

SOLAR ENERGY INTERNATIONAL

Renewable Energy Education for a Sustainable Future



THURSDAY, MARCH 27

9:00AM- 5:00PM; Windsor Room

2008 NATIONAL ELECTRICAL CODE (NEC) TRAINING

Presented By: Bill Brooks

Qualifies for 7 NABCEP Continuing Ed. Credits

This workshop is designed to help the audience better understand the NEC requirements for designing and installing PV systems. The workshop is designed for building inspectors, installers, designers, engineers, and architects who wish to stay on top of the latest code compliance issues that help facilitate safe and long-lasting PV systems. Participants will be provided with an intensive overview of the codes and standards that govern small-scale solar electrical generation.

9:00AM- 11:50AM; Cheyenne I

SOLAR PAYBACK & SELLING PV TO THE GRID-TIED MARKET

Presented By: Andy Black of OnGrid Solar

This interactive class will provide an introduction to the economic analysis that can be made for PV in some states (including discussion of the economics in Colorado and other states), and a look at some of the other quantifiable environmental factors that can help sell PV systems. Questions are encouraged. The class will conclude with an overview of the tools available to help the salesperson close the sale, including what needs to be included in company proprietary (home-built) tools to make them accurate & useful.

9:00AM- 11:50AM; Cheyenne II

INTRODUCTION TO PV

Presented By: Solar Energy International

This session is an introductory look into photovoltaic systems. Topics to include: PV system types, component selection, solar site analysis, basics of mounting, and a grid-tied case study. The training will focus on practical solar knowledge in a code-compliant PV system.

9:00AM- 11:50AM; Fort Collins

INTRODUCTION TO SOLAR THERMAL

Presented By: JR Sykes of Independent Energy Center

Learn the basic concepts of designing and installing a residential sized active solar thermal system. Topics to include: active solar heating types, space heating verses domestic hot water system design, system component selection & terminology, site analysis, environmental impact, and economics of solar heating systems.

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THURS, MARCH 27 (cont.)

2:00PM- 2:50PM; Cheyenne II

SANYO HIT POWER[®] & HIT DOUBLE[®] TECHNOLOGY

Presented By: Ben Collinwood of Sanyo Solar

NABCEP approval pending

Gain knowledge about the unique features of Sanyo's HIT Double[®] (bifacial) technology and new HIT Power[®] series being introduced in June 2008. The features of both technologies will be explored including: attributes, operating characteristics, electrical and mechanical specifications, performance, construction (of both cells and modules), appropriate uses and applications, its unique selling points, affect on rebates, upcoming product changes, and comparisons to other crystalline and/or HIT solar technologies.

2:00PM- 2:50PM; Fort Collins

SOLAR ENERGY & THE SMART GRID: SOLAR JOBS & TRAINING FOR THE FUTURE

Presented By: Richard Roth of Cool Solar, Inc.

The looming energy crisis of the early 21st century has many implications for the solar industry. Solar Energy as distributed generation will increasingly be only one component of the retrofits and new builds necessary to make a significant contribution to solving an exponentially more difficult global problem. With the advent of the smart grid and a massive demand side management requirement, we will see the end of solar as a stand alone industry.

2:00PM- 2:50PM; Cheyenne I

POWER FACTOR AS IT RELATES TO SOLAR INSTALLATIONS

Presented By: Michael Smith of Alpine Management Systems

This session will deal with power factor: What is power factor? What causes low power factor? Why improve your power factor? This session will explain the role of power factor correction as it applies to solar installations. There are currently over 67,000 KVAR installations in 26 countries resulting in phenomenal energy savings with a corresponding reduction in greenhouse gas emissions. Session includes several KVAR installations and the resultant savings.

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THURS, MARCH 27 (cont.)

3:00PM- 3:50PM; Fort Collins

SUNEARTH PRODUCTS

Presented By: Mike Farrell of SunEarth Inc.

This session will highlight SunEarth's products, including solar thermal flat plate collectors, mounting systems for PV and solar thermal, and balance of system equipment.

3:00PM- 4:50PM; Cheyenne I

ENERGY AS IF OUR CHILDREN'S FUTURE MATTERED—POLICY MATTERS

Presented By: Ken Regelson

Good policy is essential to the success of the solar industry. Join noted policy consultant Ken Regelson for a fast, fun, thought-provoking, and inspiring romp through policy matters. We will cover clear communication of sustainability, specific policy examples from the past, and how we all can influence tomorrow's policy.

3:00PM- 4:50PM; Fort Collins

CONERGY SUNTOP PRODUCT INTRODUCTION AND CODE COMPLIANT SIZING TOOL

Presented By: Don Massa of Conergy, Inc.

Qualifies for 1.5 NABCEP Continuing Ed. Credits

An introduction to Conergy's SunTop residential pitched roof PV mounting system with emphasis on use of Conergy's sizing tool and building code compliance. Both CBC/UBC and IBC code compliance issues and their similarities and differences will be discussed. For those wishing to obtain NABCEP credit for this course, a brief quiz testing the key components of code compliance will be administered. Attendees who pass will be eligible for 1.5 NABCEP credits.

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FRIDAY, MARCH 28

8:00AM- 8:50AM; Cheyenne I

NABCEP- PV CERTIFICATION

Presented By: NABCEP Board Member

Learn about the steps to take in order to become a NABCEP-certified PV installer.

9:00AM- 9:50AM; Cheyenne I

BATTERY MAINTENANCE & TECHNOLOGY OVERVIEW

Presented By: Craig Quentin of Trojan Battery

Presented by Trojan Battery's technical support engineer, this seminar features a comprehensive overview of how a deep cycle battery works and related technological information. Includes key maintenance guidelines for optimal battery upkeep and updates on new products. Includes Q&A session.

9:00AM- 11:50AM; Cheyenne II

WORKING WITH KACO INVERTERS

Presented By: Ralf Schulze of KACO Solar

The agenda for this presentation will include basic PV solar knowledge, getting to know KACO's product range, installing and operating the KACO inverter, troubleshooting PV installations in the field, and general PV design and installation tips and tricks.

9:00AM- 11:50AM; Loveland

XANTREX XW INSTALLATION

Presented By: Erika Yedid of Xantrex Technology

Qualifies for 3 NABCEP Continuing Ed. Credits

Designed for easy installation, long term performance and reliability, the Xantrex XW System is an efficient, cost-effective choice for power inverters in homes and buildings with off-grid and remote applications. The XW system can be installed with a variety of renewable energy sources, such as solar, wind, and hydropower. Learn about the features and benefits of the XW system and how to install it.

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FRIDAY, MARCH 28 (cont.)

9:00AM- 11:50AM; Fort Collins

SOLAR HOT WATER WITH EVACUATED TUBES

Presented By: Jim Heneghan of Alternative Power Distribution

This presentation will discuss the various types of evacuated tube solar collectors that are used in both domestic hot water and space heating systems. In addition, a comparison of evacuated tube collectors to flat plate collectors will be presented. There are many guidelines which are often used in the solar thermal industry. This presentation will provide an overview of important parameters and installation criteria to consider when designing evacuated tube systems for both domestic hot water and space heating. Differences in system design with evacuated tube collectors vs. flat plate collectors will also be discussed.

10:00AM- 11:50AM; Cheyenne I

SUCCESSFUL SOLAR BUSINESS PRACTICES

Presented By: Paul Coughlin of groSolar

From east coast to west coast, Paul Coughlin has assisted a number of solar businesses in getting started and has provided guidance on how to help grow their businesses. This presentation will focus on what is needed to start up a solar business and how to keep it healthy. He will discuss some of the capital expenditures to consider, sales, marketing, choice of vendors and products, and administrative challenges.

1:00PM- 1:50PM; Cheyenne I

MIDNITE SOLAR PRODUCTS

Presented By: Robin Gudgel of MidNite Solar

This training will cover features and installation tips for all MidNite products. The E-Panel now works with a wide variety of inverters. The discussion and photos of installations will aid in selecting the right model and options. The last part of this training will cover our upcoming 250v MPPT charge controller for wind and solar.

1:00PM- 1:50PM; Fort Collins

NABCEP SOLAR THERMAL CERTIFICATION

Presented By: NABCEP Board Member

Learn about the steps to take in order to become a NABCEP-certified solar thermal installer.

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FRIDAY, MARCH 28 (cont.)

2:00PM- 2:50PM; Cheyenne I

DIRECT POWER AND WATER MOUNTING OPTIONS

Presented By: Nate Randall of Direct Power and Water (DPW)

DPW Solar will present the various PowerFab™ PV mounting options. These include flat roof non-penetrating systems, top-of-pole, roof/ground mounts, and top-clamping PV mounting systems. Battery boxes and other battery housing products will be covered. Samples of the rugged components will be on display.

2:00PM- 4:50PM; Cheyenne II

PV POWERED INVERTERS

Presented By: David Devir of PV Powered

Qualifies for up to 1 NABCEP Continuing Ed. Credits

PV Powered will be hosting a technical training session which will cover their inverter design, basic inverter technology, and recommended installation practices.

2:00PM- 4:50PM; Loveland

INTRODUCTION TO SUNNY ISLAND 5048 U

Presented By: John Berdner of SMA America, Inc.

Qualifies for 3 NABCEP Continuing Ed. Credits

This training, presented by the Founder of SMA America, will discuss the features and application of the Sunny Island 5048 U to grid-tied backup and off-grid applications.

2:00PM- 4:50PM; Fort Collins

SOLAR THERMAL WORKSHOP

Presented By: Larry Bingham of Next Generation Energy

This session will cover Next Generation's Drainback Systems and Next Generation Energy's High Efficiency Evacuated Tube Systems in detail. Working model and hands-on process will assure your understanding. This workshop will give you a solid understanding of how the Drainback Systems and High Efficiency Evacuated Tube Systems work. We will cover installation, design basics, and the economic as well as environmental benefits.

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FRIDAY, MARCH 28 (cont.)

3:00PM- 4:50PM; Cheyenne I

EVOLUTION OF PV MODULES GROUNDING, WIRING, & SITE EVALUATION

Presented By: Palvin Chan of Wiley Electronics LLC

NABCEP approval pending

Join us for an introduction to innovative balance of system products for PV installers. Wiley Electronics' engineers will demonstrate industry-accepted products—the WEEB Grounding Clip and WEEB Lug—designed to make your installations easier, safer, and less expensive. We will also look at improved wiring methods using the newly released Acme Conduit Entry (ACE) and Acme Cable Clips, and a digital PV site evaluation using the ASSET tool and software.

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SATURDAY, MARCH 29

9:00AM- 9:50AM; Fort Collins

SOLAR WALL

Presented By: Jeff Scott of SolSource

SolarWall (TM) is a low cost, highly efficient solar heating solution for providing heating and fresh air ventilation for commercial and institutional buildings. The workshop, featuring SolSource President Jeff Scott, will review the technical aspects of SolarWall as well as its economic and environmental benefits. SolarWall has tremendous potential to reduce energy use by warehouse facilities and other industrial properties throughout Colorado.

9:00AM- 10:50AM; Cheyenne II

LAUNCH AND GROW YOUR SOLAR BUSINESS

Presented By: Jeff Spies of AEE Solar

Learn the key elements needed to start and grow your solar business. This presentation covers the 4 partners needed to succeed. Numerous informational resources are reviewed. This program is the fastest way to learn the secrets to success in this fast-paced industry.

9:00AM- 11:50AM; Cheyenne I

FRONIUS IG INVERTER INSTALLATION TRAINING

Presented By: Dan Fortson of Fronius USA, LLC

Qualifies for NABCEP Continuing Ed. Credits

This course is designed for installers and PV system designers and covers best system design practices, installation, service, inverter features, and the highlights of the DatCom data communication system. With hands-on laboratory exercises, attendees will be well-prepared to design the best systems & provide the highest level of service & support to customers.

9:00AM- 11:50AM; Loveland

OUTBACK POWER SYSTEMS

Presented By: Roy Dyngen of Outback Power Systems

Qualifies for 3 NABCEP Continuing Ed. Credits

This session will provide a product overview and application examples using Outback Power Systems components.

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SATURDAY, MARCH 29 (cont.)

10:00AM- 10:50AM; Fort Collins

SOLARFLOW SOLAR THERMAL COMBINED HEAT AND POWER SYSTEMS

Presented By: Sam Weaver of Cool Energy, Inc.

Cool Energy, Inc. of Boulder, Colorado, is developing a solar energy combined heat and power system – the SolarFlow™ System. The proprietary components are the SolarHeart™ Stirling Engine and the intelligent system controller. The SolarFlow system uses evacuated tube collectors to provide thermal energy to a building when heat is needed, and the SolarHeart™ Engine converts the heat to electricity when heating needs have been met or when the electricity is more valuable than the heat.

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