

D-Q University – Renewable Energy Project

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Outline

- Background
- Objective
- Project
 - Components of Renewable Energy Trailer
 - Renewable Energy Outreach
- Project Status
- Recommendations
- Acknowledgements



Background On D-Q University

- California's only tribal school
- Serves more than 75 tribes
- Located 14 Miles west of CA's state capitol,Sacramento
- Founded 30 years ago
- Mission - to provide an institution of higher education while maintaining a place to support and encourage learning about indigenous self-identity and traditional indigenous cultural values.



Department Of Energy Grant

- Seven tribal colleges, including D-Q were selected by DOE to receive grant funds to:
 - Study the feasibility of installing renewable energy technologies on campus
 - Integrate renewable energy into the school curriculum.



D-Q University Project Objectives

- Renewable energy feasibility study at two campus sites
- Continue development of renewable energy educational curriculum
- Outreach to tribal communities



Outreach Project Objectives

- Assisted with design, development and building a stand alone renewable energy trailer
- Assisted with design and development of an outreach program to determine the needs and interest in renewable energy development and education with the public
- Assisted with development and implementation of renewable energy workshops at local reservations and K-12 schools
- Promote D-Q U and the D-Q U Renewable Energy Program



Renewable Energy Trailer



- D-Q U contracted with Earthsense to collaboratively work on the design
- Components:
 - 12 Volt PV System
 - 24 Volt Wind/PV Hybrid System
 - Solar Water Pumping
 - Solar Ovens
 - Photos Of Native American Renewable Energy Projects

Components - 12 Volt DC Photovoltaic System

- Pole Mounted
- Siemens single crystalline 55 watt module
- 12 Volt 100 amp-hour battery
- Prostar 15 charge/load controller
- Powers: DC appliances (e.g. lights, blender)



Components - 24 Volt DC PV/Wind Hybrid System

- Roof Mount
- 2 80-watt multicrystalline Solarex modules (160w, 24 volt)
- AIR 403 wind turbine (400w, 24 volt)
- Pulse Power Center charge controller
- Trace Power Station inverter, 2.5 KW
- 8 6-volt 200 amp-hour golf cart batteries
- Powers AC appliances (e.g. bubble machine, TV, VCR, lights, sound system)



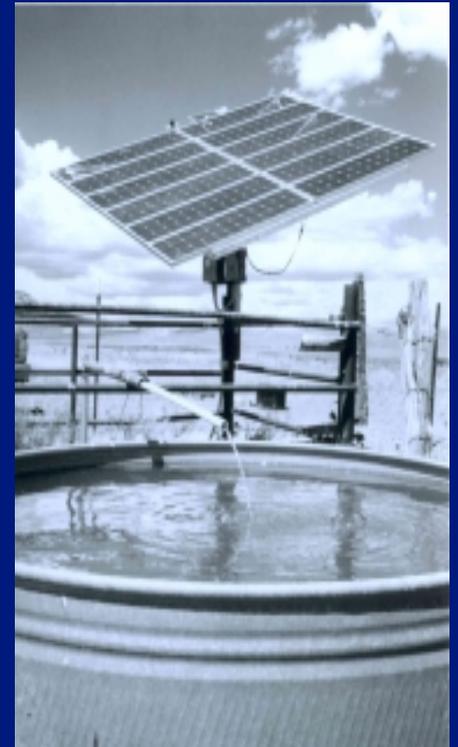
Solar Energy International Women's PV Design & Installation Workshop



Components – Solar Water Pumping



- Stand alone 20 watt Solarex module
- Small water circulating pump (teal)
- Gives people a hands on experience experimenting with orientation, shading, etc.
- Introduces people to the idea of solar water pumping
- Solar water pumping has great potential for residential and livestock uses on CA Native lands



Components – Solar Ovens



- Solar oven and homemade box cooker
- Solar cooking is a doorway into renewable energy
- Fun way to attract visitors to the trailer
- Attended the Solar Energy International solar cooking class
- Assisted with the REEP high school solar cooking workshop

Components – Photos On Native Lands



- Have pictures on display so that our audience can see with their own eyes other projects that are happening
- Get people motivated to learn about & adopt renewable energy technologies
- Highlight specific projects

Outreach Plan

- Establish tribal contacts
- Develop a Native American renewable energy interest survey
- Develop an events schedule to utilize trailer (Pow wow's, schools, community events)
- Develop renewable energy workshops
- Promote D-Q University And D-Q U Renewable Energy Program



Outreach - Establish Tribal Contacts

- Identify energy/environmental professionals or tribal chairs
- Focus first on local area
- Use phone survey to identify energy interests and needs



Develop Events Schedule

- Educate and excite people about renewable energy
- Promote DQ renewable energy program
- Promote DQ

9/15/16/2001 Hart of the West Pow wow - Newhall, California

September 15th & 16th 2001 13th Annual Everything is Sacred Pow Wow Gathering - Thousand Oaks, CA.

September 15-16, 2001 8th Annual Hart of the West Intertribal Pow Wow - Newhall, California

Sept 21-23 IIAC Pow-wow - Bishop, CA 93513

September 28, 2001 Tenth Annual SACNAS Conference Pow Wow - Phoenix, Arizona

Sept. 28,29,30, 2001 California Indian Days - Covelo, Ca.

Sept 28th-30th 11th Annual Thunder & Lightning Pow-wow - Cabazon, CA, 92230

10/05-01-10/07/01 2nd Annual Intertribal Pow Wow - Palmdale, California

October 6th to 7th CSU San Marcos Tukwut Pow Wow - San Marcos, CA



Project Status

- Trailer design completed
- RE systems on trailer will be installed as part of a D-Q PV workshop September 14-16
- Outreach schedule drafted
- Trailer workshop participants will pilot the RE trailer at Cortina Reservation in October
- Renewable Energy interests & needs survey drafted
- Tribal contact list compiled
- Poster presentation of the project at the Society for Advancement of Chicanos and Native American In Science (SACNAS) conference in September and DOE headquarters for the Native American Heritage Week celebration in October



Recommendations

- Continue pursuing the installation of PV and wind projects on the Davis and Sycuan campuses
- Continue outreaching to the community and schools for increased interest and enrollment in renewable energy workshops/courses and increased overall enrollment at D-Q U



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