

Outreach and Engagement: UC Davis Solar Farm

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Introduction

The UC Davis Solar Farm began producing electricity in August 2015. At 16.3 Megawatts, it is the largest “behind-the-meter” solar installation at any university in the United States. The solar plant, which is situated on approximately 62 acres of land on the south eastern corner of the UC Davis campus, supplies about 14% of UC Davis’s annual electricity and cuts UC Davis’s Carbon footprint by about 14,000 metric tonnes of GHG emissions. Combined with other campus renewable energy projects and purchases, it is expected that 60% of the UC Davis campus electricity supply will soon be carbon free.



Aerial photo of UC Davis Solar Farm Looking North, July 2015 courtesy UC Davis Utilities.

The project was completed as a public-private partnership with SunPower to reduce campus costs by leveraging the tax incentives available only to private firms. UC Davis buys the power under a “power purchase agreement” with SunPower. The system is anticipated to cost the same as or slightly less than current electricity costs during the first year of operation compared to business as usual. It is cost-effective over the long term as the contract with SunPower provides predictable pricing for the next 20 years. The price will track projected market rates for the first six years and then become steadily cheaper than the estimated cost of buying electricity on the open market (UC Davis Environmental Stewardship and Sustainability, text adapted from: renewable.ucdavis.edu).



The beginning phases of installation of 62 Acre Sun Power solar farm on the south eastern portion of UC Davis campus. Photo taken 2015, courtesy UC Davis Utilities.



The 62 acre Sun Power solar farm on the UC Davis campus following installation of the panels. Photo taken 2015, courtesy UC Davis Utilities.

Project Goals

The location of the solar farm on the south eastern corner of the UC Davis campus, across I-80 from the campus’s academic core, limits the visibility and awareness about the project amongst members of the campus and Davis community. Our goals were to:

- Increase awareness about the existence of the solar farm amongst members of the UC Davis community
- Demonstrate the steps taken by UC Davis and the UC system to achieve our carbon neutrality goals
- Educate students from all academic backgrounds about the solar farm, its operations and other campus renewable energy projects
- Clarify many misconceptions about the solar farm including misinformation about its costs/funding, as well as the benefits it provides to UC Davis



A 62 acre area on the core UC Davis campus (similar in size to the Solar farm) used as a comparison in presentations as well as chalking activity

Methods

We accomplished our goals by utilizing a variety of methods including:

1. Adding of information about the solar farm to the presentations about the Carbon Neutrality Initiative delivered by the CNI Engagement Fellows to classes, clubs and other campus groups. Special presentations were prepared for some groups such as a presentation about the measures taken to ensure the protection of cultural resources during the construction of the solar farm for a course in the Native American Studies Department.



Some of the slides presented to UC Davis students to educate them about green house gasses, UC Davis’s carbon footprint and the path toward neutrality

2. Hosting community events to inform students about the solar farm as well as celebrate its completion. The culmination of these events involved over 30 student volunteers assisting to chalk a line of suns around a 62 acre area on the core of the UC Davis campus and put up informational flyers about the solar farm as part of the Campus’s Earth Day celebrations.

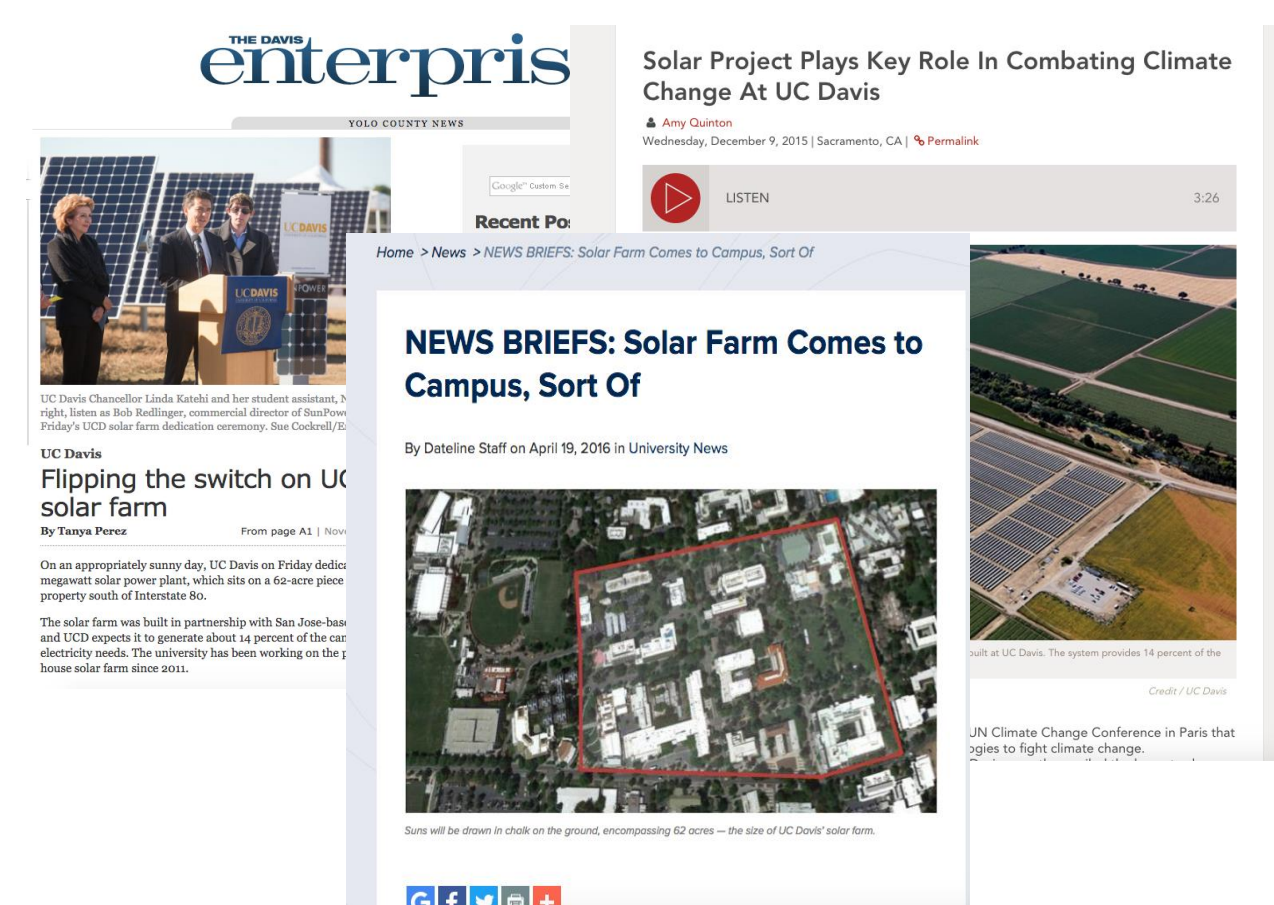


UC Davis student volunteers draw suns and install fliers to form a perimeter around a 62 acre area of core campus to show others the size and scale of the UC Davis solar farm

3. Partnering with campus departments and student groups to help amplify our messages including the UC Davis Environmental Stewardship and Sustainability Office, Sustainable Resource Operations Club, ASUCD Campus Center for the Environment, ASUCD Environmental Policy and Planning Commission, Office of the UC Davis Chancellor, Office of the Vice Chancellor for Finance, Operations Administration, UC Davis Strategic Communications, UC Davis Campus Planning and Community Resources in addition to others.



From left to right: Former Vice Chancellor/CFO Dave Lawlor, Chancellor Linda Katehi, CNI Engagement Fellow Naftali Moed, Sun Power Vice President Bob Redlinger, CA Energy Commission Member Andrew McAllister and UC Associate Vice President of Energy and Sustainability Dave Phillips at Solar Farm Opening Celebration



Selected Articles about UC Davis Solar Farm and outreach efforts in campus and local media

Results and Outcomes

Over 400 UC Davis students have received in depth presentations about the UC Davis Solar Farm and other Carbon Neutrality efforts over the course of the 2015-16 academic year. Countless other members of the campus and local community have learned about the solar farm from various campus and local news sources, the chalking project as well as from their colleagues and peers. The culmination of these efforts has vastly increased the overall level of awareness and amount of visibility regarding the solar farm within the UC Davis community and beyond.

Conclusions

Members of the UC Davis community have become far more aware of the UC Davis Solar farm over the past year as the result of the outreach and engagement efforts undertaken by the CNI Engagement Fellows on campus. In future years, it will be critical to not only to continue to showcase the solar farm but to highlight other projects on campus that enable us to take big strides to meeting our ambitious goals. The presentations, chalking and other outreach and engagement activities conducted in the 2015-16 academic year provide a great template for future efforts to engage members of the campus community with the Carbon Neutrality Initiative.



Future Goals

The UC Davis solar farm helps the campus fulfill its carbon neutrality goals as well as other sustainability obligations by integrating environmentally friendly practices into many facets of its operations. The robotic washers used to clean the panels use substantially less water than conventional cleaning methods, while helping to ensure the panels produce electricity at their fullest capacity. The use of sheep to graze the areas under the panels helps to control vegetation as well as minimize the need for the use of gas powered mowers and other equipment to control vegetation. The tracking system utilized by the panels allows them to capture far more energy than the stationary panels in place on many campus buildings and structures. The culmination of all of these traits makes the site an ideal case study to demonstrate the potential of solar power generation as well as the potential for public-private partnerships to help the UC meet its carbon neutrality goals.



Sheep graze in areas around and beneath panels at UC Davis Solar Farm



Robotic washer cleans panel at UC Davis Solar Farm, courtesy Sun Power

A number of courses have already adopted the solar farm into their curriculum and ideally many more faculty will integrate the solar farm into their courses in the coming years. The project has come to serve as a key example of how UC Davis is working towards meeting our Carbon Neutrality Initiative commitments, and will hopefully continue to inspire students and community members for years to come.

Acknowledgements

This project would not have been possible without the support of the UC Office of the President, the input and dedication of countless UC Davis students and the guidance and assistance of the following individuals:

- Camille Kirk, Assistant Director, UC Davis Office of Environmental Stewardship and Sustainability
- David Phillips, Associate Vice President of Energy and Sustainability, UC Office of the President
- Colin Mickle, UC Davis Graduate Student and Carbon Neutrality Fellow
- Bethany Celio and Alex Lee, UC Davis Carbon Neutrality Engagement Fellows