

# SOLAR READY NORTHWEST INDIANA

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# Goals of this presentation

At the end of today's session I hope you will :

- ☀ Know what NIRPC hopes to do with the Solar Ready NWI Program
- ☀ Be able to dispel myths about Solar
- ☀ Understand some of the BMPs we are trying to promote
- ☀ Want to get involved in Solarize NWI

# U.S Department Of Energy SunShot Initiative Rooftop Solar Challenge



# U.S Department of Energy SunShot Initiative

The U.S. Department of Energy SunShot Initiative is a collaborative national effort that aggressively drives innovation to **make solar energy fully cost-competitive** with traditional energy sources before the end of the decade. Through SunShot, DOE supports efforts by private companies, academia, and national laboratories to drive down **the cost of solar electricity to \$0.06 per kilowatt-hour.**

# U.S. Department of Energy SunShot Initiative Rooftop Solar Challenge

The U.S. Department of Energy SunShot Initiative Rooftop Solar Challenge incentivizes regional awardee teams to **make it easier and more affordable for Americans to go solar**. By streamlining permit processes, updating planning and zoning codes, improving standards for connecting solar power to the electric grid, and increasing access to financing, teams will clear a path for rapid expansion of solar energy and serve as models for other communities across the nation.

# Solar Ready II

Partnering with **Mid-America Regional Council (MARC)**, **National Association of Regional Councils (NARC)**, **Meister Consultants Group (MCG)**, and **Council of State Governments (CSG)**.

Goals are to implement solar best management practices, training materials and methods, and other proven implementation strategies previously established by MARC's 2012 Solar Ready KC Initiative.

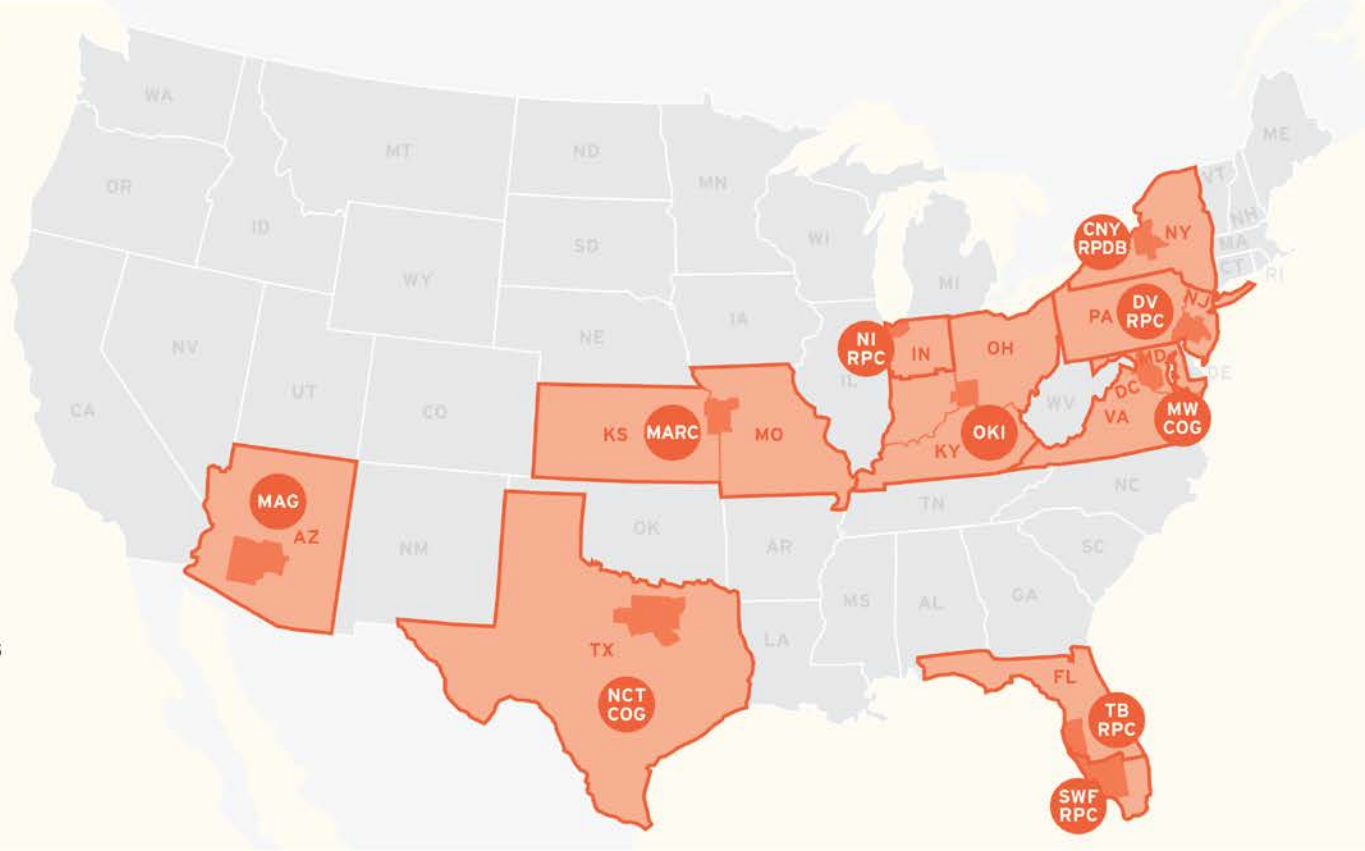
Ultimately will result in more streamlined and standardized solar practices, and will achieve measurable improvements in solar market conditions and access for ten million people across the US.

# Solar Ready KC Roadmap

	Step 1	Step 2	Step 3
Planning			
Process			
Financing & Adoption			

# SOLAR READY II REGIONAL PARTNERS

- CNY RPDB** Central New York Regional Planning and Development Board
- DV RPC** Delaware Valley Regional Planning Commission
- MAG** Maricopa Association of Governments
- MW COG** Metropolitan Washington Council of Governments
- MARC** Mid-America Regional Council
- NCT COG** North Central Texas Council of Governments
- NI RPC** Northwestern Indiana Regional Planning Commission
- OKI** Ohio-Kentucky-Indiana Regional Council of Governments
- SWF RPC** Southwest Florida Regional Planning Council
- TB RPC** Tampa Bay Regional Planning Council





# Goals of the Program

Reduce costs  
through  
regulatory  
reform

Increase  
access to  
financing

Promote solar  
adoption

# Solar Ready NWI

## Project Outcome and Goals

Solar Market Maturity Metrics (SM<sub>3</sub>s)

Create our own Solar Road Map

- Planning and Zoning BMPs
- Permitting/Process BMPs
- Financing Tools

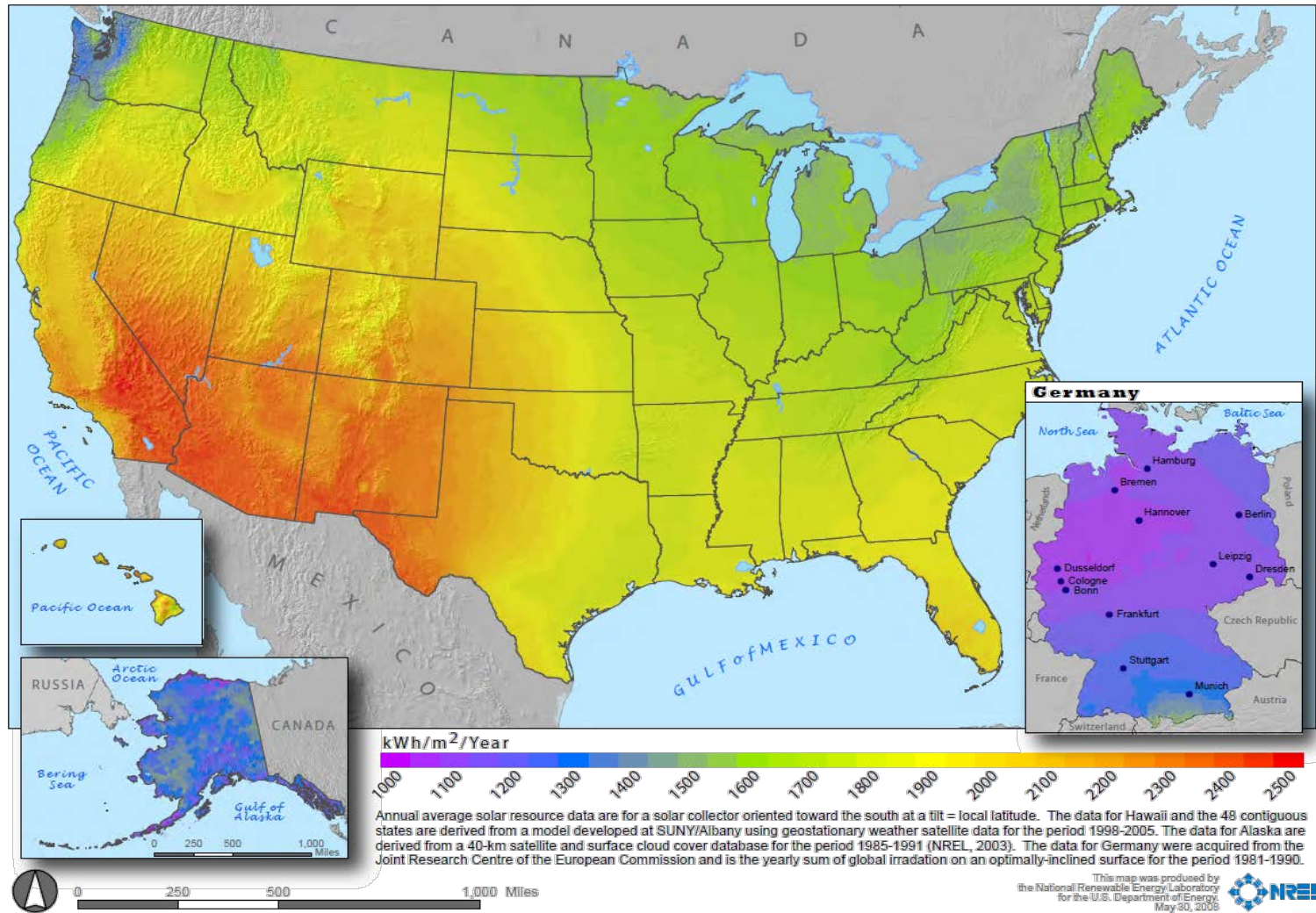
10-30 LPAs adopt or implement a BMP

# SOLAR ENERGY

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## Myths, Benefits, and Barriers

# Myth: It's not sunny enough where I live



# Installed Capacity

Total installed solar capacity in the US

7.7 GW

Capacity installed in Germany in 2012 alone

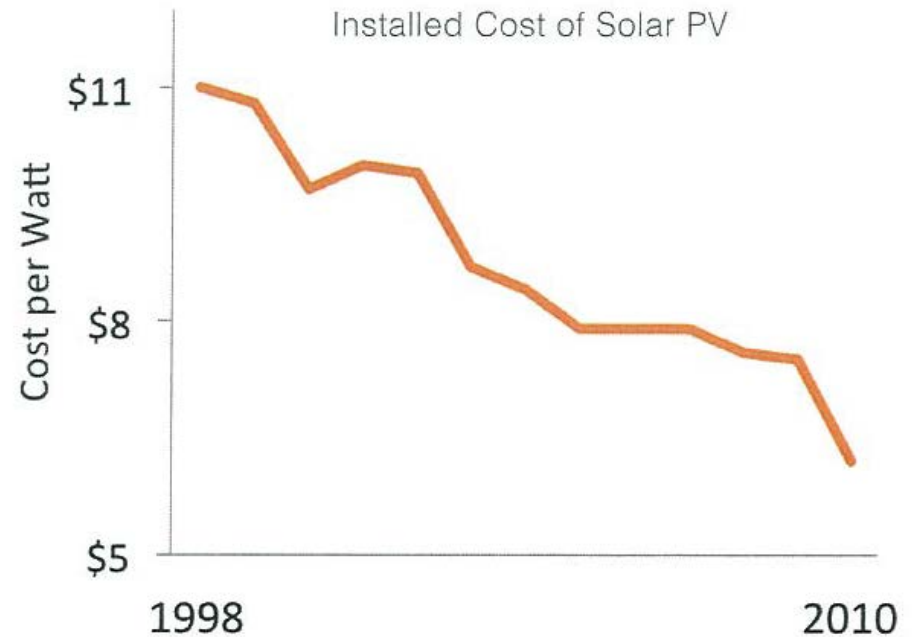
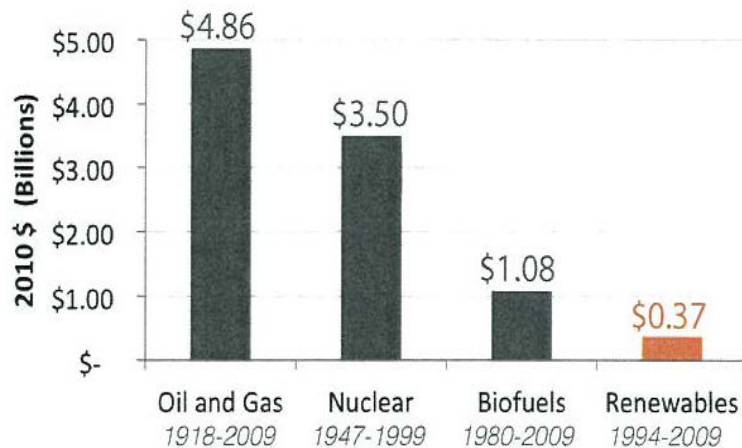
7.6 GW

Source: (1) GTM Research/ Solar Energy Industries Association. *U.S. Solar Market Insight Report 2012 Year-in-Review*;

(2) [www.erneuerbare-energien.de/fileadmin/Daten\\_EE/Dokumente\\_PDFs\\_/20130328\\_hgp\\_e\\_ppt\\_2012\\_fin\\_bf.pdf](http://www.erneuerbare-energien.de/fileadmin/Daten_EE/Dokumente_PDFs_/20130328_hgp_e_ppt_2012_fin_bf.pdf)

# Myth: Solar Costs Too Much and is heavily subsidized

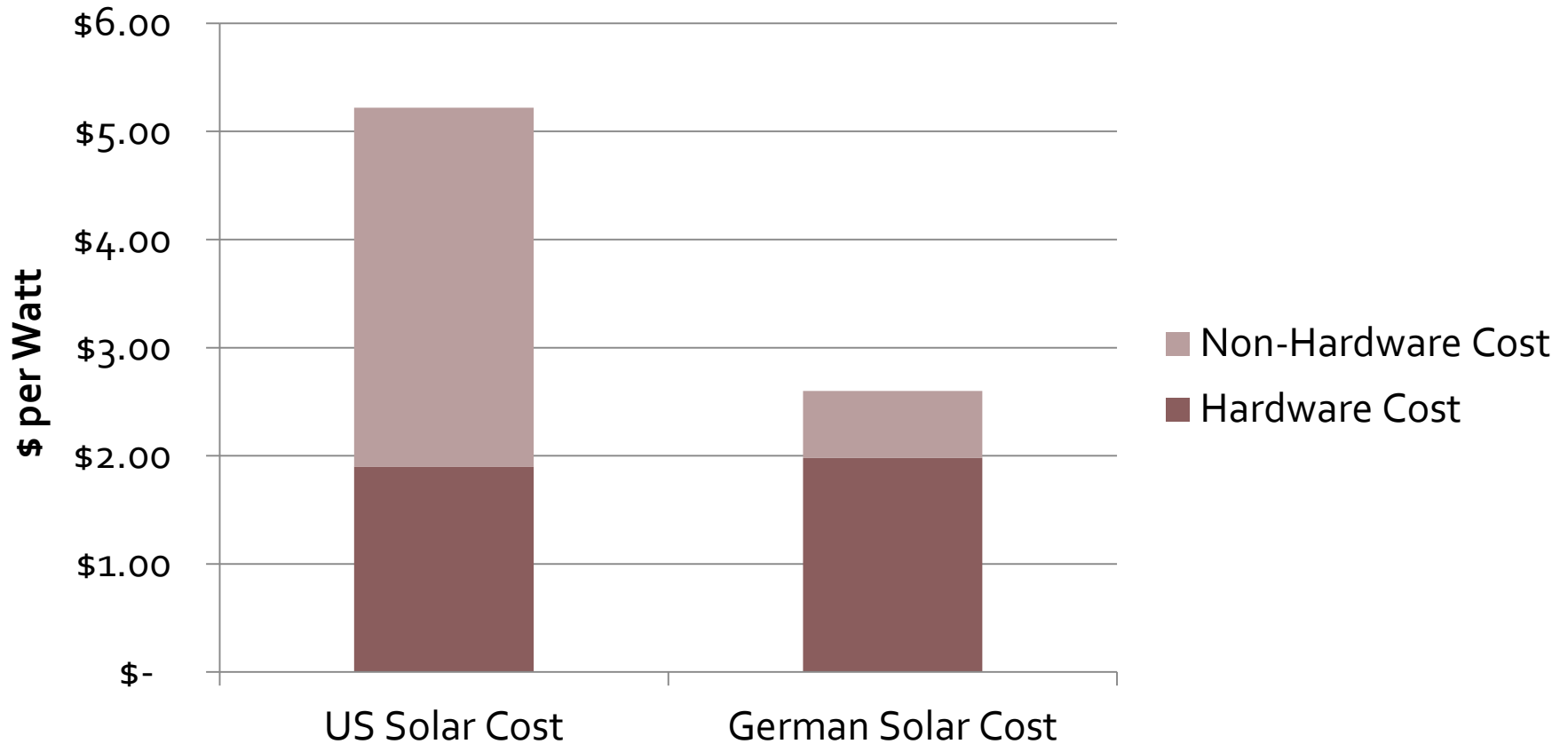
- Globally solar energy costs have gone down 36% between 2009 and 2011
- Current technology solar is cost competitive with NG peaking plants. Should compete with



Source: National Renewable Energy Laboratory

# The Cost of Solar in the US

## Comparison of US and German Solar Costs

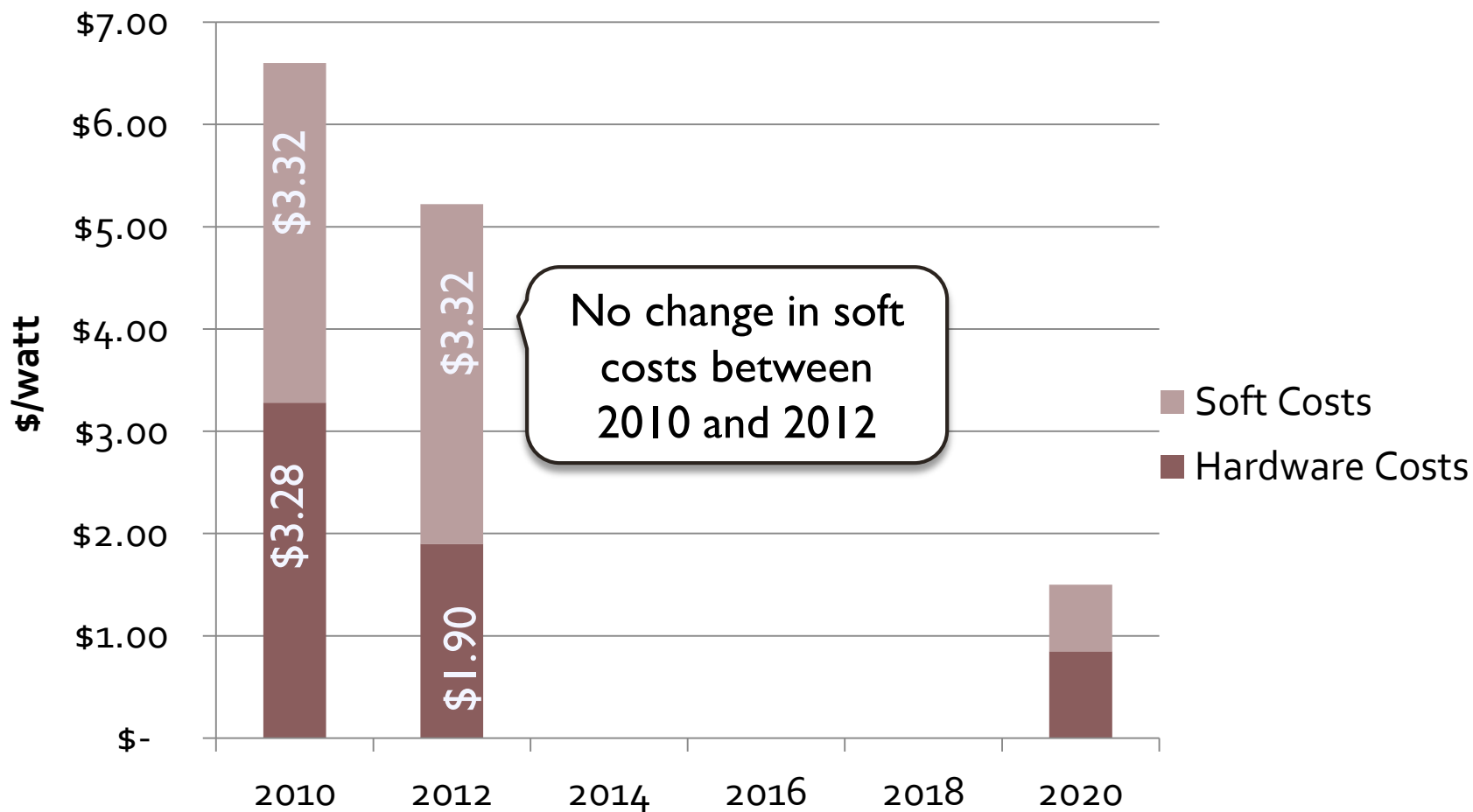


Source: NREL (<http://www.nrel.gov/docs/fy14osti/60412.pdf>)

LBNL (<http://emp.lbl.gov/sites/all/files/lbnl-6350e.pdf>) ([http://www1.eere.energy.gov/solar/pdfs/sunshot\\_webinar\\_20130226.pdf](http://www1.eere.energy.gov/solar/pdfs/sunshot_webinar_20130226.pdf))

# The Cost of Solar in the US

## Change in Soft Costs and Hardware Costs Over Time





# Discussion:

## Are there other important misunderstandings about solar in NWI?

- ☀ Solar Panels are ugly and reduce property values
- ☀ Solar Technology is new and complicated (PV has been around for 30 years.)
- ☀ Solar Energy is for tree huggers (90% of American's think it is important)

# Smart Investment for Homes



From NREL:

Solar homes sold

**20% faster**

and for

**17% more**

than the equivalent non-solar homes  
in surveyed California subdivisions

Source: <http://www.nrel.gov/docs/fy07osti/38304-01.pdf>

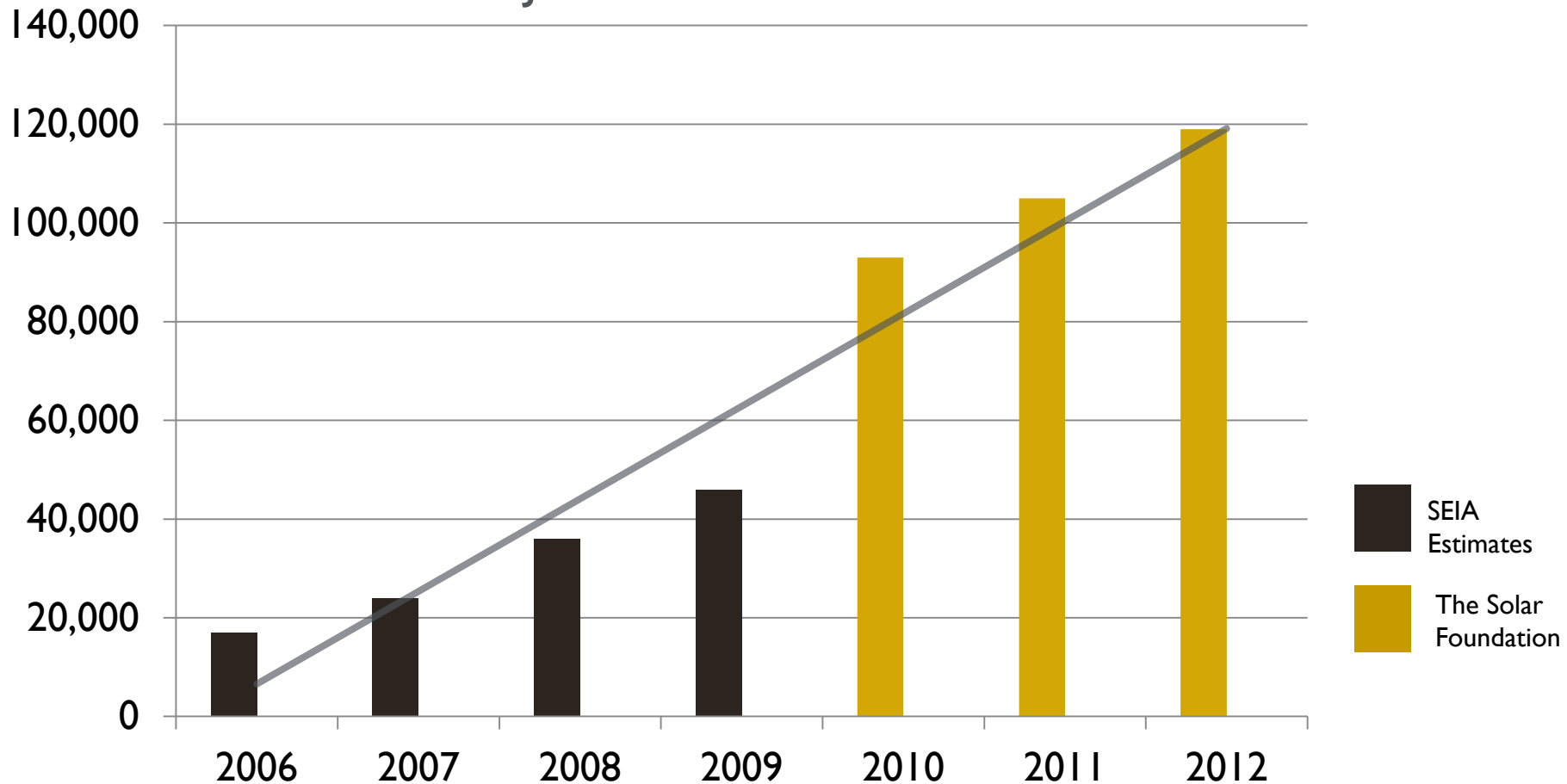
# Benefits and Barriers to Solar Adoption



# Job Creation



## Solar Job Growth in the US



Source: SEIA Estimates (2006-2009), The Solar Foundation's National Solar Jobs Census 2010 (2010), The Solar Foundation's National Solar Jobs Census 2012 (2011-2012).

# Solar Job Creation in NWI

## Why promote solar in your community?

- **Solar creates economic value** - It is a \$12 billion industry in the U.S.
- **Solar creates jobs** - As of November 2013, there were more than 142,000 solar jobs in the US. This is nearly a 20% increase since the 2012 census. During this time period, solar created jobs at a rate that was ten times faster than the overall economy's employment growth. (Solar Foundation)
- **Solar is flexible** - It can add economic value to currently underutilized rooftops, brownfields, and landfills.

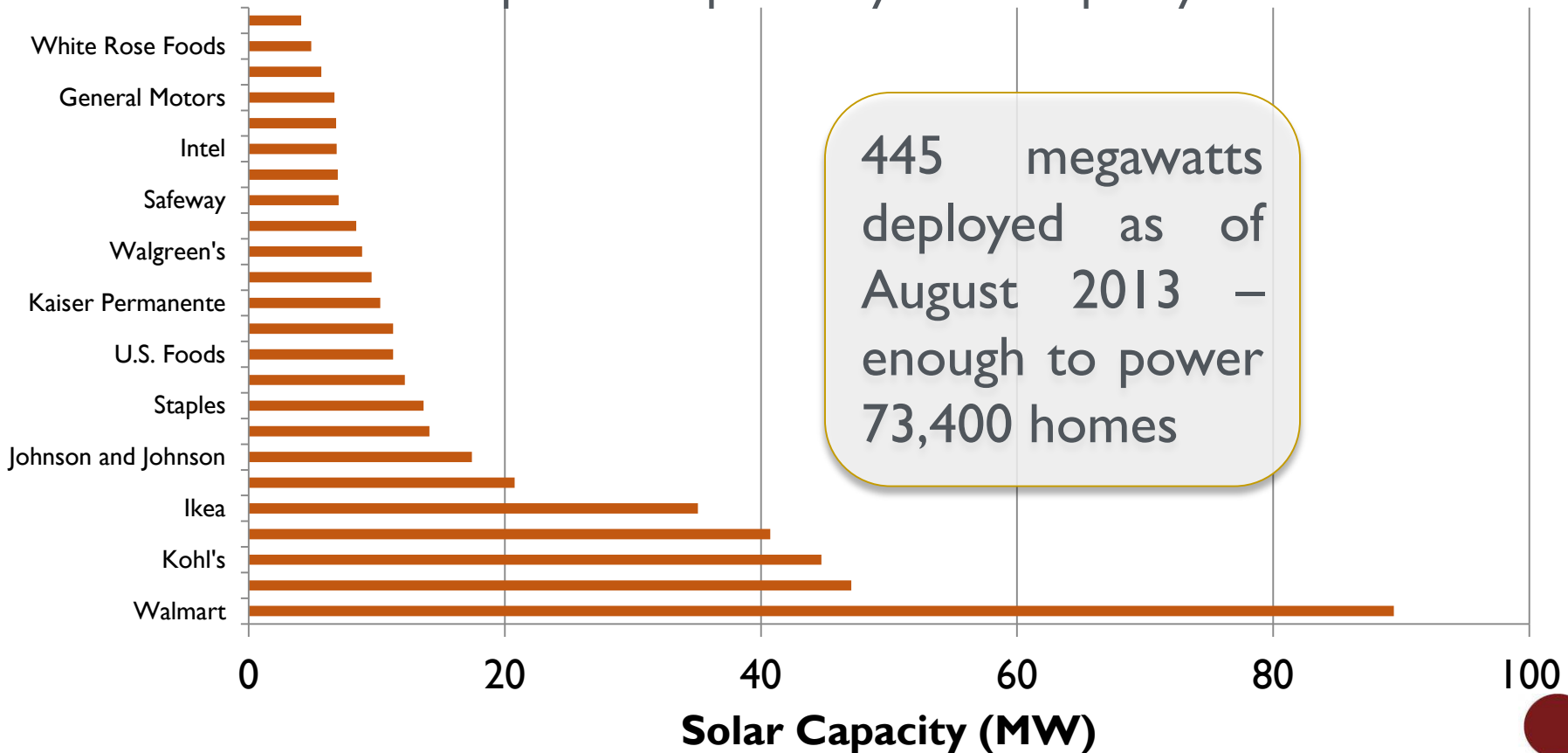
## Quick Facts:

- A new job is created for every 4 residential solar installations in NWI.
- Each new residential solar installation creates \$29.16 in economic value in NWI.

# Smart Investment for Business



## Top 20 Companies by Solar Capacity



Source: [Solar Energy Industries Association](#)



# Smart Investment for Gov't

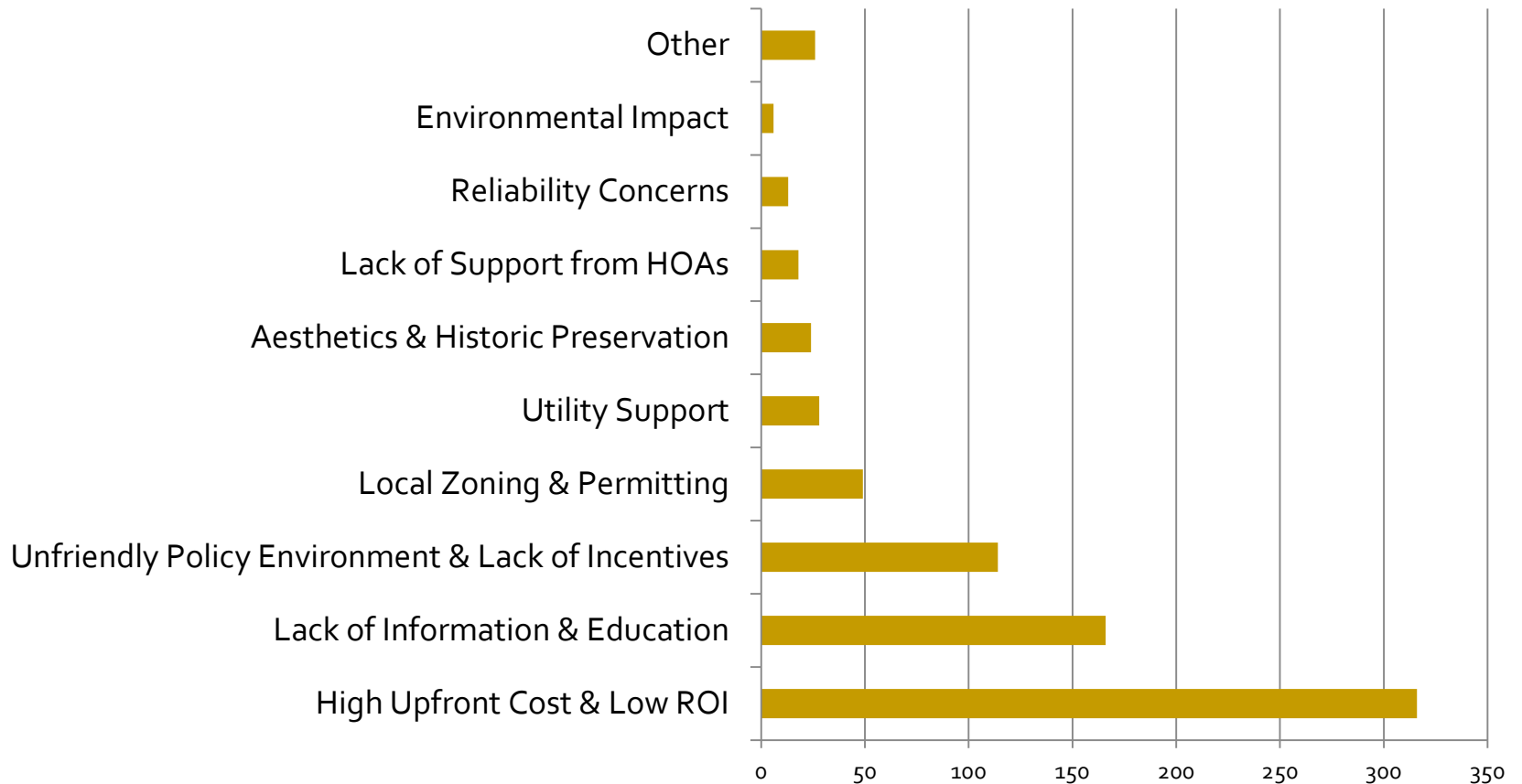


Source: Borrego Solar

# Barriers to Solar Adoption



# Survey Results: Barriers



# Challenge: Inconsistency

**5,000+** utilities

with unique interconnection requirements

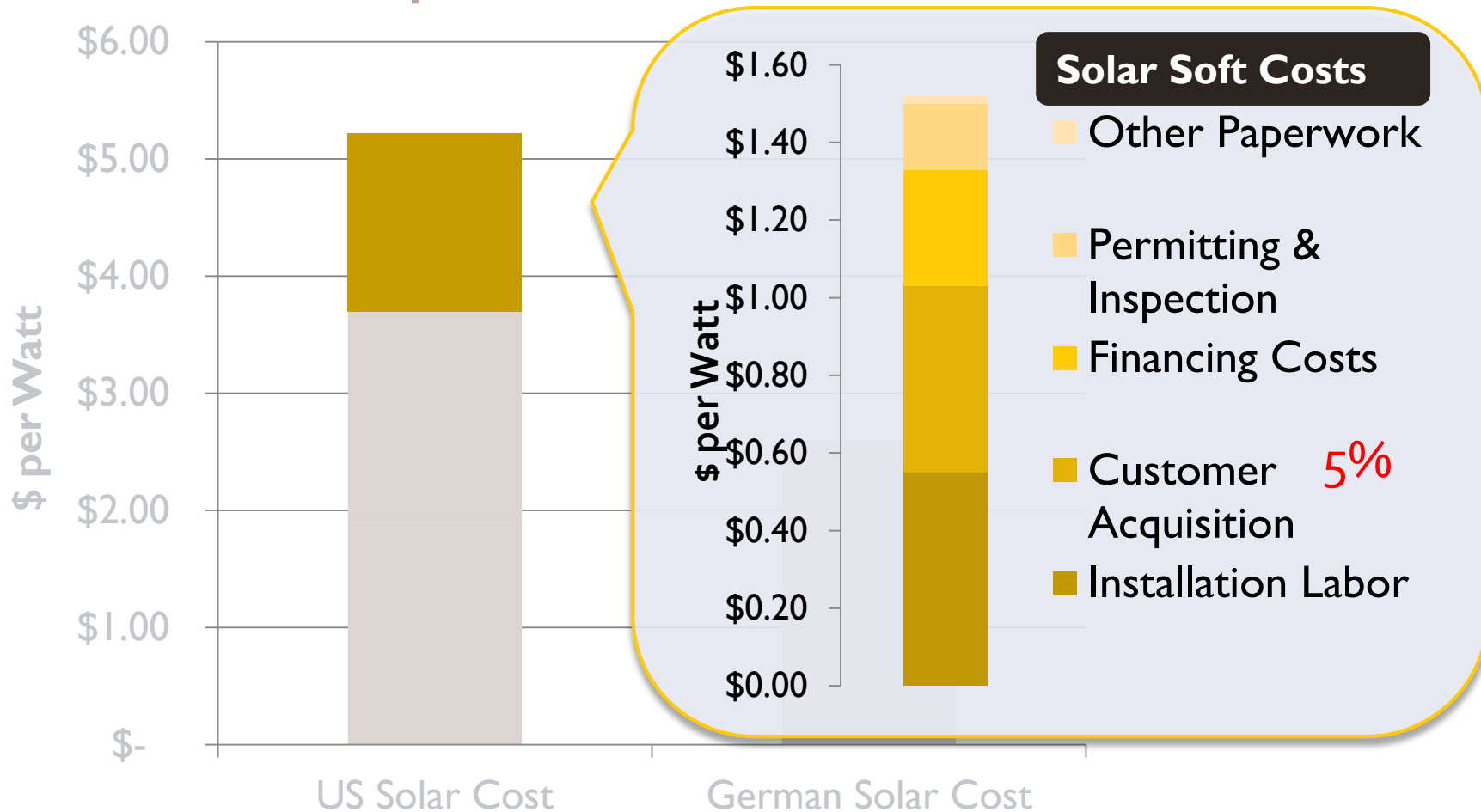
**18,000+** local jurisdictions

with unique zoning and permitting requirements

Source: Benchmarking Soft Costs for PV Systems, National Renewable Energy Laboratory

# The Cost of Solar in the US

## Comparison of US and German Solar Costs



Source: NREL (<http://www.nrel.gov/docs/fy14osti/60412.pdf>)

LBNL (<http://emp.lbl.gov/sites/all/files/lbnl-6350e.pdf>) ([http://www1.eere.energy.gov/solar/pdfs/sunshot\\_webinar\\_20130226.pdf](http://www1.eere.energy.gov/solar/pdfs/sunshot_webinar_20130226.pdf))

# Consumer Challenges



Source: Forbes

# Opportunities

Communities in CA with favorable permitting practices saw

**4 - 12%** lower costs

and

**25%** shorter development time

as compared to standard communities

# Solar Ready KC

Efforts from Rooftop Solar Challenge I teams

*resulted in*

**12%** lower permitting costs

*and*

**40%** faster permitting time

# **BUILDING OUR SOLAR READY ROAD MAP**

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# Best Management Practices

## Planning Improvements

Improve Solar Access

Educate Developers

Educate Home-owners

Improve Solar Read-iness

Engage HOAs

## Process Improvements

Standardize Permit Fees

Pre-Qualify Plans and Installers

Streamline Permits

Notify Utility



# Priority BMPs from April Stakeholder Meetings

## Top 5

1. Solarize Program (Finance)
2. Engage HOAs (Planning)
3. Streamlining Permits (Process)
4. Improve Solar Readiness (Planning)
5. Improve Solar Access (Planning)

## Honorable Mention

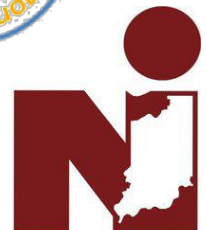
- Engage Lenders (Finance)
- PACE (Not allowed in Indiana)
- Standardize Permit Fees (Process)
- Coordination with Utility (Process )
- Pre-Qualify Plans and Installers (Process)
- Educate and Engage Commercial Businesses (Planning)
- Educate Homeowners (Planning)
- Educate Developers (Planning)

# Solar Ready NWI Roadmap

	Step 1	Step 2	Step 3
Planning	Solar Ready Zoning Code	Solar Access Codes	Solar Education
Process	Streamlining Permits (Checklist)	Prequalify Installers	Coordinate inspections and with NIPSCO
Financing & Adoption	Solarize Program	Engage Lenders	Incentives Feed in Tariff

# #1 Enact a Solarize Program

**Solarize:** Group purchasing for residential solar PV projects



# Market Transformation

A household is

**0.8%** more likely to adopt solar

*for*

each additional installation in their zip code

Source: NYU Stern and Yale School of Forestry, *Peer Effects in the Diffusion of Solar Panels*

# Solarize Program

## Barriers

High upfront cost →

Complexity →

Customer inertia →

## Solutions

Group purchase

Community outreach

Limited-time offer

# Solarize Harvard Mass Program

Select  
Installer

Marketing  
&  
Workshops

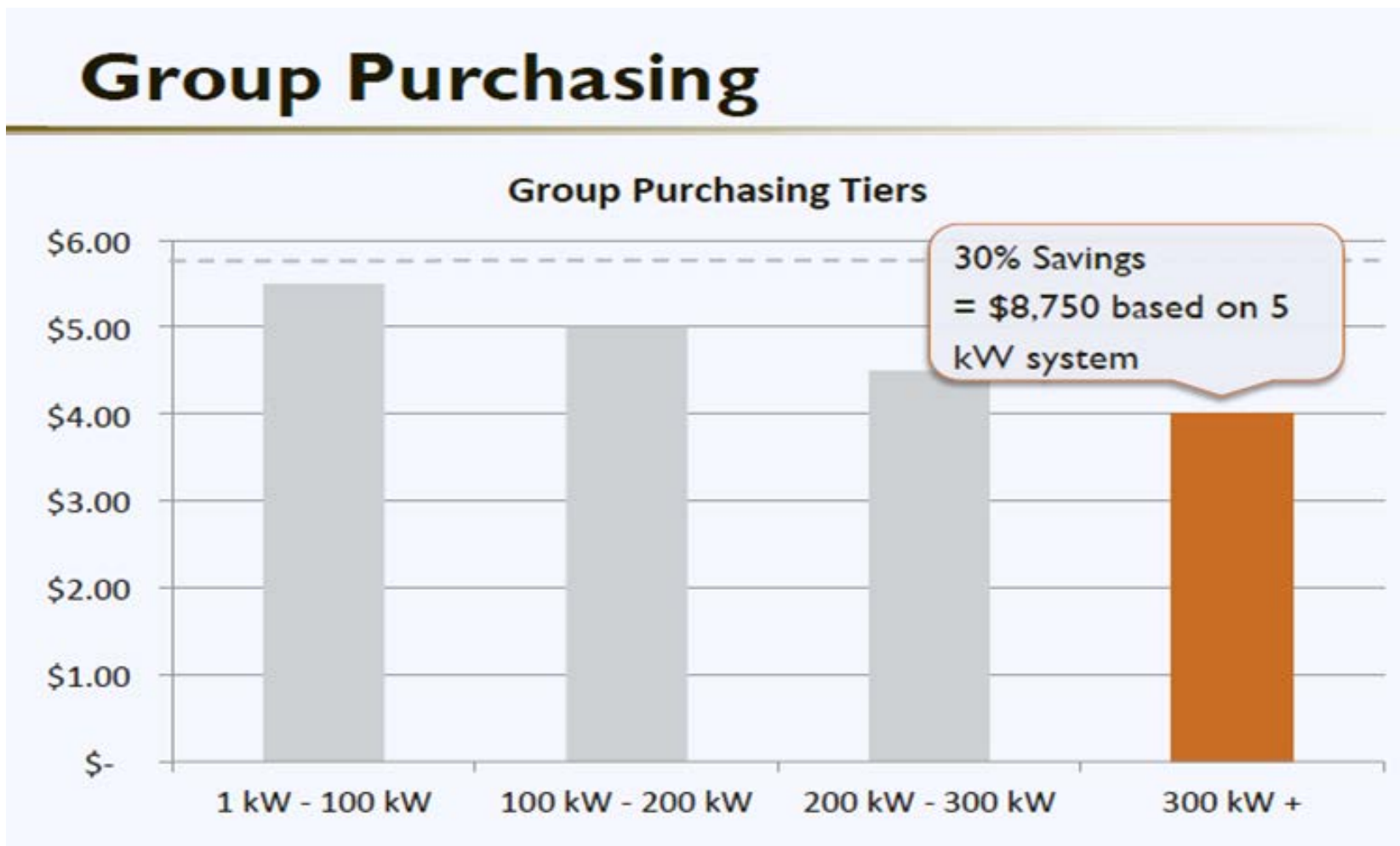
Enrollment

Site  
Assessment

Decision  
&  
Installation

# Solarize Program

## Group Purchasing



# Solarize Program

## Marketing Strategy:

Electronic survey of 1,100 households

Email newsletters and direct mailings

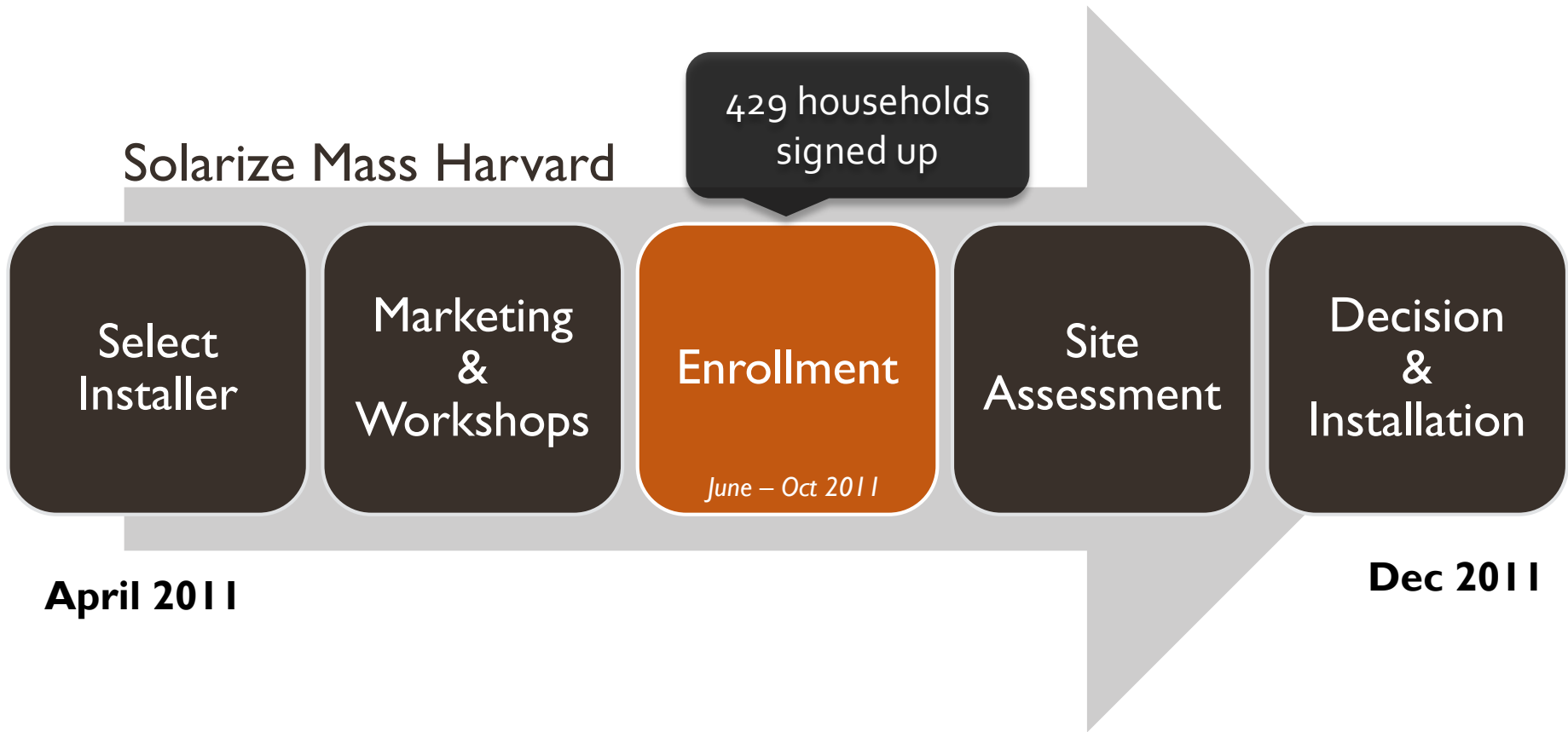
Float in July 4 parade

Articles and advertisements in local newspaper

Facebook page and online discussion board

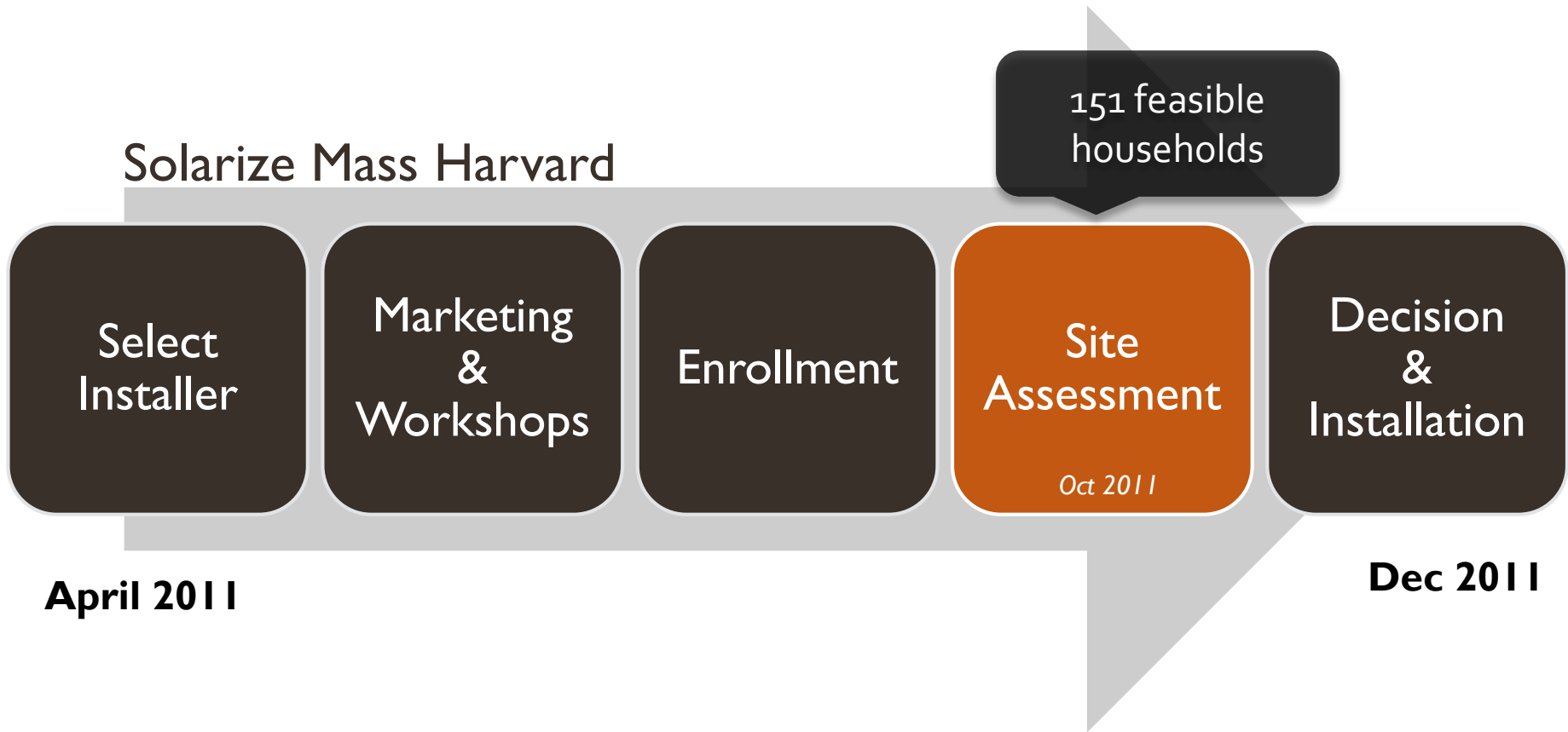


# Solarize Program



# Solarize Program

## Solarize Mass Harvard



# Solarize Program

## Solarize Mass Harvard

Select  
Installer

Marketing  
&  
Workshops

Enrollment

Site  
Assessment

Decision  
&  
Installation

*Oct - Dec 2011*

75 Contracts

**April 2011**

**Dec 2011**

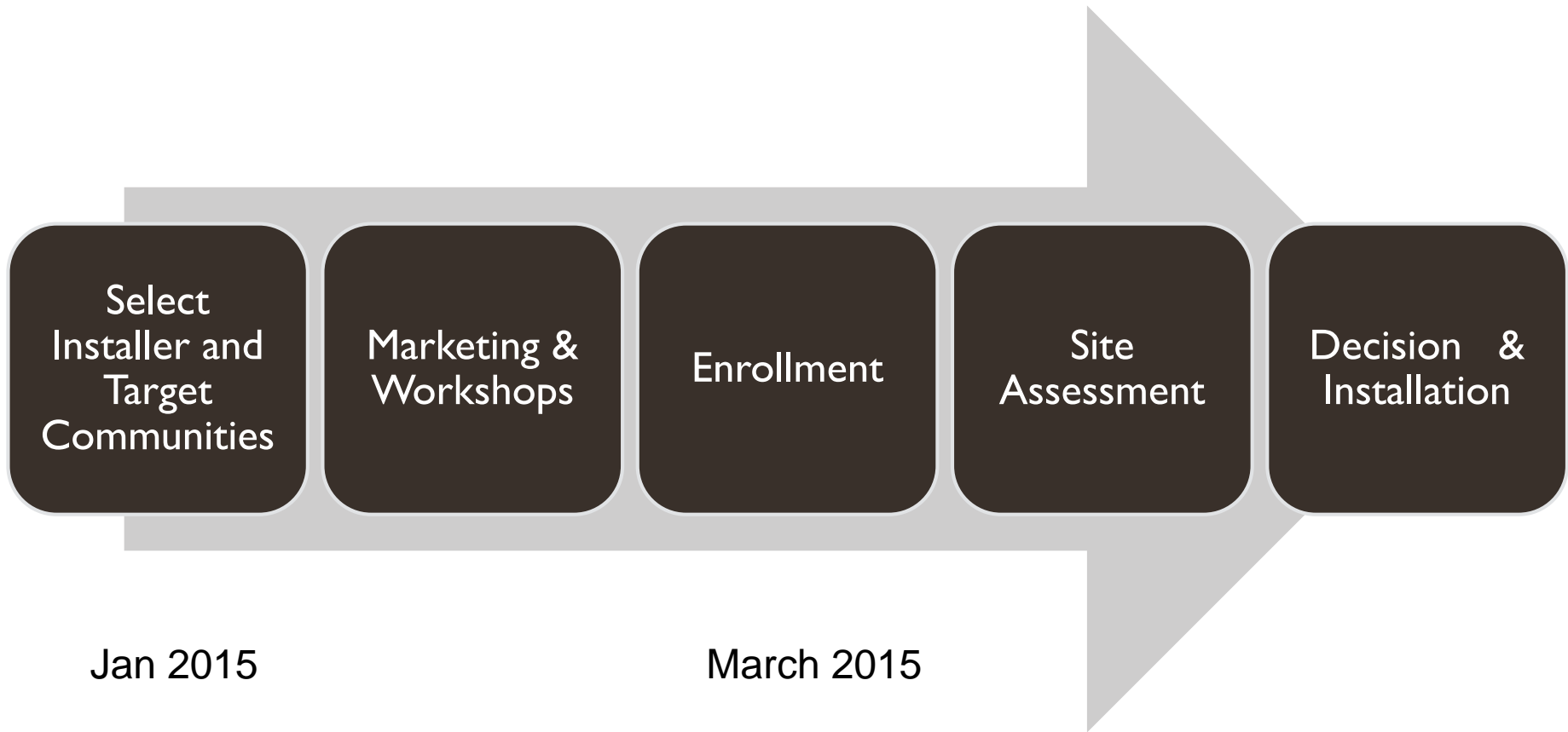
# Solarize Harvard Mass Program

**75** new installations totaling 403 kW

**30% reduction** in installation costs

**575% increase** in residential installations

# Solarize NWI



# Installer Selection Process

- NIRPC will issue Request for Proposals
- Send to Certified installers in Indiana and Chicago Region.
- Proposals reviewed by members of Advisory Group
- In-person interviews with **2** finalists.
- Select Contractor

# How Can EMPC Members Help?

- Marketing and Outreach
- Host a workshop
- Promote with your local government