



CLEAN ENERGY
FINANCE AND INVESTMENT AUTHORITY



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Updates from Oregon, Massachusetts, and Connecticut on Solarize Programs

Clean Energy States Alliance Webinar
Hosted by
Warren Leon, CESA Deputy Director

February 21, 2013



Housekeeping

- All participants will be in listen-only mode throughout the broadcast.
- You can connect to the audio portion of the webinar using your computer's speakers or a USB-type headset. You can also connect by telephone. If by phone, please enter the PIN number shown on the webinar console into your telephone keypad.
- You can enter questions for today's event by typing them into the "Question Box" on the webinar console. We will pose your questions, as time allows, following the presentations.
- This webinar is being recorded and will be made available after the call on the CESA website at

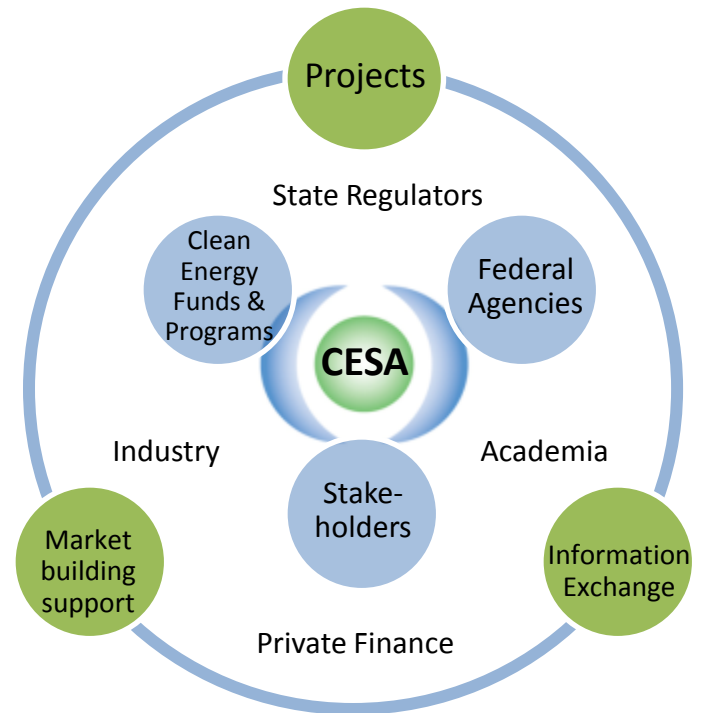
www.cleanenergystates.org/events/

About CESA

Clean Energy States Alliance (CESA) is a national nonprofit organization dedicated to advancing state and local efforts to implement smart clean energy policies, programs, technology innovation, and financing tools to drive increased investment and market making for clean energy technologies.

What We Do

- Multi-state coalition of clean energy programs cooperating and learning from each other, leveraging federal resources
- CESA state members have nearly \$6 billion to invest in next 10 years
- Members have supported nearly 130,000 renewable energy projects from 1998-2011 with state-based dollars
- Nonpartisan, experimental, collaborative network
 - Information exchange & analysis
 - Partnership development
 - CESA projects: solar, wind, RPS, fuel cells, energy storage, program evaluation, national database



Today's Guest Speakers

- Robert Del Mar, Energy Trust of Oregon
- Elizabeth Kennedy, Massachusetts Clean Energy Center
- Bob Wall, Clean Energy Finance and Investment Authority
- Toni Bouchard, SmartPower

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Solarize Programs in Oregon

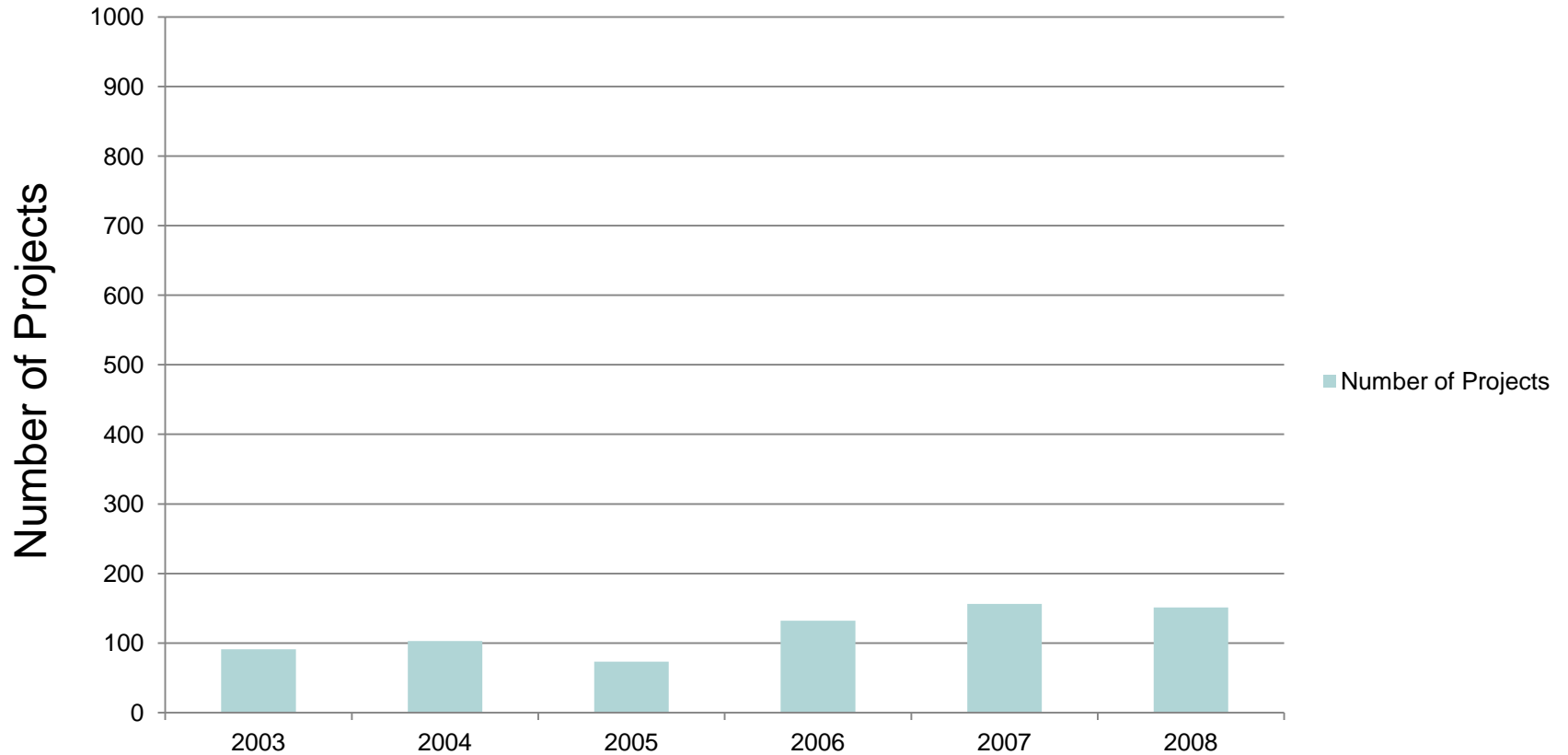
Rob Del Mar
Sr. Residential Solar Project Manager
Energy Trust of Oregon





Residential PV Program Activity by Year

Residential PV Program Activity





Solarize Southeast Portland Launched in 2009



- RFP Issued by Community
- Pre negotiated pricing (20% lower than market)
- Pre Screened Contractor
- Limited time offer
- Community-run workshops
- Free site assessments



Safety in numbers





Solarize Southeast Portland Launched in 2009

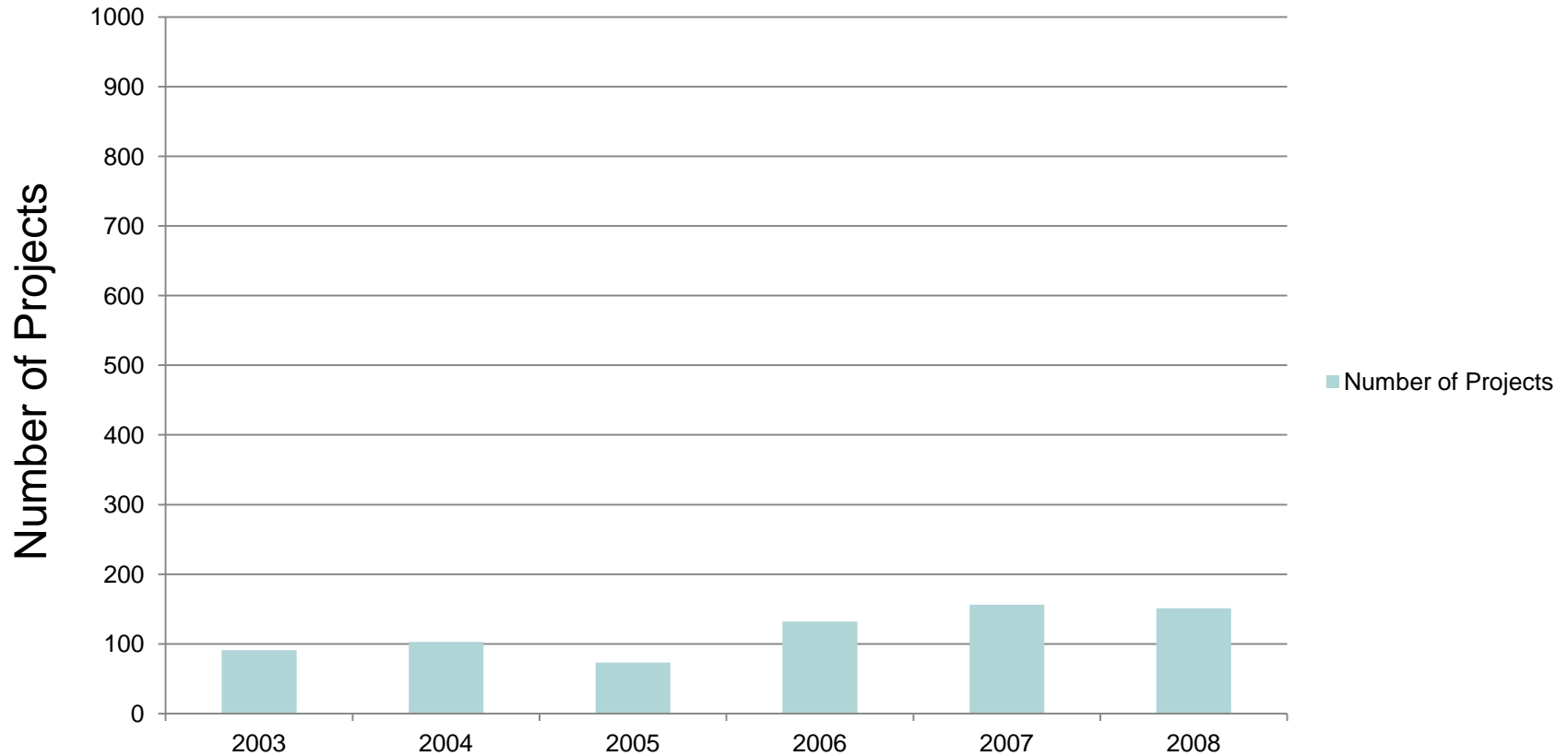


- 350 homeowners enrolled
- 120 systems installed
- Portland prices in line with rest of state
- Other communities replicating model



Residential PV Program Activity by Year

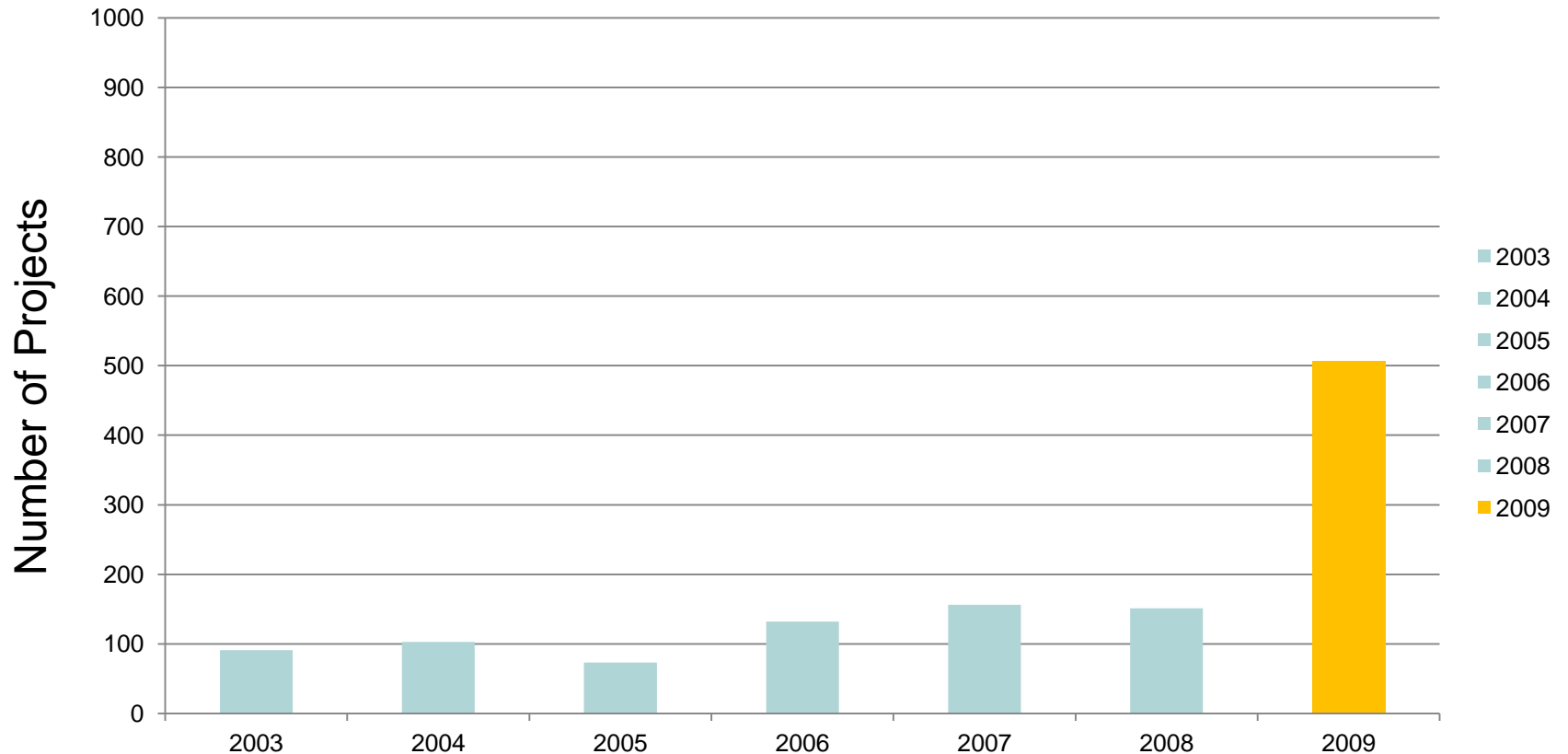
Residential PV Program Activity





The Solarize Effect

Residential PV Program Activity



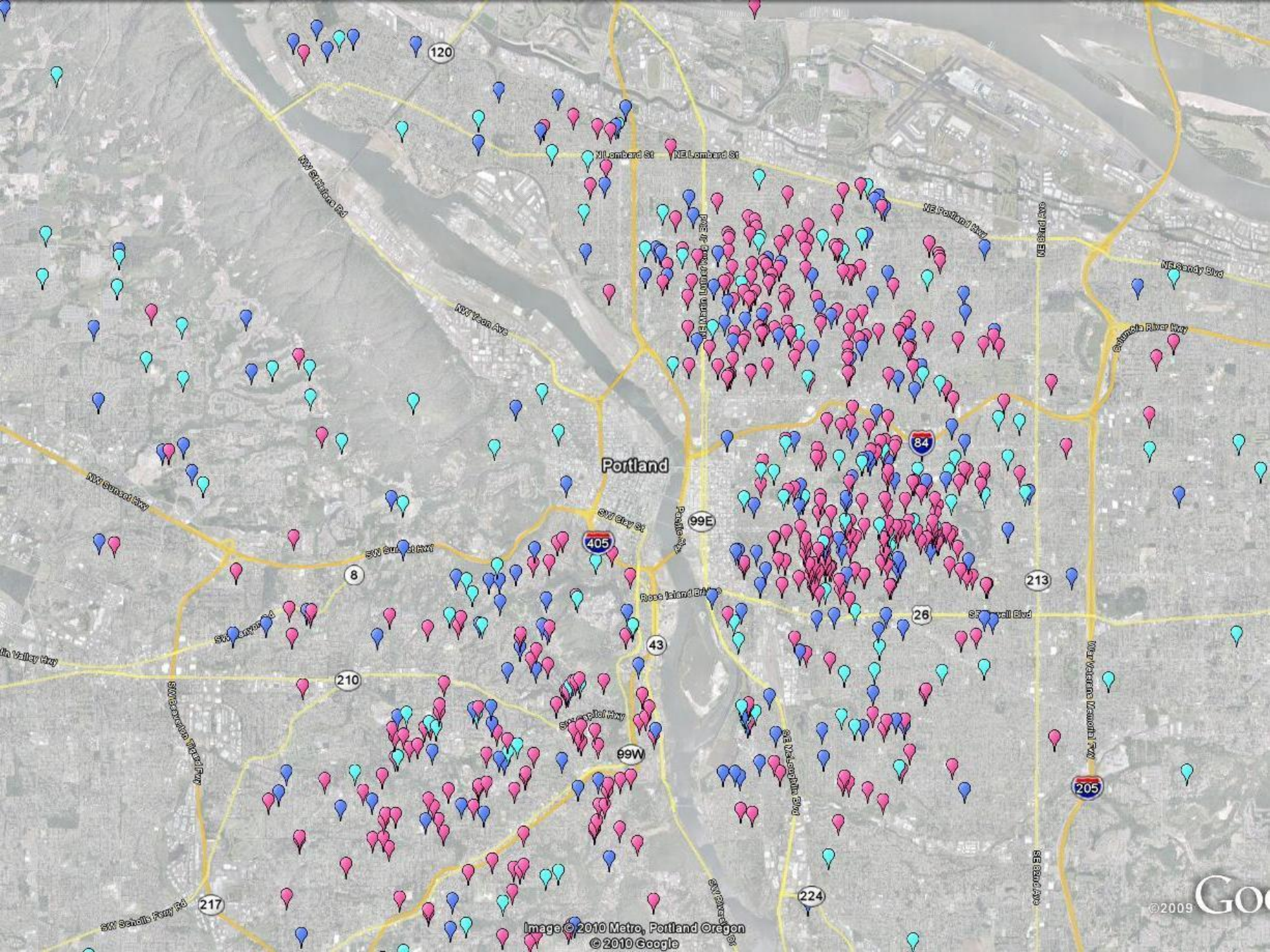


Image © 2010 Metro, Portland Oregon
© 2010 Google

© 2009 Google

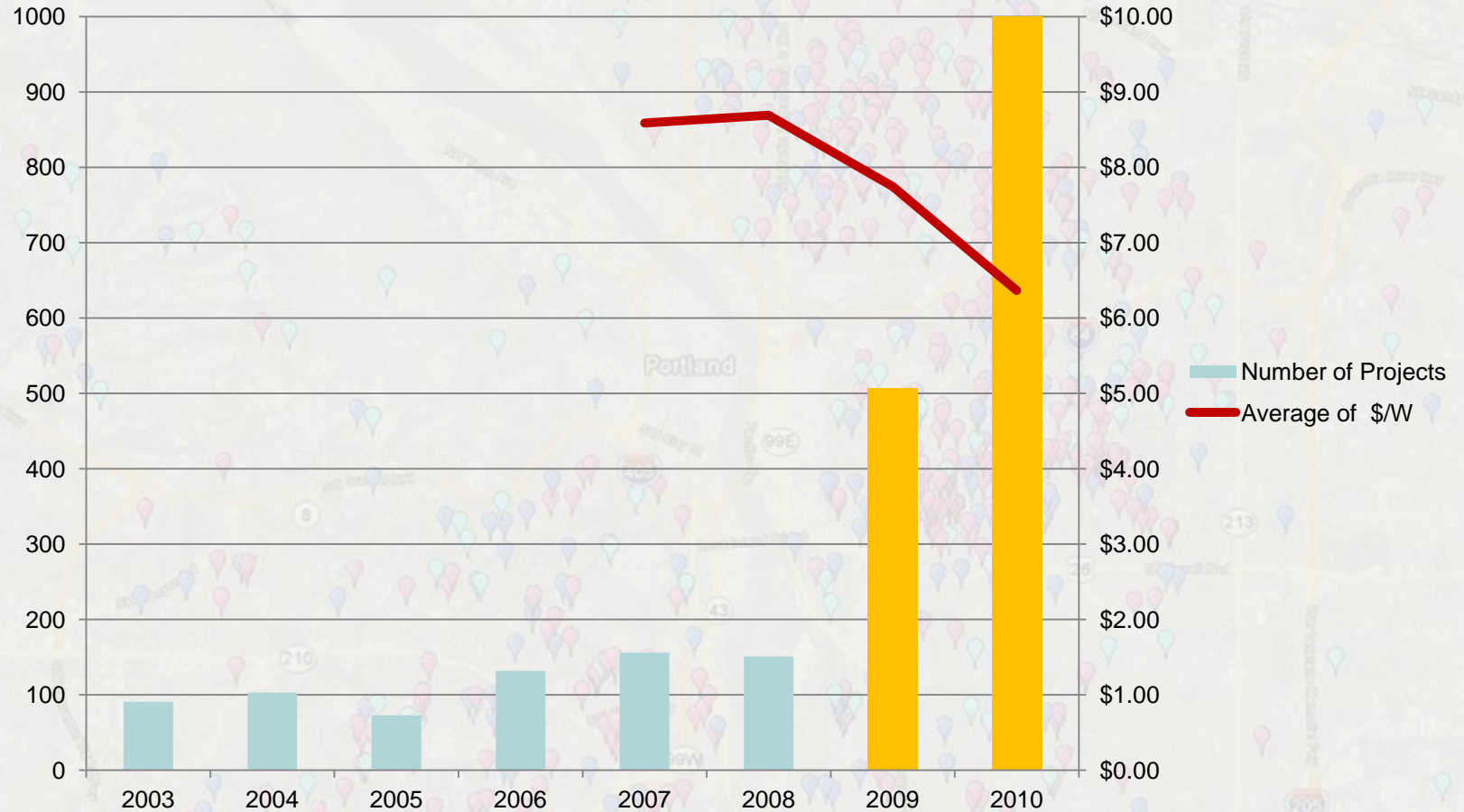


What's Happened Since Solarize Southeast?

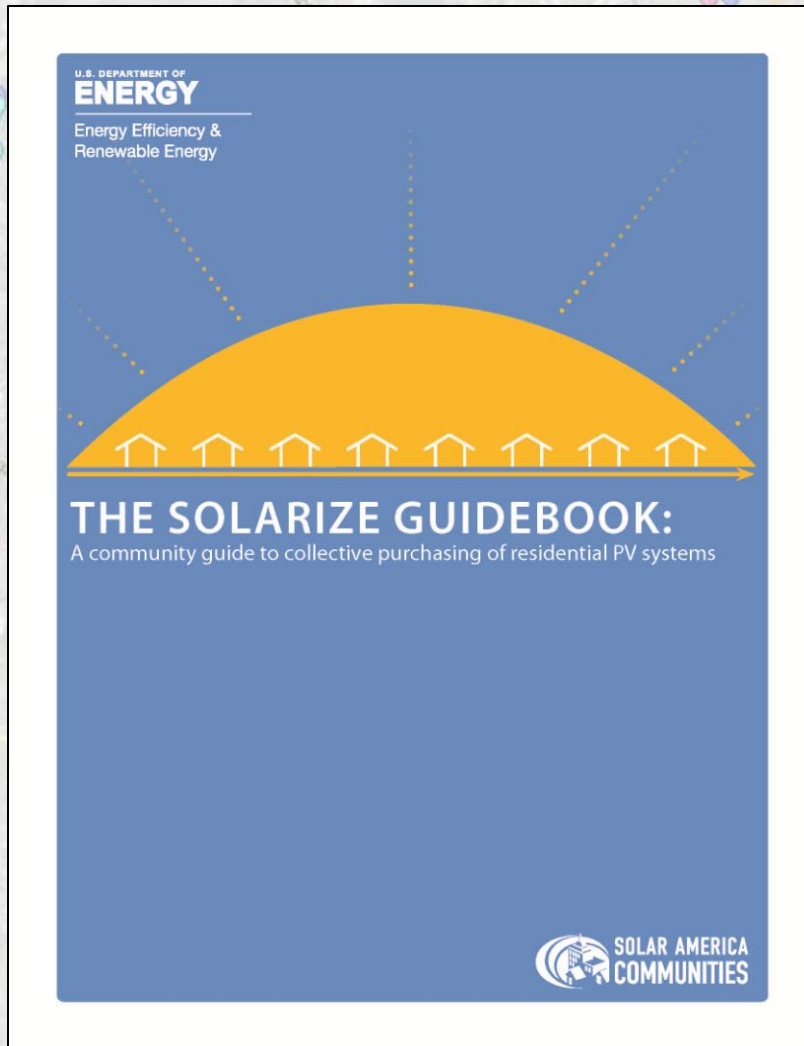
- ~20 additional solarize efforts in the state
- 3100 homeowners enrolled
- 1000 systems installed
- Other communities replicating model



What's Happened Since Solarize Southeast?



What's Happened Since Solarize Southeast?



The Solarize Guidebook:
A community guide to
collective purchasing of
residential PV systems

Free download:
www.energytrust.org

Special thanks to:
City of Portland Bureau of
Planning and Sustainability

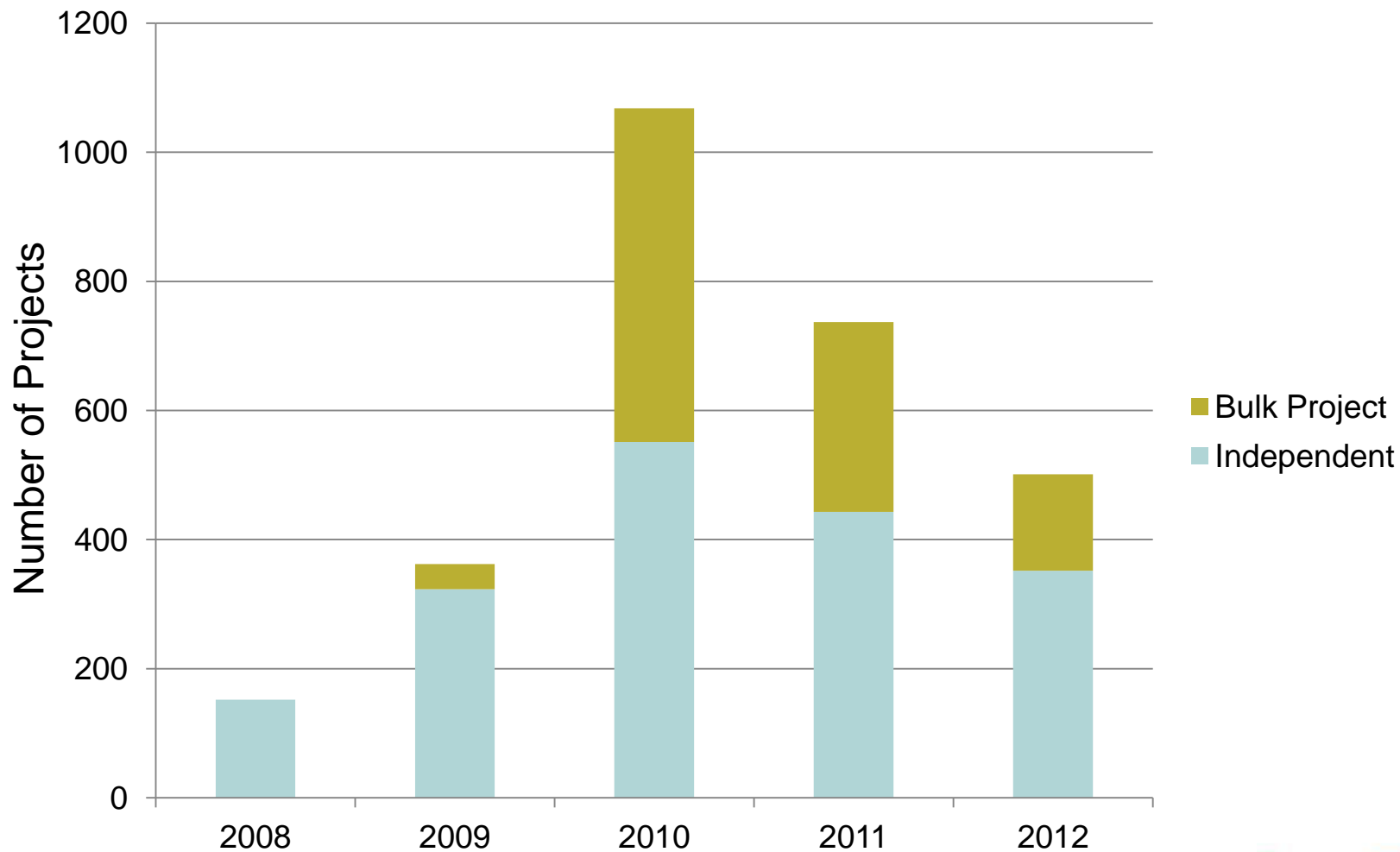


Challenges in Solarize Efforts

- Selection of single contractor perceived as unfair and anticompetitive
- Boom and bust cycle for installers
- Dependent upon contractor(s) managing challenging cash flow condition.
- May act to clear the pipeline of future projects

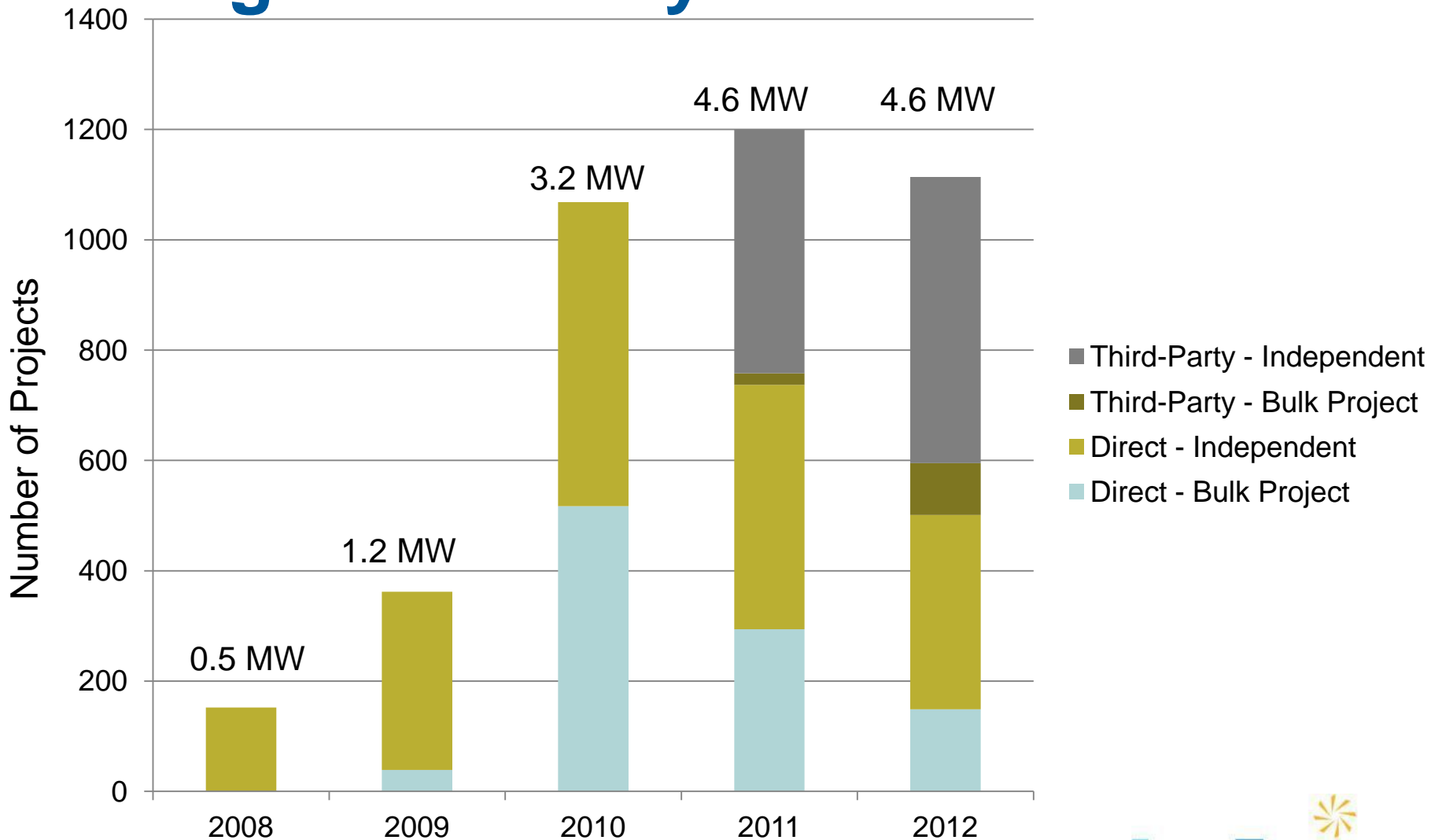


Program Activity Two Years Later



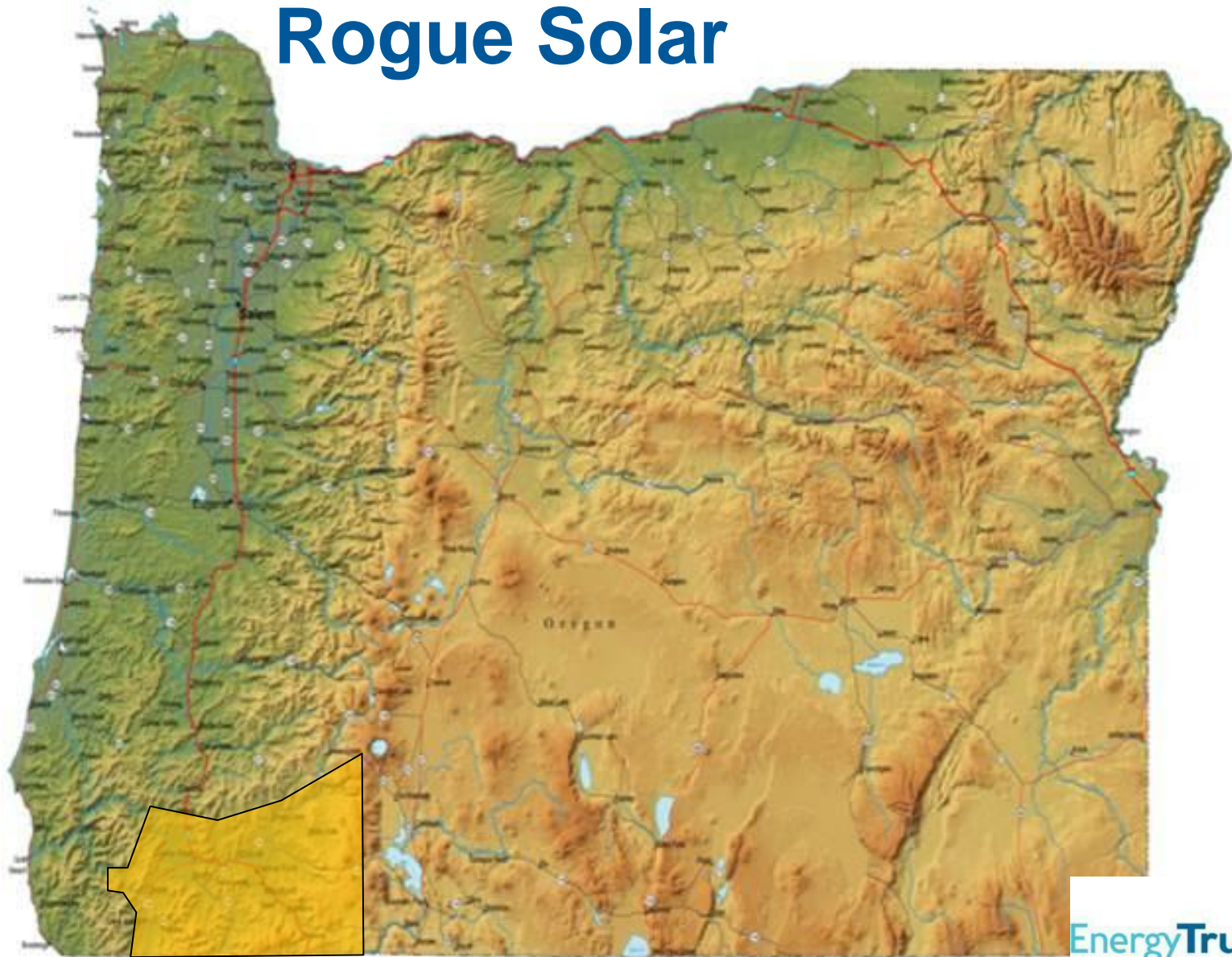


Program Activity Two Years Later





Rogue Solar





Rogue Solar

- Two Counties in Southern Oregon covering 4500 Square miles
- Community organizers conducted 9 town hall meetings
- “Distributer” model designed to invite all local installers to participate
- 139 registrations
- Almost 50 systems installed (so far)

Robert Del Mar

Energy Trust of Oregon

Sr. Residential Solar Project Manager

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Solarize Massachusetts

Elizabeth Kennedy
Massachusetts Clean Energy Center

MassCEC Statutory Mandate



Advance Clean Energy Technology



Create Jobs



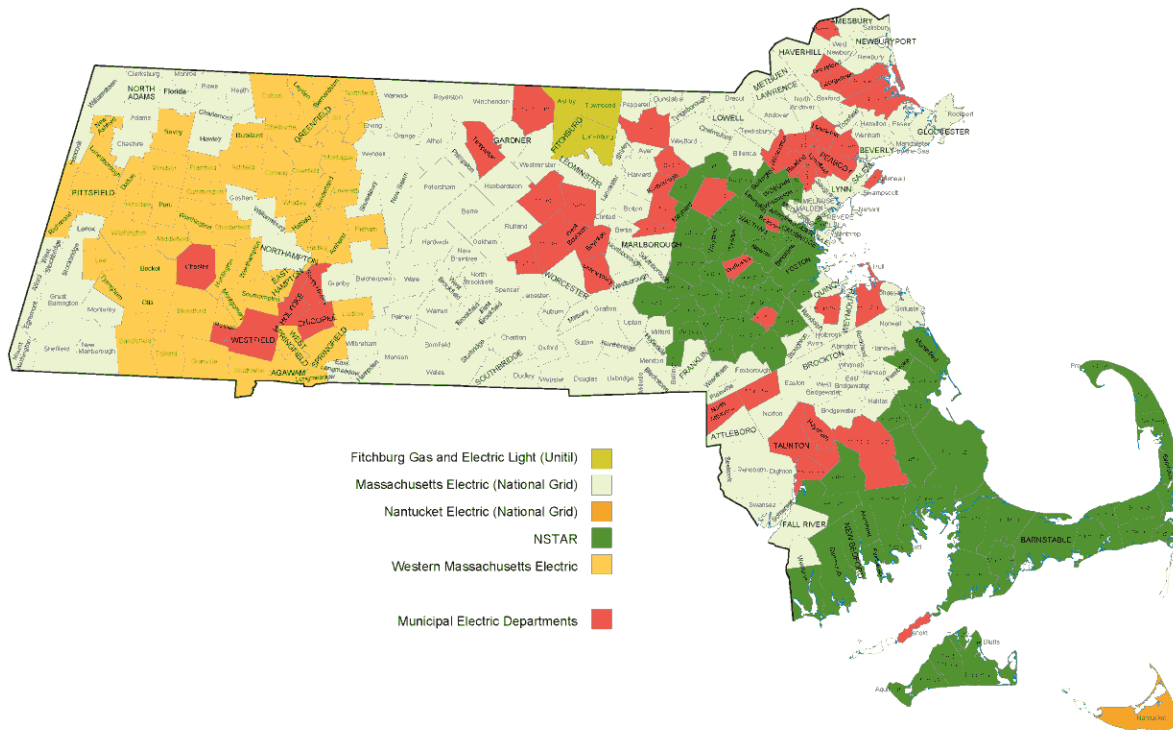
Develop a Trained Workforce



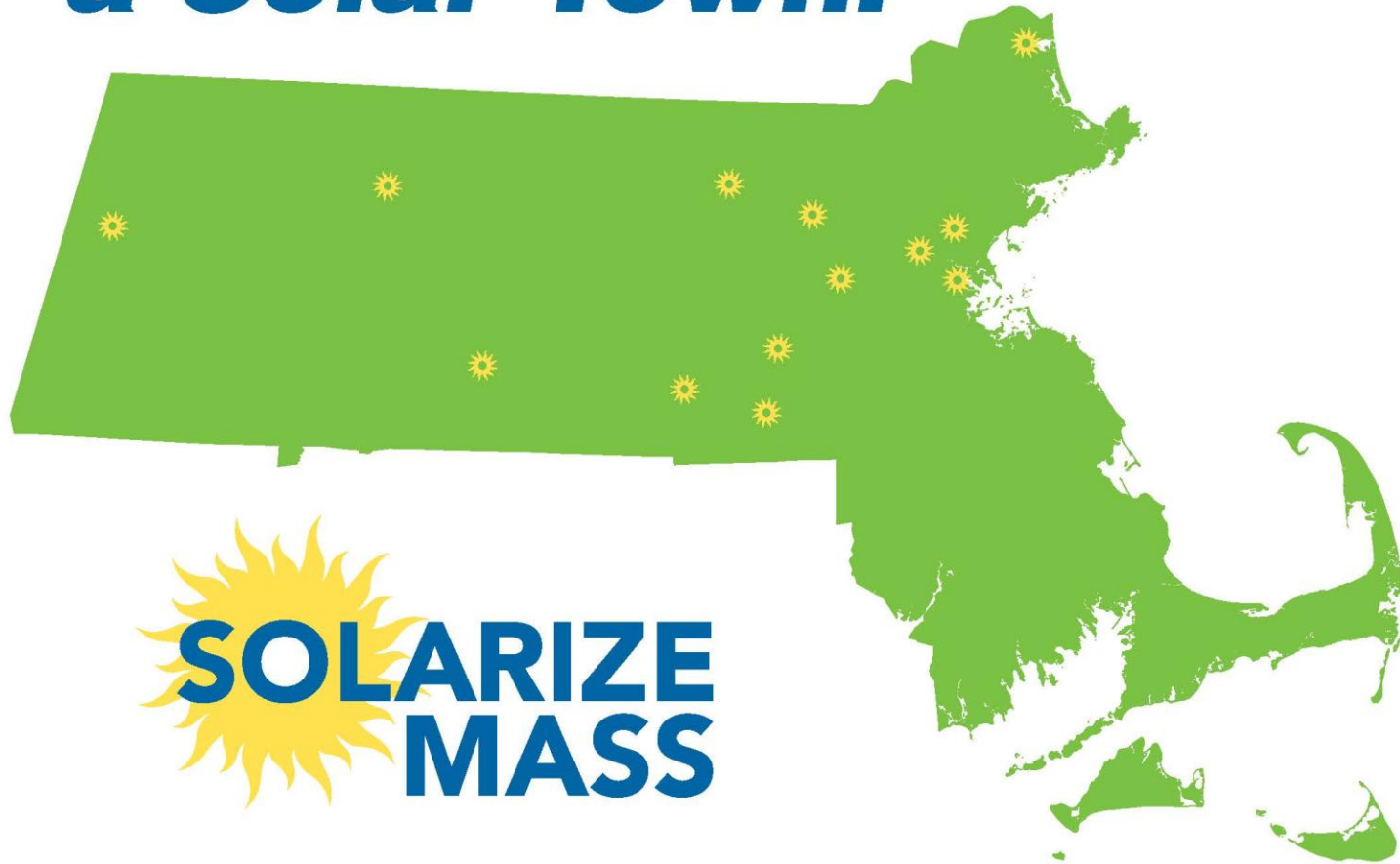
Accelerate Deployment of Clean Energy

MassCEC Eligible Customers

- Source of funding is a Systems Benefits Charge on ratepayers' electric bill
- Available for customers of IOUs and MLPs that opt-in



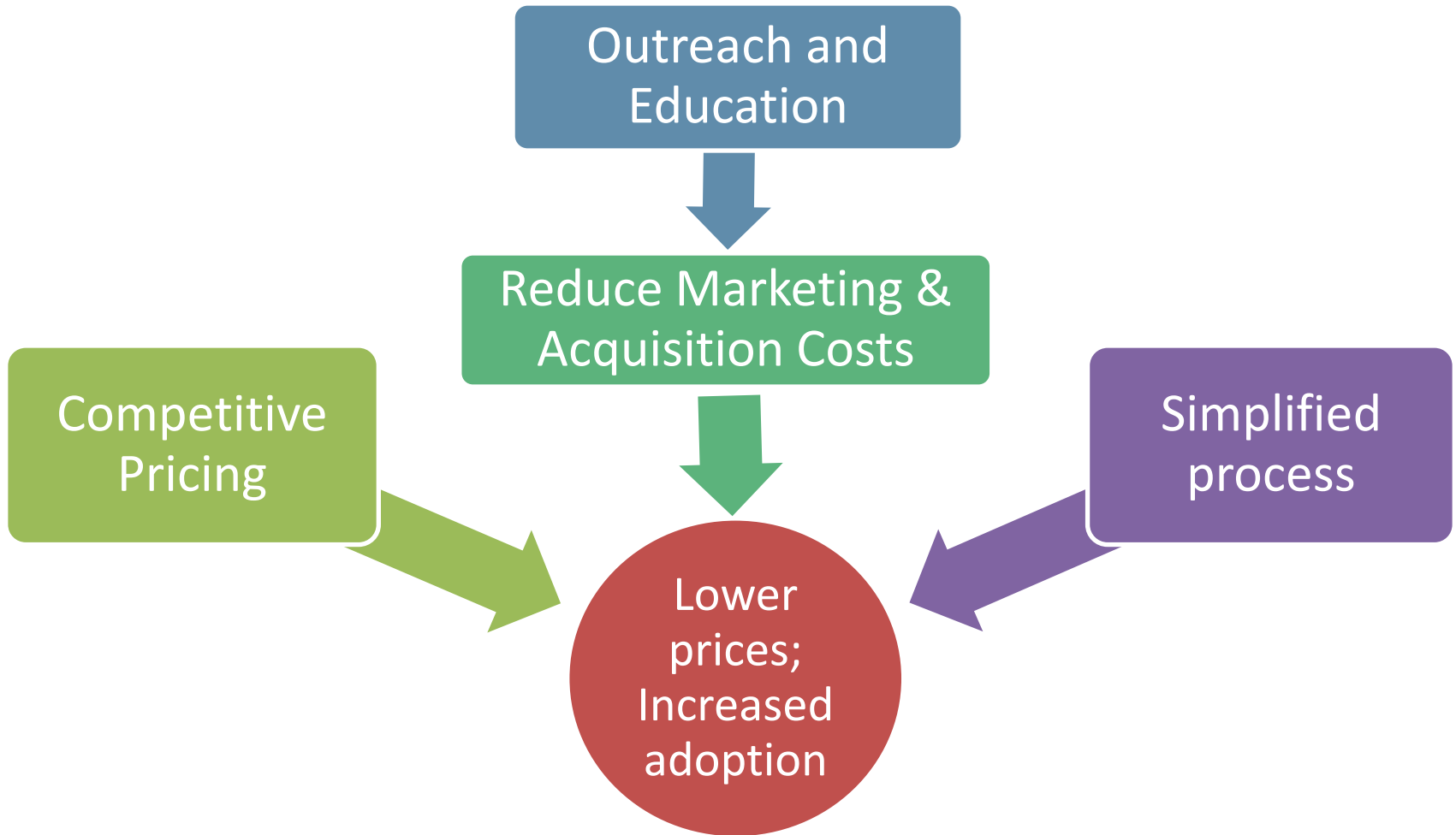
Make Your Town a Solar Town!



“Installing a solar PV system is a terrific investment, and of course it is a good thing to do for the earth. Once you become familiar with the economics, it is a no-brainer.”

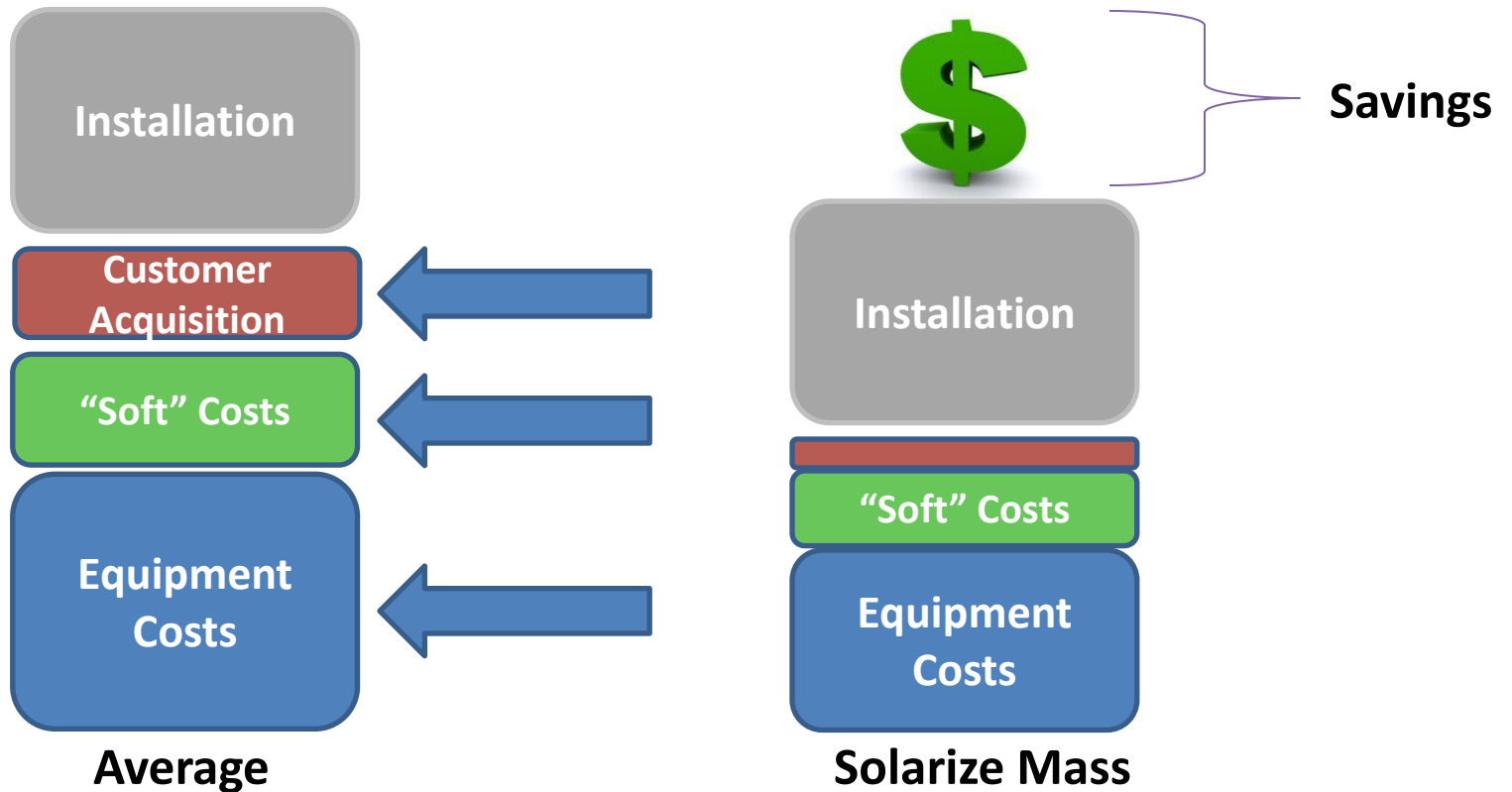
– Resident, Hatfield, MA

Solarize Massachusetts Goals



Solarize Mass Strategy

Savings found by driving down the cost stack for small-scale solar PV



MassCEC/DOER

Town and Installer RFPs
Engage tech. consultants
Marketing/Education
Conflict resolution
System Rebates/SRECs

Installer

Free Site Assessments
Tiered Pricing and
Ownership Options
Contracting
Rebate Application
Installation



Community

Installer Selection
Solar Coach
Volunteers
Outreach

Homeowner

Sign up for a site
assessment
Talk to neighbors!

2012 Solarize Massachusetts Program

- 17 Communities – 10 individual and 7 in groups
- 8 Installers total - 6 “local”, 2 “national”
- Tier Pricing (based on contracted capacity)

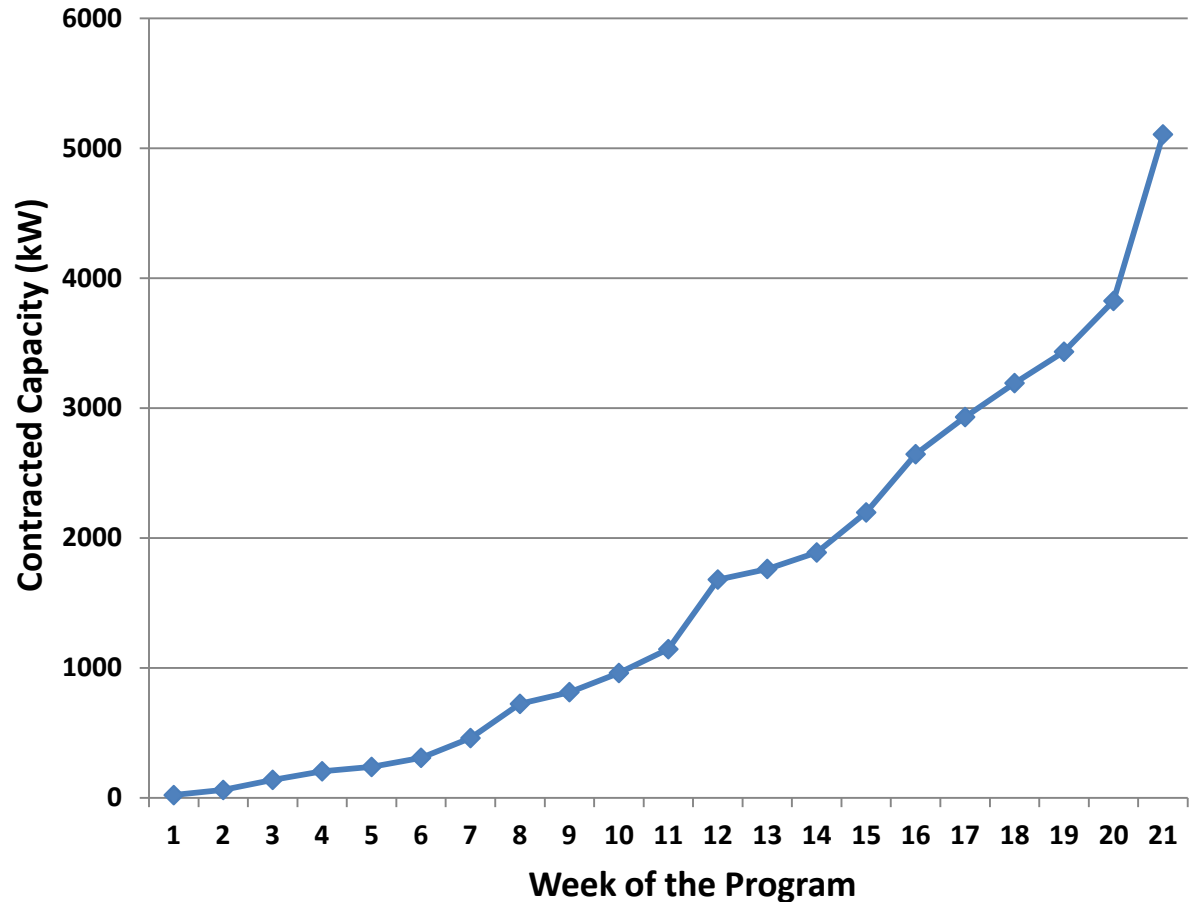
Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
1-25 kW	>25-50 kW	>50-150 kW	>150-250 kW	250 kW+

- Installers had to offer both direct ownership and Lease/PPA option
- Limited time offer – Sign Ups through **Nov 4, 2012**

Solarize 2012 Final Metrics (as of 11/4/12)

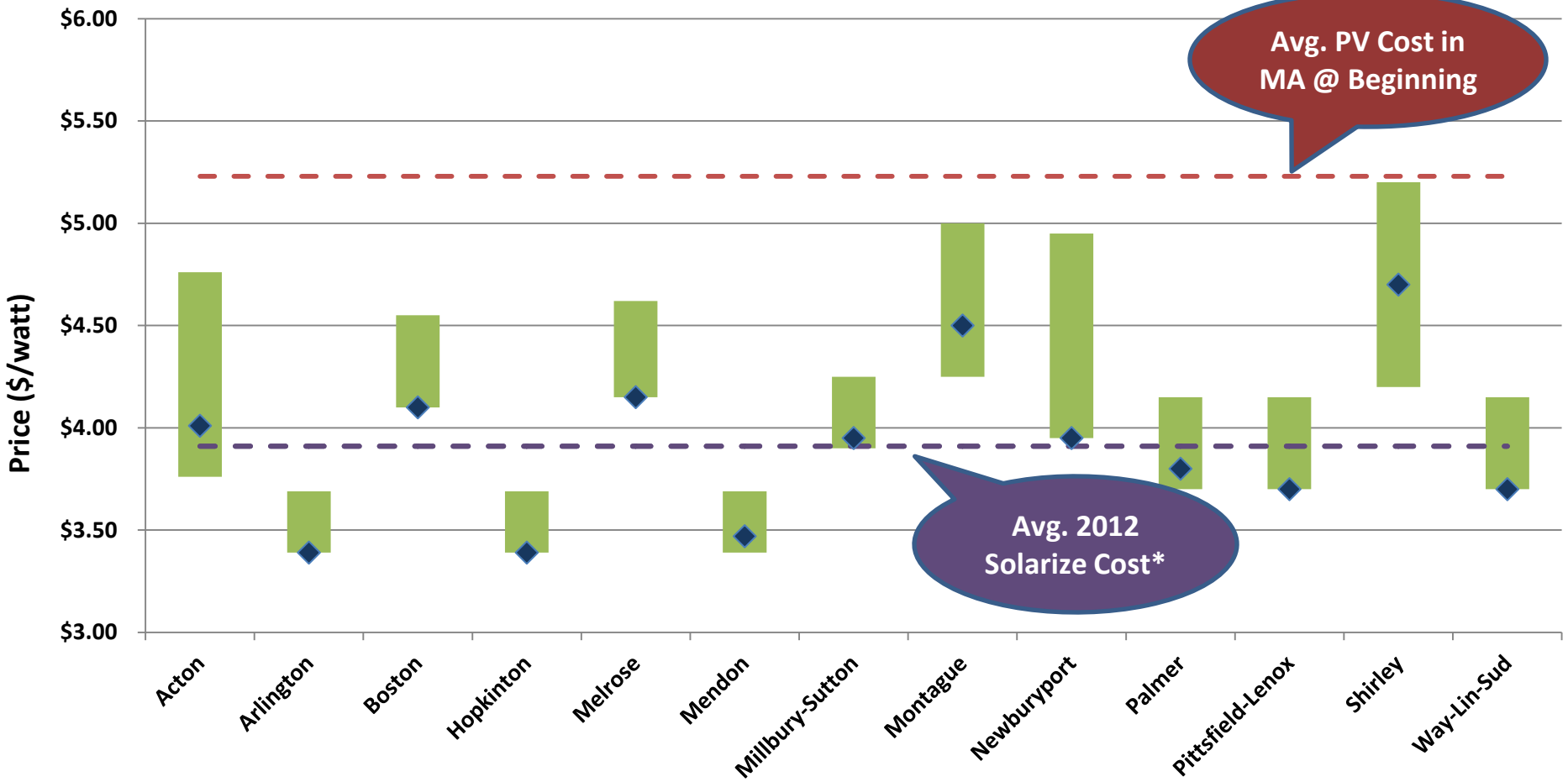
Total Number Of:	
Leads Generated	5,405
Contracts Signed	803
Contracted Capacity (kW)	5,126
Communities at Tier 5 Pricing	10

Cumulative Contracted Capacity



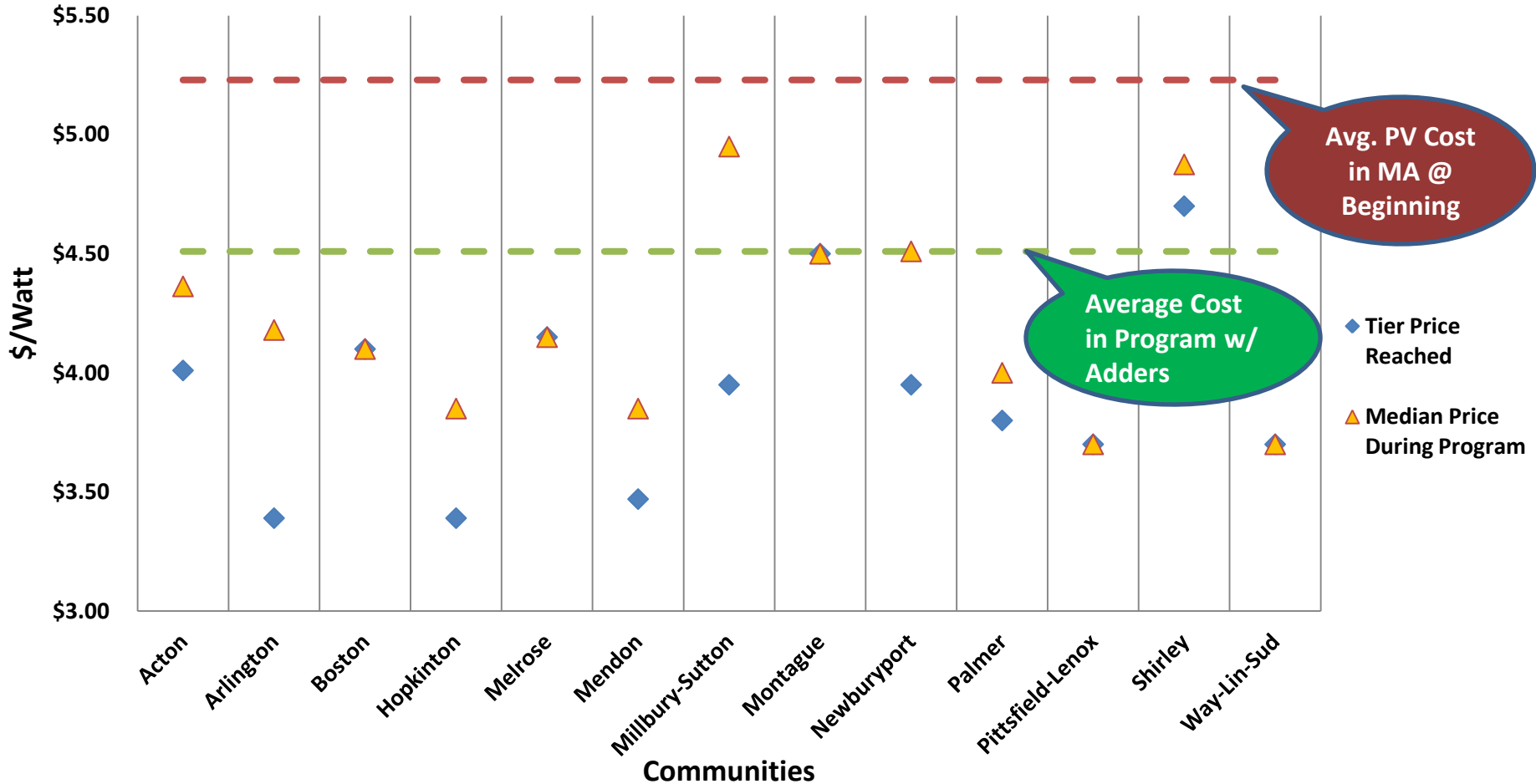
Solarize Mass Base Pricing

Tier Pricing versus Average Price in Massachusetts



* Price does not include any cost adders that may apply.

Average and Median Pricing



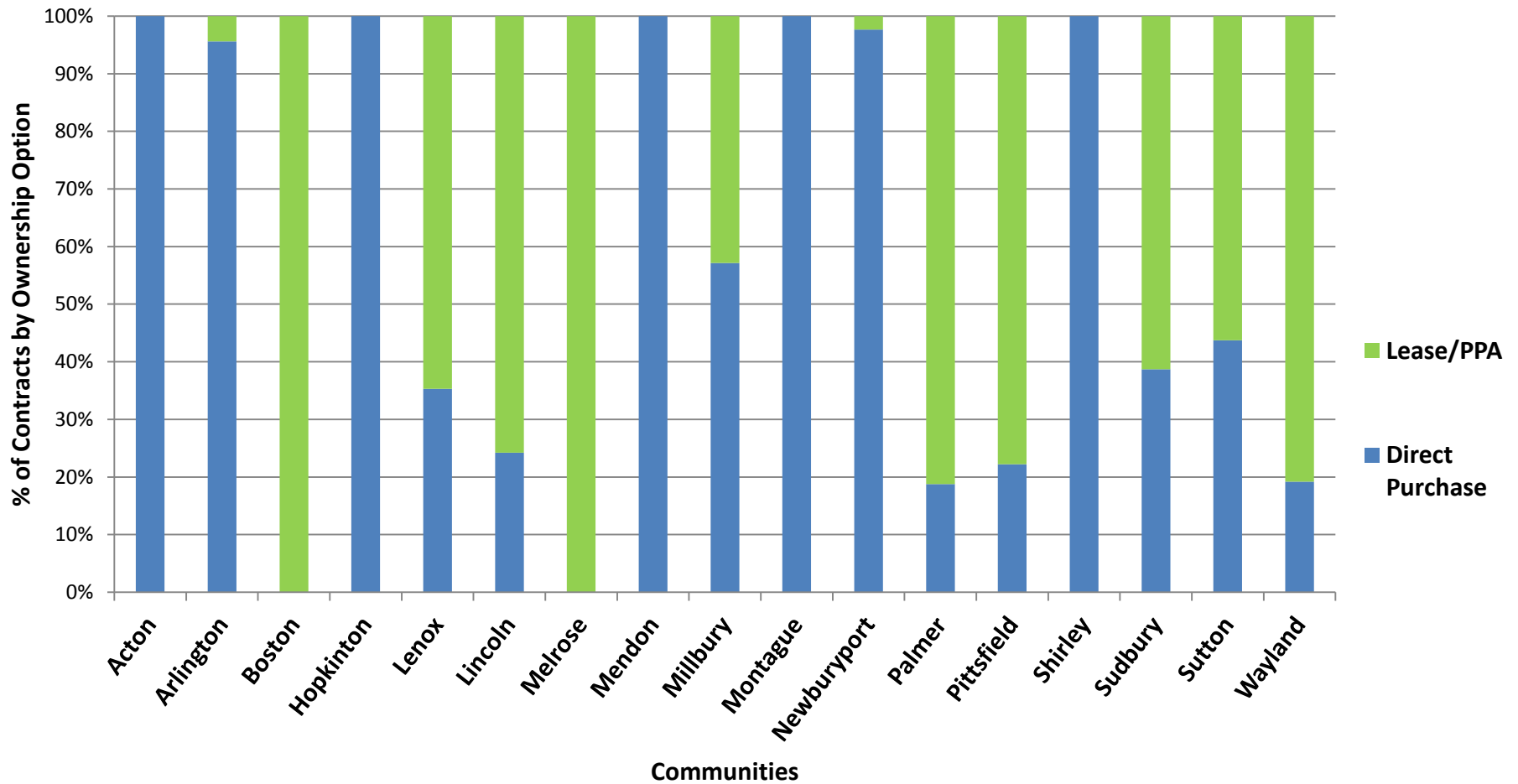
Solarize Mass Adders

- Adders were easier to track for Purchased Systems
- There were **381** Purchased systems, of which **86%** included adders

Type of Project Adder	Frequency Applied to Projects	Average Adder Price (\$/W)
Micro-Inverters*	57%	\$ 0.22
Structural Engineer Analysis	54%	\$ 0.11
Panel Upgrade*	25%	\$ 0.41
Monitoring*	23%	\$ 0.22
Line Side Tap	23%	\$ 0.09
Rafter Reinforcement	14%	\$ 0.18
Multiple Roof Arrays	12%	\$ 0.10
Electrical Sub-Panel	10%	\$ 0.10

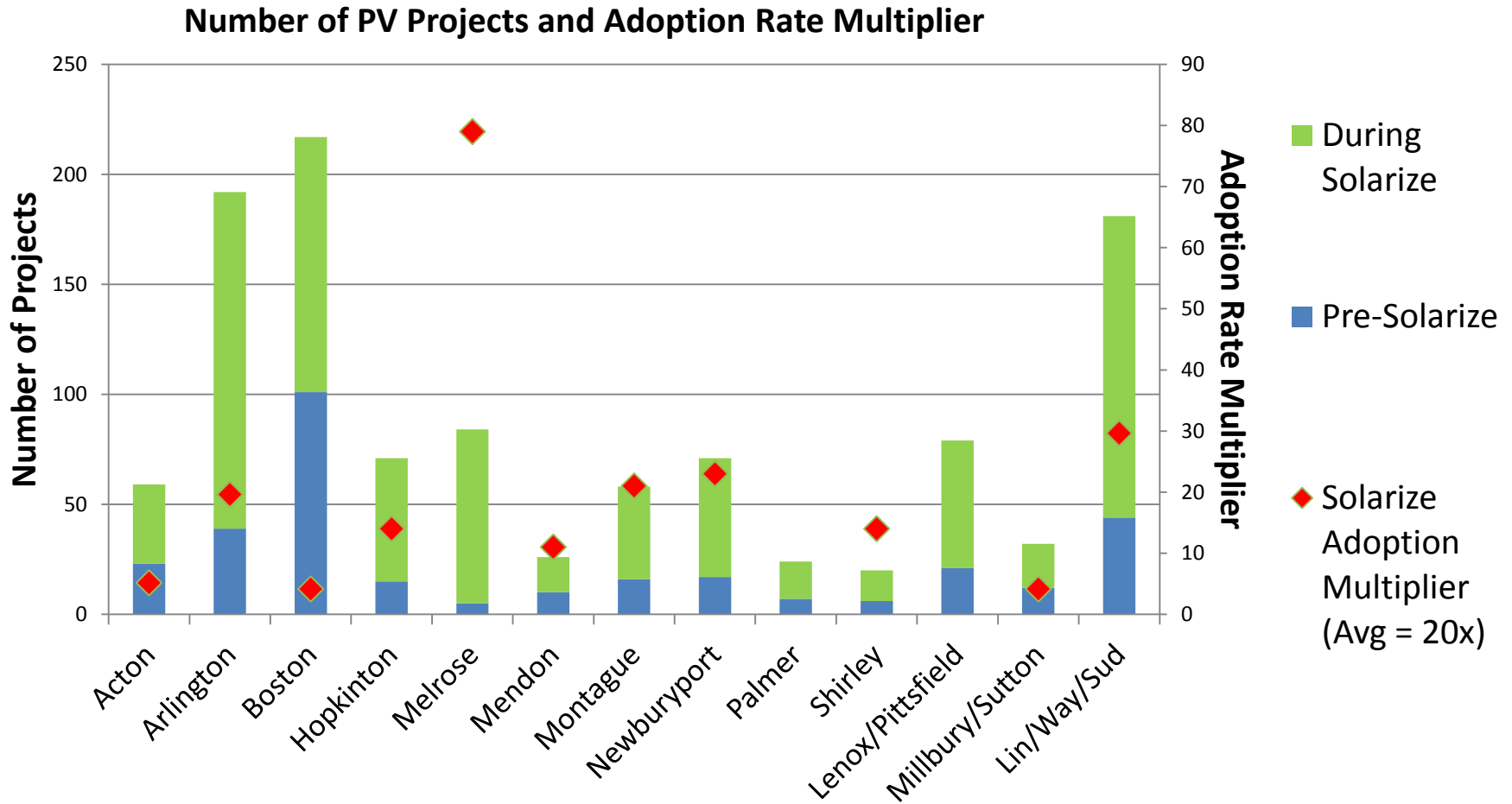
* These adders were optional, while the other adders would be mandatory for a project to move forward.

Ownership Options



Based on data as of February 4, 2013

In All Communities: Total number of Projects more than DOUBLED



Lessons Learned

- Must fit within context of existing incentives
 - Complexity of some incentives
- Messaging of benefits has shifted
 - Initially focused on price
 - Benefit of Solarize vs. customer initiated competition
- Scaling Challenges
 - Administratively intensive
 - Benefit of having state involved

Next Steps

- 2013 Solarize Mass Program
 - Will do 2 rounds
 - Minimum 8 proposals per round
- Considering Solarize for different affinity group
 - E.g. Campus, corporation, faith community, etc.
- Potential to replicate model for other technologies
 - SHW, energy efficiency, etc.

Thank you!

Elizabeth Kennedy
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SmartPower
Let's Get Energy Smart.



Solarize
CONNECTICUT

Bob Wall, Director of Marketing & Outreach, CEFIA

Toni Bouchard, Vice President, SmartPower

CESA Solarize Webinar 2/21/13



- ▶ Nation's first full-scale clean energy finance authority
- ▶ Successor to Connecticut Clean Energy Fund

Attract and deploy capital to finance the clean energy goals for Connecticut



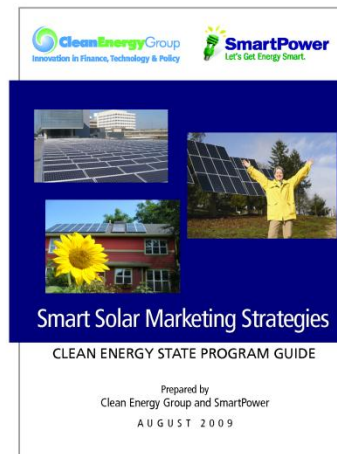
Develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers

Reduce reliance on grants, rebates and other subsidies and move towards innovative low-cost financing of clean energy deployment



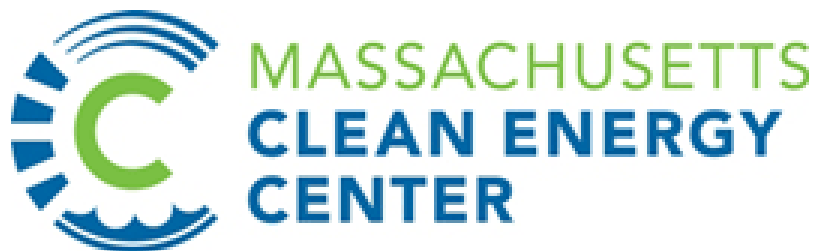
SmartPower

- ▶ Nation's leading non-profit marketing firm dedicated to promoting energy efficiency and renewable energy
- ▶ Leveraged matching foundation grants
- ▶ Previous collaborations (Clean Energy Communities, Neighbor to Neighbor Energy Challenge)
- ▶ Extensive solar marketing experience



Collaboration with MassCEC

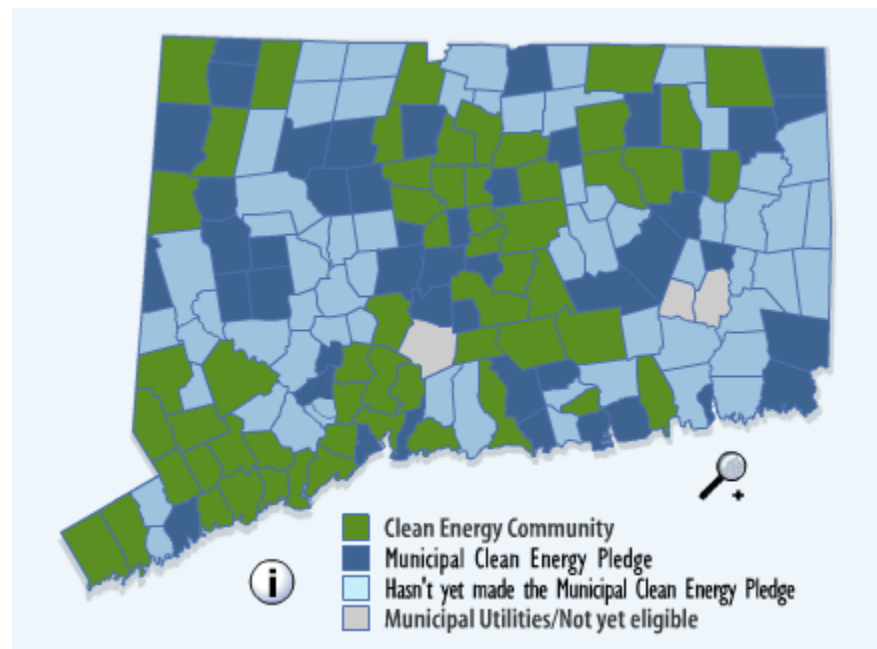
- ▶ **Basic program model (based upon on Oregon)**
- ▶ **Lessons learned:**
 - ▶ Strategically select towns for pilot
 - ▶ Adopt tiered pricing structure of Mass Phase II
 - ▶ Permit installers to offer purchase, lease or both options
 - ▶ Allow towns to select installer through RFP process



Pilot Towns



- ▶ Clean Energy Communities Program
- ▶ Highly motivated clean energy task forces
- ▶ Historic support for solar
- ▶ 10 applied, 4 selected



Branding & Marketing



- ▶ Contact Form
- ▶ Event Calendar
- ▶ Testimonials
- ▶ Videos
- ▶ Leaderboard
- ▶ Newsroom
- ▶ Social Media



The screenshot shows the homepage of Solarize Connecticut. At the top, there is a navigation menu with links for Home, About Solarize, Our Towns, Solar FAQs, News & Press, and Blog. The main header features the Solarize Connecticut logo on the left and a sign-up form on the right. The sign-up form includes fields for Name, Email, Phone, Street Address, and Town, along with a 'Go' button and a 'privacy policy' link. Below the header is a large image of a smiling couple standing in front of a house with solar panels on the roof. The main content area is divided into three columns. The left column contains social media links for Facebook and Twitter. The middle column features a 'Latest News' section with two articles: 'Solarize Connecticut Doubles Amount of Solar in Pilot Program Towns in Just Five Months' and 'CEFIA Announces Selection of Communities for Second Phase of Group Purchasing Program'. The right column has a 'Find Solarize In Your Neighborhood' section with a list of towns: Phase Two (Canton, Coventry, Mansfield/Windham) and Phase One (Completed) (Durham, Fairfield, Portland, Westport). To the right of this list is a text box that says 'Making solar easy and affordable for Connecticut residents. Solar. Simple. Together. Check back soon for details on Phase Two or complete the form above to receive more information when it is available.'

Feeding the Pipeline



Spreading the Word



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Timeline

Start Date
Sept. 1, 2012

End of summer vacation
Labor Day
School opening

Orig. End Date
Dec. 14, 2012

Holidays

Extension
Jan. 14, 2013



Superstorm Sandy
Widespread power outages,
flooding & damage



Newtown shootings



Expanding the Market



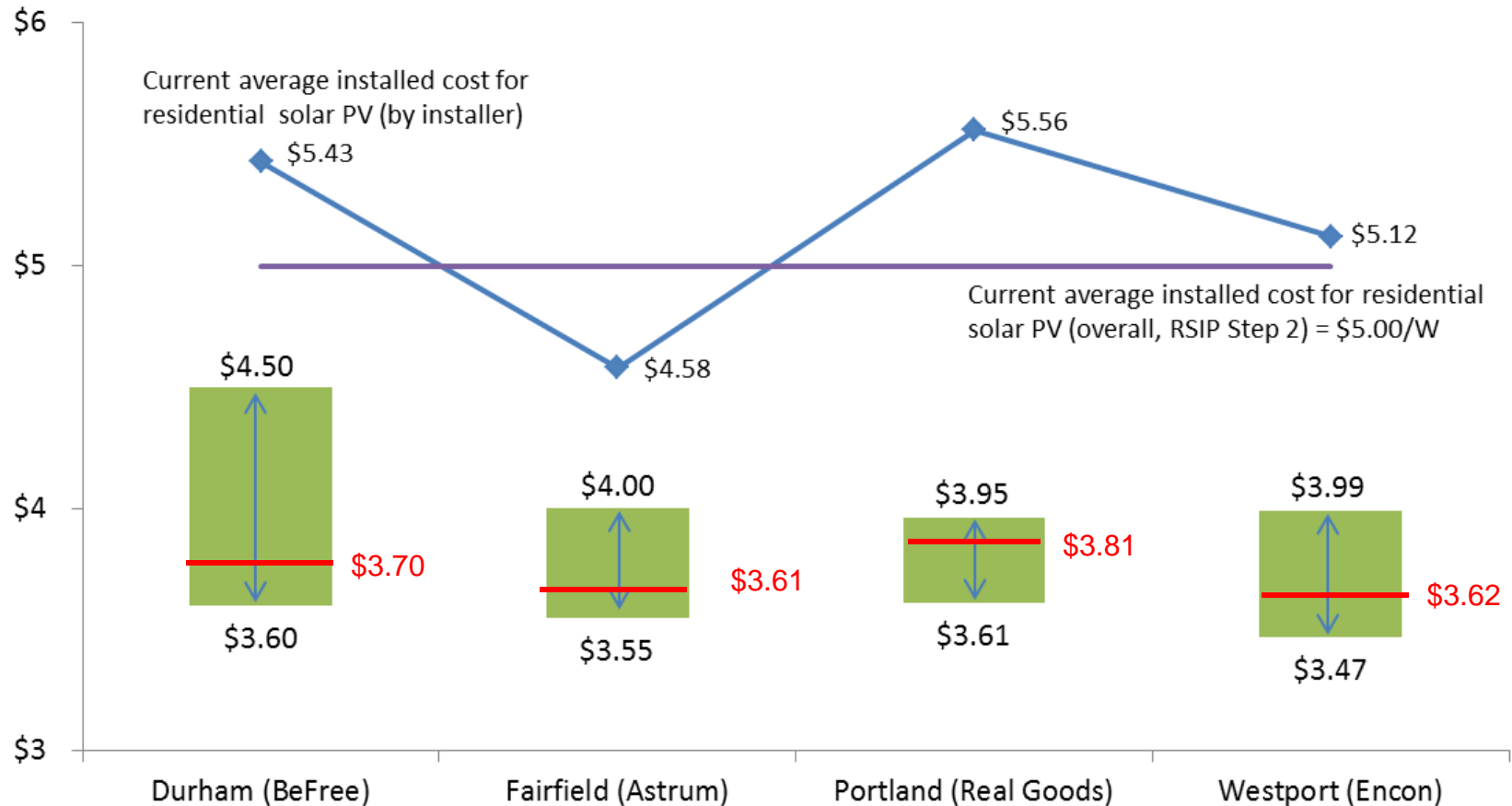
Town	# of Projects Pre and Post-Solarize			Installed Capacity (kW) Pre and Post-Solarize		
	# Projects (Pre)	# New Projects (Post)	% Increase Projects	Installed Capacity (Pre)	New Installed Capacity (Post)	% Increase Installed Capacity
Durham	23	117	510%	189	1,012	540%
Fairfield	41	76	190%	265	615	230%
Portland	14	45	320%	81	329	410%
Westport	39	58	150%	244	382	160%
Total	118	296	250%	779	2,338	300%

REFERENCES

Note – Solarize Connecticut results are still being tallied.

Solarize Pricing

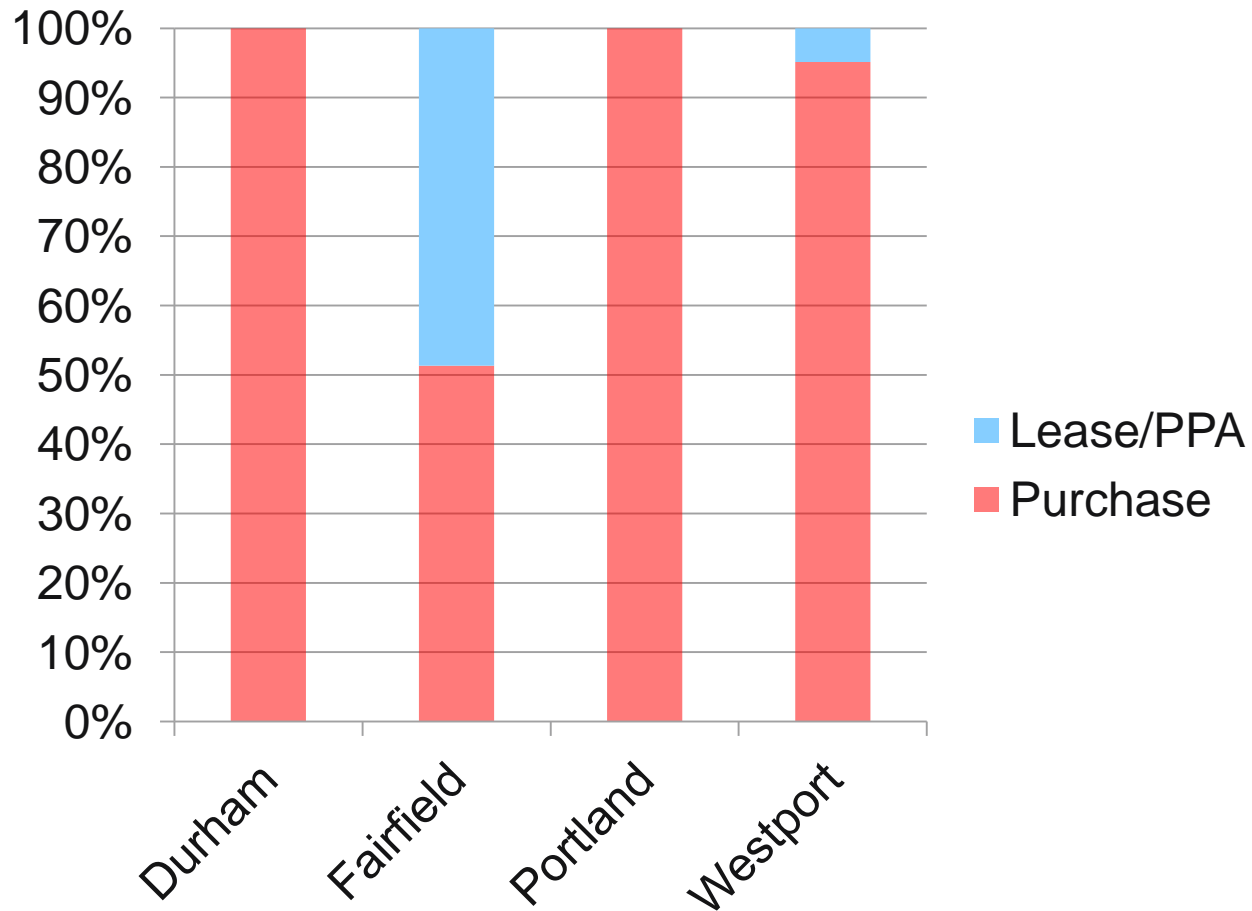
Solarize Connecticut Price Ranges (\$/W)



 Bid Range – Purchase w/o adders

 Actual Avg. Price – Purchase w/ adders

Ownership Options

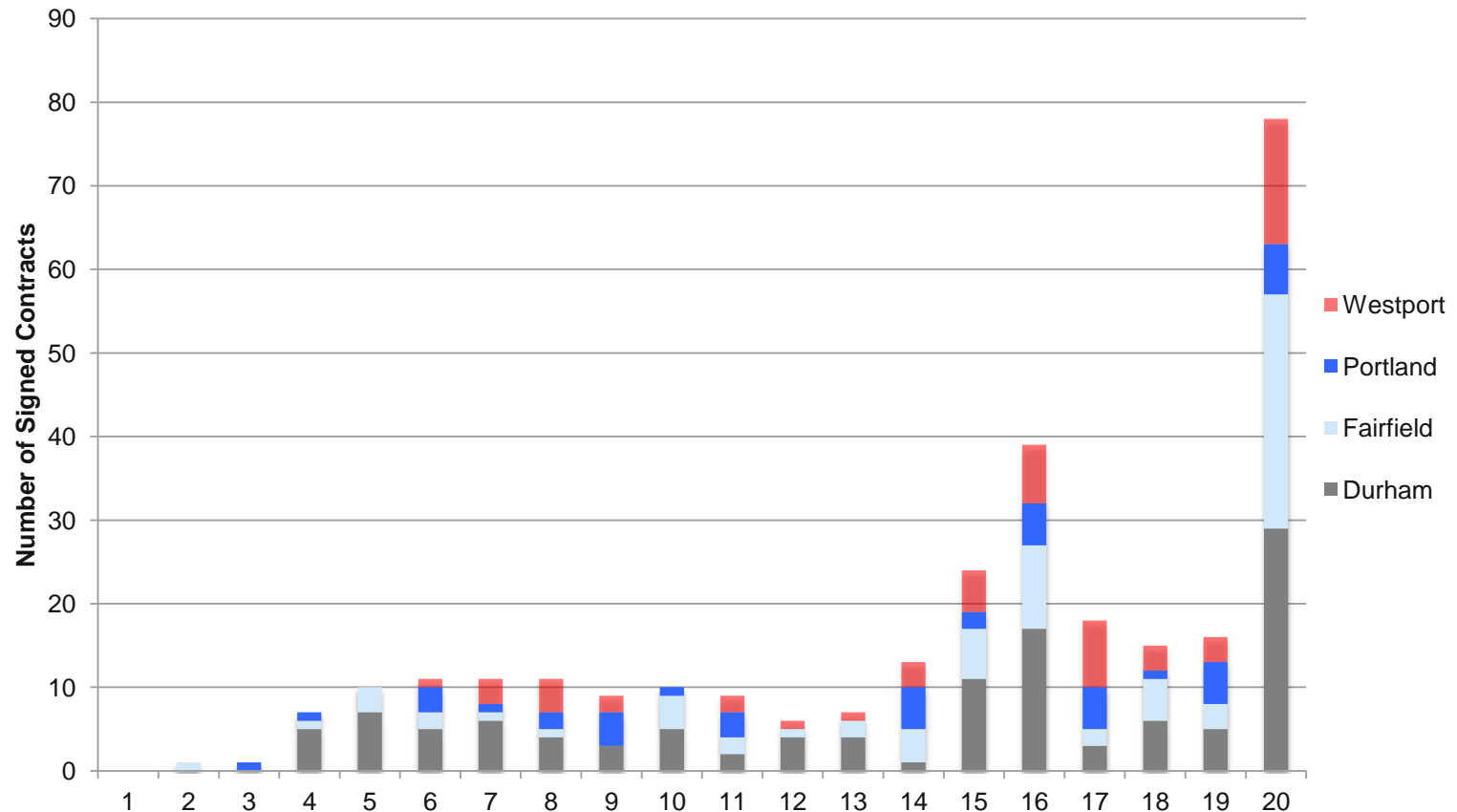


* Based on information provided by installer at close of phase I

Deadline Drives Decision

Spikes at week 16 and week 20.

Weekly Signed Contracts for Solarize



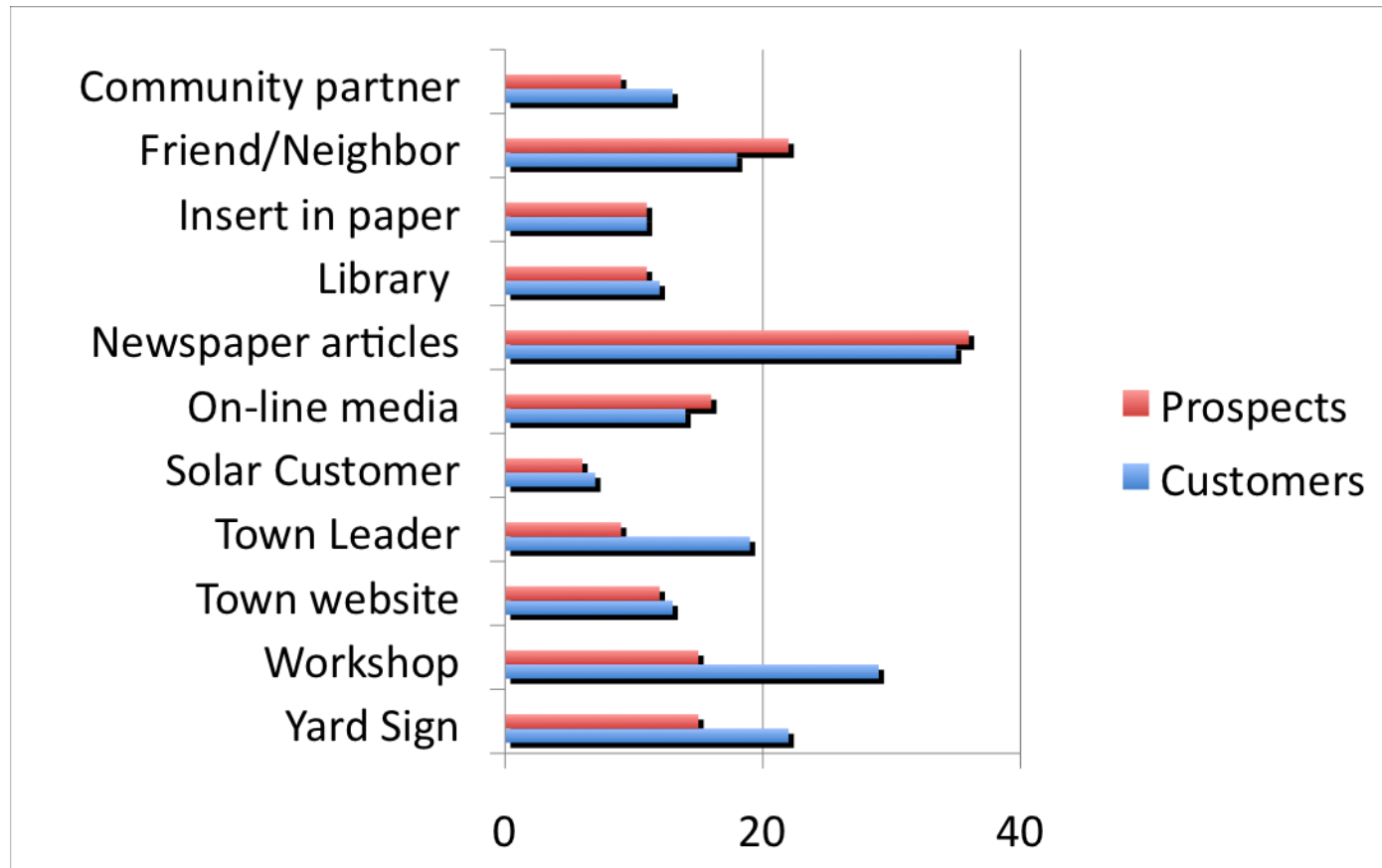
Survey Objectives

- ▶ **Understand customer motivations to purchase**
- ▶ **Barriers for prospects**
- ▶ **Effective awareness and outreach strategies**
- ▶ **Volunteer and Installer perspectives**
- ▶ **Recommendations and direction for Phase 2**

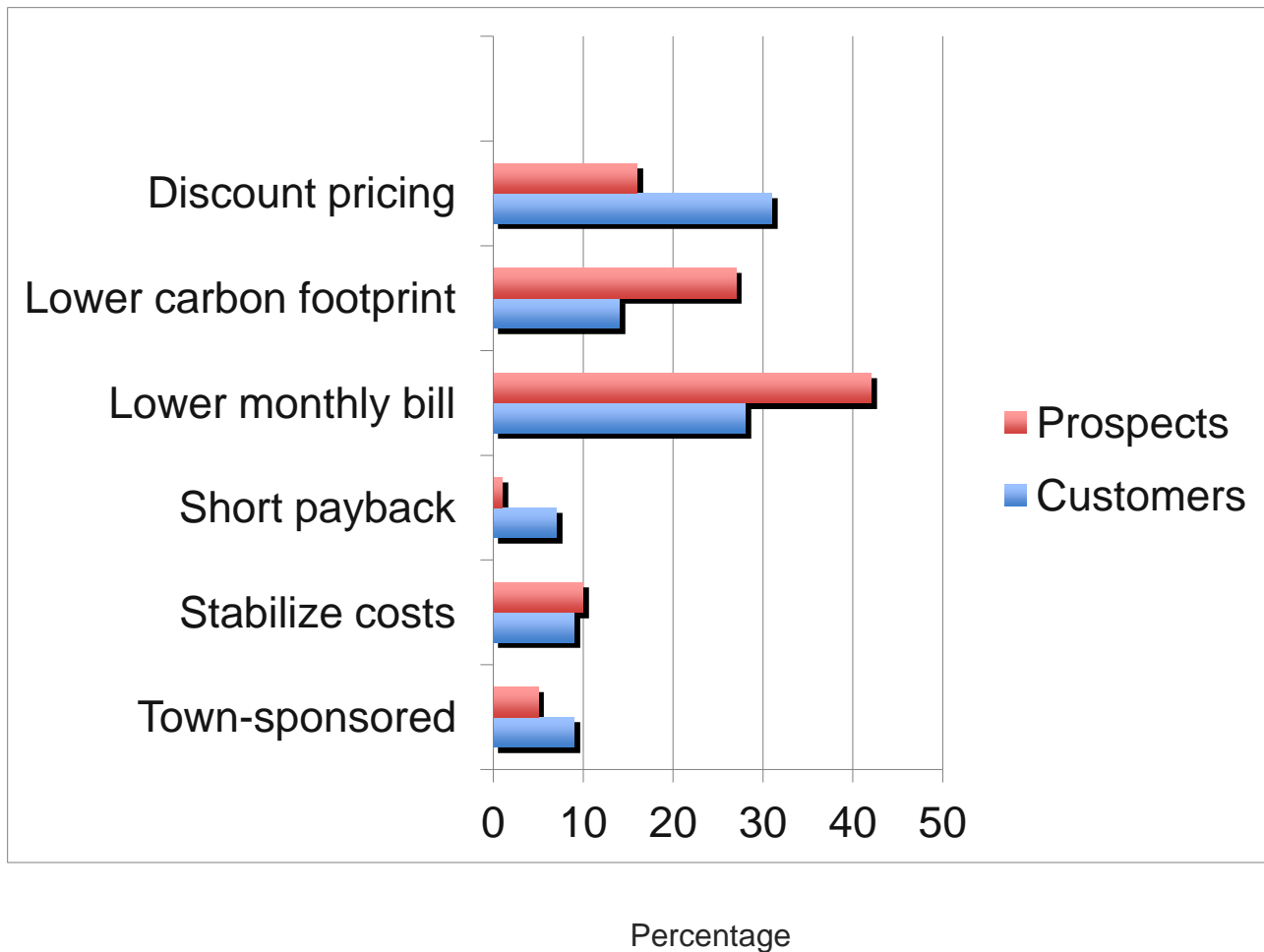
Survey Highlights

- ▶ Town involvement was cited as important in their decision to participate; town leaders are key.
- ▶ Almost 20% of customers had never considered solar before this program.
- ▶ Seeing solar in the community influenced the decision
- ▶ Residents learn about Solarize from multiple communication channels.
- ▶ Customers let others know about the Solarize project.

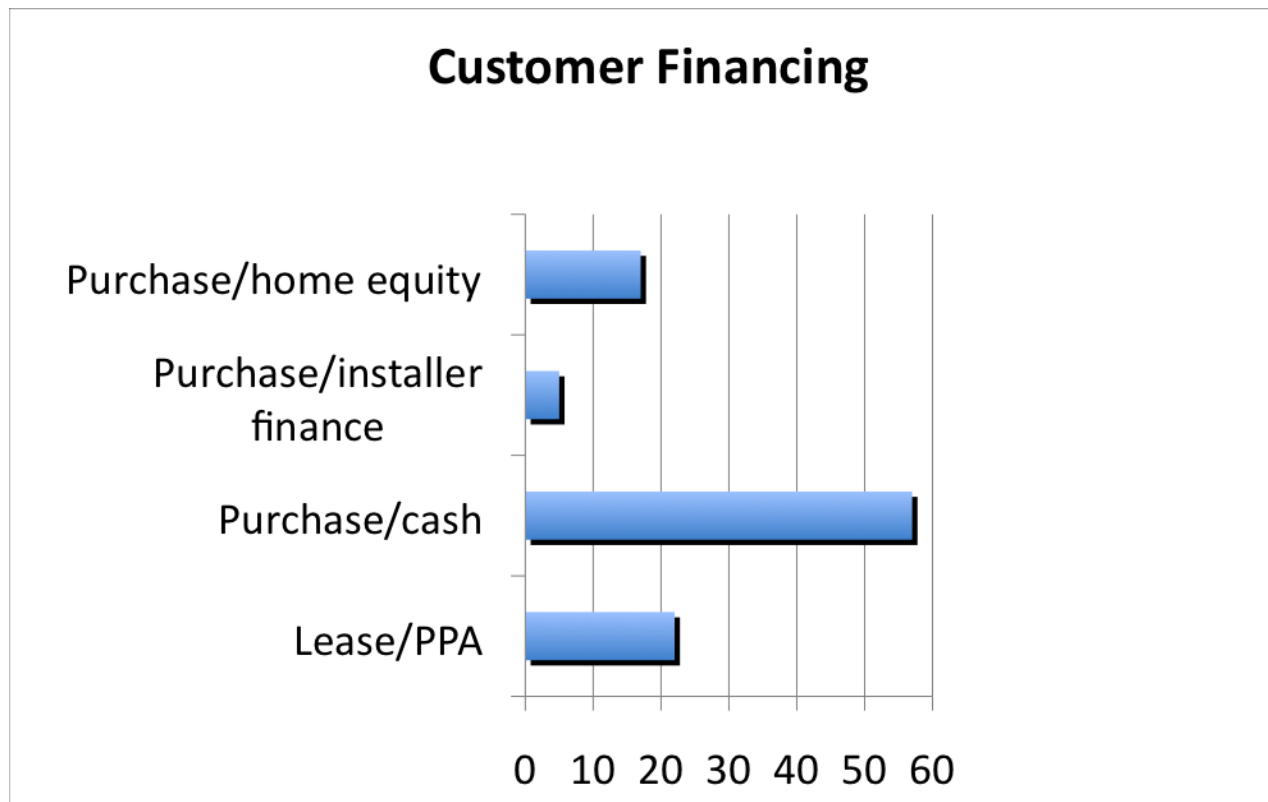
Campaign Awareness



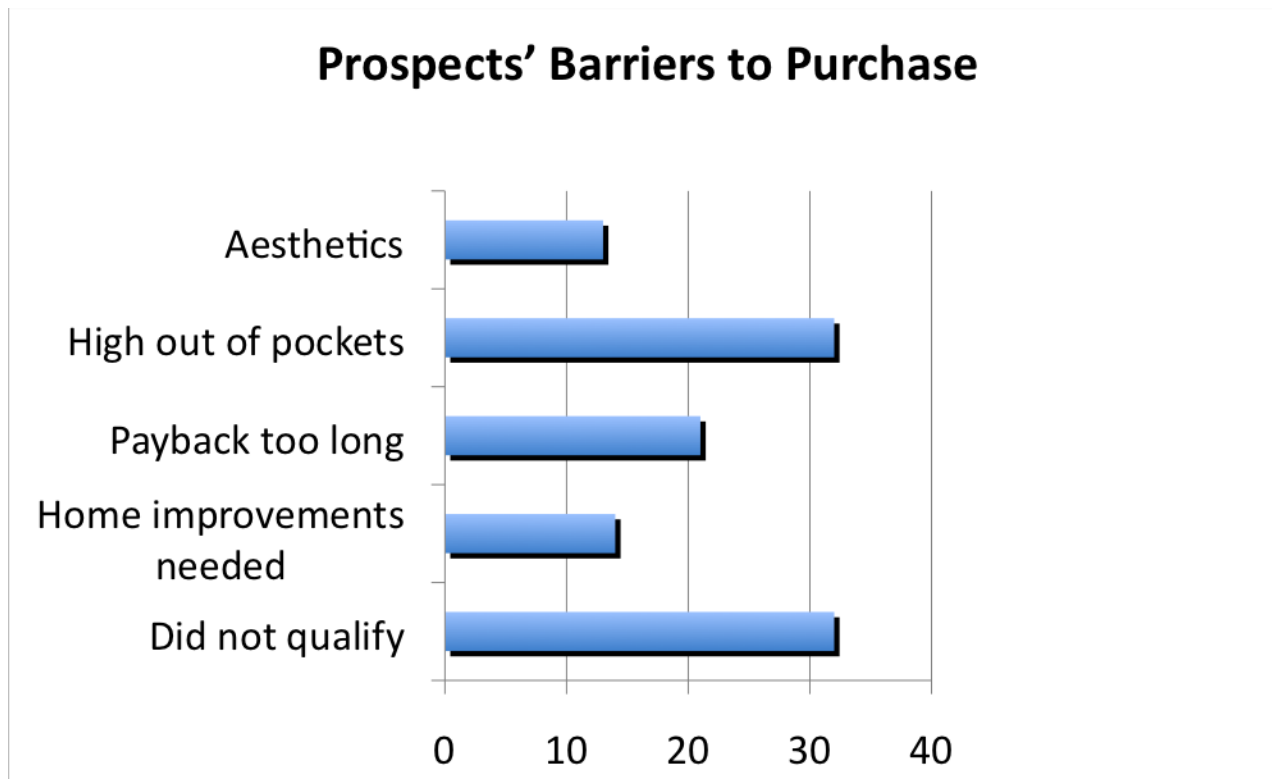
Motivations



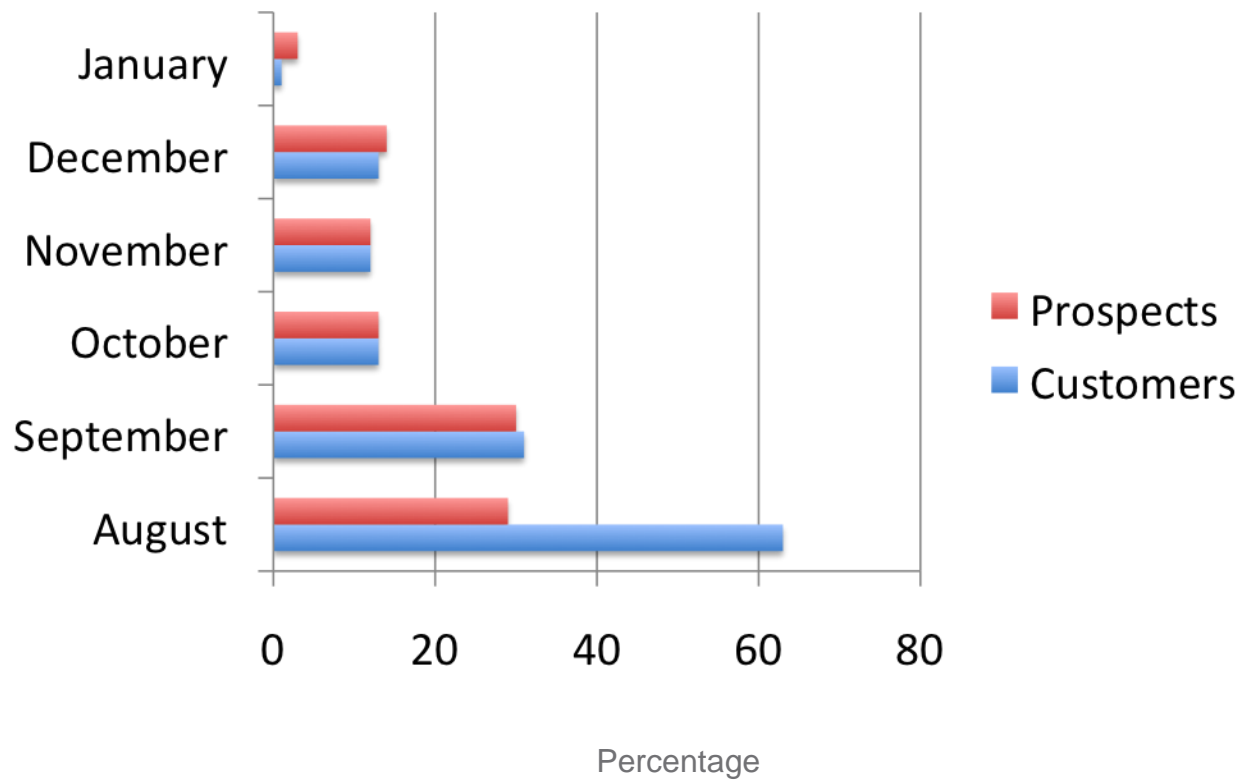
Financing Options



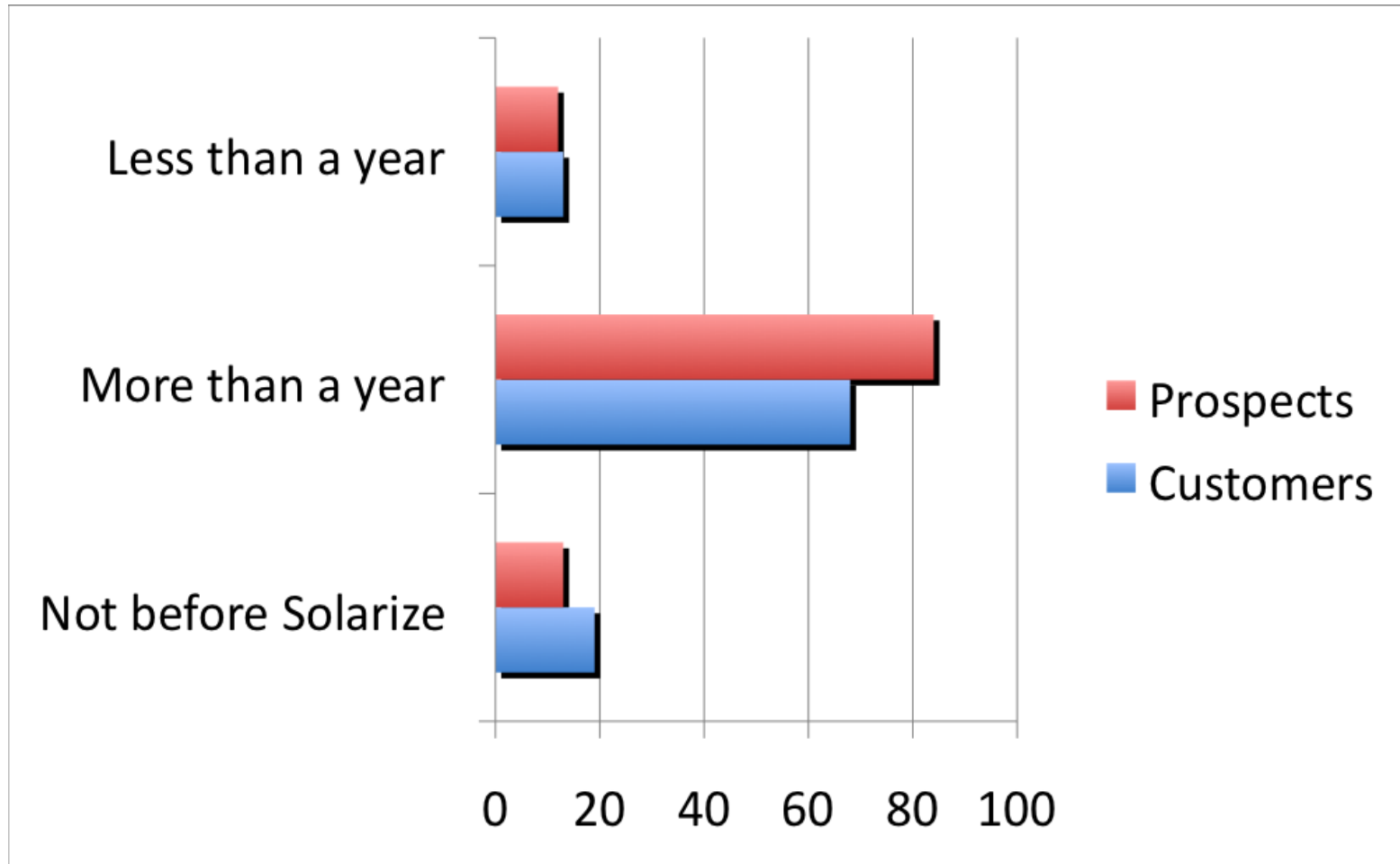
Barriers



Campaign Awareness



Decision Making Time

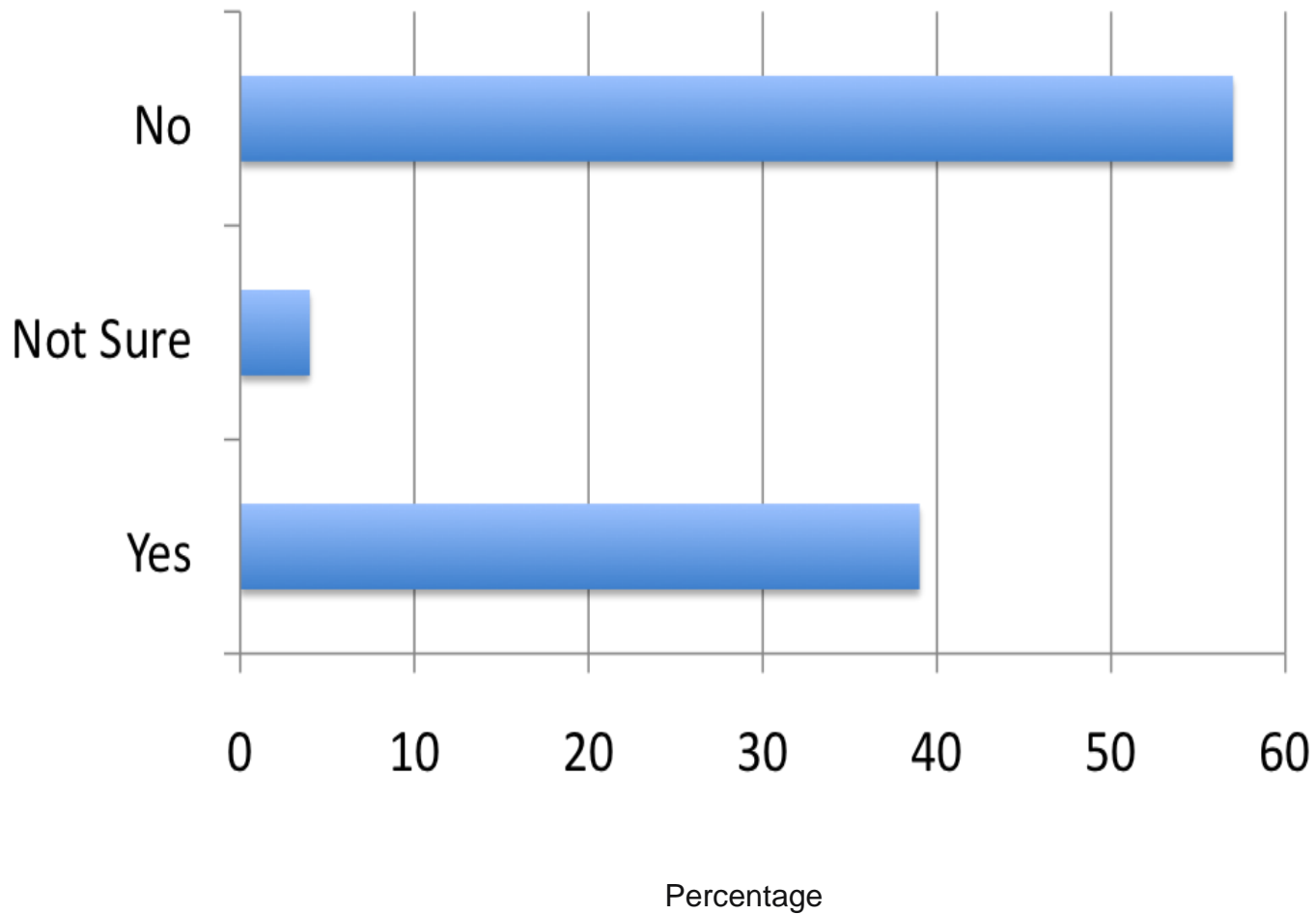


Percentage

Seeing Solar Influences



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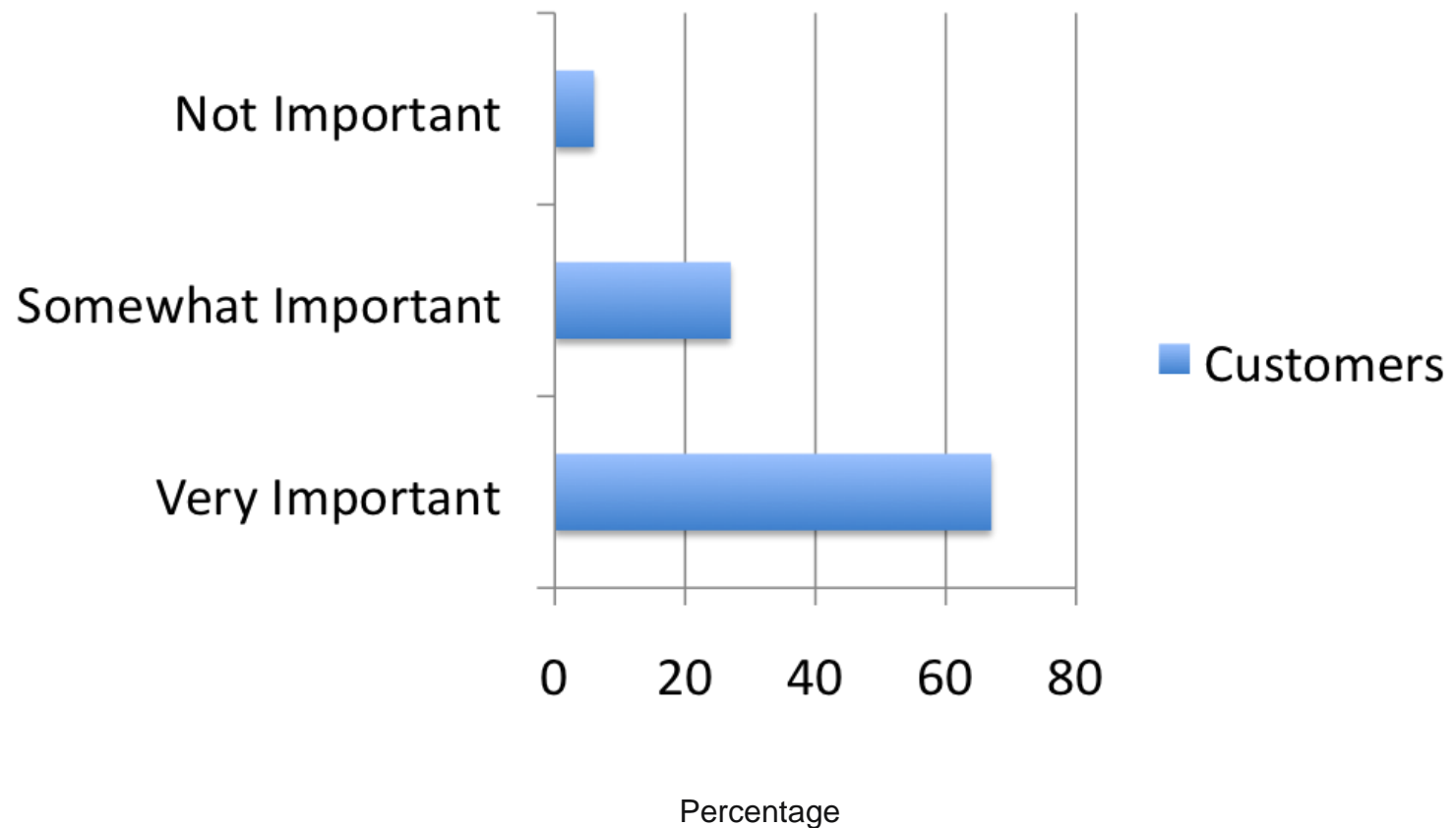


Town Participation Important



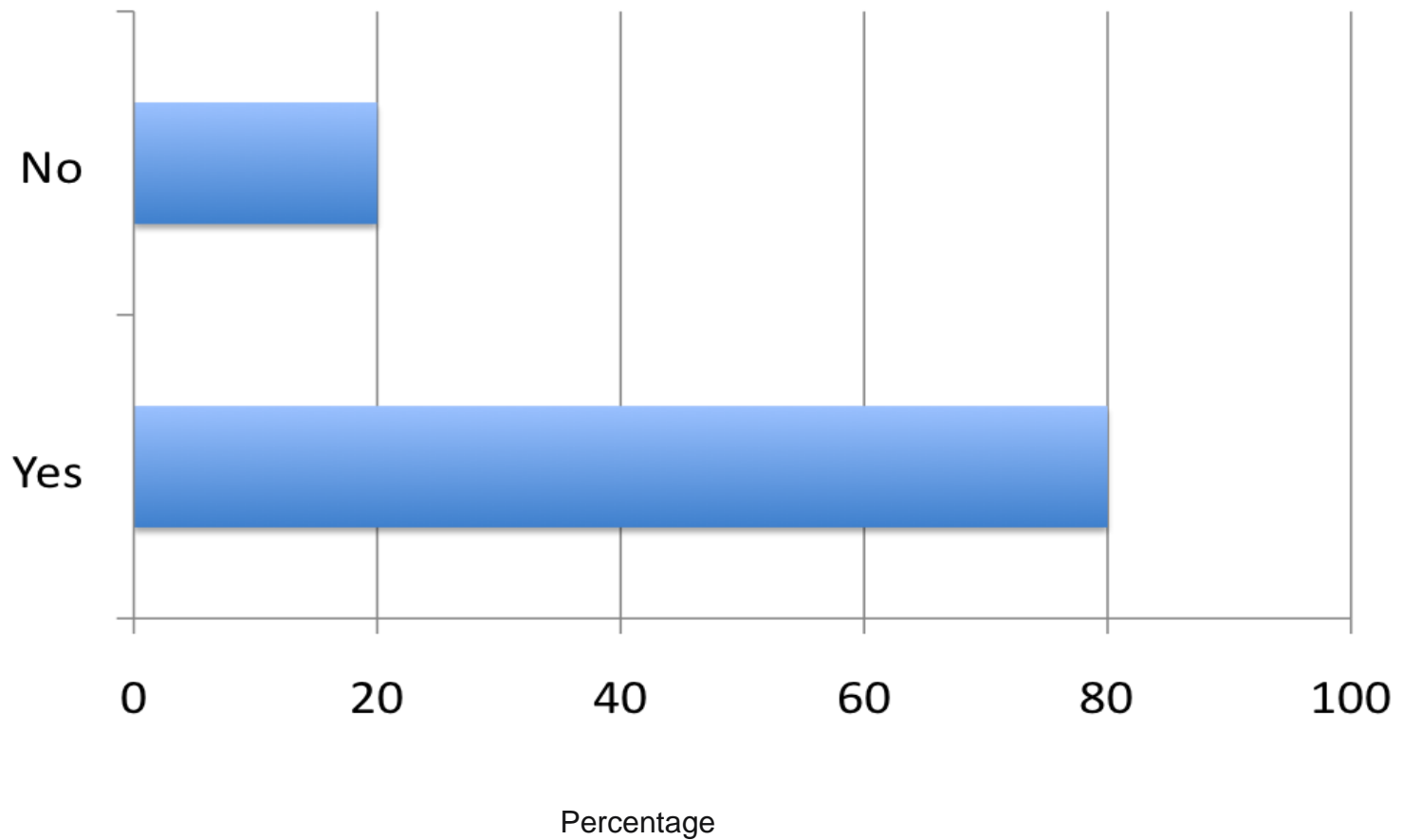
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Customers

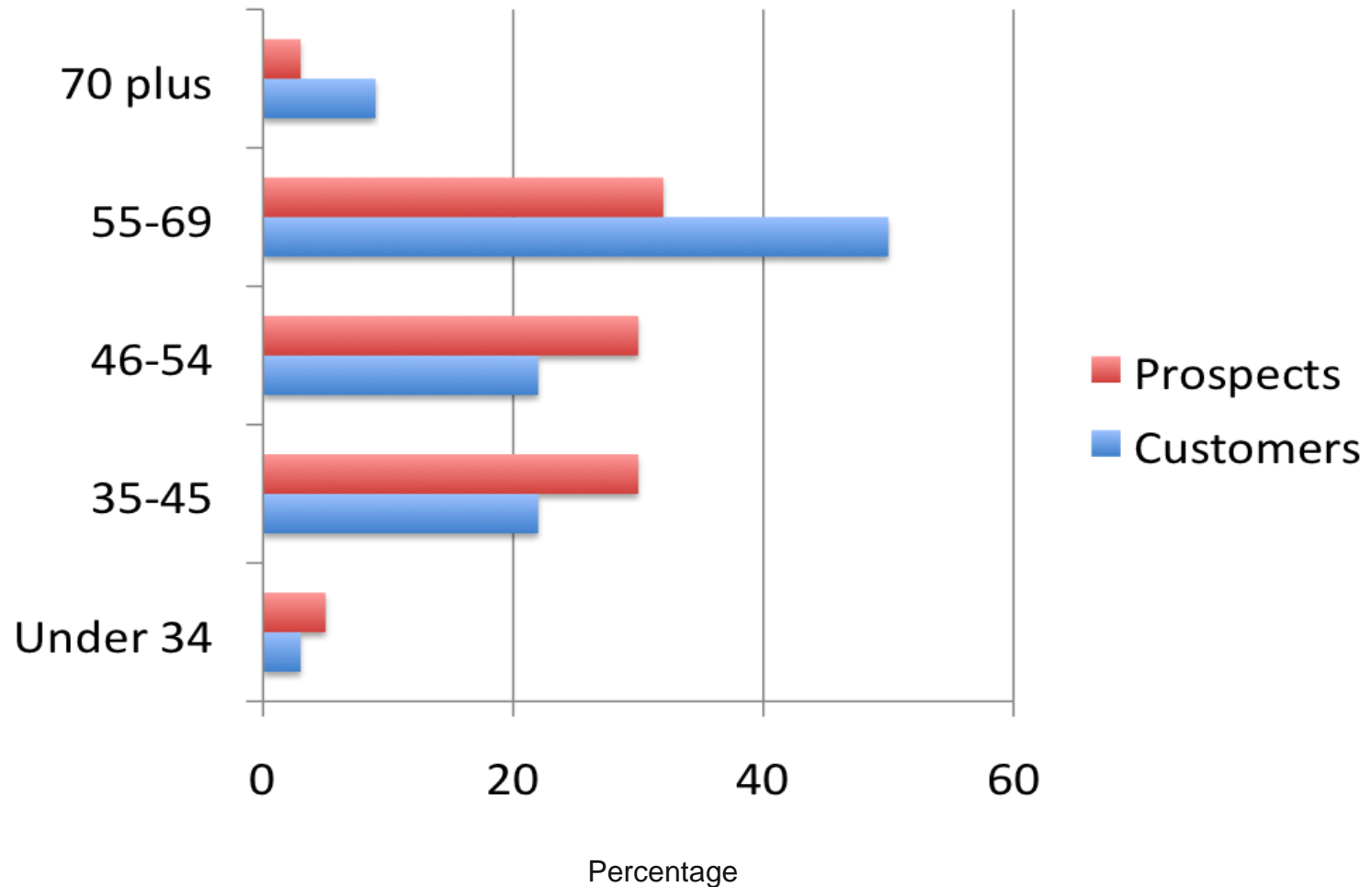


Help Spread the Word

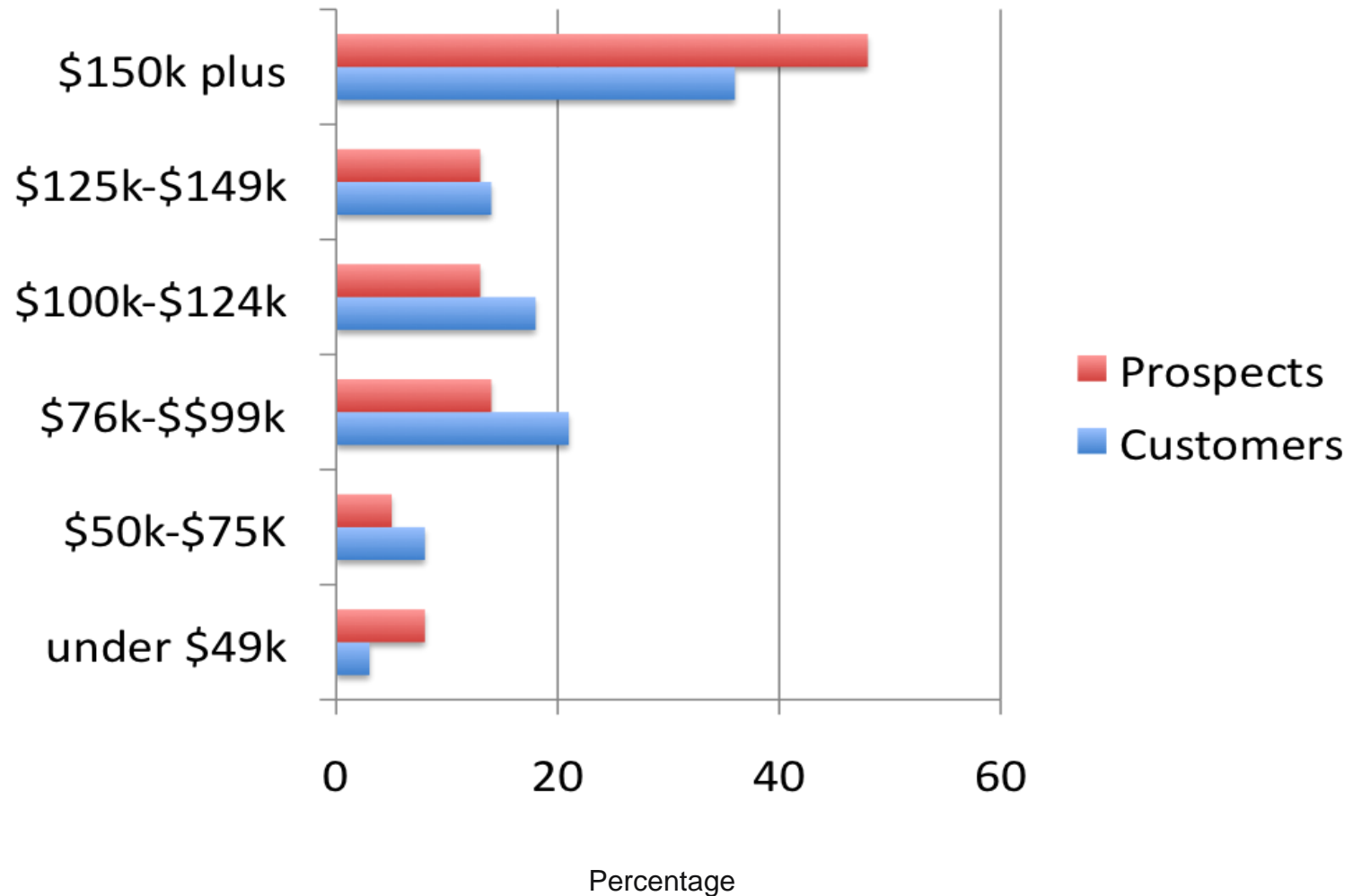
Customers



Demographics



Demographics



Next Steps



- ▶ **Distressed Municipalities** – how will Solarize campaigns work in distressed communities?
- ▶ **Financing** – what happens when we add new lease and loan products as a component?
- ▶ **Adaptation** – can the Solarize model be adapted to support the ramp-up of other clean energy technologies?
 - ▶ Fuel Conversion
 - ▶ Energy Efficiency or Weatherization Upgrades
 - ▶ Solar Hot Water Systems



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