

Agenda

Presented by Jeff Gilbert

An Overview of Solar Photovoltaics (PV)

- Introduction
- Solar PV industry trends and stats
- The nature of PV (IV curves, temperature, irradiance and efficiency)
- PV project economics, cost trends and ownership models

PV System Predesign Considerations

- National and international standards for PV
- The National Electrical Code (NEC)
- Certifications, training and qualifications (NABCEP, NETA, Safety, Master Electrician)
- Safety

PV System Design

- System performance modeling and modeling software
- Inverter topographies and capabilities
- Common system configurations (including series and parallel wiring)
- Solar array mounting methods and the pros and cons of each
- String sizing
- Methods of grid interconnection

Project Implementation

- Permitting and interconnection
- Utility interconnection agreements
- PV system grounding
- Construction and project management

System Commissioning (CX)

- PV plant commissioning timeline
- Pre-energization testing
- Post-energization testing
- Performance verification
- Most common CX related failures

Operation and Maintenance (O&M)

- Performance monitoring
- Inspection checklists
- Electrical testing and thermography
- Common and not-so-common maintenance issues

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Important Ingredients for a Successful Solar PV Project: Best Practices and Lessons Learned
Live, Interactive Webinar - Friday, February 12, 2021

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Learning Objectives

You'll be able to:

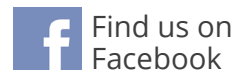
Consider solar industry trends and economics that will affect future solar projects.

Discuss national and international standards for photovoltaics, and comply with the National Electrical Code.

Examine common photovoltaic system configurations, including series and parallel wiring.

Discuss system commissioning, including pre- and post-energization testing.

Evaluate common and uncommon maintenance issues.



HalfMoon Education Online Learning Important Ingredients for a Successful Solar PV Project: Best Practices and Lessons Learned

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Understand the nature of solar photovoltaics

Review the National Electric Code's standards for photovoltaics

Explain photovoltaic system design

Discuss project implementation, including permitting and utility interconnection agreements.

Explore issues in the operation and maintenance of photovoltaic systems.

Continuing Education Credits

Professional Engineers

6.5 PDHs

Architects

6.5 HSW CE Hours

AIA

6.5 LU | HSW

International Code Council

.65 CEUs (Energy)



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Jeff Gilbert *Owner, President of Azimuth Solar LLC*

Mr. Gilbert brings over 24 years of experience in the renewable energy industry and holds a B.S. degree in Mechanical Engineering. He provides solar energy consulting, training and inspection services within the solar energy and real estate industries. Under Azimuth Solar, in 2018 Mr. Gilbert was contracted by the Electric Power Research Institute (EPRI) to write a report entitled *Solar Photovoltaic (PV) Plant Commissioning Best Practices*. From 2013 to 2016 he served as director of operations and maintenance (O&M) for Vigilant Energy Management, overseeing a portfolio of over 100 commercial PV systems. In 2000 Mr. Gilbert co-founded Chesapeake Solar, a leading mid-Atlantic solar energy company. In 2008 his company was listed on *Inc. Magazine's* 500 fastest-growing small companies, and later that same year the company was acquired by groSolar, one of the nation's leading solar energy companies at the time. He served on the board of directors for the local chapter of the Solar Energy Industries Association (MDV-SEIA) and was chair of the Potomac Region Solar Energy Association (PRSEA) for four years starting in 1998. Mr. Gilbert has been certified by the North American Board of Certified Energy Practitioners (NABCEP) for both thermal and photovoltaic systems.

Webinar Information

Log into Webinar 8:00 - 8:30 am CST	Break 12:00 - 12:30 pm CST
Morning Session 8:30 am - 12:00 pm CST	Afternoon Session 12:30 - 4:00 pm CST

Tuition
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Additional Learning

Commercial Provisions of the IECC International Building Code 2021
- Thurs., Jan. 14, 2021 | 11:00 am - 3:30 pm CST
- Fri., Jan. 15, 2021 | 11:00 am - 2:00 pm CST
- Tues., Jan. 26, 2021 | 10:00 am - 2:30 pm CST
- Wed., Jan. 27, 2021 | 10:00 am - 1:30 pm CST

High-Performance Building Envelopes: Basics of Structural Steel
- Wed., Jan. 27, 2021 | 9:00 am - 5:00 pm CST

Designing for Energy Efficiency and Durability
- Wed., Jan. 20, 2021 | 11:00 am - 2:45 pm CST
- Thurs., Jan. 21, 2021 | 11:00 am - 2:45 pm CST
Aerial Mapping: Technologies and Procedures
- Thurs., Jan. 28, 2021 | 8:30 am - 12:00 pm CST
- Fri., Jan. 29, 2021 | 8:30 am - 12:15 pm CST

Complying with Fire Protection and Building Codes
- Fri., Jan. 22, 2021 | 8:30 am - 5:00 pm CST
Designing Interiors for Human Wellness
- Thurs., Jan. 28, 2021 | 11:00 am - 3:05 pm CST
- Fri., Jan. 29, 2021 | 11:00 am - 1:25 pm CST

Structural Design Loads under the ASCE 7 Standard
- Fri., Jan. 22, 2021 | 8:30 am - 5:00 pm CST
Estimating the Cost of Sitework
- Fri., Jan. 29, 2021 | 7:30 am - 3:30 pm CST

Designing for Accessibility under ADA Standards and the IBC
- Mon., Jan. 25, 2021 | 11:00 am - 2:45 pm CST
- Tues., Jan. 26, 2021 | 11:00 am - 2:45 pm CST
National Electrical Code 2020
- Fri., Jan. 29, 2021 | 8:00 am - 4:00 pm CST

Project Management Fundamentals for Engineers
- Tues., Jan. 26, 2021 | 8:30 am - 4:00 pm CST
Site Design
- Fri., Jan. 29, 2021 | 8:00 am - 4:00 pm CST

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The American Institute of Architects Continuing Education System has approved this course for 6.5 LU | HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .65 CEUs in the specialty area of Energy (Preferred Provider No. 1232).

Completion certificates will be awarded to participants who complete this event, respond to prompts and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

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Registration

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