*“The successful outcome of this project is vital not only for Jamaica, but for the whole Caribbean region,”* says Cleonie Williams, an office manager at Caribbean Aviation Safety and Security Oversight System (CASSOS).