



The Moscone Convention Center Combining Solar Power & Energy Efficiency San Francisco, California

SUMMARY

Large-scale, non-utility owned solar electric systems represent an important avenue for local governments to take greater control of their power needs and energy future by generating clean, reliable energy on-site.

Concerned about electric service reliability and price volatility, San Francisco voters in November of 2001 overwhelmingly approved Propositions B and H, which authorized the City to finance renewable energy projects and energy efficiency measures in city-owned buildings. The San Francisco Public Utilities Commission is taking the lead in placing solar electric generation on public buildings in San Francisco.

PROJECT DESCRIPTION

Location: San Francisco, California
Date Completed: March 2004
Solar System Size: 675 kilowatts peak
Number of solar panels: 5,400
Photovoltaic surface area: 60,000 sq. ft
Demand Reduction from Efficiency Measures: 800 kilowatts

The Moscone Center project consists of two parts: solar power generation and energy efficiency. The solar installation includes high efficiency, photovoltaic panels on the Moscone Center roof. The installation's peak output is 675 kilowatts, and it will produce at least 826,000 kilowatt-hours (kWh) on a yearly basis. The energy efficiency measures implemented at Moscone include new efficient lighting equipment and improved energy controls, which will save an estimated 4 million kWh annually. Together, the solar electric system and energy efficiency measures will produce and save the city enough electricity to power over 1,000 homes.

ANNUAL SOLAR ELECTRIC GENERATION AND SAVINGS FROM ENERGY EFFICIENCY

Solar electricity generated	826,000 kilowatt hours per year
Energy saved from efficiency upgrades	4,067,658 kilowatt hours per year

COMPREHENSIVE ENERGY EFFICIENCY SOLUTION

The Moscone Center Energy project combines strategic energy efficiency measures with clean on-site power to maximize utility cost savings. When on-site solar electric power is combined with energy efficiency and advanced energy management measures, the economic advantages increase dramatically. Through a customized combination of solar power and efficiency measures, the Moscone Center was able to maximize demand reduction and achieve utility savings beyond those provided by any single measure.

ENERGY EFFICIENCY BENEFITS

- Increase in Lighting Quality and 40% Increase in Light Levels in the Exhibit Halls
- "Instant On" Lighting Fixtures in Exhibit Halls Provide Improved Light Distribution
- Reduced Lighting Maintenance Costs Due to New, Longer-lasting Lamps
- Improved Energy Management and Lighting System Controls for Greater Flexibility and Savings