Solar Photovoltaic Training
For Architects and Engineers

Washington, DC
June 28, 2017
Bill is the principal of Brooks Engineering and a registered professional engineer. A consultant to the PV industry on a variety of topics, his primary focus since 1992 has been the analysis and testing of PV systems for utility interconnected applications. In 1998, Bill established a program in California that has trained over 7,000 inspectors, electricians and installers. He has written several technical manuals for the PV industry that are now widely used in California and beyond. His experience includes work on technical review committees for photovoltaics and utility interconnection.
Learning Objectives

Upon completion of this course, participants will be able to:

• Explain basic technical information and the economical, ecological and community benefits of solar photovoltaics (PV)
• Act in a leadership capacity to increase solar PV deployment in your community and in your practice
• Make an actionable connection between policy objectives for solar deployment and AIA sustainability and 2030 goals
• Increase services to clients with reliable information on solar costs, benefits and available incentives
Learning Objectives

Upon completion of this course, participants will be able to:

• Explain basic technical information and the economical, ecological and community benefits of solar photovoltaics (PV)
• Act in a leadership capacity to increase solar PV deployment in your community and in your practice
• Make an actionable connection between policy objectives for solar deployment and AIA sustainability and 2030 goals
• Increase services to clients with reliable information on solar costs, benefits and available incentives
Learning Objectives

Upon completion of this course, participants will be able to:

• Explain basic technical information and the economical, ecological and community benefits of solar photovoltaics (PV)

• Act in a leadership capacity to increase solar PV deployment in your community and in your practice

• Make an actionable connection between policy objectives for solar deployment and AIA sustainability and 2030 goals

• Increase services to clients with reliable information on solar costs, benefits and available incentives
Learning Objectives

Upon completion of this course, participants will be able to:

• Explain basic technical information and the economical, ecological and community benefits of solar photovoltaics (PV)
• Act in a leadership capacity to increase solar PV deployment in your community and in your practice
• Make an actionable connection between policy objectives for solar deployment and AIA sustainability and 2030 goals
• Increase services to clients with reliable information on solar costs, benefits and available incentives
Upon completion of this course, participants will be able to:

• Explain basic technical information and the economical, ecological and community benefits of solar photovoltaics (PV)
• Act in a leadership capacity to increase solar PV deployment in your community and in your practice
• Make an actionable connection between policy objectives for solar deployment and AIA sustainability and 2030 goals
• Increase services to clients with reliable information on solar costs, benefits and available incentives
Welcome and Introductions
DOE SunShot Initiative Mission

On the Path TO SunShot
Solar Training & Education for Professionals (STEP)

Innovative training programs for the solar workforce

#SunShot

energy.gov/sunshot
Why are YOU here?

Learn to design a solar system

Sell solar to my clients

Sell solar to my boss/partner

Continuing education units
Why is this training important?

Buildings use about **40%** of primary energy

And **70%** of the electricity
Why is this training important?

Source: Metropolis Magazine
October 2003
Why is this training important?

Putting the power source on the building
Why is this training important?

Meeting AIA 2030 goals
Architecture 2030 Goals

TODAY  70%  2020  80%  2025  90%  2030  CARBON NEUTRAL*

Fossil Fuel Energy Reduction  Renewable  Fossil Fuel Energy Consumption

The 2030 Challenge

Source: ©2015 2030, Inc. / Architecture 2030. All Rights Reserved.
*Using no fossil fuel GHG-emitting energy to operate.
Architecture 2030 Goals

The 2030 Challenge

Source: ©2015 2030, Inc. / Architecture 2030. All Rights Reserved.
*Using no fossil fuel GHG-emitting energy to operate.
Architecture 2030 Goals

WHERE WE REALLY ARE!

TODAY 2020 2025 2030

Fossil Fuel Energy Reduction  Renewable  Fossil Fuel Energy Consumption

The 2030 Challenge

Source: ©2015 2030, Inc. / Architecture 2030. All Rights Reserved.
*Using no fossil fuel GHG-emitting energy to operate.

2012/2015 IECC
Why are WE here?

MYTHBUSTERS
“Solar is ugly.”
Myths & Barriers

“If I wait 10 years, the technology will be better.”
“You can’t save money by going solar.”

“...it’s too expensive”
“You need to own a building to install solar.”
Myths & Barriers

“Solar will lower the value of my building.”
“Solar doesn’t work in certain climates.”
Agenda

1. Basic Technical Information on Solar PV
2. Architectural Integration of Solar PV
4. Utility Connections & Code Considerations
5. Financing Options & Cost Analysis
6. Putting it all together
7. Emerging Technologies & Wrap-up