

# Southeast Wisconsin Solar PV Operations & Maintenance Training



Milwaukee  
**SHINES**

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eco**CITY** of  
**MILWAUKEE**



# Milwaukee Shines: Solar PV O&M Training for Municipalities

- Project Goals:
  - The proposed project will address specific operations and maintenance procedures as they apply to municipalities in southeast Wisconsin.
  - To date, no one at the City of Milwaukee, Milwaukee County or other organizations in southeast Wisconsin have been trained in the operations and maintenance for installed solar PV.



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- Project Goals:
  - Ensuring that new and existing PV systems are properly maintained throughout their expected system lifetimes will be essential as more PV is installed in Milwaukee and the surrounding area.



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- Partners:
  - Milwaukee County Sustainability Office
  - Midwest Renewable Energy Association
  - UW-Milwaukee
  - Milwaukee Shines



# Milwaukee Shines: Solar PV O&M Training for Municipalities

- Attendees:
  - Milwaukee County
  - Milwaukee Metropolitan Sewerage District
  - Milwaukee Public Schools
  - UW-Milwaukee
  - City of Kenosha and City of Milwaukee
  - Urban Ecology Center
  - H&H Solar



mrea

midwest renewable energy association

Photovoltaic System  
Operations and Maintenance

Cari

ENERGY FAIR  
WI / IA / MN / E-9



Cari Helberg, the instructor, brought a number of tools to show to the attendees, including: a torque wrench and a thermal camera.



Cari went over a 12 month check up for PV systems including walking your system and looking for loose wires, broken modules, critter damage, racking failures, damaged connectors, equipment error codes – and doing random torque tests, IR scans and IV curves.



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- Training Location:
  - We chose UW-Milwaukee because:
    - they had classroom space,
    - they have PV installs and were interested in learning about O&M, and
    - this particular location had an install that showcased a number of problems that Carrie talked about in class



# Milwaukee Shines: Solar PV O&M Training for Municipalities



Disconnect switch in 'off' position



Unlocked box.

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Bullet hole in one of the panels. Cari was able to take students out to test this system.



Tall weeds growing in front of some panels

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- Results:
  - We received very positive feedback from attendees
  - Everyone that attended learned a great deal on O&M for existing installs but also things to plan for on future installs
  - We decided to separately hold a Solar Thermal O&M course a few weeks after this course because many of the attendees had both system types



# Thank You!

- WiDRC funding made this training possible and we are very grateful for your support!

