

## Faculty Training to Integrate EV Curriculum



Electric Vehicles (EVs) and Hybrid Electric Vehicles are being purchased and driven on America's roadways in growing numbers. Most automotive manufactures are now producing EV models. Greater numbers of these vehicles in the passenger and commercial vehicle markets means that automotive technicians must be trained to service the new systems. Because a number of Inland Empire/Desert Region automotive programs are not currently covering these systems, a training series was put together by the DSN and Solano College for the region's faculty in the spring of 2014. 17 faculty members from college and high school programs participated in the workshops. A follow-up assessment of value and current use of the training curriculum was conducted in December and January, with follow-up training to be scheduled. As a result, college and high school programs will use a common curriculum for EV and hybrid vehicle instruction, which will result in program alignment responding to industry advisory recommendations.

## Desert Energy Enterprise Center



College of the Desert established the Desert Energy Enterprise Center to provide education and training in support of the growing clean energy industry of the region. Working in partnership with the region's Workforce Investment Board, this center has successfully developed and delivers training in utility-scale solar energy, residential & commercial solar applications, wind energy and turbine maintenance, home energy efficiency rating systems, and advanced lighting controls. It is the only community college in the country that offers workforce training in both utility-scale PV and solar thermal technologies. The Desert Energy Enterprise Center has created a foundation of educational curriculum on which credit courses and programs are being built. A new 21 unit credit certificate in Energy Systems is currently under review by the California Community College Chancellor's Office. It is also the location for energy-related career pathway development, teacher training, and numerous school field trips. This body of work recently received the Leadership in Curriculum award by the publication *Green Technology*, in Pasadena, CA. The following are some of the specific accomplishments from the Desert Energy Enterprise Center to-date:

- 4 million in grants & contracts
- 348 workers trained for solar industry
- 64 workers trained for wind industry
- 16 electricians trained in advanced lighting controls
- 23 workers trained in energy efficiency audits
- 35 contractors trained on energy efficiency regulations
- 115 teachers trained in wind energy and classroom integration
- Over 300 middle and high school students competed in KidWind challenge
- Over 100 middle school students participated in robotics camps
- Over \$150K in industry equipment donations
- Transferring capacity to other desert region colleges for utility-scale solar energy training

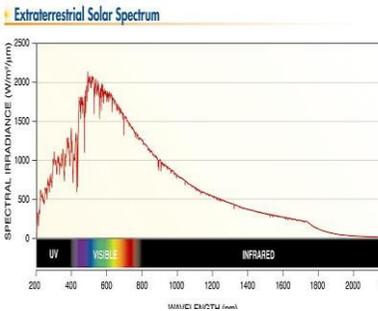
## Structured Programs for STEM Engagement



As part of building effective educational pathways for energy occupations, as well as encouraging students to engage in STEM learning, the region's AT&RE DSN is organizing the fifth annual KidWind Challenge for students in the Coachella Valley. This is a regional competition involving teacher professional development, the forming of student teams, and building, testing, and presenting wind turbine designs. The program begins with teacher training with curriculum resources. Teams then compete in the Challenge event. Last year's event had the highest turnout so far, with 99 middle school and high school students participating in the competition.



On November 15, a workshop preparing teachers for the 2015 KidWind Challenge was conducted. A special effort was made to expand the program by including teachers from the Inland Empire. 25 teachers participated from 10 school districts throughout the region. Additional programs and curriculum for teachers and their students, featuring a variety of energy technologies, are being planned in the coming year to encourage student engagement in science, engineering, and math.



## Teacher Professional Development – Providing a Motivating Context for STEM Instruction

Two professional development seminars for Coachella Valley middle and high school teachers were conducted by the DSN on July 29 at COD's Desert Energy Enterprise Center. In cooperation with PSUSD's Project Prototype, this program was designed to provide an introduction to renewable energy and present ways these technologies can be used to motivate and teach students the underlying fundamental science and engineering. 30 teachers participated in the training and gained a better understanding of clean energy technologies, how they work, and how the science and engineering can be integrated into their classrooms while motivating students to learn related subjects.

## Fundamental Industrial Skills



In response to a region-wide renewable energy industry advisory group, a course sequence is being developed to address fundamental skill needs. The plan is to combine existing courses from three colleges that provide a skill foundation for workers entering employment at industrial facilities. Courses will be delivered primarily through distance learning at the participating colleges, then to job sites as workers complete their program. To support this curriculum, an instructional package on Instrumentation and Controls (I&C) is currently being developed. This curriculum is based on Department of Energy public access I&C training materials. It will be available to faculty teaching any industrial systems course in the region.



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## Meeting Employment Needs in Desert Communities

The 350 MW McCoy solar project was recently approved in Blythe, California, creating 400 new construction phase jobs. The 250 MW Genesis solar project was completed in April, only 40 miles away. Other projects are slated for development in the region. To ensure that Blythe area residents receive opportunity for employment in these and future desert projects, thereby conveying significant economic benefits to the area, the AT&RE DSN has been working with Palo Verde College and Riverside Workforce Development to increase training offerings. Five course sections have been offered and filled since mid-spring. On November 19, a job fair was conducted in cooperation with developer First Solar and staffing contractor CLP for solar training graduates and others in the community. 300 job seekers attended. Hiring is currently underway.