

## US POSTAL SERVICE ROOF MOUNT SOLAR PV SYSTEMS MULTI-SITE OPPORTUNITY STUDY

### PROJECT SUMMARY

A Principal from Bridgestone Associates, working for ICF International, Fairfax, VA, managed and conducted a preliminary assessment of solar pv opportunities for all US Postal Service facilities. This was part of a larger study on alternative and renewable energy options for the more than 30,000 USPS facilities. The scope of work encompassed all types and sizes of facilities, including mail processing centers, post office buildings, and other support centers. Because many of the smaller buildings are leased with utility costs included in the lease monthly payment, these were excluded from the study because (1) there would be no energy cost savings to the USPS, and (2) the term of the lease was less than the required payback period of the equipment.



Even with these facilities excluded, there were many thousands of facilities analyzed throughout the USA ranging from a few hundred to many hundreds of thousands of square feet.

### PROJECT STATISTICS

Client:	US Postal Service/ICF International
Project Type:	Solar PV Applicability and Issues
Facility Types:	Commercial and industrial warehouse type facilities
Facility Sizes:	Buildings – 1,000 to over 1 million sq ft.
Total Facilities:	Potentially thousands
Facility Locations:	Throughout the United States
Technologies Evaluated:	Solar photovoltaic (solar pv)

### PROJECT DESCRIPTION

The work focused on determination of the economic and technical viability of installation of solar pv at USPS owned facilities throughout the USA. Primary focus was on roof mounted systems although some locations had adjacent land that could be used for ground mounted systems.



An extensive screening approach was developed comparing locations of all facilities with solar incidence at those locations and with utility power costs. Also taken into account in this screening was the local market for renewable energy and the value of Renewable Energy Credits in the region. To provide comparison between facilities and the various potential attributes, weighting factors were developed. These were used to rank each facility.



Based on this extensive screening, a priority target list of locations suitable for solar pv installation and generation was developed.

Using data provided by the USPS on roof space and building sizes, an analysis was developed on the costs of equipment, installation and operations and maintenance for the target facilities. An economic analysis was then developed to determine if the costs of production (the LCOE or Levelized Cost of Energy) was lower than the average utility rates in the area. Based on this, each of the locations was then ranked as to its potential value as a suitable site for solar pv installation.

From the analysis it was found that of the facilities considered from 44 states, the top 20 facilities were located in California, Massachusetts, Arizona, Connecticut, Nevada, New York, and New Hampshire. With the roof space assumptions made, an estimated 17 MW (megawatts) of solar PV generating capacity could be installed at these top 20 facilities. Of this estimated capacity, 7 MW of rooftop solar PV could be installed at the California facilities, while 5 MW of rooftop solar could be installed at the Massachusetts facilities.