



Stimulating Photovoltaics on Commercial Space: Targeted Recruiting in Marin County, California

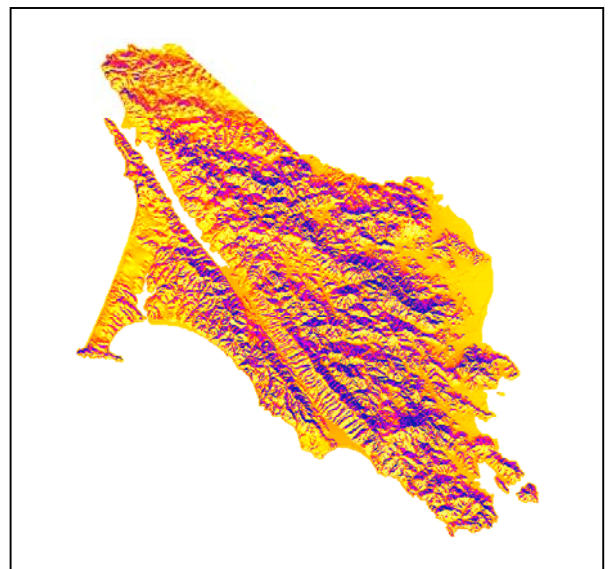
With the goal of increasing the amount of PV installed on commercial facilities in Marin County, California, Marin's Sustainability Team developed an innovative approach to identify businesses with favorable sites for solar electric systems. Once the sites were selected, the County provided business owners with specific information on solar's value proposition for their facility, and connected them with the resources to follow through with installation.

Site Identification

The County used geographic information system (GIS) analysis and mapping techniques to locate buildings with high solar resource and roofing surfaces of at least 3,000 ft². The foundation of the effort was a software program called Solar Analyst, which was used to identify areas with a good solar regime. Originally developed by the private sector, the US Forest Service recently acquired the rights to the program and it is now available for free on the web.

Next, the county overlaid aerial photographs of buildings throughout the county to the solar analysis. Then the county incorporated parcel information from the county that contained ownership records, the physical address of the building and tax use code information. Finally, using the editing tools of the GIS software, they outlined the available roof space for each building and were able to calculate the approximate square footage available for PV systems.

Once the analysis was complete, the county determined that there was 30 MW of potential along the Route 101 Corridor — and this only represents commercial buildings over 3,000 ft²! There is an additional 18 MW of potential on public facilities, including City and County Buildings, Police and Fire Stations, Water and Wastewater Treatment Facilities and Schools.



Solar Analyst map of Marin County

Targeted Outreach Campaign

The county designed and launched a comprehensive outreach program to educate facility managers about the benefits of PV. Letters were sent to facility managers detailing their building's approximate solar potential, available rebates and financing options available from the local utility's rebate program. (A sample letter is included at the end of this case study.)



Data maps generated with the Solar Analyst

In addition to highlighting the financial benefits of solar, the letter, which was accompanied by a self-addressed, pre-paid envelope and response card, made three additional offers:

1. A free site visit by County staff to evaluate a site's solar potential. The site visit consisted of a superficial inspection of a roof's suitability for solar, rudimentary estimation of the size of system the site could support, and ballpark figures of cost and electricity production potential. These site visits generated a report for each facility about the approximate electricity production, system costs, and next steps for moving the project forward.
2. A free daylong workshop for facility managers about the fundamentals of photovoltaic systems, including the benefits and costs associated with PV, fiscal incentive programs, and case study examples for system siting, sizing and design issues. The workshop was co-hosted by the local electricity provider, Pacific Gas and Electric. Local solar installers and contractors were also invited to attend to meet potentially interested parties.
3. An information packet on solar energy for businesses. In addition to general information about PV, the information packet included a "Solar Energy Resource Guide" published by the Northern California Solar Energy Association.

The County targeted 275 unique buildings for outreach and 37 responded (a 14% response rate). For facilities with off-site owners, duplicate letters were sent: one to facility managers and one to the off-site owner. A total of 500 letters were mailed. Thirty-four requested additional information, 24 requested site visits, and 25 registered for the workshop. As of the time of publication for this case study, the county is still in the process of direct follow-up with interested parties.

Here's how you can do it

1. Hardware: Solar Analyst requires Pentium computers with a minimum of 32M RAM. The calculation also requires a large disk space to store model results. The actual disk space required depends on your input DEM size and output you need. Generally you should have 100M of free space before running the model. More than a gigabyte of disk space can be required for handling large DEMs and multiple outputs. **Operating System:** MS Windows NT 4.x, Windows 95/98, or Windows 2000.

2. Software. This process requires two software programs: ArcView 3.x and the Spatial Analyst extension as well as the Solar Analyst program. ArcView can be purchased on the web at <http://www.esri.com/software/arcview/>. The US Forest Service recently purchased the rights to the Solar Analyst program, which can be downloaded for free at www.fs.fed.us/informs/download.php.

3. Parcel Information. This information is available within the county records.

4. Aerial Photos. These are potentially the biggest challenge to acquire if they do not already exist. They are also somewhat time sensitive because sites change over time.

5. Developing Outreach Materials. The county relied on in house staff to develop the appropriate support materials, which included:

- A introductory letter to the facility managers
- An all day workshop on photovoltaic systems
- Free site visits

For more information contact:

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SAMPLE LETTER

DATE

Facility Manager
Business Name
Address 1
Address 2
City, State. Zip

Dear Facility Manager,

Your facility has been identified as a good candidate for solar electric applications¹. After preliminary analysis, we have estimated that your site could potentially generate over 50,000 kilowatt-hours every year. The approximate annual cost savings of a solar electric system that would produce this much energy is approximately \$10,000². Moreover, a 30kW PV system could earn you as much as \$135,000 in incentives from the Pacific Gas and Electric (PG&E) Self-Generation Incentive Program³. In addition, there are Interest Tax and Depreciation deductions for which your business could qualify.

As the manager of a facility, you must account for the ongoing operation and maintenance costs of your building(s). The unique aspect of solar is the minimal cost to your organization to maintain the system, while simultaneously reducing your annual payment to PG&E. Solar installations are an investment in which your organization "owns" the electricity it produces, rather than "renting" it all every month from your utility company.

There are many benefits to using solar energy in conjunction with the power already supplied by the utility grid through PG&E, including:

1. Solar energy produces the most power when the cost of electricity is highest.
2. Solar energy hedges against future energy price volatility.
3. Cash and tax incentives available through the state and federal government make solar energy economically attractive.
4. Producing clean, renewable power can boost a business' image within the community.

If you would like to learn more about installing a solar electric system at your facility, we invite you to register to attend a free workshop, hosted by Pacific Gas & Electric and the County of Marin, on October 10, 2003 from 9am – 5pm.

¹ An innovative approach using Geographic Information System (GIS) analysis and mapping was developed to identify areas in Marin that have with high solar availability and adequate roofing surfaces (at least 3,000 ft²)

² Savings are based on the PG&E Electric Rate Schedule A10, and are estimated based on a 30kW system. Different rate schedules and/or a larger sized system would increase the economics.

³ The Self-Generation Incentive Program pays incentives on solar at \$4.50 per watt or 50% of project costs (whichever is lower).

At this workshop, information will be provided on basic PV concepts, current rebates, low-interest financing and system sizing. We also encourage you to go to our website for more information—www.marinsolar.org.

If your organization is interested in solar, please fill out the postcard included with this letter to receive additional information and/or to sign up for the PG&E workshop*. The County is providing free site visits prior to the upcoming workshop to the first 10 organizations that respond. If someone other than the facility manager plays a role in your organization's energy management, please forward this invitation to him/her.

In closing, the Marin County Community Development Agency is interested in supporting the installation of clean, reliable electricity in Marin County. Please feel free to call Gwen Johnson at the County of Marin at 415-499-3292 or by email at gjohnson@co.marin.ca.us with questions.

Yours very truly,

Gwen Johnson
County of Marin
Marin Solar Program Coordinator



The County of Marin, in partnership with the Department of Energy's Million Solar Roofs Initiative, is providing free outreach and technical assistance to encourage the use of solar energy throughout Marin.