



# CREATE: A Renewable Energy Professional Development Program



## Introduction

- Growing interest in STEM education with connections to agriculture has aided agriculture educators link science and math concepts to agriculture science.
- Renewable energy topics are popular as school districts are adopting and installing grid-connected solar and wind energy systems to curb energy costs of local facilities.
- The Center for Renewable Energy Advanced Technical Education (CREATE) has conducted three to five-day workshops in solar, biofuels, energy efficiency, and shorter duration trainings on wind, hydro, and geothermal power.



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## How it Works

- Teachers with an interest in developing knowledge on renewable energy topics and hands-on skill development are encouraged to register to attend a workshop.
- Madison College began the solar train the trainer activities in 2009 through a partnership with Solar Energy International (SEI).
- Over the next six years, 150 high school, community college, and university STEM instructors received training with Madison College and SEI through this partnership.
- Many of these participants led energy programs at schools that created new solar teaching laboratories based on principles and designs demonstrated at SEI.



## Costs

- The primary costs of the STEM institutes are for participant support.
- This includes airfare/mileage expenses, lodging, meals, and a stipend paid to encourage teacher participation.
- These costs have varied over the years depending on the duration of the training events (typically 3-5 days), their location, the distances traveled by the participants, and the number of participants per workshop.
- Accordingly, the participant support costs have decreased from approximately \$2,150 per person for the workshops held at SEI, to \$1,000 per person for the regional workshops.



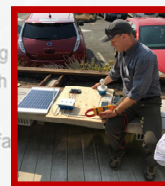
## Results to Date

- To date, CREATE held solar train-the-trainer professional development workshops at Madison College, Madison WI (2015-2019), Shoreline Community College, Shoreline, WA (2017-2019), Delaware Technical and Community College (2019) and Heartland Community College (2019).
- These regional workshops have trained an additional 165 individuals as of 2019. The 2020 workshops have been cancelled due to the COVID-19 virus, but CREATE is working to deliver virtual content, and hopes to resume the face-to-face workshops and add an additional site at Central Carolina Community College, Sanford, NC in 2021.
- Teachers report success in implementing teaching strategies and renewable energy content into their local program curriculum.



## Future Plans

- To promote the professional development workshops labeled as the CREATE STEM Educator Renewable Energy Institutes, the CREATE website ([www.createenergy.org](http://www.createenergy.org)) was developed and features free webinars, down-loadable teaching materials, newsletters, publications, and announcements for on-site STEM workshops.
- Recorded webinar topics include: Clean Energy Jobs; Solar Training & Hiring Insights; Solar Training Network; Battery Storage; Solar PV; Battery Storage & Charge Controller; The Solar Schools of the Future; Career Mapping; and Charging Forward- Renewable Energy During COVID-19.



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2. Establishing and supporting renewable energy industry, business, and academic

3. Promoting technician careers, visibility, and the public image of renewable energy.



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