Welcome and Introductions
Solar Training & Education for Professionals (STEP)

Innovative training programs for the solar workforce

#SunShot

energy.gov/sunshot
Today’s Instructor

Peter J. Arsenault, FAIA, NCARB, LEED AP

Peter is a registered architect, sustainability consultant, author, and speaker whose 38 year career includes design and planning for governmental, educational, health care, residential, and religious buildings. He shares his experience at seminars and conferences and has published over 140 national continuing education articles. Peter has led AIA Sustainable Design Assessment Team (SDAT) programs and is a member of the Advisory Board of the AIA+2030 series.
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
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
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?

Architects pollute

Source: Metropolis Magazine
October 2003

An alarming report says architects are a problem and our best solution...
Why is this training important?

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

Meeting AIA 2030 goals
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

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

WHERE WE REALLY ARE!

Fossil Fuel Energy Reduction  Renewable  Fossil Fuel Energy Consumption

TODAY  2020  2025  2030

2012/2015 IECC

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

Monthly electricity generation from selected fuels (Jan 1980 - Apr 2017)

Source: U.S. Energy Information Administration, Monthly Energy Review and Electric Power Monthly

Credit: U.S. Energy Information Administration
Why are WE here?
Myths & Barriers

“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."
“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