

U.S. DEPARTMENT OF ENERGY



# SOLAR DECATHLON 2009

## How Solar Works Residential Installation

Frank Greenfield  
East Coast Regional Sales Manager



National Renewable  
Energy Laboratory  
Innovation for Our Energy Future



Your life. Plugged in.™





# Presenters

BP Solar: Frank Greenfield  
Crum Electric: David Lucier  
Glory Energy: Tim Jones





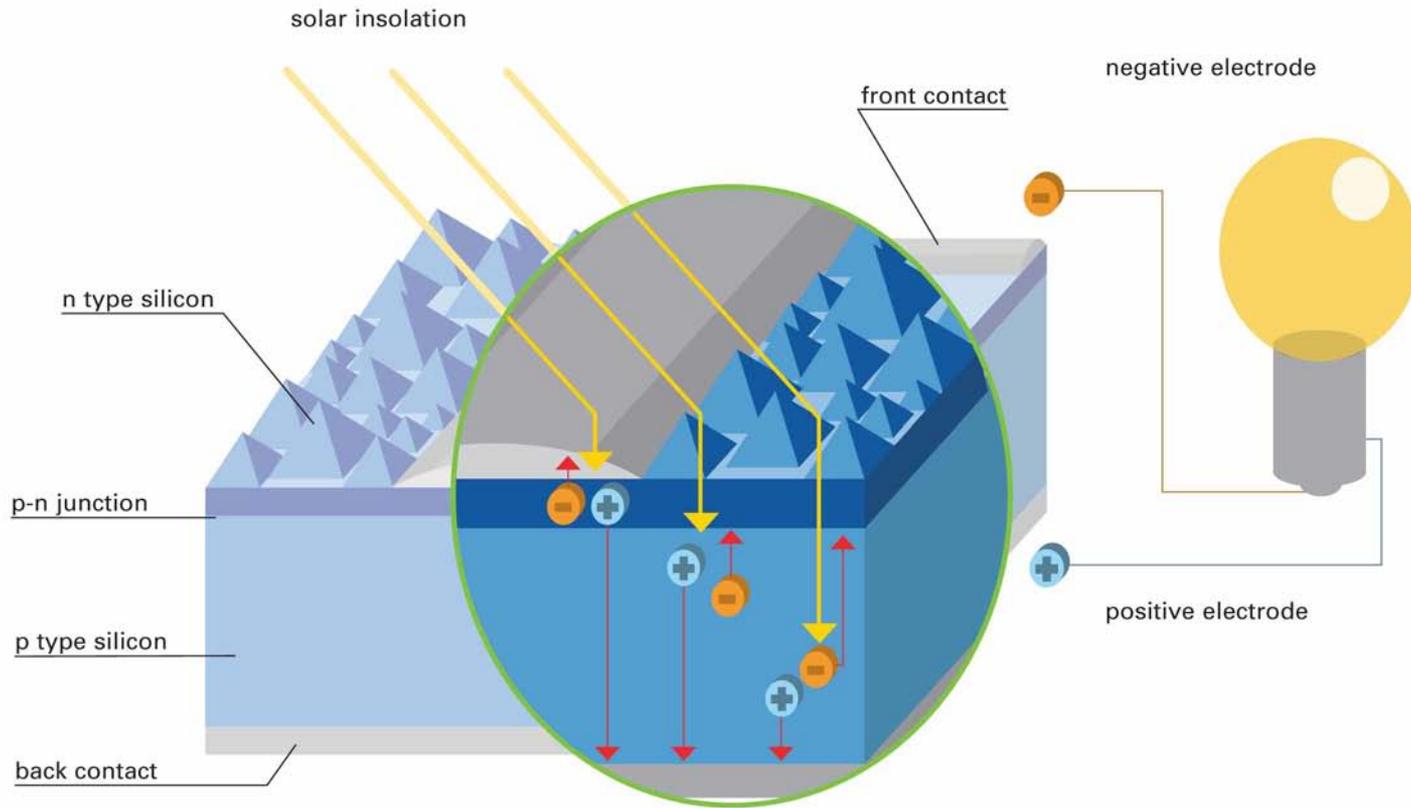
# Topics

- How Solar Electric Systems Work
- Is Solar Right for You?
- From Initiation to Installation



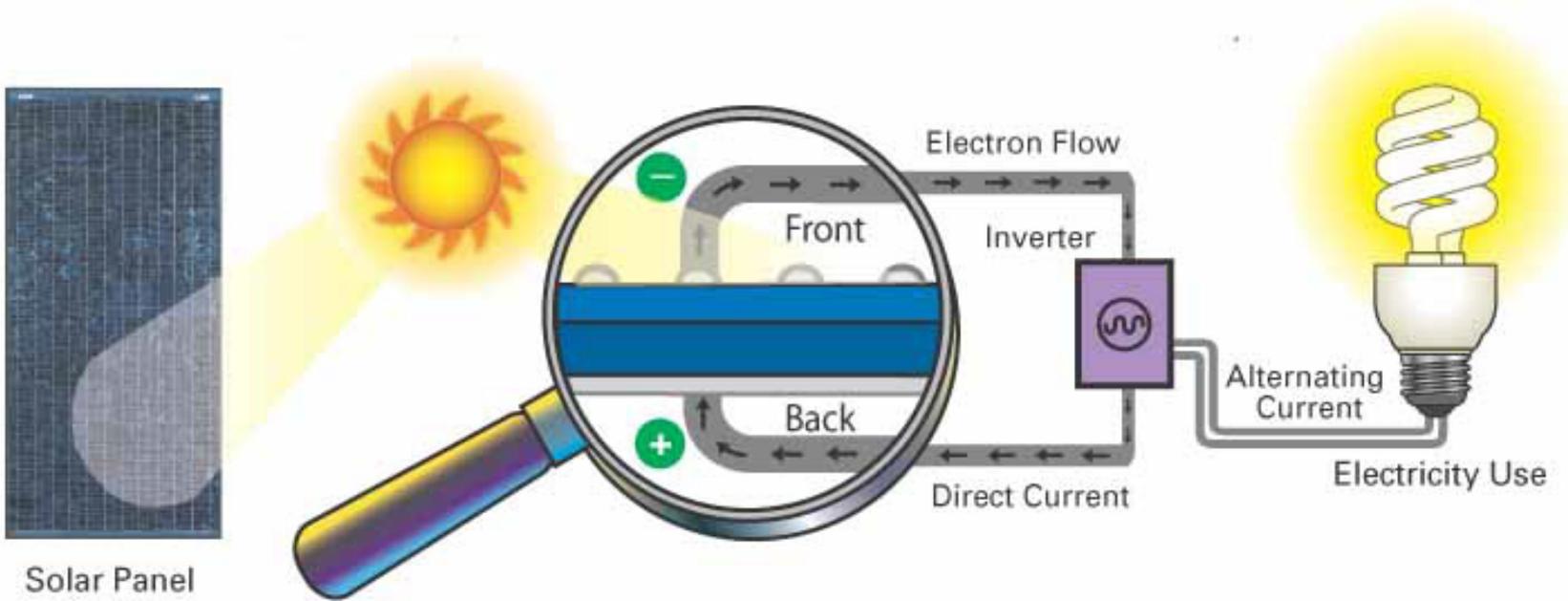


## How a Solar Cell Works



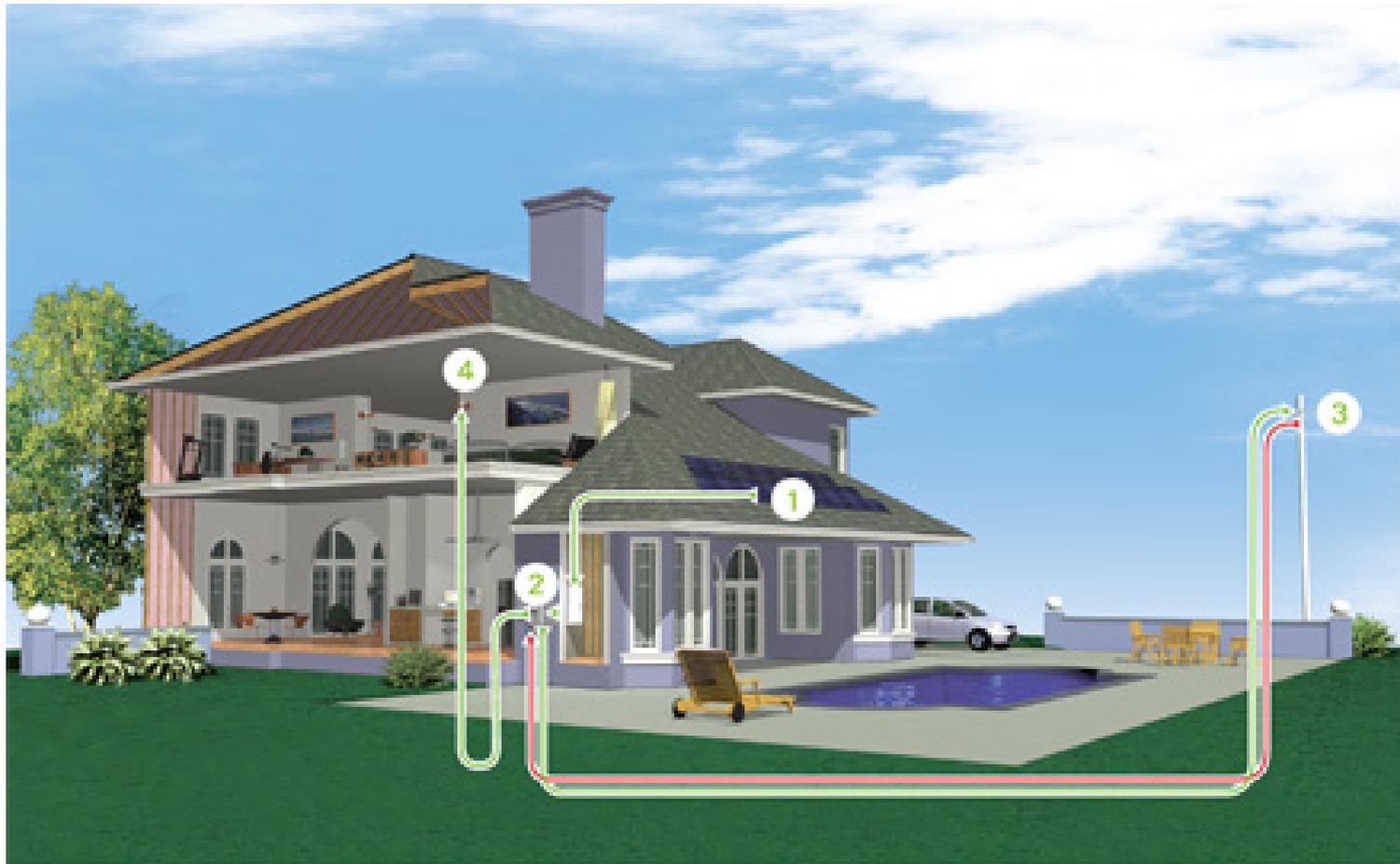


## How a Solar Panel Works



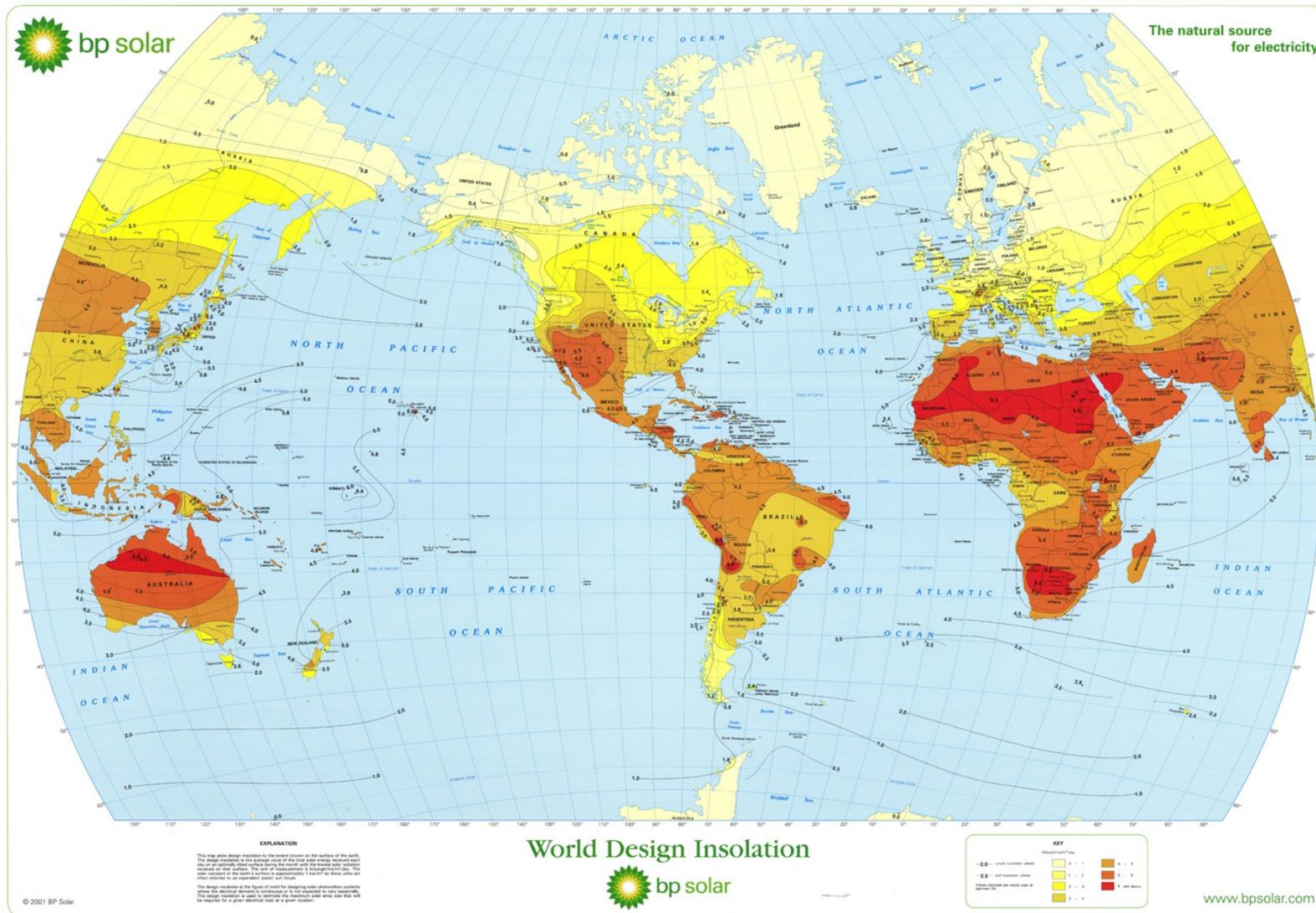


## How a Solar System Works





## Solar at Its Best – Solar Insolation





# Is Solar Right for YOU?

- Rebates and incentives
- Understanding your roofline
- Solar panel solutions





# Rebates and incentives

- Federal Investment Tax Credit
  - Uncapped 30% credit for homeowners  
(as of October 4<sup>th</sup>, 2008)
- For more information on local and state incentives





# Understanding your roofline

- Solar insolation in your region
- Southern exposure is best
- Roof should be free of obstructions  
(shading from trees, hip roofs and chimneys)
- Roof replacements should be scheduled prior to installation
- Products can integrate with your roofline and roofing materials





## Products that Work with Your Roofline



Flush mount



Roof-integrated



Rack mount

W PV in Pasadena, MD





## From Initiation to Installation

Contacting a Certified Installer

- Look to reputable companies affiliated with DOE / SEPA / SEIA, manufacturer or manufacturer backed 3<sup>rd</sup> party ([www.findsolar.com](http://www.findsolar.com))

What to look for

- A company that has been around as long as the warranty
- A company with a strong bottom line to support the terms of the warranty

The In-home Consultation

- Get a quote with an accurate ROI estimate
- Products specified should be reliable
- Review the contract and permitting / rebate handling process





# Next Steps

- Prior to Installation
  - Rebate Paperwork
  - Building Permits
- Installation Day
  - Courteous and timely installers arrive on the day of installation, on-time and equipped to install your system
  - Interconnection with the electric grid will be dependant upon inspection and coordination with the utility





# Enjoy the Benefits of Solar Power

- No moving parts means little maintenance and no emissions
- Watch your meter spin backwards, generating a credit toward your next bill
- Protect yourself from rate hikes
- Protect the environment for future generations
- Increase the resale value of your home
- Why rent your energy when you can own it!





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2009

# Thank You!

