

Date: February 1, 2012

RE: AASHE STARS Innovation Credit

Dear AASHE STARS Program Staff:

This letter is being submitted in support of the University of Arizona's STARS documentation for an innovation credit

Before you buy a car, you test drive it—you ask about performance and durability and efficiency. The same idea drives research at the UA TEP Solar Photovoltaic Test Yard, where students and faculty at University of Arizona's Research Institute for Solar Energy (AzRISE) are monitoring different photovoltaic systems to evaluate how they perform in the field.

The Solar Panel Test Yard, the largest of only a dozen in the nation, includes over 600 photovoltaic modules from 20 different manufacturers. Faculty and students work together to measure how different weather conditions, air temperatures, panel placement, and quality and direction of sunlight impact the energy yields of each type of photovoltaic system—and how such systems hold up to the test of time.

While solar cell technology continues to improve in the laboratory, one of the big challenges for solar panels is that they're still very expensive. Which panel makes the most power per cost? The most watts per dollar?

These are key questions not only for utility companies planning to invest in large-scale solar projects, but also for homeowners considering installing solar panels on their roofs.

In 2009, Tucson Electric Power was planning to shut down the test yard because they didn't have the staff to maintain it. Faculty at AzRISE recognized the opportunity for the university to not only engage students in a real-world analysis of grid-tied photovoltaic technology, but also help address the challenges and opportunities for wide-scale implantation of solar energy. Although TEP continues to own the test site—which daily contributes about 90 kilowatts of power to the grid—it is entirely operated and run by UA students and faculty.

In addition to assessing new solar energy technology, a major component of the test yard's mission is to educate the public about photovoltaic systems. The UA TEP Solar Test Yard is the only such yard in the nation open to the public. Since 2009, the yard has had over 2,000 visitors, and given public lectures to over 6,000 people. Additionally, all data collected at the test yard is free and available online.

This unique intersection between academic research, business interest, and public education at the UA TEP Solar Test Yard allows a wide range of interests to work together to solve some of the key problems in wide-scale implementation of solar technology in Arizona.

Sincerely,

Alexander Cronin  
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Research Contact, UA TEP Solar Test Yard

