

January 29, 2011

Samuel A. Walker
5711 NE Emerson
Portland 97218

To whom it may concern:

I, along with two other Oregon State University students, designed and built the Solar Trailer to satisfy the mechanical engineering department's senior design requirement. I am now employed as Clark Public Utilities' energy engineer in Vancouver, WA, where I manage the commercial/industrial energy efficiency and renewable energy (solar, wind, micro-hydro) programs.



The mechanical engineering design experience included an extensive search and evaluation of project specific 'state of the art' technology. During this search and evaluation, we concluded that there was nothing quite like the Solar Trailer, in higher education or otherwise. After some additional checking, we believe this still be true today. Other mobile photovoltaic devices exist, but nothing comes close to the functionality, scale and features of this Trailer.

The purpose of the Solar Trailer is to demystify and promote alternative energy systems by demonstrating all possible components of a residential photovoltaic system (panels, inverters, sun tracker, etc.). The Trailer's outrageous aesthetics were incorporated solely to pique the interest of passersby, draw them in and expose them to relatively straightforward solar power technology. Half of the Trailer sides are glass. This allows full view of the individually labeled electronic components inside. The Trailer powers outdoor events on campus, in the community and around the Northwest. The Trailer has also powered portions of the Oregon State Fair, Corvallis' da Vinci Days festival, Oregon Country Fair and numerous music events.

The device is built atop a 12 x 8 ft. flatbed trailer containing the following:

- Dual 3.8 kW inverters capable of sustaining 7.6 kW continuous, 12 kW peak power
- Nine 200-watt solar modules; total array of 1.8 kW
- 4,000 Amp hours battery storage
- Dual axis sun tracker
- Expandable, fold out array
- Mechanical lift: moves array into sun tracking position

The OSU Student Sustainability Initiative provided initial project funding and we received over \$24,000 in product donations and discounts.

I am happy to discuss the Solar Trailer in detail. Call me anytime.

Sam Walker
Portland, Oregon
971-242-9238