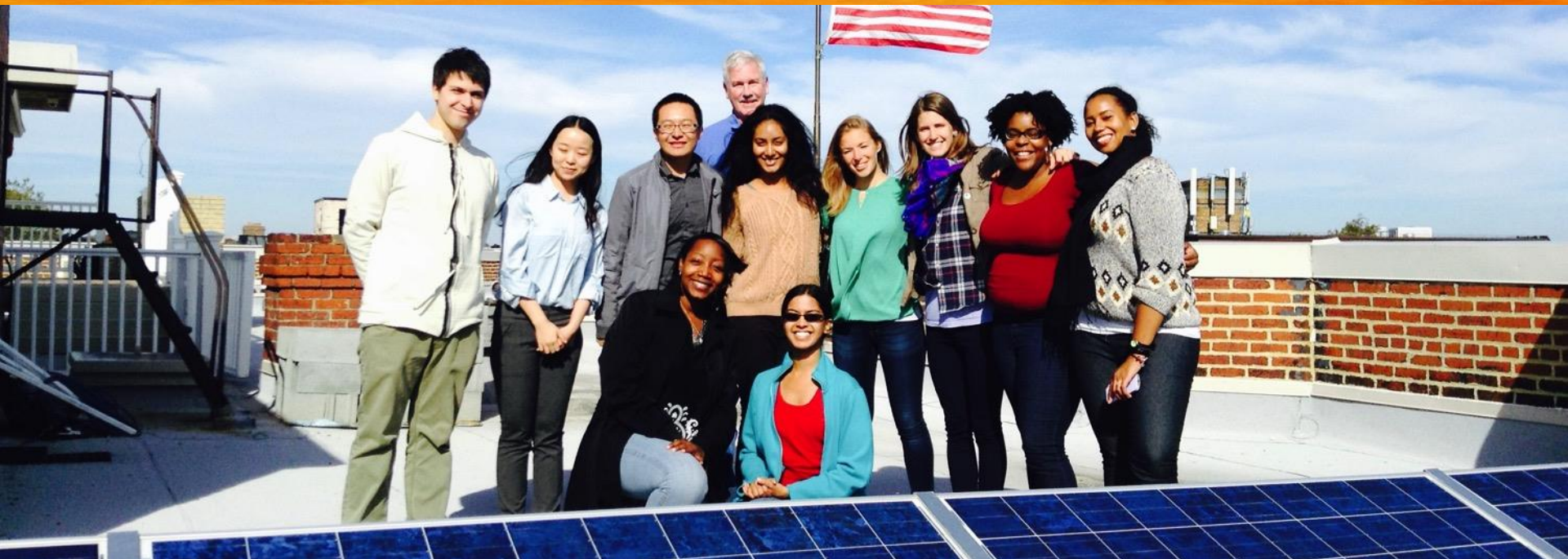




Solar Info Session



Overview

- Who we are
- How we got started

Who we are



We are a network of people taking control of our energy by installing solar and generating our own electricity.

How we got started

Started in 2007

- It wasn't easy!



How we got started



It was harder than we thought!



Helping communities go solar



DCSUN

D.C. Solar United Neighborhoods



FLSUN

Florida Solar United Neighborhoods



MDSUN

Maryland Solar United Neighborhoods



Community Power **Network**



OHSUN

Ohio Solar United Neighborhoods



VASUN

Virginia Solar United Neighborhoods



WVSUN

West Virginia Solar United Neighborhoods

Presentation in three parts:

1. Solar technology
2. How solar co-ops work
3. Solar economics

Part 1: Solar technology

Part 1: Solar technology

How does a solar panel work?

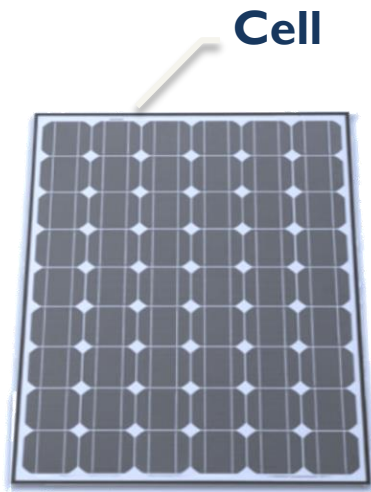
- Solar photovoltaic (PV)
- Converts solar energy to electricity



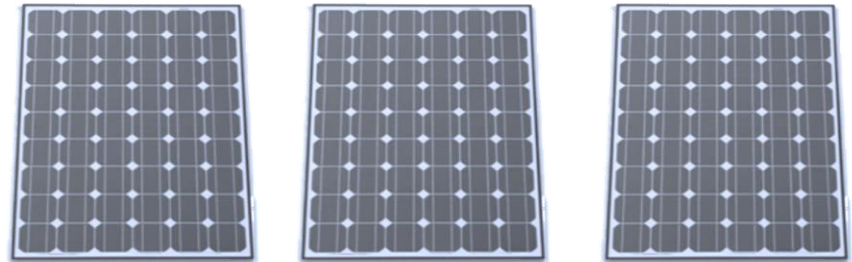
Part 1: Solar technology

System components

- Panels



Panel / Module



Solar Array

Part 1: Solar technology

How does solar connect to my roof?



TAKEN FROM WWW.HUFFINGTONPOST.COM

Part 1: Solar technology



Part 1: Solar technology



FLAT ROOF INSTALLATION EXAMPLE

Part 1: Solar technology

System components

- Inverter(s)
- Racking system

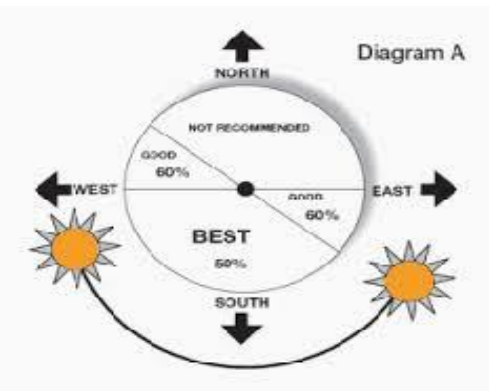


Inverter

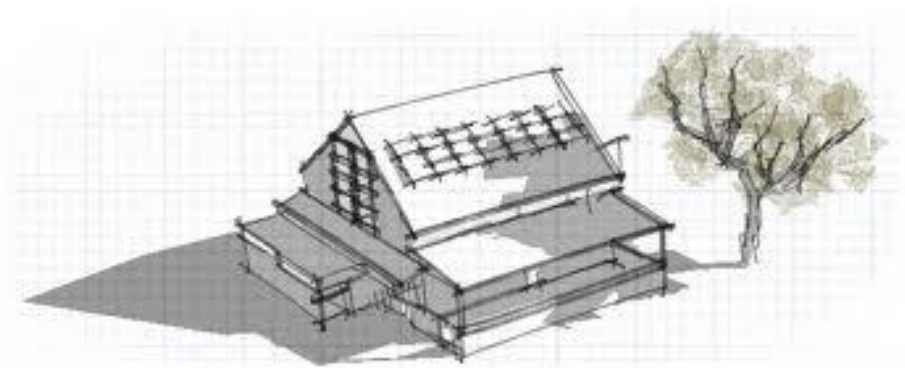
Racking system

Part 1: Solar technology

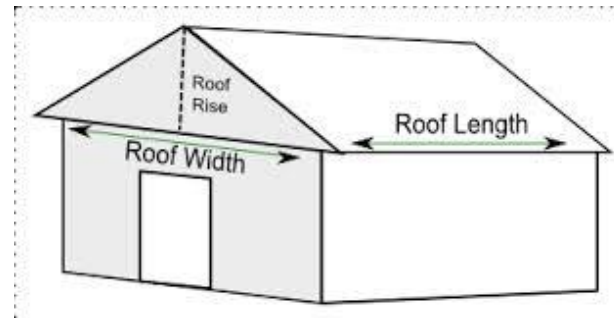
What makes a good site for solar?



Roof faces southerly direction



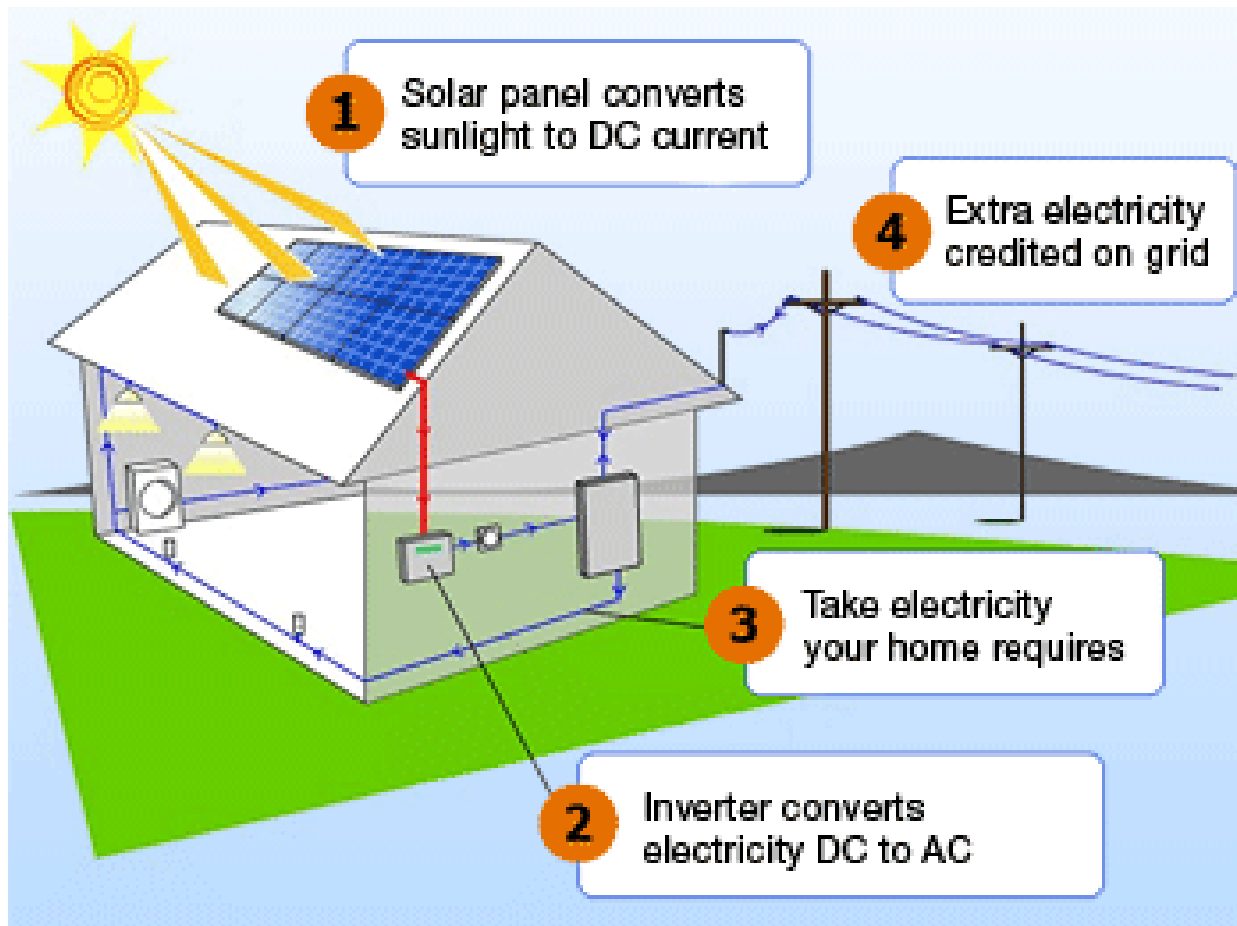
No shading



Enough space to mount panels

Part 1: Solar technology

How a solar PV system works (grid-tied)



VIA WATTPATROL.COM

Part 1: Solar technology

What is Net Metering?

- Allows flow of electricity to AND from customer
- When generating is more than using, extra electricity flows back through meter
 - You get a credited on your power bill for that production
- Monthly electric bill:
[Amount electricity used] – [Amount electricity produced]
- Utilities required by law to let you net meter



Part 1: Solar technology

Terminology

- Kilowatts (kW)
- Kilowatt-hours (kWh)



A 3kW Solar Panel Array - to scale
using 250W panels

- System measured in kW
- Electricity production in kWh
- Most homeowners install between 2 kW – 12 kW

Part 1: Solar technology

What happens when the power goes out?

- When grid is down, solar shuts off
- Safety mechanism
- Need batteries if want power during outages



source: www.pixgood.com

Part 1: Solar technology

Frequently asked questions

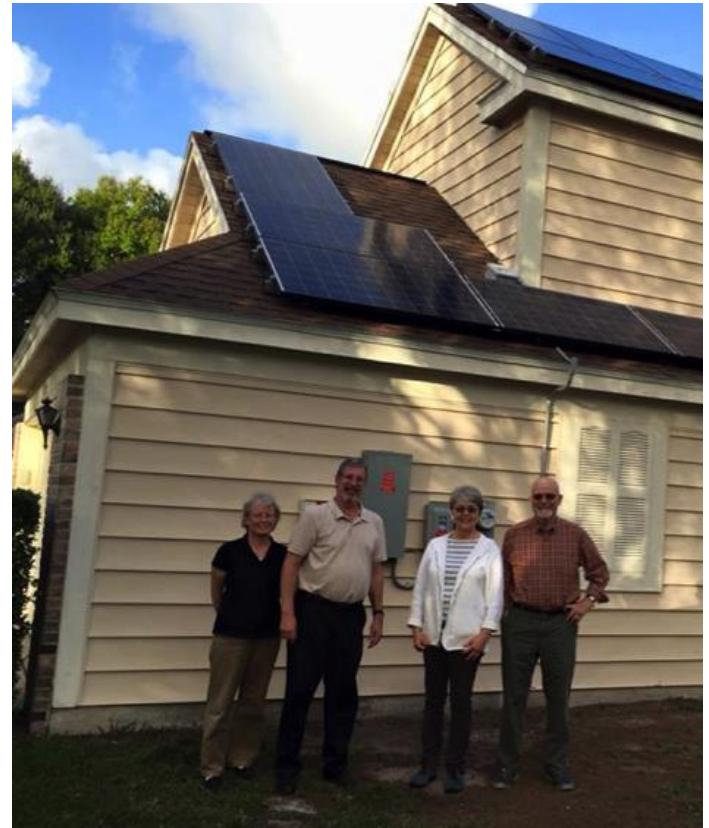
- Warranties?
- Homeowner's insurance?
- Maintenance?
- How long do systems last?
- Will HOA allow solar on my home?
- What if I'm in a historic district?

Part 2: How solar co-ops work

Part 2: Co-op process

Benefits of co-ops

- Save on cost of system (10-20%)
- Get support of the group through the process
- Connect with fellow solar enthusiasts
- Become part of a growing solar movement



Part 2: Co-op process

GOING SOLAR WITH A CO-OP



1. **LEARN ABOUT THE CO-OP**
ATTEND AN INFO MEETING AND
VISIT OUR WEBSITE



2. **JOIN THE CO-OP**
SIGN UP ONLINE



3. **GROW THE CO-OP**
TELL YOUR NEIGHBORS!

CO-OP GETS BIDS FROM
SOLAR INSTALLER

CO-OP SELECTION
COMMITTEE MEETS TO
CHOOSE INSTALLER(S)

**SIGN UP
DEADLINE**



4. **SCHEDULE SITE VISIT WITH INSTALLER**
TO GET CUSTOMIZED PROPOSAL



5. **SIGN A CONTRACT WITH
INSTALLER**



6. **GET SOLAR INSTALLED!**



7. **PARTY! CELEBRATE! SHARE!**

Information Session

MONTH 1 & 2

MONTH 3

MONTH 4-8

Part 2: Co-op process

Who picks the installer? – Co-op members

When someone joins a co-op, they select specific installer criteria from some or all of the following:

- Offer the best price
- Use higher quality equipment
- Have more experience
- Offer stronger warranties
- Are a local company
- Other - Please describe



Part 3: Solar economics

Part 3: Solar economics

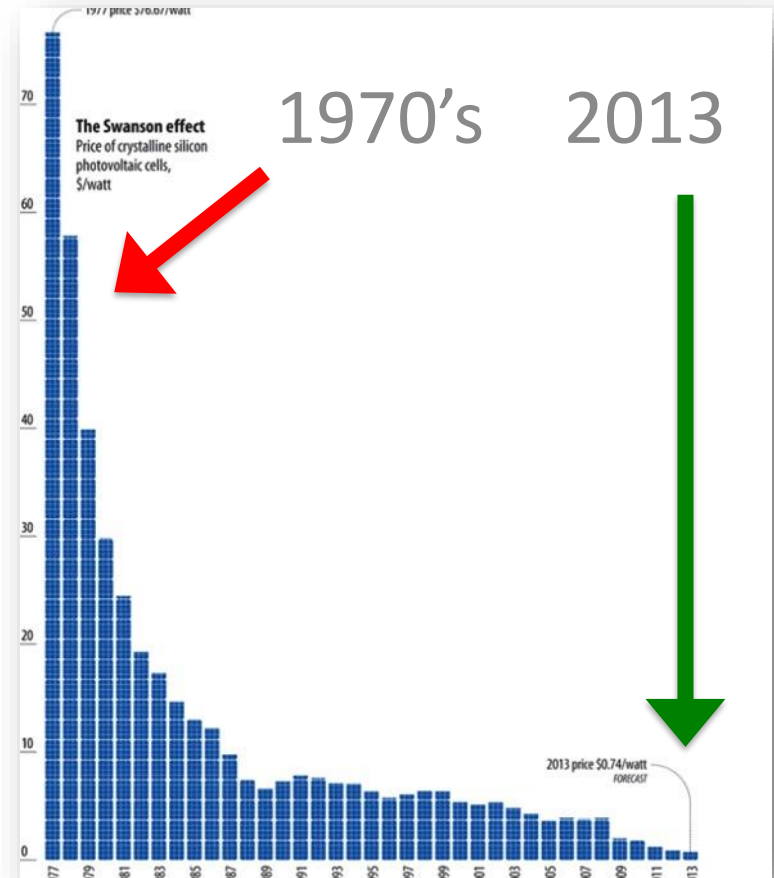
A few considerations

- Solar priced by the Watt (not by panel)
- Solar is long-term
- No moving parts & 25-year lifespan
- Average residential electricity rate
- Rising energy prices

Part 3: Solar economics

Solar is increasingly affordable

- Costs have come down 90% since the 1970s
- Solar is no longer a specialty, expensive or boutique project for a homeowner
- But, can still be daunting to tackle



Part 3: Solar economics

SAMPLE SOLAR CO-OP COST BREAKDOWN

<i>Example, not actual co-op pricing. System size will vary.</i>	3 kW	9 kW
System cost before incentives (about \$3.25/Watt)	\$9,750	\$29,250
Co-op discount (10-20% off)	\$1,500	\$4,500
System cost after co-op discount (about \$2.75/Watt)	\$8,250	\$24,750
Solar Renewable Energy Credit (Annual Estimate)	\$28	\$80
30% Federal tax credit (calculated before SREC sale)	\$2,925	\$8,775
Estimated annual electricity savings	\$396	\$1,188
Total Cost (after one year)	\$4,900	\$14,700

Part 3: Solar economics

Financing

- Loans
 - HELOC (home equity line of credit)
 - Standard loans
 - Solar loans
 - Bridge loans
- Grants
 - REAP (USDA Rural Energy for America Program)

What's next?

- Join the co-op
- Join the listserv
- Tell your friends and neighbors



Sign-up for the listserv

An invaluable resource for participants!



WV SUN

West Virginia Solar United Neighborhoods

[ABOUT US](#)[LEARN ABOUT SOLAR](#)[JOIN A SOLAR CO-OP](#)[ADVOCATE FOR SOLAR](#)[NEWS](#)

SOLAR CO-OPS



Image courtesy of Alt Energy

WV SUN is working with groups of neighbors and local community organizations to form solar co-ops to make it easy to save on solar and build a community of solar supporters.

**Join the WV Solar
Conversation**

Sign up for the WV SUN email list
and newsletter

JOIN A SOLAR CO-OP

[Beckley Solar Co-op](#)

[Lewisburg Solar Co-op](#)

[North Central West Virginia Solar
Co-op](#)

Thank You!