



Broward Rooftop Solar Challenge



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**SunShot**

U.S. Department of Energy

# Financing Committee





# Objectives

Investigate Solar PV financing **options** for residential and small commercial structures, identify the **benefits** and **challenges** of each option and provide information to stakeholders.



# Today's Workshop

- Introductions
- Preliminary survey results
- Fundamental Issues
- Incentive and Financing Options
- Challenges and Recommendations
- Next steps



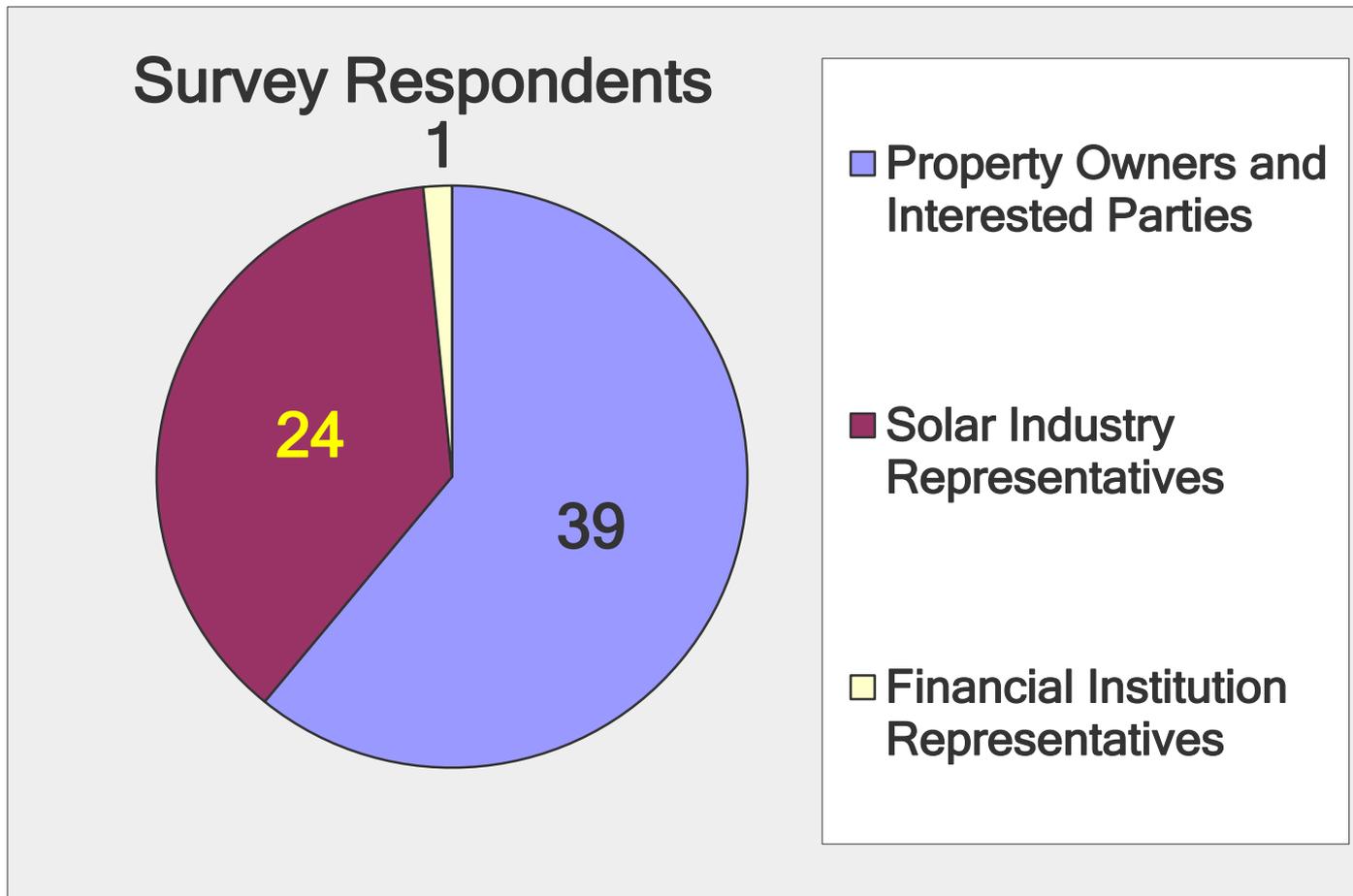
# Preliminary Survey Results

as of October 29 at 2:00 p.m.

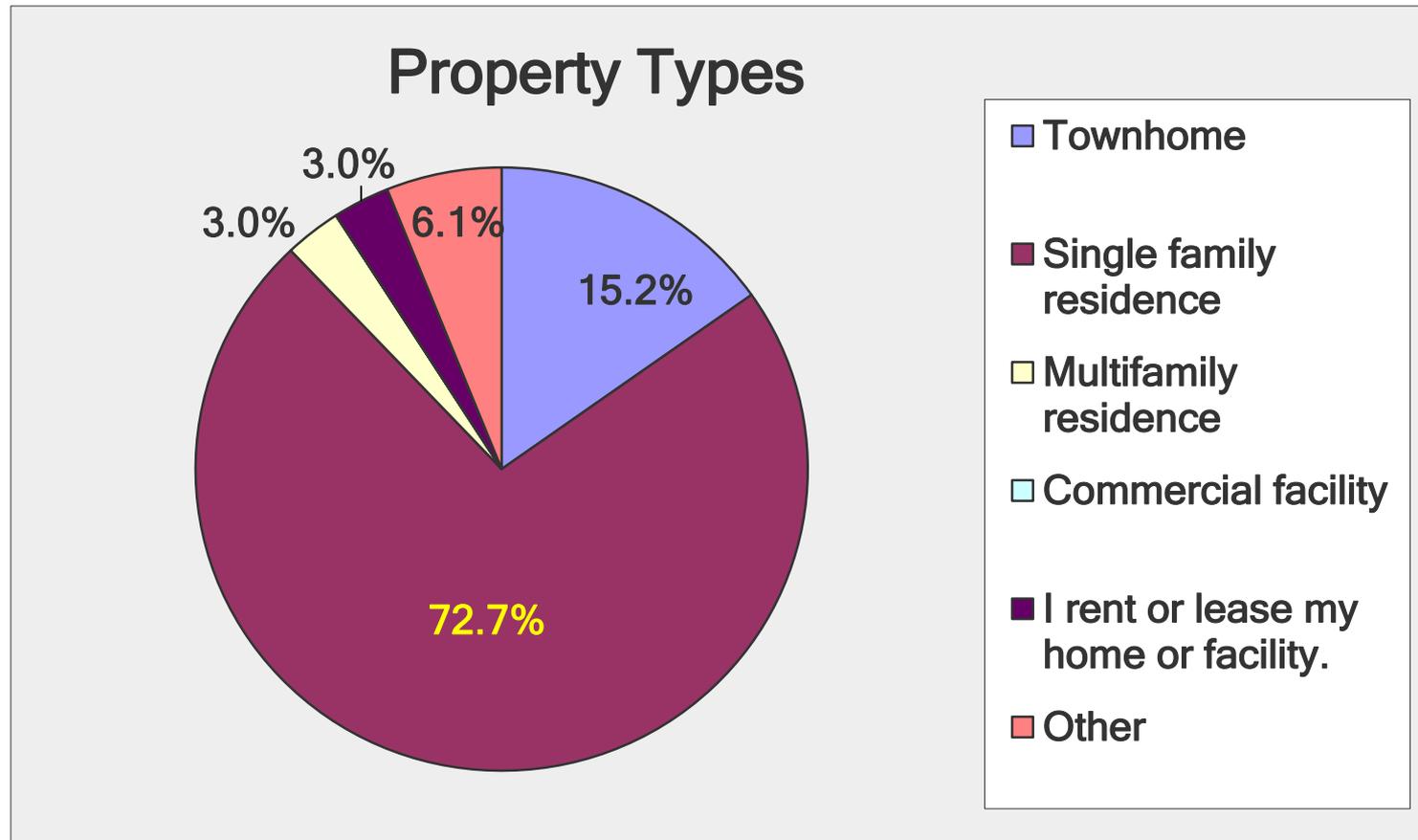
Survey closes Nov 2, 2012

- Property Owners
- *How many in this room took the survey?*
  - <http://www.surveymonkey.com/s/W23CLY7>

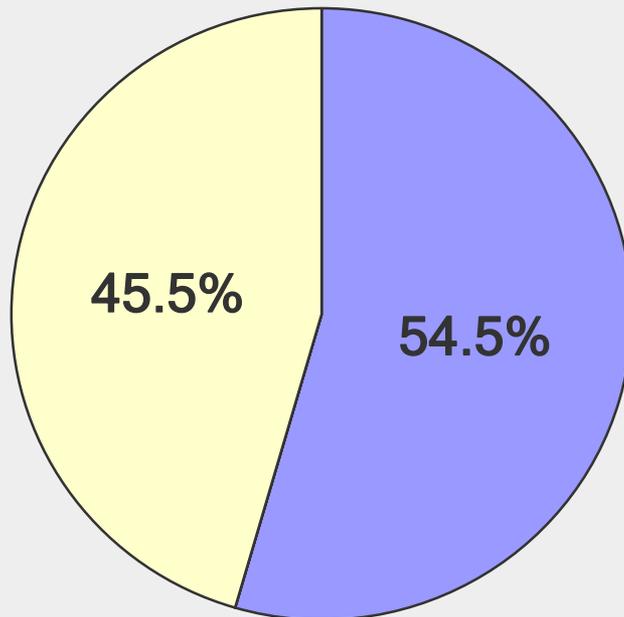
# Survey Respondents (64)



# Property Types



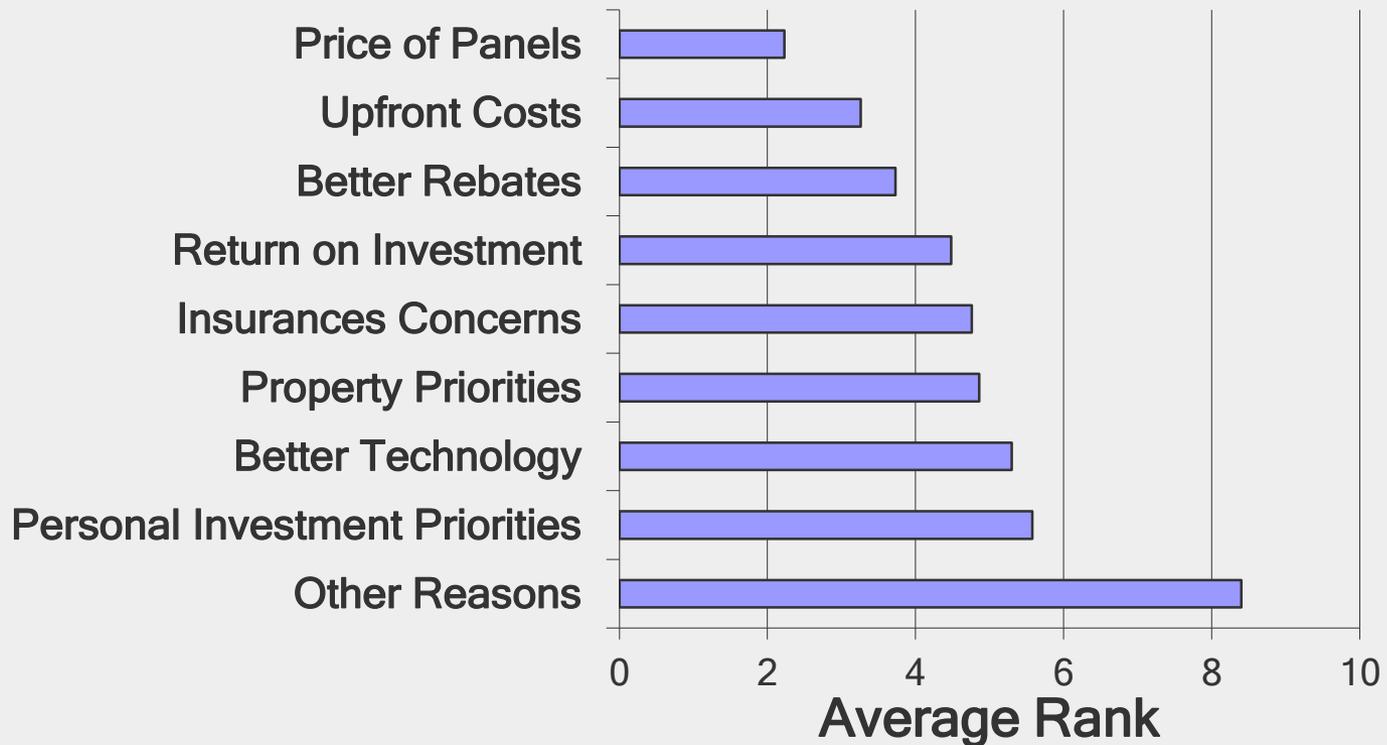
# Considering Solar PV?



- I want to be able to install rooftop Solar PV system.
- I have already installed rooftop Solar PV system.
- I am not currently considering installing a Solar PV system.

# Waiting to Install Solar PV?

## Reasons for Waiting to Install Solar PV



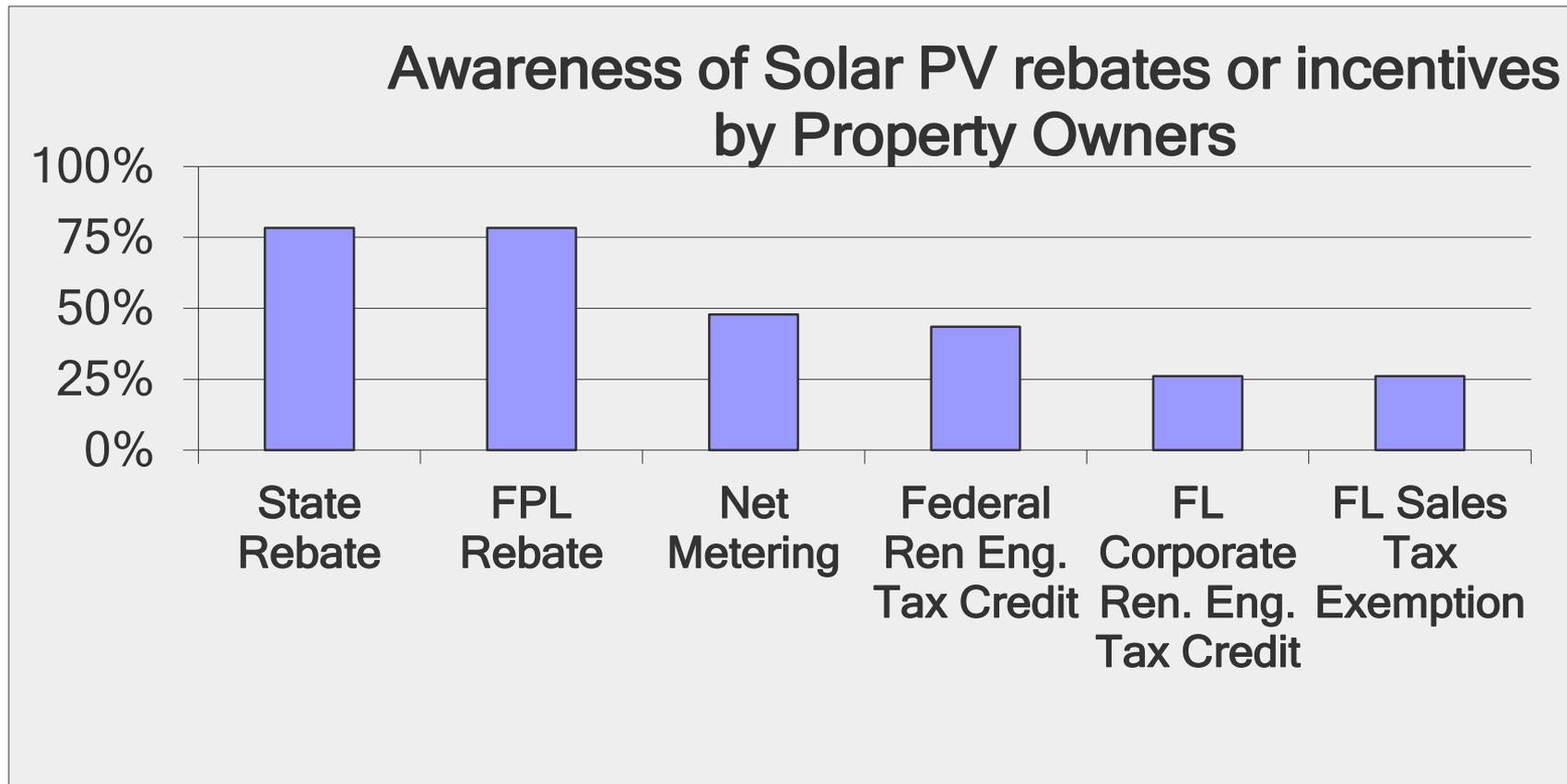


# Waiting to Install Solar PV?

## Other Reasons?

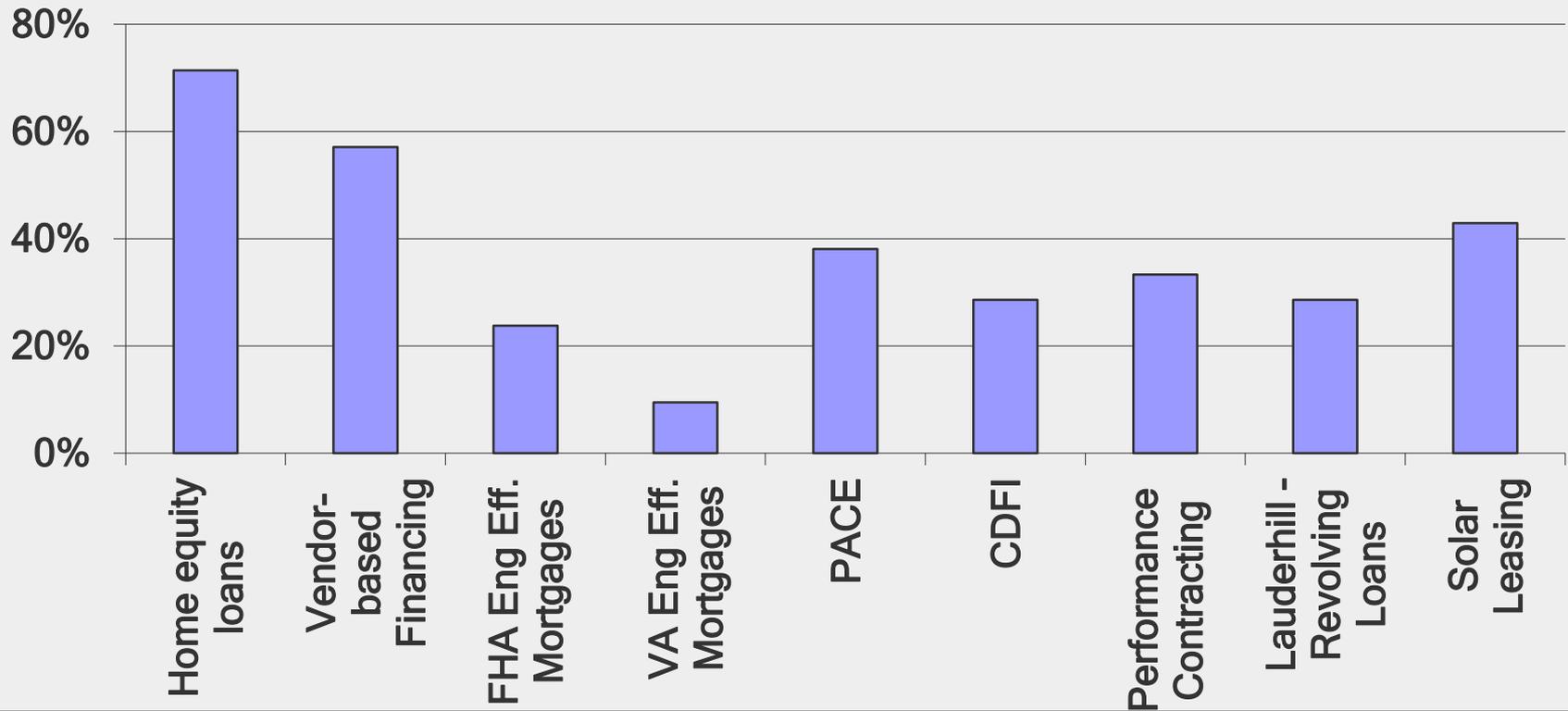
- Could blow off in hurricane
- The roof will need replacement soon.

# Property Owner Awareness of Incentives



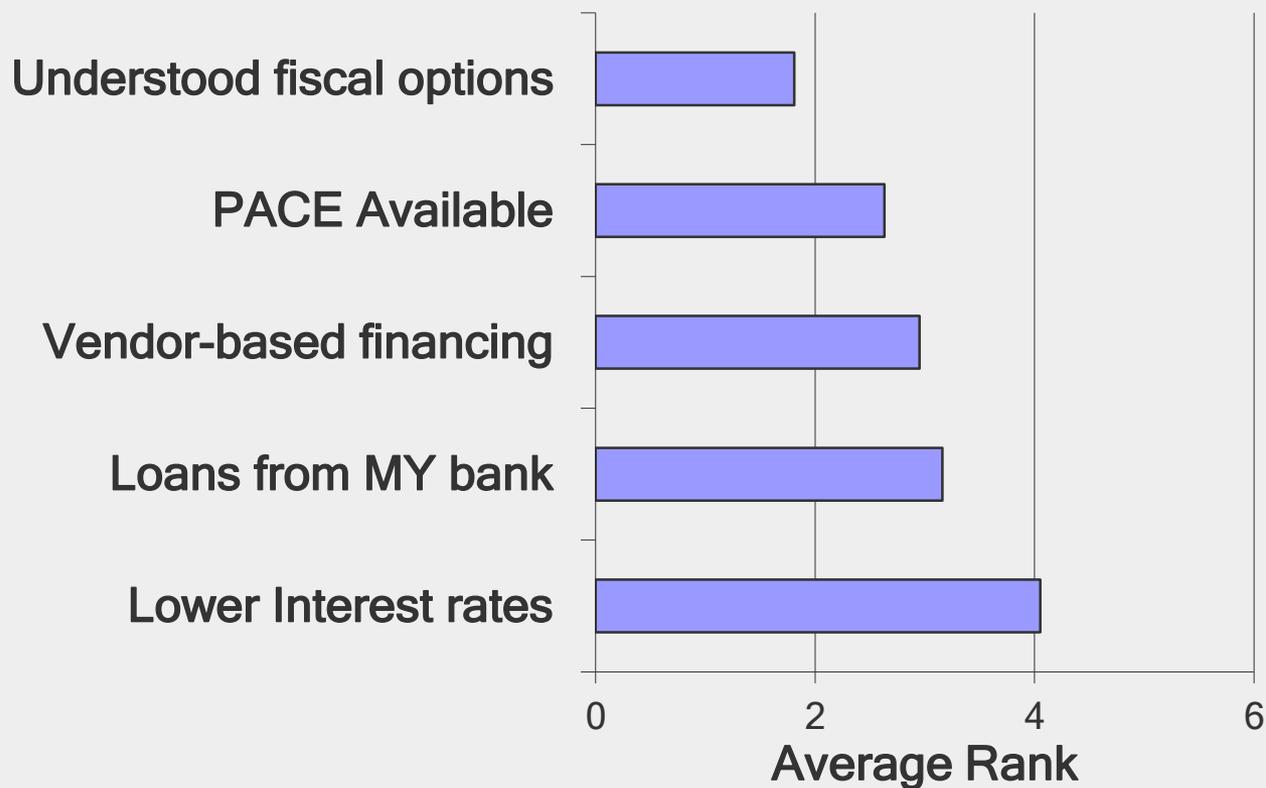
# Property Owner Awareness of Financing

Awareness of Solar PV Financing Strategies  
by Property Owners



# Property Owners – Financing Motivation

I would be more likely to pursue financing

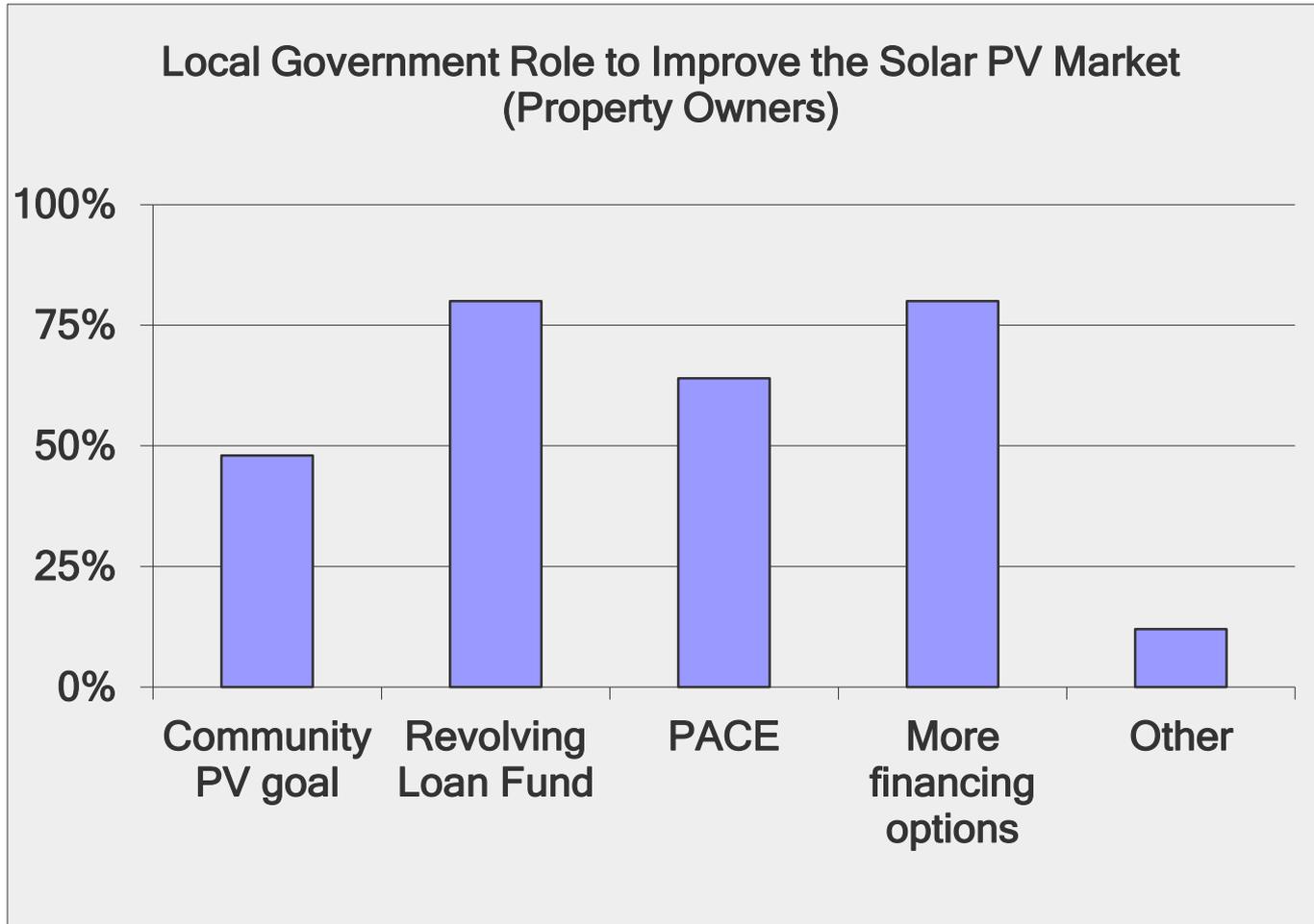


## Other

## Reasons?

- No cash on hand now

# Governments Role – Property Owners



# Governments Role – Property Owners

## Other Roles?

- Looking forward
  - Require new building construction for suitable orientation and to be solar ready.
- Revenue Sources
  - Require FPL to use early cost recovery dollars to fund solar PV for customers with on-bill financing.
- Government subsidy: 50% Gov't Grant for PV's
- Marketing, education and outreach to public



# Other General Comments

- Provide solar contractors/installers with low interest loans or grants.
- Inform Residents of potential impact of Rooftop Solar Installation to property
  - Electrical Codes requirements including Service Upgrades and Potential Panel Changes.
  - Roof Structures upgrades to comply with Today's Building Codes.
  - Could be Many Hidden Costs to the Home Owner.

## Other Comments (cont)

- Contractor should ID accurate Installation costs to eliminate surprise Change Orders.
- Single Location for all pertinent & current information.
- End the teaser programs that run out of money before most people are able to qualify.
- Permitting of solar PV installation
- Enter participants of workshops (education) into a raffle for a electric on-demand hot water heater, clothesline, solar cell phone charger, and other energy saving devices.



# Let's Hear from YOU

- **Fundamental Issues**
- **Incentives**
  - Options , Barriers, Recommendations
- **Financing**
  - Options , Barriers, Recommendations
- **Role of Government**

# *Fundamental Financing Issues of Solar PV* for Property Owners

- Expense
- Upfront Costs
- Understanding financing options
- Lack of market momentum/cultural adoption of PV
- Low cost of energy per kW
- Educating the financial community
- Educating the realtors and appraisers (see PV value – Sandia National Lab – PV value assessment tool)
- Creditability (property owner qualification for financing, low credit score)

# *Fundamental Financing Issues of Solar PV* for Property Owners

- Need for a renewable portfolio standard
  - Challenge of increased rate payer cost related to FIT, RPS
  - Fuel diversity remains a concern in FL
  - Public Service Commission favors lowest cost option
    - need to consider society benefits, (air quality, fuel sources, carbon footprint etc) beyond cost

# *Fundamental Financing Issues of Solar PV* for Property Owners

- Return on Investment
- Need to keep the interest rate at 3.5%
- Policy level change needed
- Education on equipment use and maintenance (maintaining efficiency of panels)
- Better customer education/marketing from the solar industry
- Price is coming down but near bottom of price point



# *Incentive* Options for Property Owners

- All Property Owners
  - FPL Rebate
  - Sale Tax
  - Tax credits
  - Property tax incentive (creates uncertainty)
    - Law to prevent solar installations from increasing the assessment on your home – pending approval
    - Commercial vs residential
  - Job creation (solar's tie to energy efficiency industry)
    - Solar repo is challenged by cost of labor versus cost of equipment – use of wifi meters to turn off )
  - Home owner incentives from government
  - Private enterprise and market forces should drive market



# *Incentive* Barriers for Property Owners

- All Property Owners
  - FPL Rebate – Too little funding, uncertainty of qualifying
  -



# Recommendations for Incentives

- FPL should fund rebates from early cost recovery dollars
-



# *Financing* Options for Property Owners

- Residential
  - Cash
  - Home Equity Loan
  - Broward PACE Program
  - Vendor-based financing (barriers = interest rates and credit score)
  - Revolving loan funds
    - low interest loans for equipment purchase – attach to equipment not property
- Commercial



# Financial Barriers for Property Owners

- Expense of Solar PV
- Upfront costs
- Rebate Programs are not funded well enough and available continually



# Recommendations for Financing

- Improve Property Owner Education on Options
-

## Role of Government

- Have County reach out to financial industry and create a list of banks offering solar loan for property owners
- Education of realtors and appraisers
- Better understand how third party ownership financing can be used within the existing legal framework of FL
- Look at existing installed solar PV system to understand how they were financed
- Support Non-profits who are raising solar PV awareness
- Property Appraisers role in advocating for property tax exemption for solar installation
- Create a solar fund within government with revolving loan fund



**BROWARD**  
COUNTY  
FLORIDA

# GO SOLAR

Broward Rooftop Solar Challenge

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**Let's Take a Break**

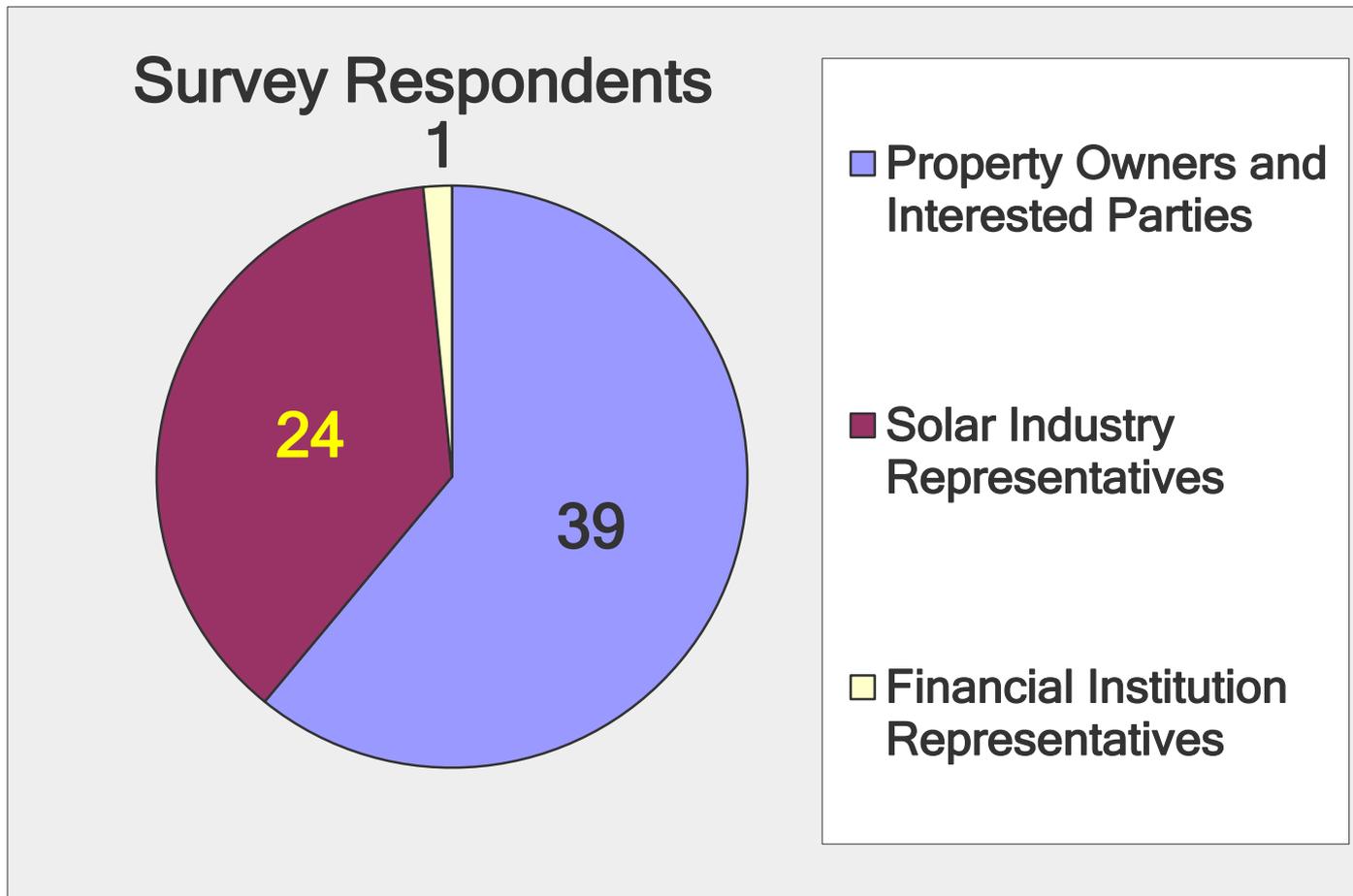




# Preliminary Survey Results

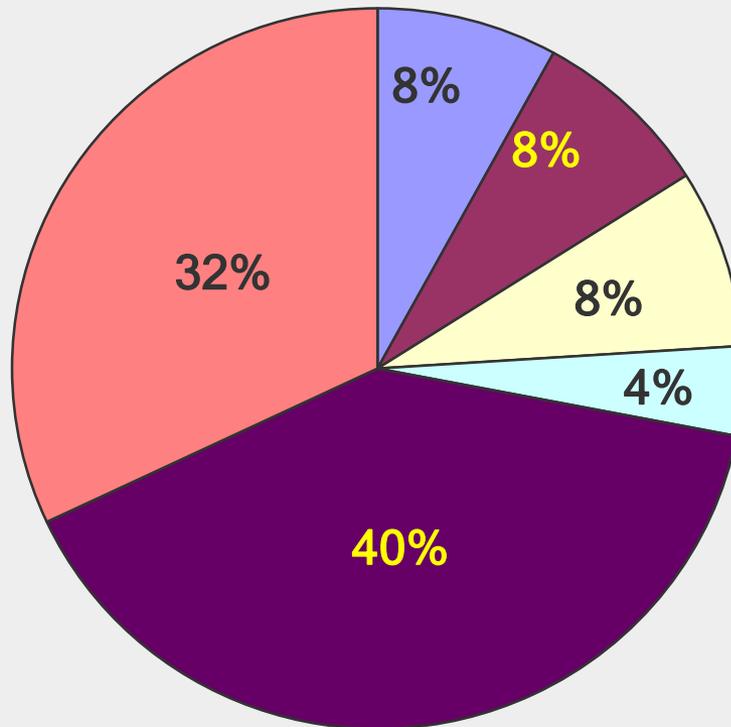
- Solar Industry Representatives

# Survey Respondents (64)



# Survey Respondents

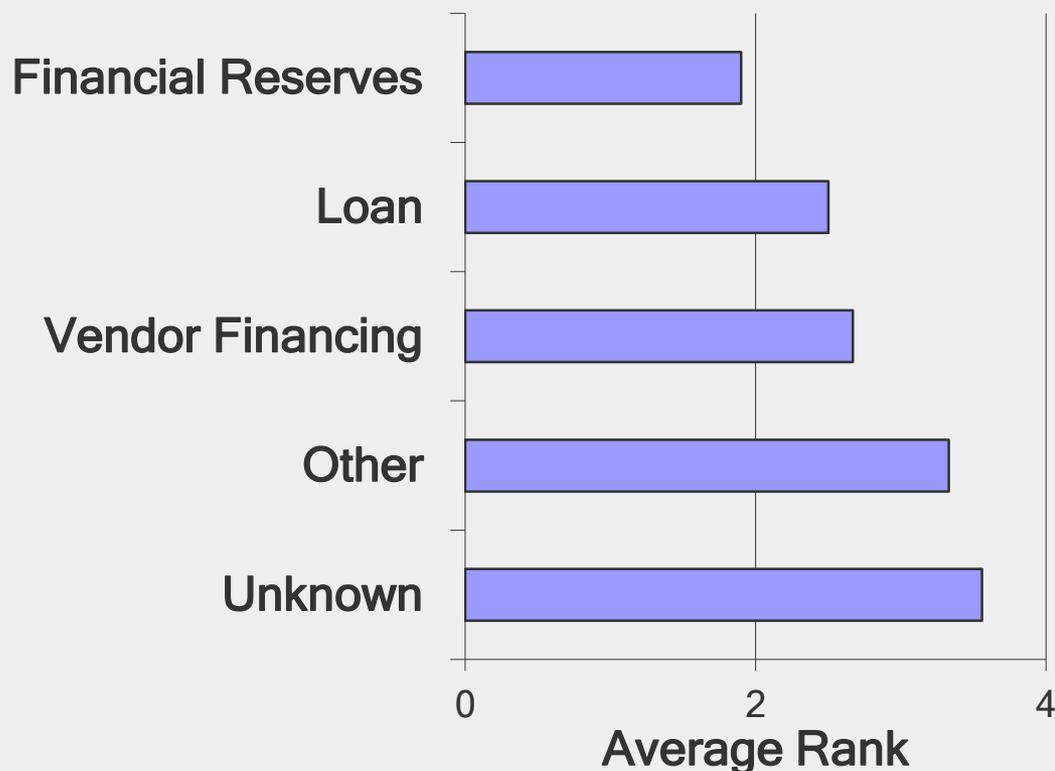
I am a solar industry representative



-  Solar PV manufacturer
-  Solar design and engineering
-  Electrical contractor
-  Energy Service Company
-  Solar contractor/installer
-  Other

# Customer Financing

How Customers Pay for Solar PV



## Other Methods?

- 3rd Party ownership structures
- Third party financing such as PPA
- Leasing

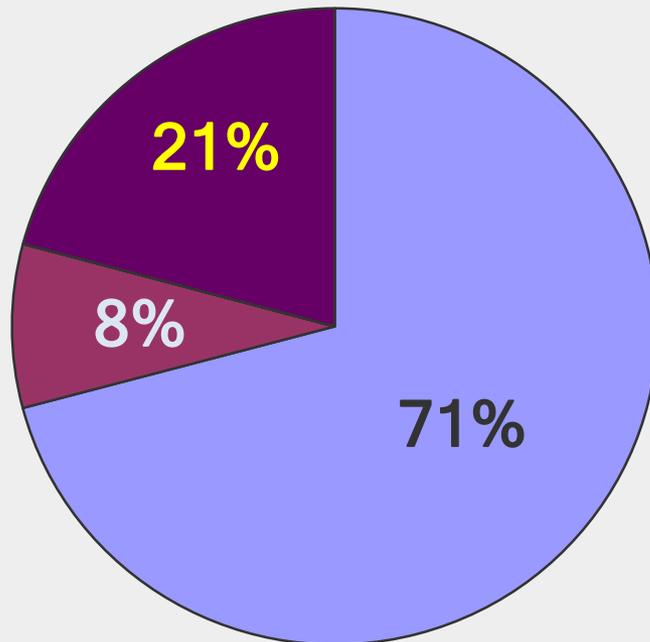
# Customer Financing

## Other Methods?

- Rebates, Out of pocket
- Setting up Private Equity Financing
- Power Purchase Agreements and Leasing
- 3rd Party ownership structures
- Commercial projects - done through third party financing such as PPA
- Leasing

# Customer Payment Options

I require my customers to



- Pay in full
- Installments (<1 yr)
- Installments (<5 yr)
- Perf Contracting
- Other

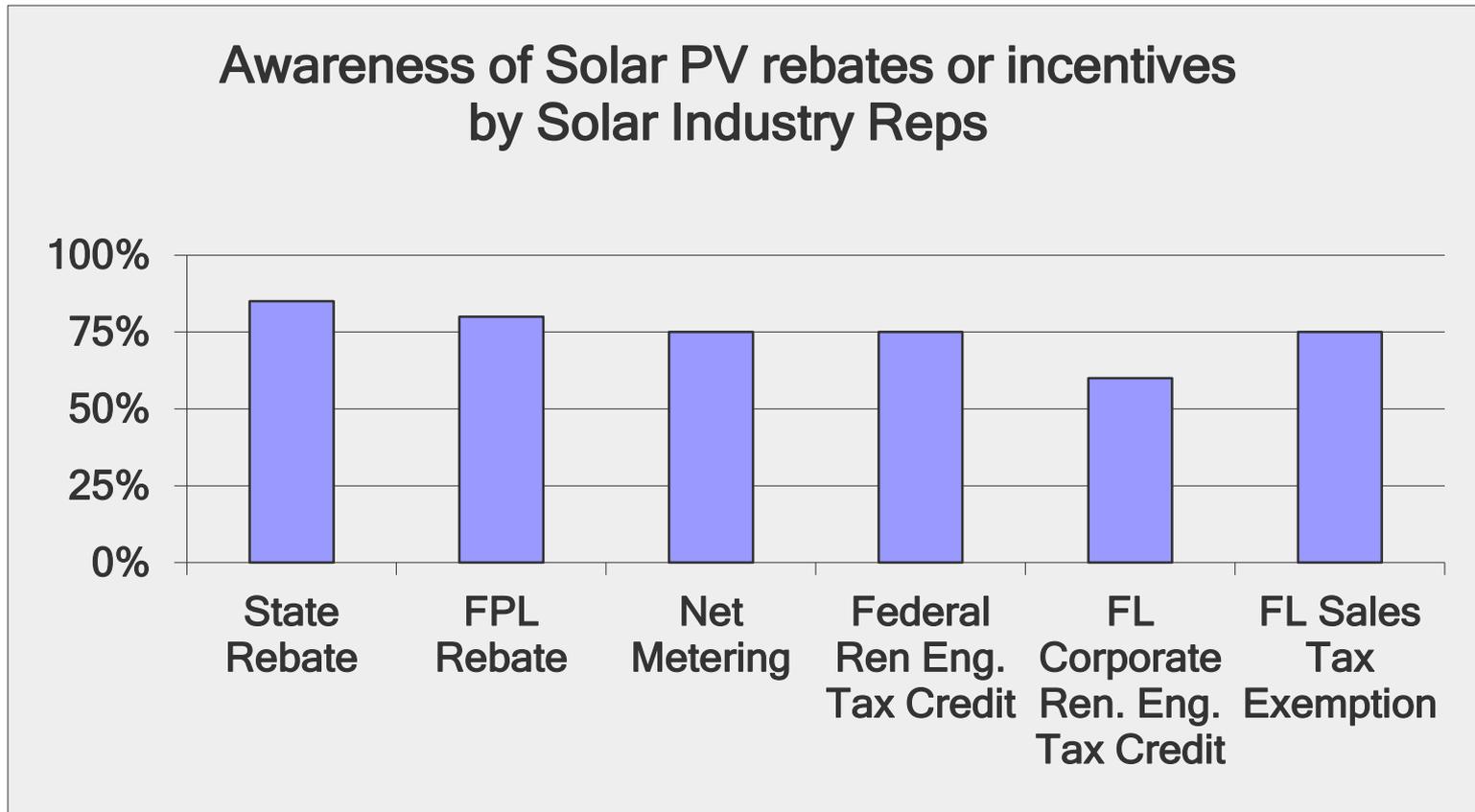


# Customer Payment Options

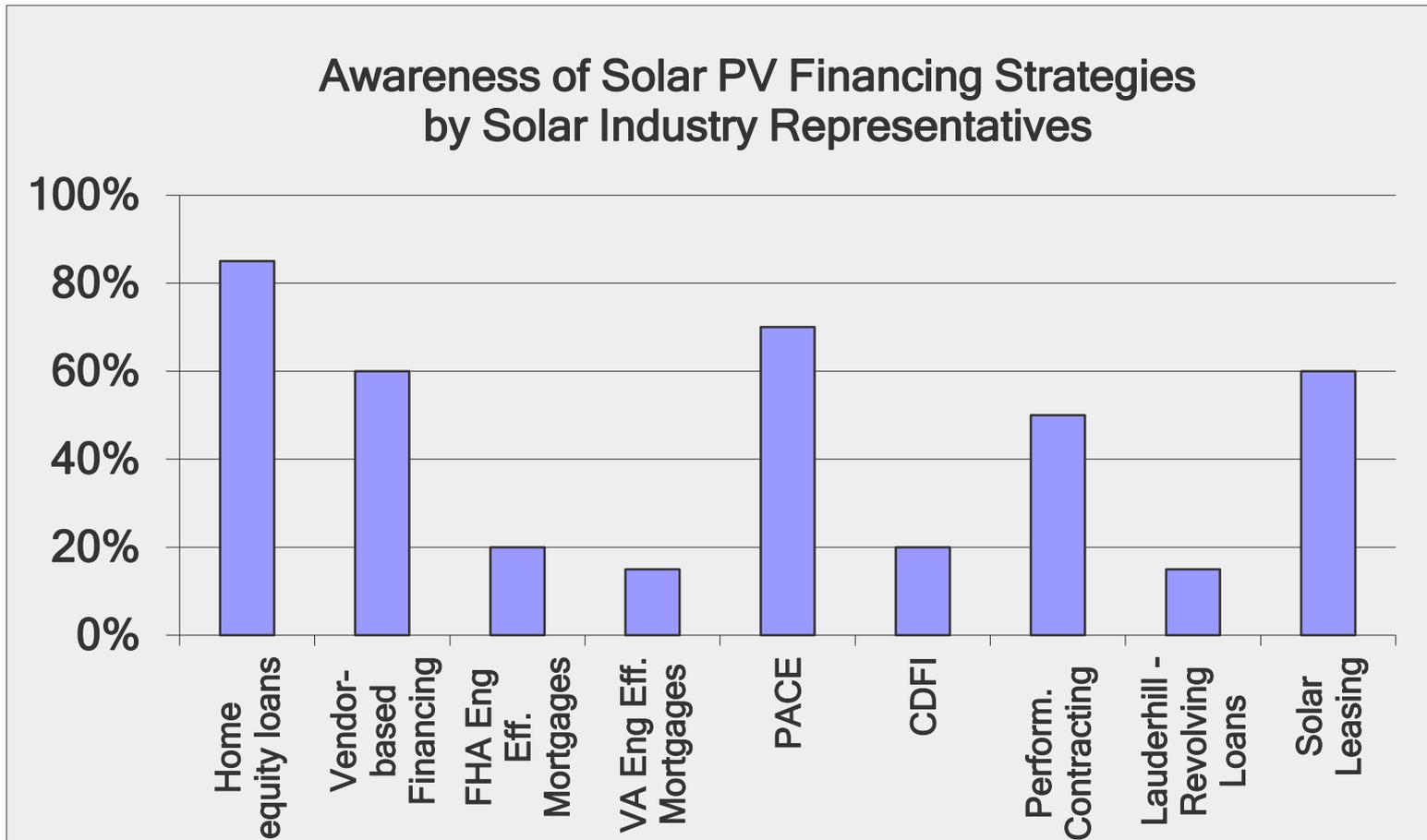
## Other Options?

- Sign and drive Solar (like car Industry)
  - *Examples in the room?*
- Most of the work we do is for Solar Developers
- Enter into solar agreement
  - *Legal in FL?*
- We only selling racking systems

# Solar Industry Awareness of Incentives

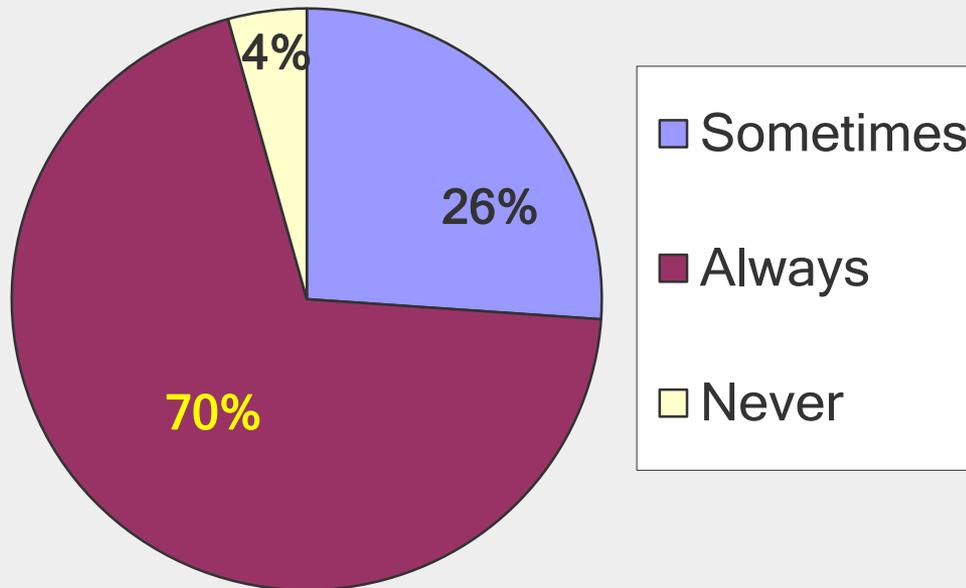


# Solar Industry Awareness of Financing



# Incentives and the Solar Market

Rebate and incentive programs result in a boost in my business





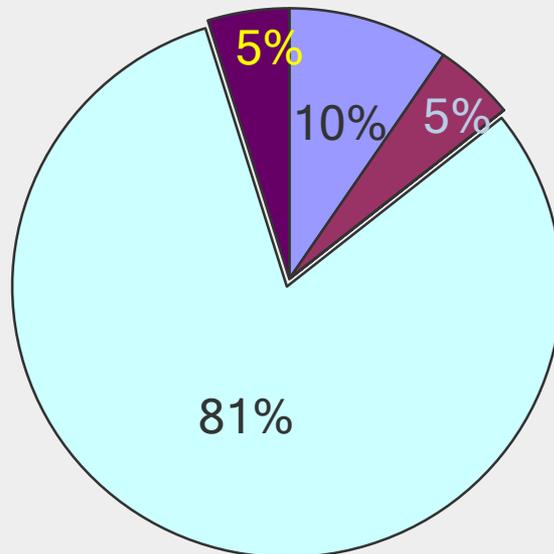
# Incentives and the Solar Market

## Other Options?

- The FPL solar rebate program is a disaster for our industry
- Rebates offer the Investor-Owned Utilities political advantage by slick marketing of 'all' they are doing to promote renewables when all it helps them do is control the rollout of distributed generation and keeps them in control of every kWh placed into the retail space.
- It is time for the government to get out of the solar industry. Broward County alone has received almost \$6 million and did nothing but waste it.

# Customer Education

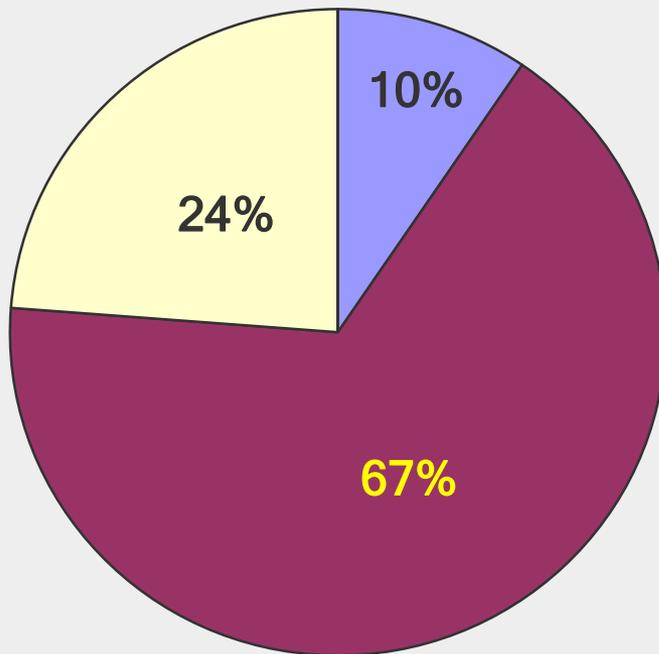
**My sales staff is trained to discuss**



- Available Rebates
- Available Incentives
- Financing options
- All of the above
- None of the above.

# Customer Awareness

## Customer Awareness of Fiscal Options



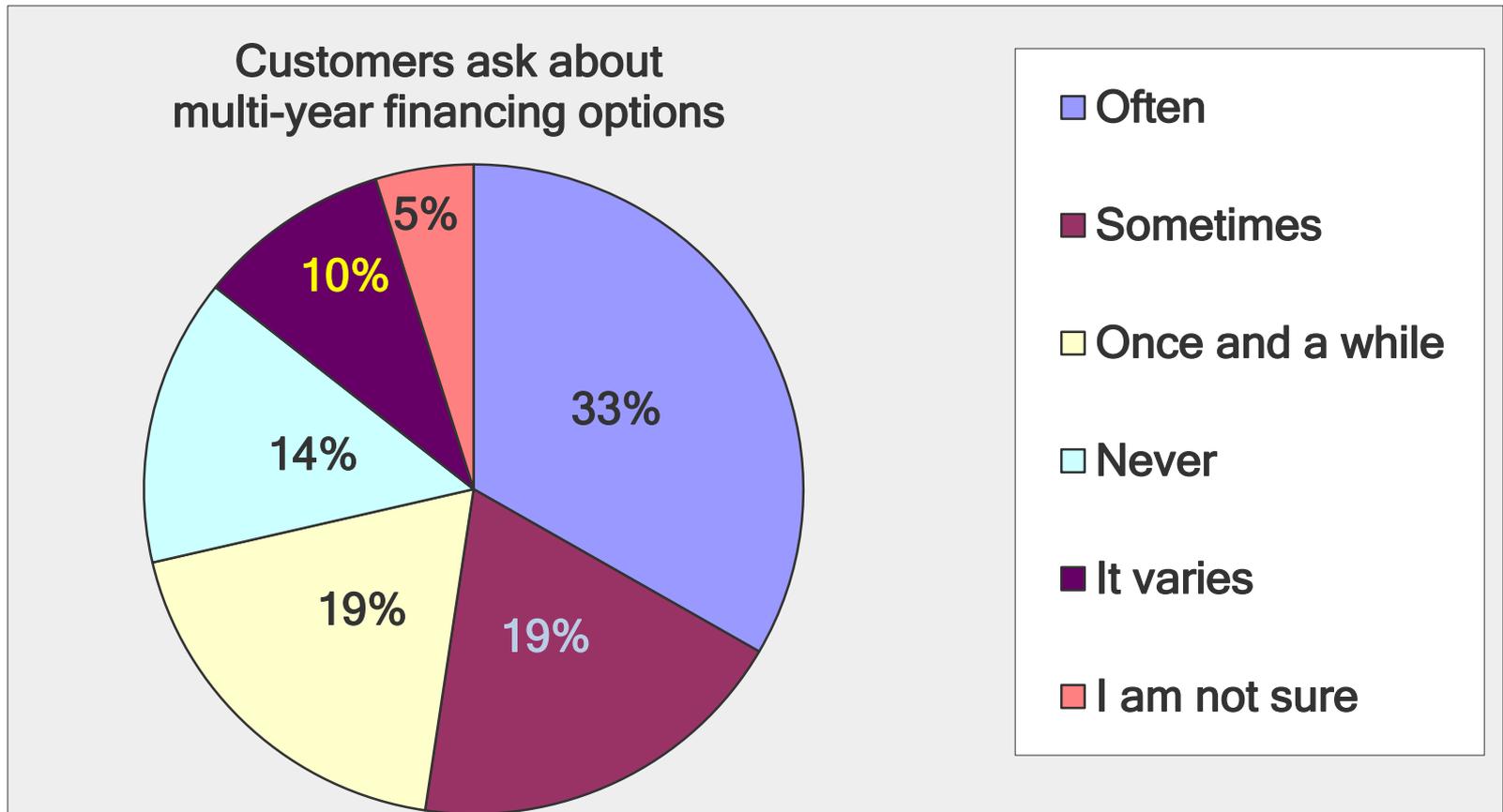
■ Unaware of options

■ Aware of some options

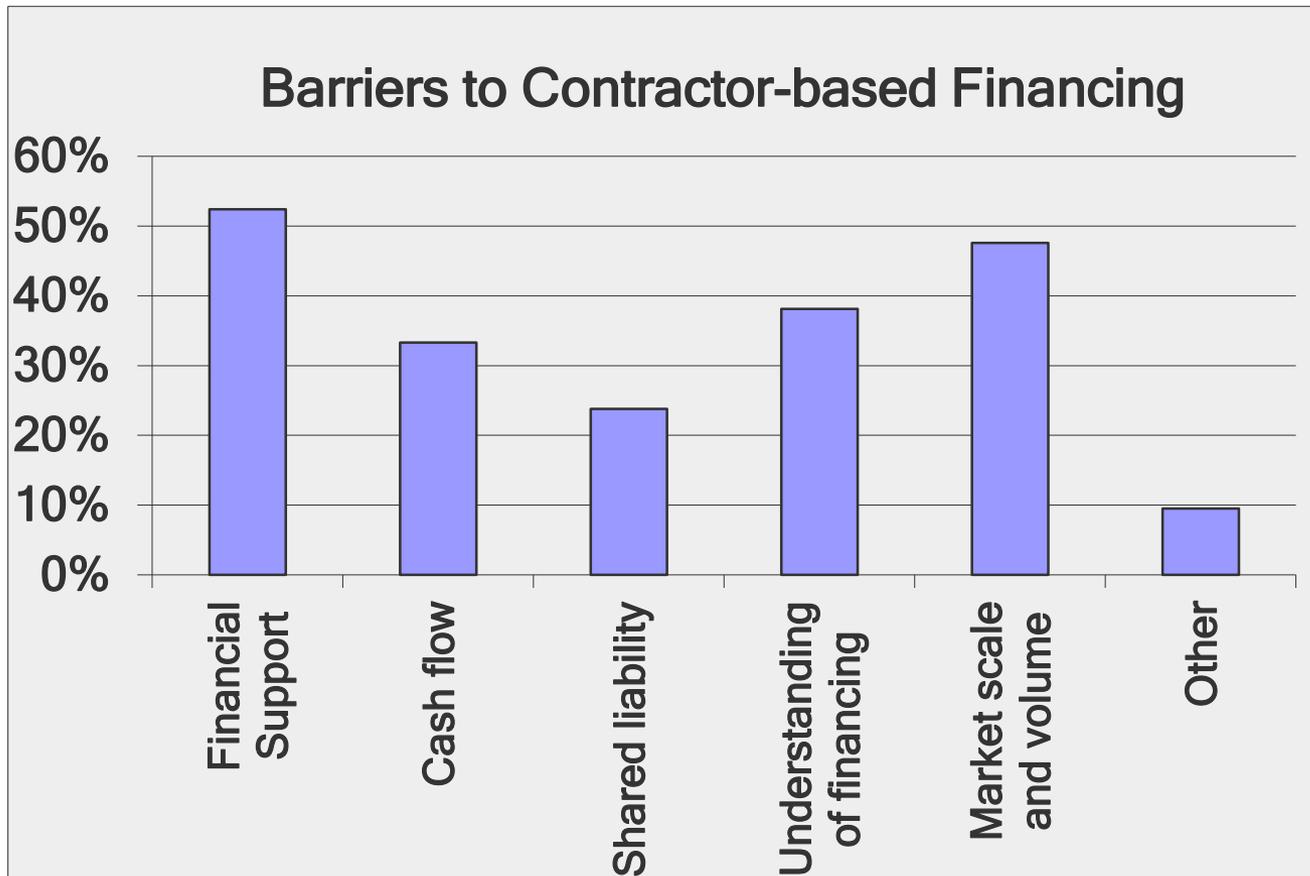
■ Very aware of options

■ Very knowledgeable of options

# Customer Inquiry on Longer Term Financing



# Barriers to Vendor-Based Financing

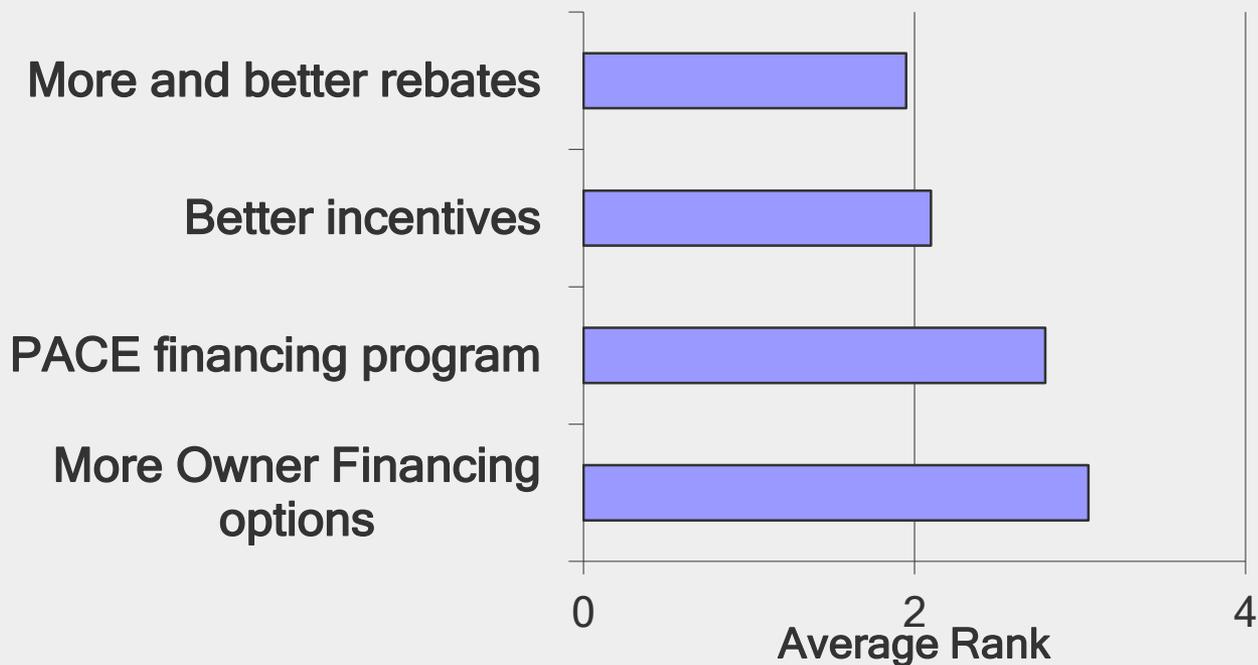


## Other Options?

- Good contractors know but don't share
- Lack of Reliable FPL rebates

# Best Way to Improve Financing

Most powerful financial way to grow Solar PV market (Solar Industry)



## Other Options?

- Raise the cost of energy
- Lease options
- Feed in Tariff Program

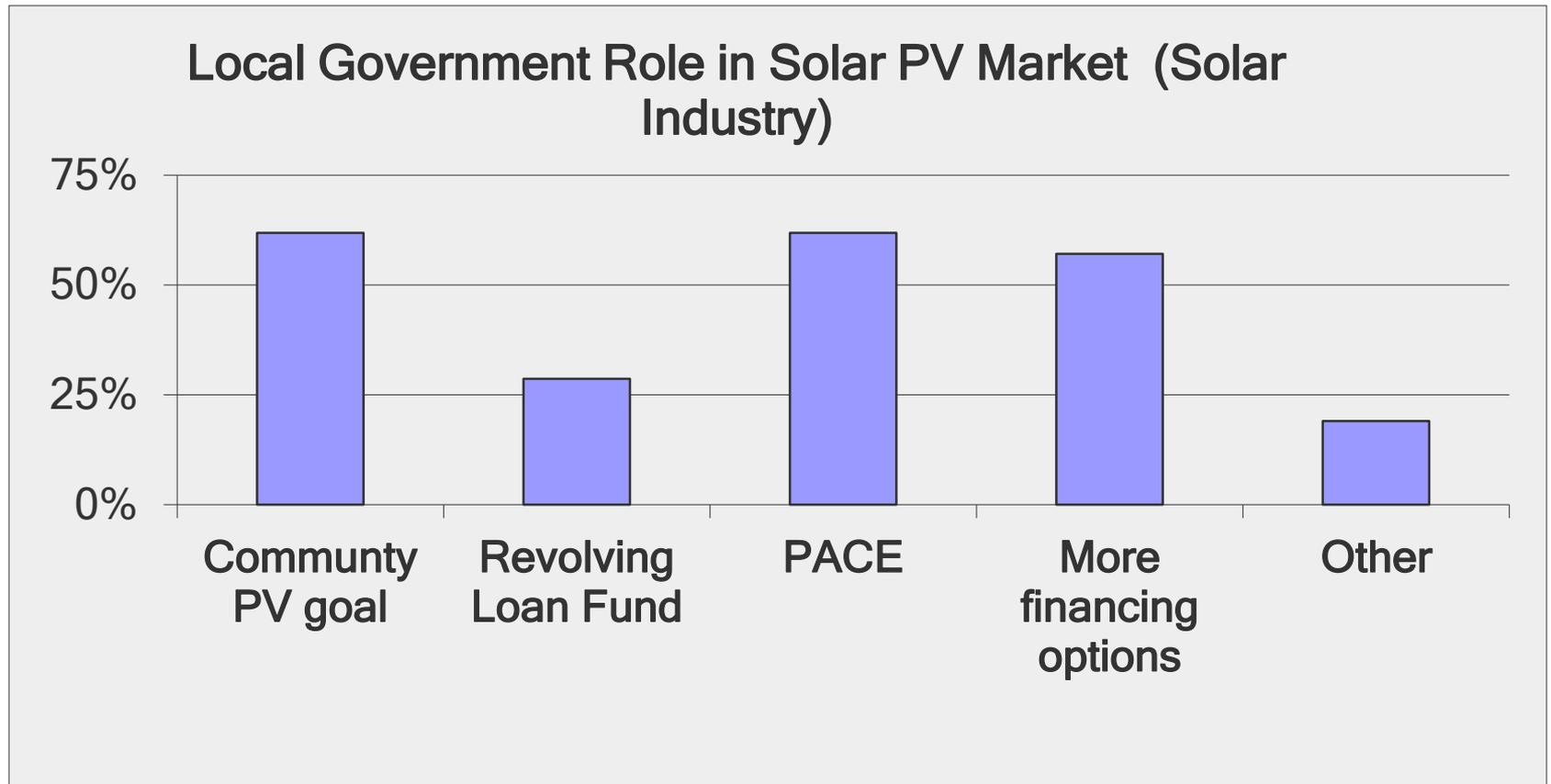


# Best Way to Improve Financing

## Other Options?

- Feed in Tariff Program
- Just allow others to sell energy at retail. Investors who provide financing will be able to make business case at retail. They cannot make a business case when selling energy at 'avoided cost'.
- financial institutions
- Power Purchase Agreements
- Raise the cost of energy
- lease options

# Role of Government



# Role of Government

## Other Options?

- Renewable Energy Portfolio Standards
- No Utility monopoly on electricity sales.
- Just allow others to sell energy at retail. Investors who provide financing will be able to make business case at retail. They cannot make a business case when selling energy at 'avoided cost'.
- Work with the state to allow PPA (power purchase agreements) models similar to other states with successful PV markets.
- Set a policy and then get out of an industry government clearly does not understand.



# Other Solar Industry Comments

- Promote distributed solar power.
- Communicating the request for smart legislation to the State House and Senate. In addition, request anti-trust review of the Electric Utilities by the Attorney General, who has specific duty to assure free markets without protection.
- A Program For Ground Mount Installation. Many Home Owners would Benefit with this Application.



# Other Solar Industry Comments

- Since you have created a Broward County Permitting System, it would be in the Homeowners best Interest to have a Broward County Inspection Team that is CONSISTENT in their evaluations.
- Solar PV can been a huge boost for local job creation.
- PACE by itself will not solve the problem. Cheap energy is a fact in South Florida.
- Explain how \$658,000 has been spent so far.



# Other Solar Industry Comments

- Local feed in tariff program
- We continue to see PV pricing fall to below \$4 a watt. Our goal for long term viability is low interest financing to customers that allow PV to survive WITHOUT incentives and rebates. This is possible today over the 20-30 year life. Also need to focus on the recent appraisal publication increasing home value when solar is installed. *Need to educate appraisers and realtors.*



# Other Solar Industry Comments

- FPL's current solar rebate program is incredibly disruptive to the Florida solar energy industry. The fact that the 2013 solar rebates were depleted in less than 2 minutes means hundreds of Florida residents will put off investing in solar for another 12 months.
- Solar Energy is a Welcome alternative to Power Plant generation.



# Other Solar Industry Comments

- Revenue Generated from the Power Companies support Government Spending. Also understand that all of the Residents using Power Plant will absorb the Costs for all of the Rebate Programs. There are new methods being developed in other states such as community condo solar. Also use a voluntary cost recovery option to FPL customers to pay for solar PV projects instead of having to go to the FL PSC public service commission.



# Other Solar Industry Comments

- Concern over variability of inspections
- Trying to set policies based on surveys generally fails.
- Most of my customers both commercial and residential do not feel it makes sense to swap one payment for another—lower or no electric bill for a loan payment on a solar system.



# Let's Hear from YOU

- **Fundamental Issues for Solar Industry**
- **Incentives**
  - Options , Barriers, Recommendations
- **Financing**
  - Options , Barriers, Recommendations
- **Role of Government**

# *Fundamental Financing Issues of Solar PV* for Solar Industry

- Consistent demand for product
- Available Financing Options (need low interest rate 3.5%)
- Public Service Commission related to
  - Renewable Portfolio Standard
  - Who can “sell” electricity
  - Prohibitions on solar leasing, Community solar and PPAs
- Need initial investment in industry that is maintained
- Third Party financing structure in FL to improve understanding of solar leasing and PPA structure

# *Fundamental Financing Issues of Solar PV* for Solar Industry

- Previous survey related to a public benefit trust fund (FPL bill) supported funding to go toward distributed generation solar installation
- No appetite in FI for utility rate fee increase due to social equity issues (solution: exempt low income bills)
  - \$\$ could support State “rebate” program
- Incentives cannot sustain the industry long term
- Clean up industry to not “work” the system
- Feed-in Tariff (target \$0.05/kW above current rate)



# *Financing/Incentives* for Solar Industry

- Profit levels and financial resource limit ability to pursue contractor-based financing
- Incentives are great but won't maintain the industry
- Cost point for solar compared to other energy/fuel sources is likely to be reached in the next 12-18 months to.



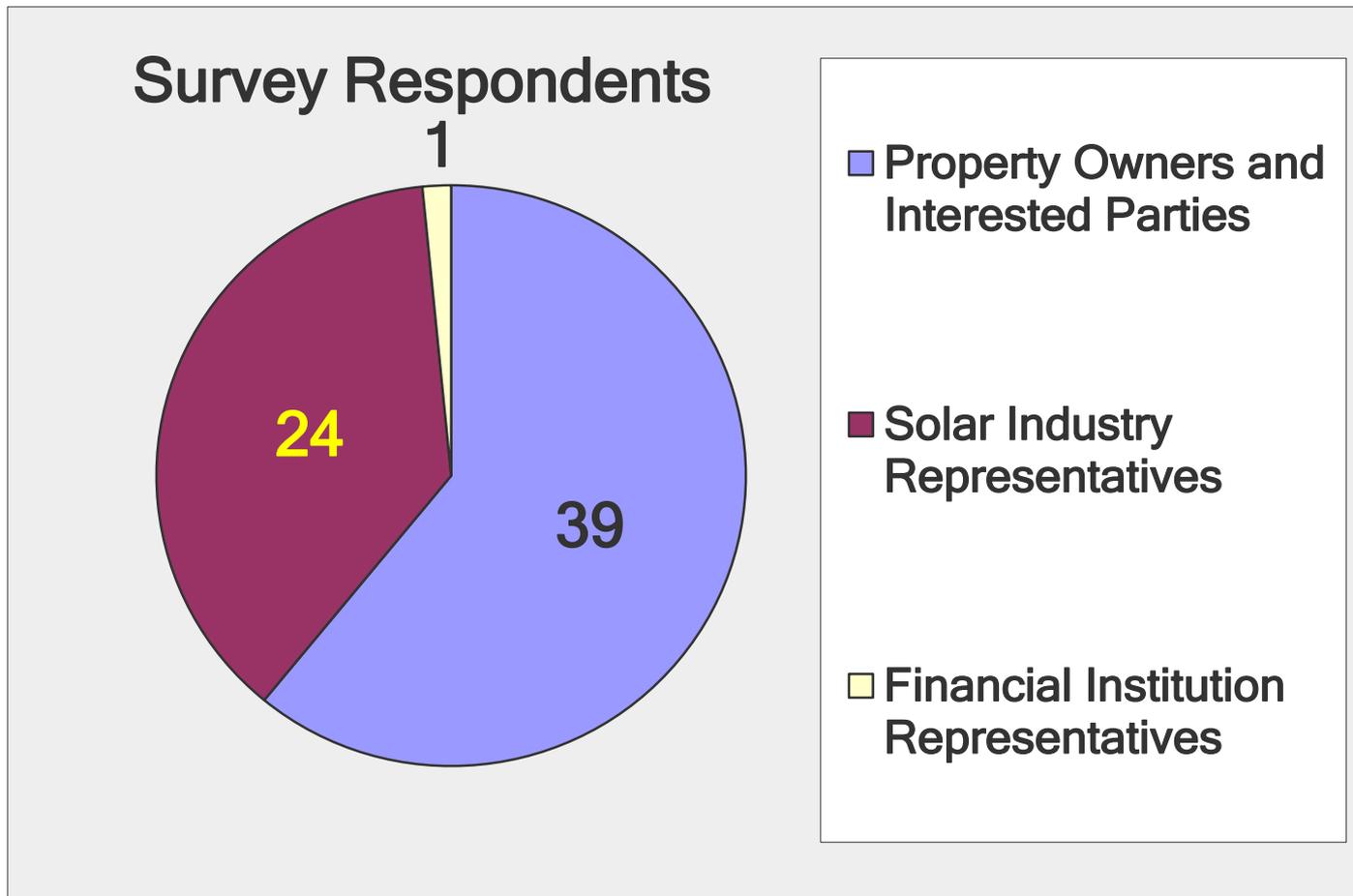
# Recommendations from Solar Industry

- Allow/Encourage/Establish Feed in tariff program
- Adopt a Renewable Portfolio Standard
- Fund FPL rebates from early cost recovery dollars
- Work to get Power Purchase Agreements approved
- Eliminate utility monopoly on selling energy
- Change legislation to allow Community Solar
- Raise the cost of electricity
- Share recommendations at local, regional and state scales to increase awareness of issues and get them incorporated into planning documents and legislative platforms

## Role of Government

- Talked about the 1% tax on luxury purchases for Energy Efficiency and Conservation programs
- Revolving loan programs with low interest (<3.5%)
- Need to understand our local issues/market and tailor successful programs from other locations to our own region
- Local or state level carbon footprint standard
- Local ordinances to help prepare new building stock for solar (Lauderhill ordinance)

# Survey Respondents (64)





# *Fundamental Financing Issues of Solar PV* for Financing Institutions\*

- Education/outreach on what solar is about as a commodity (trade shows)
- Applicant credit score and associate risk a concern
- Still need low interest loans
- Term of the loan?
- Predictability of payback?
- Return on Investment?
- Demand?
- Solar cooperatives idea

\* No local financing institutions participated in the workshop.

*Workshop Participant Feedback*

## *Next Steps*

- Attend January 25-26, 2013 Solar Fest
- Attend Seven50 Energy Resilience Summit Dec 11, 2012 to voice your concerns and advocate for policies that support solar ([www.seven50.org](http://www.seven50.org) )
- Post presentation to the web site
- Post final survey results to the website
  - survey closes Nov 2
- Visit [www.broward.org/gogreen/gosolar](http://www.broward.org/gogreen/gosolar) for updates and more information