

CASE STUDY 30

Catching the rays at San Francisco

Who: San Francisco International Airport

Where: United States of America

What: Solar array installed on a terminal roof

When: 2007

Why: Alternative, clean energy sources

Project

San Francisco International Airport is in the process of installing a 445kW solar array. The 2,832 solar panels will be placed on the roof of the Domestic Terminal 3 building. In conjunction with a newly completed project to replace over 6,000 old lighting fixtures with more efficient, brighter lighting, the solar system will provide enough power for all daytime lighting needs within Terminal 3.

Results

The city owned solar array will contribute approximately 628,000 kilowatt hours (kwhr) yearly of totally "green", non-polluting electrical power while also reducing 7,200 tonnes of carbon dioxide over its 30 year life. This is the second solar system at the airport. In September 2001, a smaller 20kW system was installed upon the roof of the engineering building. The system has been running ever since providing power to the buildings daytime lighting load and with overall savings to date of 150,000 kwhr.



Other environmental initiatives at SFO

As a department of San Francisco city government, SFO must play a significant role in reducing their greenhouse gas emissions.

- The *Zero Emissions 2020 Plan* commits the city to develop a 'clean air' plan for public transport, including the use of public transport links to the airport.
- In 2003, SFO inaugurated service on an automated people mover called Air-Train between terminals, car parks and the car rental facilities. This service eliminated 200,000 shuttle trips from the terminal loop annually, preventing the release of 565 tonnes of CO₂ each year.
- The completion of the Bay Area Rapid Transit system (BART) to the airport in 2003 has allowed 215,000 people a month to travel to and from the airport via public transport. SFO estimates that this development has taken away 64.5 million car miles and 28,947 tonnes of CO₂ each year.
- The airport also provides 400 Hz ground power units at all of its gates and pre-conditioned air at most gates, which avoids the use of aircraft auxiliary power units, reducing fuel usage. Since the airport's power source is hydroelectricity, a significant reduction in CO₂ emission is realised. This project has potential to save up to 37,000 tonnes of CO₂.

Aircraft towing trial

In March 2007, Virgin Atlantic, San Francisco Airport, Boeing and the FAA conducted a trial of towing aircraft from the gate to the runway. This reduces the amount of time the engines need to be used on taxiing and therefore fuel burn. The goal of the trial was to gather data on the feasibility of towing aircraft longer term. Preliminary calculations suggest that 1,709 lbs of CO₂ were saved over the course of the trial. If this technique were to be used by only 30% of departing aircraft, up to 16,000 tonnes of CO₂ could be saved annually at SFO. The airport is to conduct further trials.



Company profile:

San Francisco International Airport (SFO) is located on San Francisco Bay 14 miles south of the City. SFO covers approximately 5,200 acres with about 2,700 acres developed for airport use and approximately 2,500 acres remaining as natural tidelands.

The airport handles over 30 million passengers a year providing nonstop service to more than 60 U.S. cities on 20 domestic airlines and to 30 international points on 26 international carriers.

www.flysfo.com