

Staff Subcommittee on Consumer Affairs

Solar for All: Increasing Access to Solar in Low- Income Communities

**NARUC Subcommittee on Consumer Affairs
Baltimore, MD**

November 12, 2017



VOTE SOLAR

Vote Solar is a non-profit organization working to make solar a mainstream energy resource across the U.S.

We target state-level opportunities for change through a combination of:



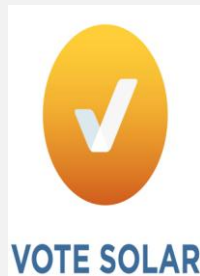
Decreased Costs +
Increased Access =
Solar Scale



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Low-Income Solar Policy Guide:



LowIncomeSolar.org

LOW INCOME SOLAR POLICY GUIDE

WHY ACT · GUIDING PRINCIPLES · POLICY TOOLS · SUCCESSFUL MODELS



WHY LOW INCOME SOLAR?

The growth of solar in the United States provides a tremendous opportunity to address some of the greatest challenges faced by lower-income communities: the high cost of housing; unemployment; and pollution. Solar can provide long-term financial relief to families struggling with high and unpredictable energy costs, living-wage employment opportunities in an industry adding jobs at a rate of 20% per year, and a source of clean, local energy ... [\[Read more\]](#)



Why Act?



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- » Energy burden
- » Health issues
- » Susceptibility to natural disasters

Why Act?



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- » Financial Relief
- » Employment Opportunities
- » Healthier, More Empowered Communities



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Guiding Principles:

All low-income solar programs should adopt the following basic principles:

- Accessibility & Affordability
- Community Partnership
- Consumer Protection
- Long-term Sustainability & Flexibility
- Complementary to Other Programs





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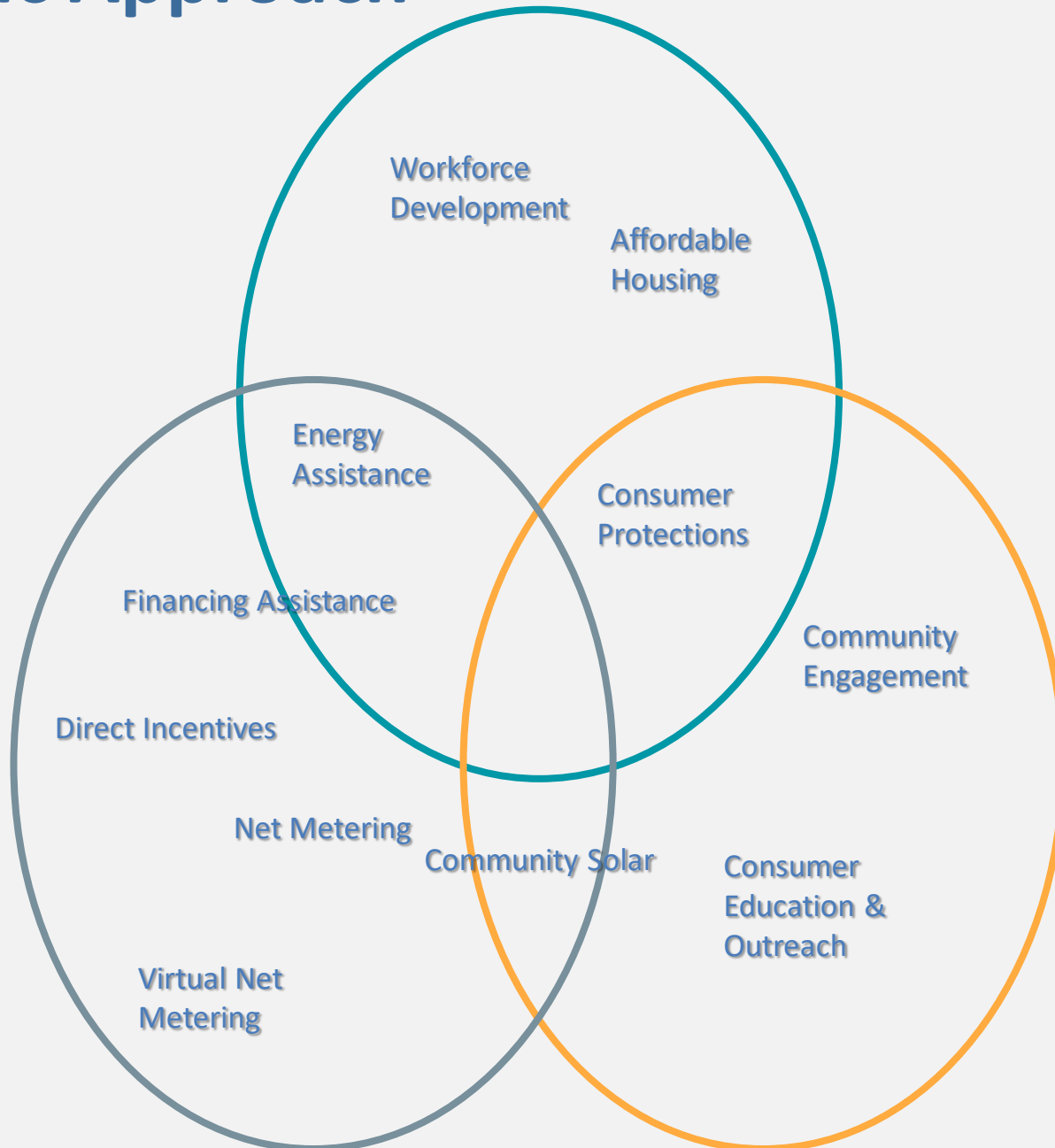
Barriers & Policy Solutions

Physical & Locational Barriers	<ul style="list-style-type: none">• Community solar• Virtual net metering
Financial Barriers	<ul style="list-style-type: none">• Direct incentives, eg rebates, renewable energy credits• On-bill recovery, net metering• Green Banks, CDFIs• Integration with job training, energy assistance, etc.
Education & Outreach	<ul style="list-style-type: none">• Partnerships with trusted community organizations• Funding for community outreach and education• Education for social services providers• Consumer protections
Market Forces	<ul style="list-style-type: none">• Financing assistance• Technical assistance• Streamlined methodologies and processes

Holistic Approach



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Trends in Low-Income Solar



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- » Increasing interest in community solar, with special programming for low-income customers
- » Incentives for low-income solar deployment
- » Workforce development programs
- » Community engagement



More Policy Development Needed:

- Customer Acquisition and Management
- Financing Challenges
- Community Ownership



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Illinois Solar for All Program

- Created by SB 2814 of 2016
- Contains essential elements of a good low-income solar program

- **Accessibility and Affordability:**

- Offers meaningful financial incentives
- Requires low-income community participation

- **Community Engagement:**

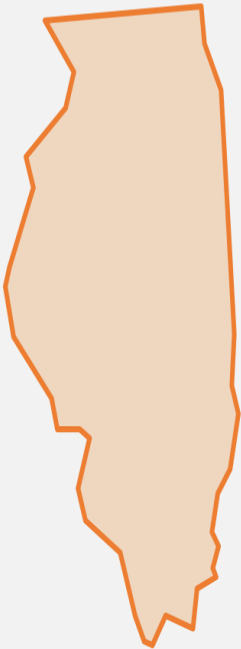
- Requires community solar developers to engage in partnership with community-based organizations
- Funds community-based organizations to perform grassroots education

- **Sustainability and Flexibility**

- Includes sustained funding
- Opportunities for program review and adjustment

- **Compatibility and Integration:**

- Includes job training
- Integrates solar with energy efficiency





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How Can We Work Together?

LowIncomeSolar.org

- » A tool for policy makers and advocates to increase access to solar

Vote Solar

- » A resource for policy and technical assistance



Thank you!

Melanie Santiago-Mosier
Program Director, Low-Income Solar Access
410-499-4565
melanie@votesolar.org
www.votesolar.org
www.lowincomesolar.org



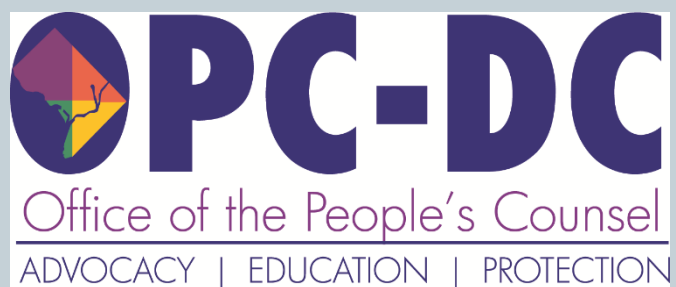
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Staff Subcommittee on Consumer Affairs

Solar Access for Low-Income Communities



Sandra Mattavous-Frye
People's Counsel
For the District of Columbia



November 12, 2017
NARUC Winter Meeting Washington DC

Demographics



- With a current population of 681,000, as of July 2016, the U.S. Census Bureau estimates that 18.6% of the D.C. population or, approximately 127,000 D.C. residents are living in poverty—another 200,000 residents are living below the District's median household income of \$70,848.
- The energy burden averages 16.3% of the household budget for low-income and vulnerable consumers.
- Average weatherization cost per housing unit is \$4,695—U.S. Department of Energy's Weatherization Assistance Program.
- Abundant solar interest, over 3,600 residential solar systems currently installed

OPC VOS Studies



- *Distributed Solar in the District of Columbia: Policy Options, Potential, Value of Solar and Cost Shifting.*
- *Solar Generation Potential and Integration of Distributed Energy Resources in Low and Middle Income Communities in Washington, DC.*

Barriers to the Expansion of Solar to Low and Limited Income Residents



- High Proportion of Renters (59%)
- Access to suitable space and Historic District Restrictions
- Lack of Open Space for Large Arrays
- Financial Constraints for Low-Income Customers
- Customer Acquisition Costs for Multi-Family Buildings
- Cost Reduction

Eliminating Solar Barriers

Program Benefits Available to D.C. Consumers:



- **Efficient Products** - Provides discounts on CFLs, LEDs and appliances, with partner retailers in the District of Columbia; and rebates for appliances and gas equipment installed by licensed DC contractors. *Customer:* All District residents
- **Home Performance with ENERGY STAR** - Rebates for whole-home energy efficiency improvements. *Customer:* District single-family homeowners
- **Low-Income Direct Services**- Direct installation of household energy efficiency products and improvements. *Customer:* Income-qualified District homeowners
- **Low-Income Multifamily Comprehensive** - Custom technical and financial assistance for energy efficiency improvements in multifamily properties. *Customer:* Multifamily building owners serving income-qualified District residents
- **Low-Income Multifamily Direct Services** - Direct installation of CFLs, low-flow faucet aerator and showerheads, hot water tank wrap, and pipe wrap for low-income multifamily properties. *Customer:* Multifamily building owners serving income-qualified District residents
- **Renewable Energy** - Incentives and financing to install solar PV systems in partnership with the District Department of Energy and Environment. *Customer:* Income-qualified District homeowners
- **Solar Thermal** - Incentives to install solar thermal arrays. *Customer:* Cooperative housing groups and multifamily building owners serving income-qualified District residents

Practical Applications



- OPC has conducted over 288 outreach, hands on presentations to government, social service and NGO partners since 2015.
- Outreach to 75+ Places of worship, congregations undertaking facility rehab/renovation.
- Distribute solar guides and education materials.
- Nearly 700 outreach events since EES inception.

Partnerships



- DOEE's Solar for All Program, 297 installations-2015-2016
- DC SEU Advisory Board
- DC Clean Energy Project
- DC Sustainable 2.0
- Educational partners DPR, DCPS, YMCA,

In Closing

Solar Access for Low-Income Communities



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SOLAR FOR ALL

A PROGRAM OF DC'S DEPARTMENT OF ENERGY AND ENVIRONMENT





- Established by the Renewable Portfolio Standard (RPS) Expansion Amendment Act of 2016
- Increases the amount of solar energy generated in the District, and provides those benefits to seniors, small local businesses, nonprofits, and low-income households
- Serves 100,000 low-income households & cuts their electric bills by an amount equivalent to at least 50% of the District's average residential electric bills.
- Funded by Renewable Energy Development Fund (RPS alternative compliance payments)
- Task Force of stakeholders informed the development of the Solar for All Implementation Plan



BARRIERS TO SOLAR IN DC



Lack of
real Estate

Lack of
willing host

Customer
acquisition
and
management

Customer
education
and
workforce
development

ACTIVITIES FUNDED IN FY 2017

Grants for
solar developers

Job training
Solar Works DC

Projects by
sister agencies
and institutions

Lead by example:
community solar,
resiliency, and
innovation

\$23+ million awarded in FY 2017



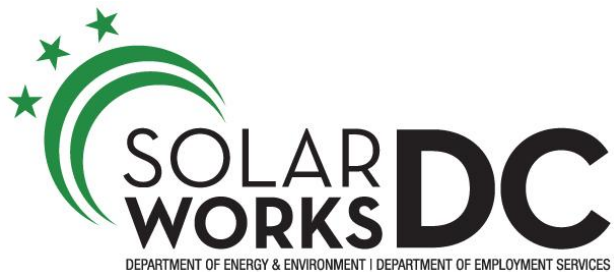
INNOVATION GRANTS

- \$5M for small businesses, nonprofits, and low-income single-family homes
- \$8M for multifamily, commercial, and institutional buildings and non-residential surface spaces
- Generate solutions to solar barriers
- Community solar and co-op projects



OTHER GRANTS

- **Weatherization + Solar Grant:** \$1.3M to Greater Washington Urban League to provide rooftop solar at DCHA properties.
- **Vulnerability Assessment and Resilience Audit Grant:** \$250,000 solar tool for affordable housing led by Enterprise Community Partners



Job-Training for careers

- 3 cohorts/year
- 75 people to be trained
- Ages 18-24
- Part of the Marion Barry Summer Youth Employment Program

Solar for DC residents

- Real-world solar installs
- 60-100 low-income homeowners get solar

Partnering with local NGOs

- Training by Grid Alternatives Mid-Atlantic

@DOEE_DC 



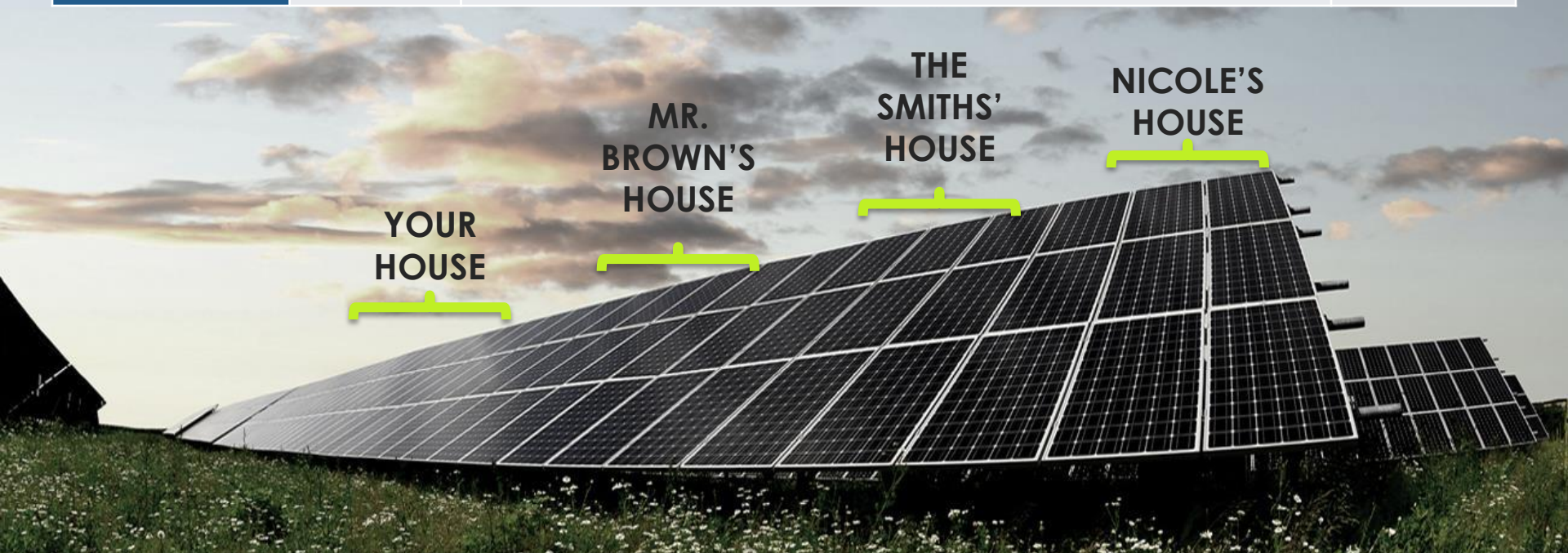
AGENCIES AND INSTITUTIONS

Name	Amount	Description
D.C. Housing Authority	\$5M	Roof repair and replacement, and solar and battery storage at DCHA properties.
D.C. Public Library	\$1M	Solar + Battery project at the Southwest Branch public library to increase resiliency for the neighborhood.



LEAD BY EXAMPLE: DGS AND DOE

Name	Amount	Description	Capacity
Oxon Run	\$3.5M	Community Solar proposed at Oxon Run, a brownfield. Bill credits will be provided to about 350 households in the neighborhood.	1 - 1.4 MW
Solar + Battery Demonstration	\$0.3M	Test 4 different kinds of batteries connected to solar panels at DGS properties to pilot automated demand response and resiliency scenarios.	N/A



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Con Edison Shared Solar Pilot Program

National Association of Regulatory Utility Commissioners

November 2017

Alison Kling

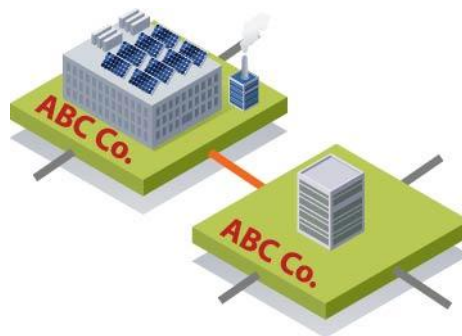
Project Specialist, REV Demonstrations and Pilots

Background: Con Edison Interconnected Solar



Traditional

- Single Customer / Single Meter
- All service classes can participate
- 161MW, 16,702 customers
- Mass market: Grandfathered into net metering
- Commercial/Industrial: Value of Distributed Energy Resources (“VDER”) compensation



Remote

- Single Customer / Multiple Meters
- Primarily non-residential service classes
- 6.8MW, 49 customers
- All compensated under VDER



Community or Virtual

- Multiple Customers / Multiple Meters
- For customers who can't install their own solar
- 160kW, 1 customer
- All compensated under VDER
- No low-income projects to date

Con Edison Shared Solar Pilot Program



- Con Edison approved to spend \$9M in capital funds
- Will own and operate solar generation on its facilities
- ~1,000 customers in Con Edison's low income electric program receive bill credits
- Focus on local, community-based outreach to engage customers
- Integrates education about energy efficiency
- Pairs credits with opportunities for longer term energy usage reductions

Goals of the Shared Solar Pilot Program

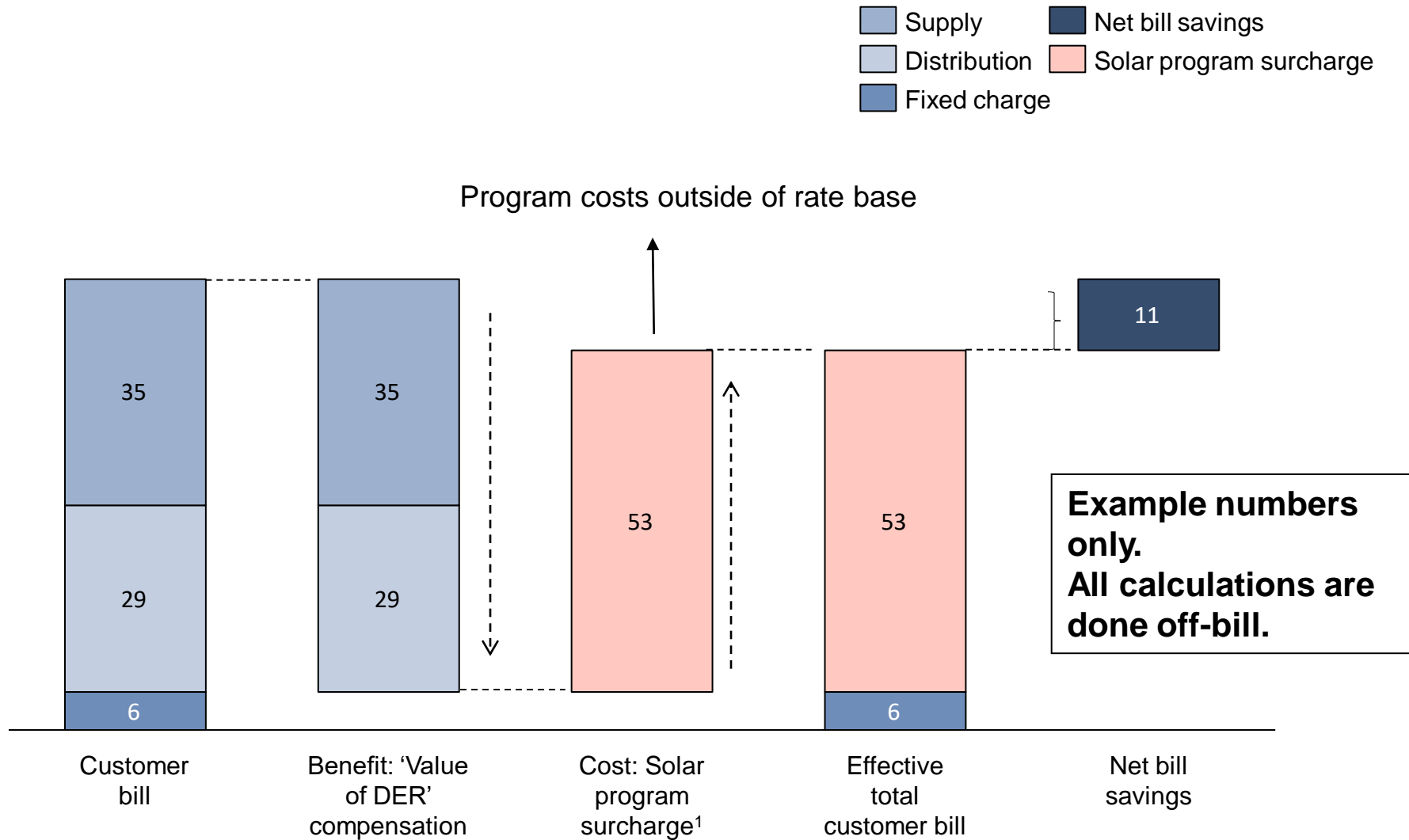
- Open up participation in renewables for a segment that has historically been left out of clean energy opportunities
- Reduce low income energy burden
- Engage low income customers on energy efficiency to provide longer-term usage and bill reductions
- Learn about optimal design and business case for low income customer solar programs

Timeline

- File Implementation Plan November 30, 2017
 - Public comment period follows
- Project start contingent on PSC approval
 - March 2018 at earliest
- Operational solar not expected until 2019



Shared Solar Bill Estimated Impacts



What We Are Testing

- **Business model**

- Ability to provide meaningful bill credits
- Lessons for other market actors
- Participant bill payment behavior

- **Engagement strategies**

- Marketing channels
- Effectiveness of messaging on renewables and energy efficiency

- **Solar technology**

- Forecasts of generation and value streams



Thank you!

Staff Subcommittee on Consumer Affairs



Income Solar Consumer Protection

InGRID
Schwinger

Policy & Regulatory Coordinator



Our Mission

To make
renewable energy
technology and job
training accessible
to underserved
communities



Our Model

- Triple bottom line
- Community engagement
- Volunteerism
- Partnership



Our Work

1. Solar installation
2. Workforce development
3. Policy and program development



Example: SASH Program

California's Single-family Affordable Solar Homes
Program

SASH



Brief Overview

The Single-family Affordable Solar Homes (SASH) Program is one of the California Solar Initiative's (CSI) two low-income solar programs.

GRID Alternatives (GRID), a non-profit solar contractor, is the statewide Program Administrator for the SASH Program.

The SASH Program is uniquely designed to be a comprehensive low-income solar program. In addition to providing incentives, SASH is structured to promote or provide energy efficiency, workforce development and green jobs training opportunities, and broad community engagement with low-

SASH



Third Party Ownership Model Standards

- TPO model authorized in 2015
- CPUC stakeholder process to allow TPO to serve low-income families at scale (for the first time)
- 12 baseline requirements, including:
 - SASH customers receive at least 50% of the savings, as compared to standard utility rates
 - Protects against abuses from subprime financing, escalating payments, and high interest loans
 - Prohibits liens on homes
 - Standardize financial terms for low-income customers where possible



Get Involved.

gridalternatives.org

ischwinger@gridalternatives.org

202-602-0725