



COMMUNITY SOLAR AT SEATTLE CITY LIGHT

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Community Solar Program Manager

www.seattle.gov/light/communitysolar

Seattle City Light Facts

Municipal owned & “nation’s greenest”

☀️ 92% hydropower

☀️ 4% wind

☀️ Net-zero carbon emissions

Service area

Seattle, Burien, Renton, SeaTac,
Shoreline, Lake Forest Park,
Tukwila, some uninc. King County

Statistics

☀️ 408,000 customer accts

☀️ Retail load - 1,130 -1,150 aMW
(9,506,400 MWh/year (2013))

☀️ almost 1,700 solar
generating customers and
7.9 MW of installed solar!



Background – Solar at City Light

CUSTOMER GENERATION

Customers install solar photovoltaic (PV) systems on their own premises; SCL offers net metering services and state renewable energy production incentives



GREEN UP

Voluntary customer payment option that funds regional renewable energy projects (RECs), local solar projects on public facilities, education and

COMMUNITY SOLAR

Customers purchase “solar units” of larger projects on public facilities and get shared benefits of net metering and state production incentives



COMMUNITY SOLAR AT CITY LIGHT

State Law Shapes Community Solar in WA

- RCW 82.16.110 & WAC 458-20-273 (program currently set to expire June 30 2020)

Grant-funded Origins

- DOE Grants in 2008 & 2010

Program Design

- SCL builds, customers “pay back,” Host gets long-term benefit
- Participants encouraged to support solar in the community
- Low \$ entry level



SITE SELECTION

- In WA, a utility can locate community solar anywhere
- Non-utility-owned community solar restricted to local government sites
- City Light so far choosing to work with gov't or non-profit sites but that could change. Example: Costco located directly adjacent to substation/South Service Center
- Hosts chosen for community & conservation orientation/mission plus solar orientation/exposure and contracting agility (what is the host's procurement process and is it time-consuming?)

GENERAL PROJECT INFORMATION

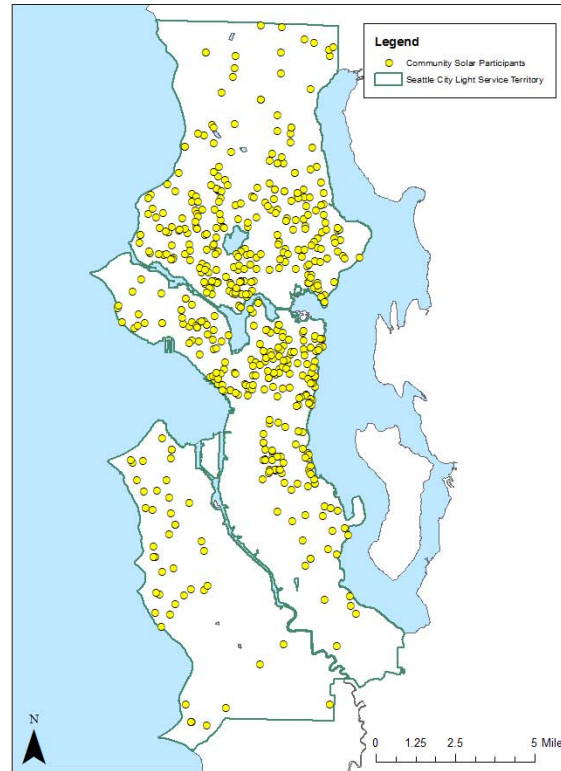
- Solar units cost \$150; each represents a 28 watt piece of the system
- Customers can buy from 1 – 125 units
- Current WA state production incentives (\$1.08/kWh) and bill credits for the energy produced (about 7.5 cents/kWh) add up to \$1.16 per kilowatt-hour of electricity
- Online enrollment system available; charges are divided into 2 equal payments across 2 bills
- Annual payments/credits should add up to more than unit cost (
- Monitoring systems provide live data and are available to see online (http://portfolio.deckmonitoring.com/city_of_seattle)

WHERE IS COMMUNITY SOLAR IN SEATTLE?

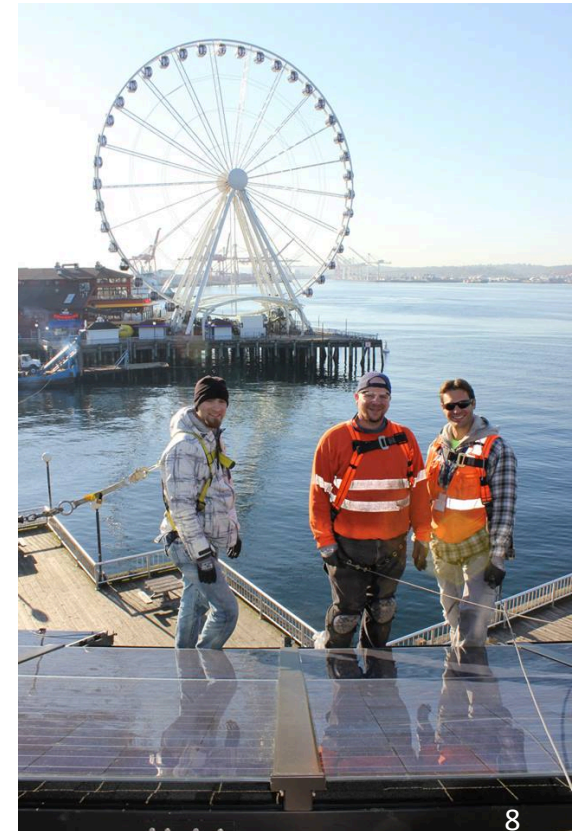
Jefferson Park Shelters



Community Solar Participants



Seattle Aquarium



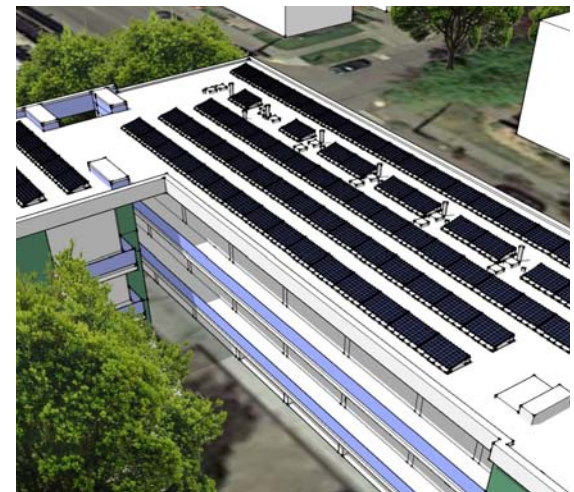
PHINNEY RIDGE PROJECT – 2 HOSTS, 3 SITES

- State’s largest community solar project at 74.79 kW (2671 solar units)
- Made-in-WA Itek modules and inverters
- Phinney Neighborhood Association – emphasizes “community.” PNA’s programs include sustainable home improvement programs & a tool-lending library
- Woodland Park Zoo has strong conservation and sustainability missions and believes it has a responsibility to inspire people across our region to improve the health of our environment by modeling sustainability
- Zoo’s Rainforest Food Pavilion gets over 500,000 visitors annually (total zoo visits top 1.25 million/year)
- Should return about \$187 per each \$150 unit by end of project in mid-2020



CAPITOL HILL ECODISTRICT – SOLAR PLUS AFFORDABLE HOUSING

- Hosted by affordable housing provider Capitol Hill Housing. A public municipal corporation, CHH provides affordable apartments to more than 1,700 residents
- “Ballasted” system on the flat roof of a 30 unit apt. building located in the heart of the Capitol Hill EcoDistrict – a neighborhood-based sustainability initiative serving the most densely populated urban village in the PNW
- 25.92 kW (925 solar units)
- Made-in Washington Itek modules & inverters
- When system ownership passes to CHH in 2020, the electricity it generates will lower the operating costs for the Holiday Apartments and other CHH properties, directly benefitting low-income tenants

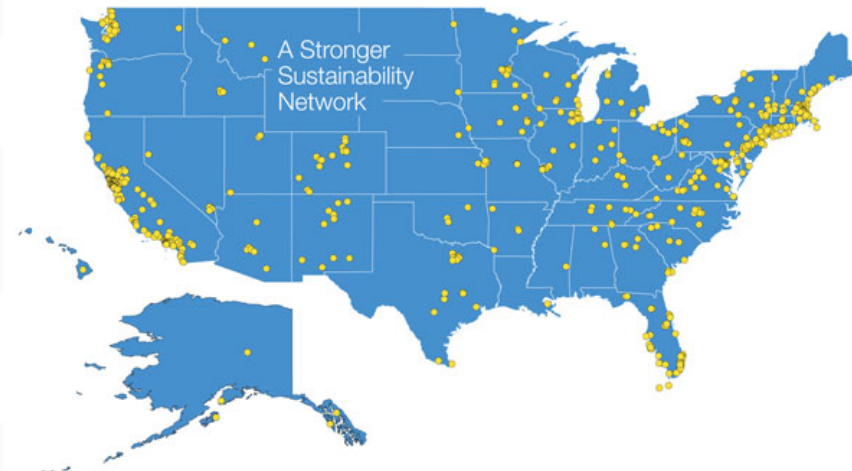


City Light is always happy to share information.
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- Take your local climate, energy, and sustainability initiatives to the next level
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- www.icleiusa.org

SunShot Solar Outreach Partnership



The SunShot Solar Outreach Partnership (SolarOPs) is a U.S. Department of Energy (DOE) program designed to increase the use and integration of solar energy in communities across the US.

What we will cover today?

- Different financing models for community-scale solar projects
- The preconditions necessary for each model
- How each model affects the spatial deployment of solar energy systems



Photo credits: Will Cottrell-Bright Energy Co-Operative

What is the community solar?

- Community solar is an option to purchase or lease part of a larger solar array instead of having to purchase the entire system. This is a good option for households that:
 - do not own the building
 - have concerns over high upfront costs or operations and maintenance issues
 - have an unsuitable roof for solar (permitting issues, HOA restrictions, structural challenges, shading)

The potential to lower soft costs

- Greater economies of scale
- Simplified permitting for a single site
- Lowering customer acquisition costs

Panelist Introductions

Download Today for FREE (or grab a copy)!

Planning for Solar Energy



David Morley, AICP, Editor

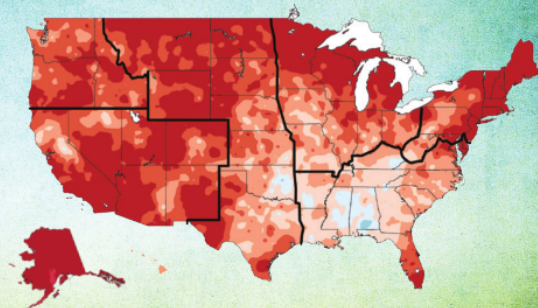


American Planning Association
Planning Advisory Service
Report Number 575

Making Great Communities Happen

Climate Change Impacts in the United States

HIGHLIGHTS



U.S. National Climate Assessment
U.S. Global Change Research Program

Carbon Pollution Standards

Carbon Pollution Standards Home

Learn About Carbon Pollution From Power Plants

What EPA is Doing

Regulatory Actions

Where You Live

You are here: EPA Home » Carbon Pollution Standards » Clean Power Plan Proposed Rule

Clean Power Plan Proposed Rule

On June 2, 2014, EPA proposed a commonsense plan to cut carbon pollution from power plants. States, cities and businesses across the country are already taking action to address the risks of climate change. EPA's proposal builds on those actions and is flexible - reflecting that different states have a different mix of sources and opportunities, and reflecting the important role of states as full partners with the federal government in cutting pollution. This proposal will maintain an affordable, reliable energy system, while cutting pollution and protecting our health and environment now and for future generations.



COMMUNITIES ACROSS AMERICA ARE LEADING THE FIGHT AGAINST CLIMATE CHANGE



Learn more about how these communities are combating climate change at wh.gov/climate-champs

#ActOnClimate

BRIEFING ROOM | ISSUES | THE ADMINISTRATION

Home • Solar Deployment

Champions of Change

WINNING the FUTURE ACROSS AMERICA

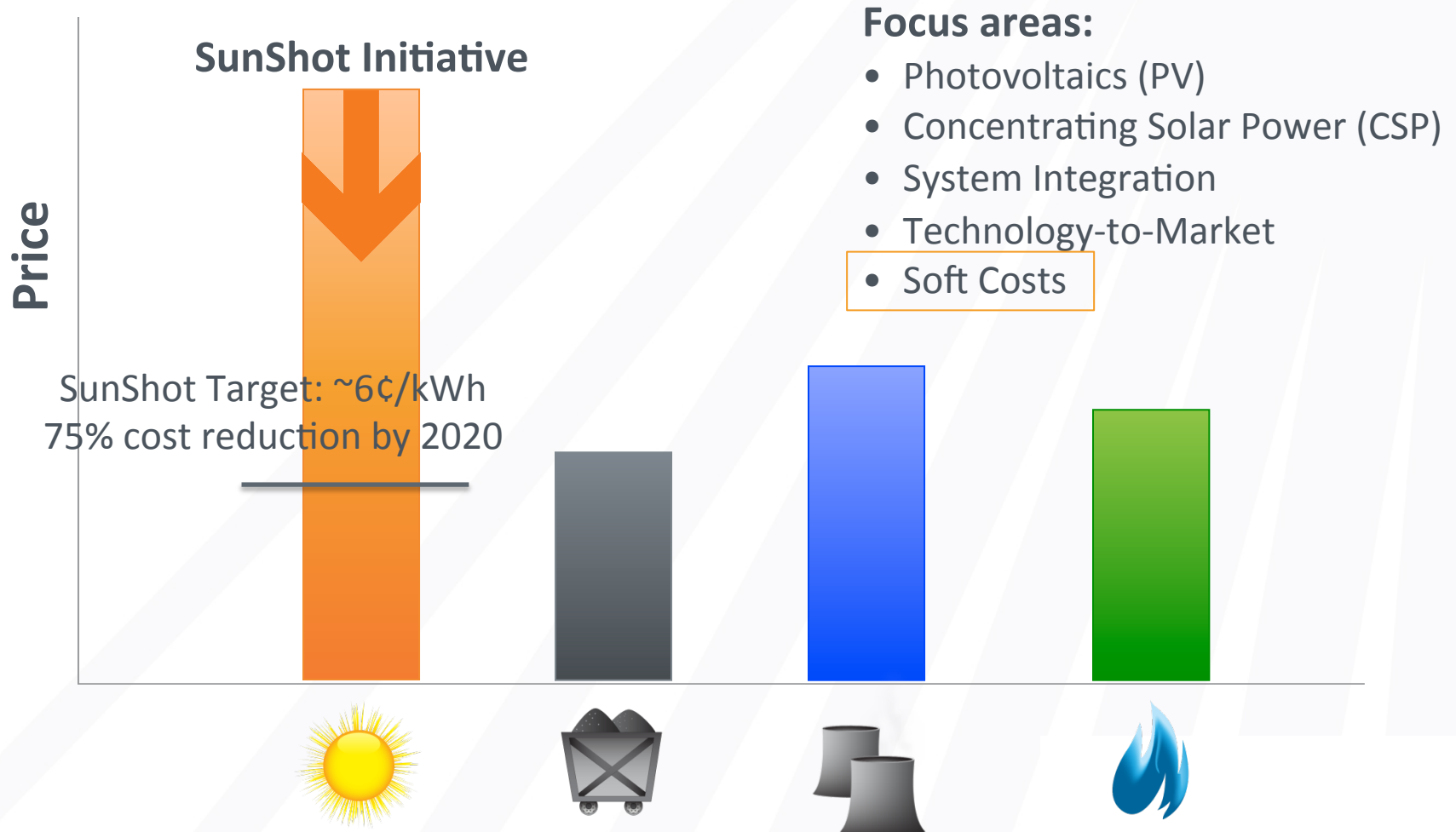
Home | Blog | Nominate a Champion | Previous Champions

Champions of Change: Solar Deployment

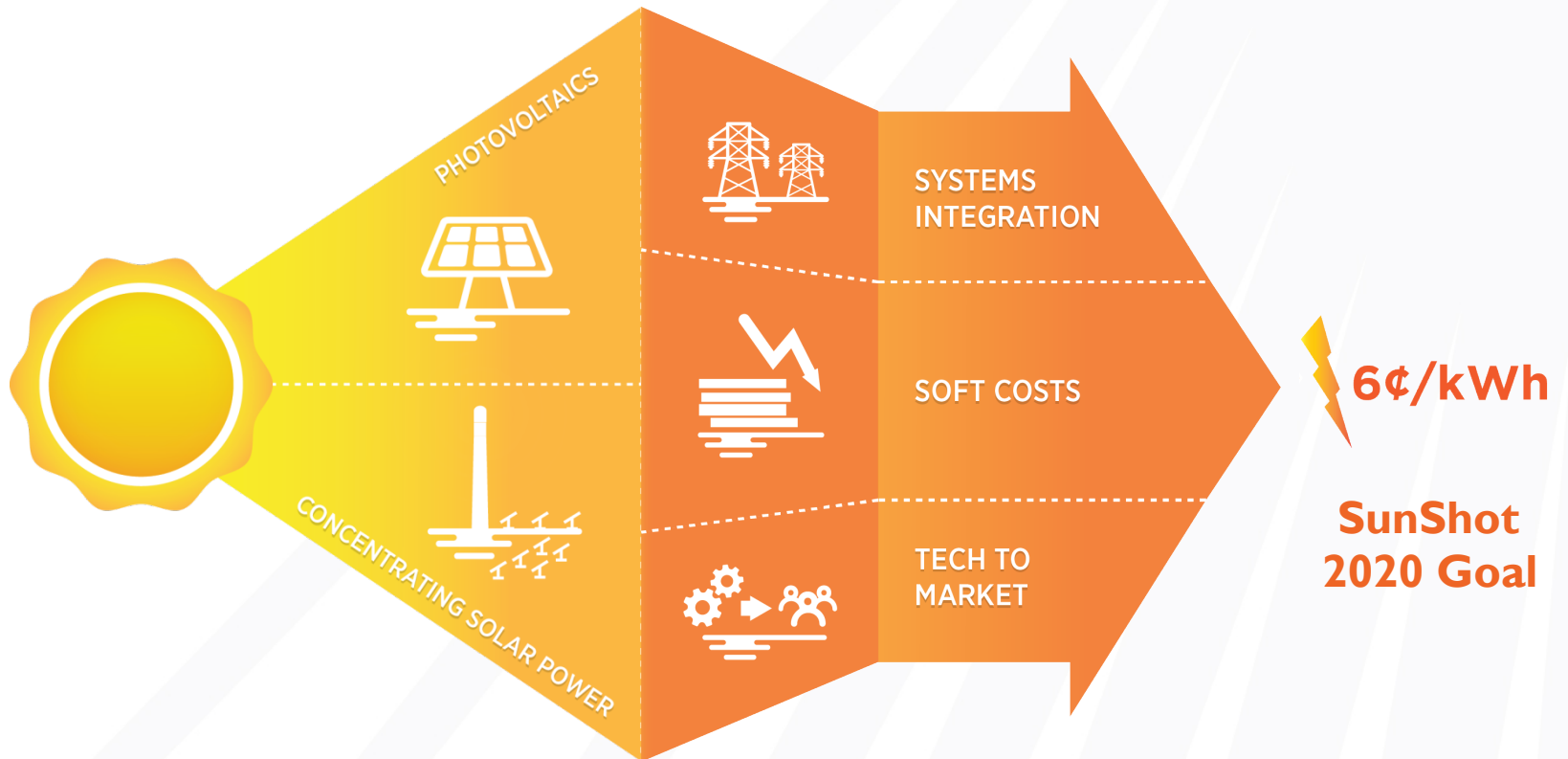


What is SunShot?

The DOE SunShot Initiative is a **national collaborative effort** to make solar energy **cost-competitive** with other forms of electricity, **without subsidies**, by 2020.



SunShot Program Structure



Soft Costs and Deployment Barriers

- Soft costs and Deployment barriers are the result of a **lack of information** needed to do a job or make a decision
- They can be called “transaction costs”
 - Information/data search, gathering and generation costs
 - Bargaining costs, lost opportunity when decisions appear risky
 - Compliance and enforcement costs
- These information gaps **slow market growth** and can **prevent market access**

Red tape related to solar installations can drive up costs and limit solar adoption. In the U.S., there are



18,000 JURISDICTIONS,
3,000 UTILITIES,
50 STATES,

with different rules and regulations.

SunShot Soft Costs Strategic Areas

BUSINESS INNOVATION

Developing solar finance and business solutions to expand access to capital and accelerate market growth



NETWORKING AND TECHNICAL ASSISTANCE

Empowering state and local decision-makers through timely and actionable resources, peer networks, and technical assistance



DATA ANALYSIS

Harnessing big data analysis and technical solutions to support the many stakeholders involved in solar deployment



TRAINING

Training an innovative solar workforce to enable the solar industry to meet growing demand



Opportunities Beyond the Residential Rooftop

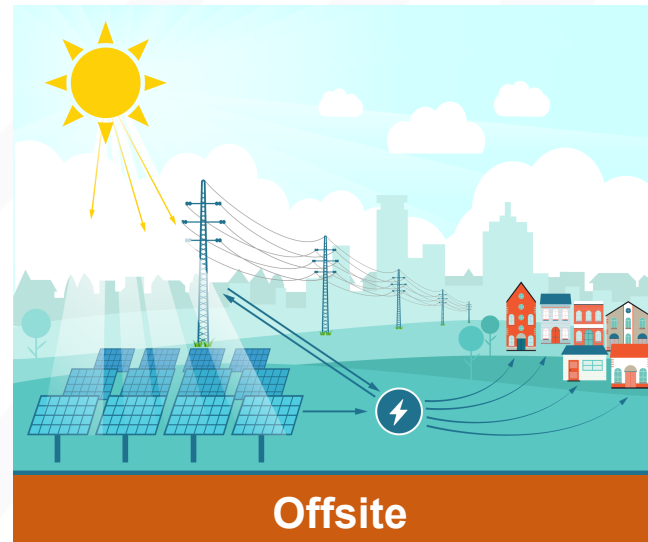
Community Solar

Community members work together to enable solar in their community



Shared Solar

Participants own or lease panels, buy kWh blocks of generation, or own an interest in a shared system



Community Sourced Funding



- Transparency and standardization in the mid-market project finance process
- Broadening the investor base by making project ownership easily accessible to community inspired investors
- Streamlined and efficient due diligence process to reduce the cost of capital



Village Power Finance

- What We Offer:
 - -- Local solar crowdfunding platform for community organizations
 - -- Accesses lower cost of capital
 - -- Platform integrates whole project lifecycle
 - -- Automated services for development, contracting, asset management
 - -- Freemium model drives network value
- Who We Serve:
 - * **Solar Customers:** Churches, schools, clubs, universities, businesses and municipalities
 - * **Investors:** Community members first; co-investment from crowdfunders & institutional investors
 - * **Secret Weapon:** Empowered community champions, independent energy consultants, municipal leaders, “community solar” developers
 - www.villagepowerfinance.com



Your Community. Your Solar.

Call Us Today
(855) 786-4376

[Browse Projects](#)

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[Learn More](#)

First Baptist Church

Location: Selma, CA Size: 60 kW Goal: \$229,254



Primary Champion

David Odishoo
Manteca, CA

[Invite Friends](#)

[Contact Champions](#)

[Follow Project](#)

Progress

Be first to pledge in this project!

[Pledge to Invest](#)



Returns

(Tax Equity Investors)

IRR:
14.6%

ROI:
84.5%

Payback time:
3 years

**Return on \$10,000
invested:**
\$8,450

Returns

(Non Tax Equity Investors)

IRR:
4.4%

ROI:
54.2%

Payback time:
13 years

**Return on \$10,000
invested:**
\$5,420

[Overview](#)

[Gallery](#)

[Downloads](#)

[Bulletin](#)

[Champions](#)

[Financials](#)

[Investors](#)

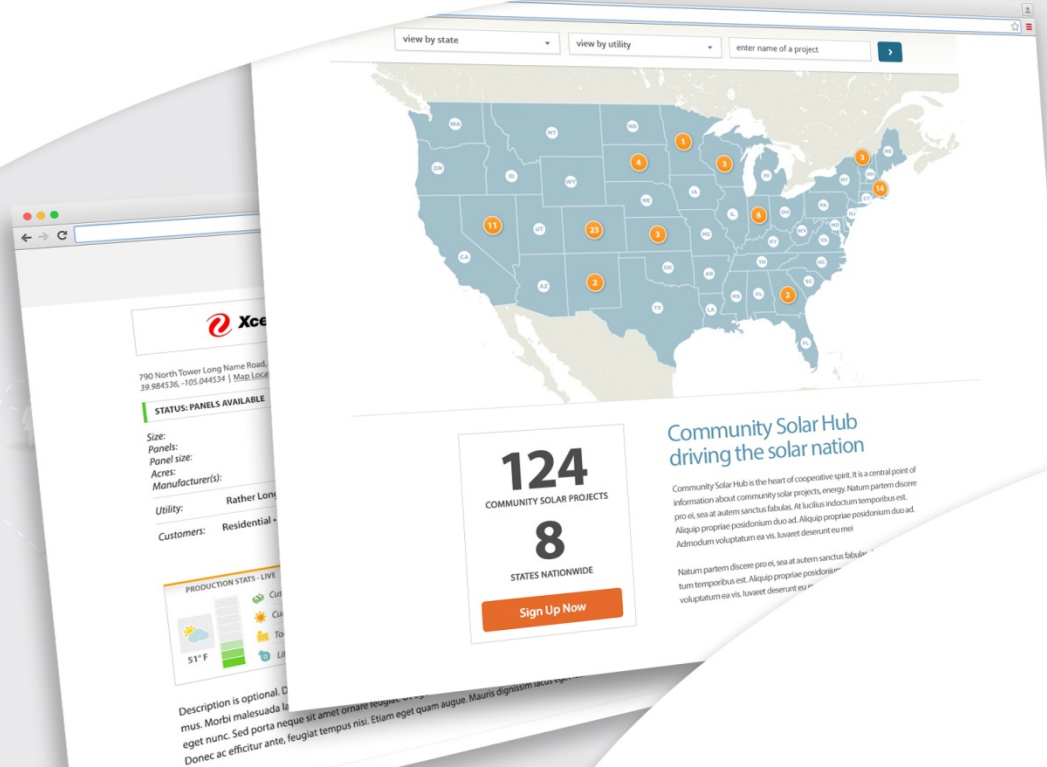
[Invitations](#)

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CommunitySolarHub.com



- Centralized portal for all community solar projects
- Project tools for EPCs, utilities, and individuals
- Now anyone can create a community solar project



Solar Market Pathways - \$14.6M, 2015-2018

Pathways awardees are developing strategies and tools to increase solar deployment, including: incorporating solar into emergency planning; leveraging collective purchasing power; expanding virtual net metering and commercial property assessed clean energy financing; developing business models for community solar; and assessing solar grid impacts and interconnection processes.



State Policies and Incentives Supporting Shared Solar

Program	Description	States
Group net metering or VNM	Enables the allocation of benefits from an electricity-generating source that is not directly connected to a customer's meter	California, ^a Connecticut, ^b Massachusetts, Maine, New Hampshire, Vermont
Statewide shared energy program	Establishes a comprehensive shared renewable energy program in the state (including VNM or value-of-solar provisions)	California, ^c Colorado, Delaware, District of Columbia, ^c Massachusetts, Minnesota
Incentives	Provides additional financial incentives for shared renewable energy programs	Washington

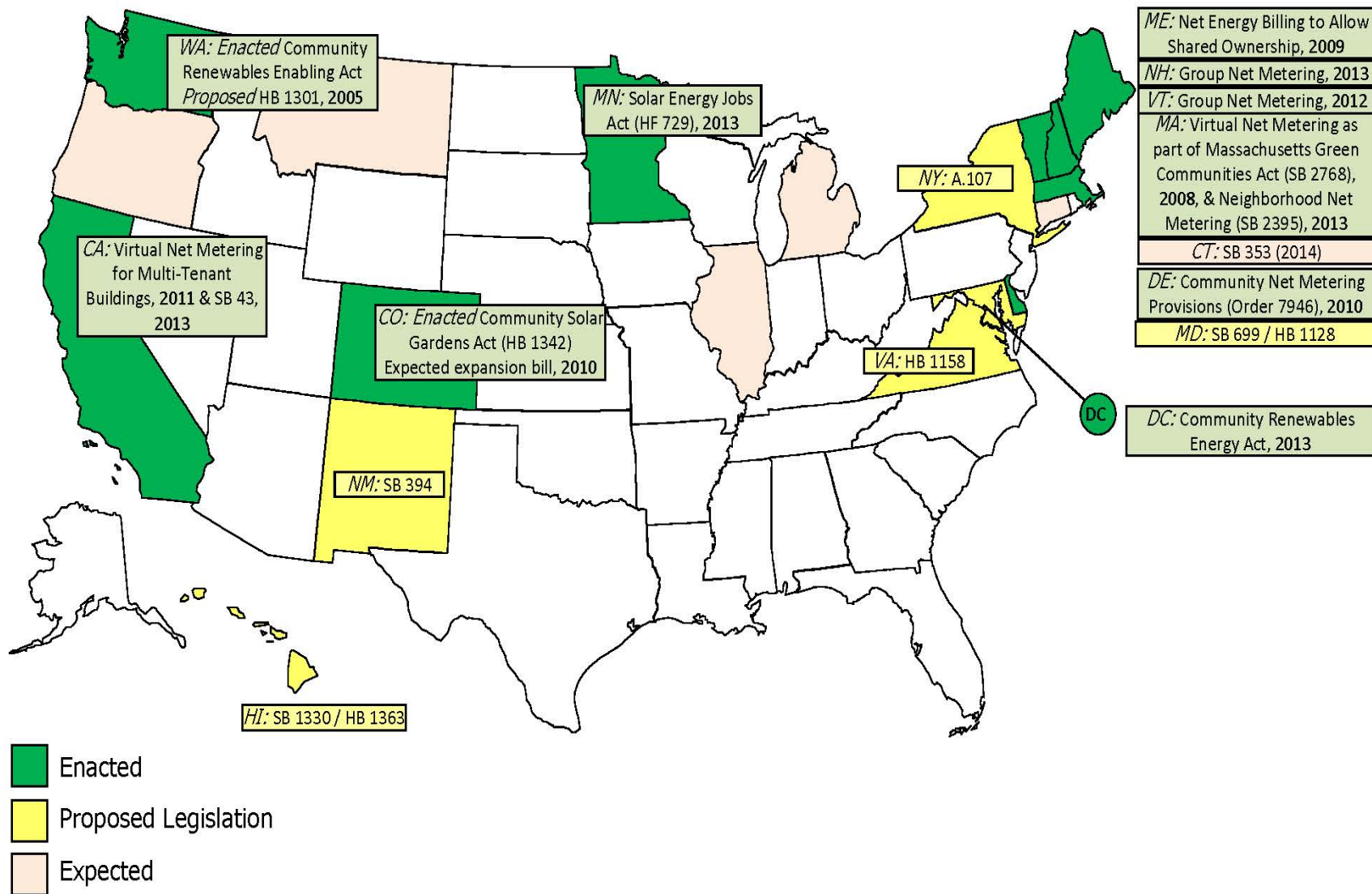
^a Restricted to residential and commercial multi-tenant properties.

^b Restricted to state, municipal, and agricultural customers as well as critical facilities.

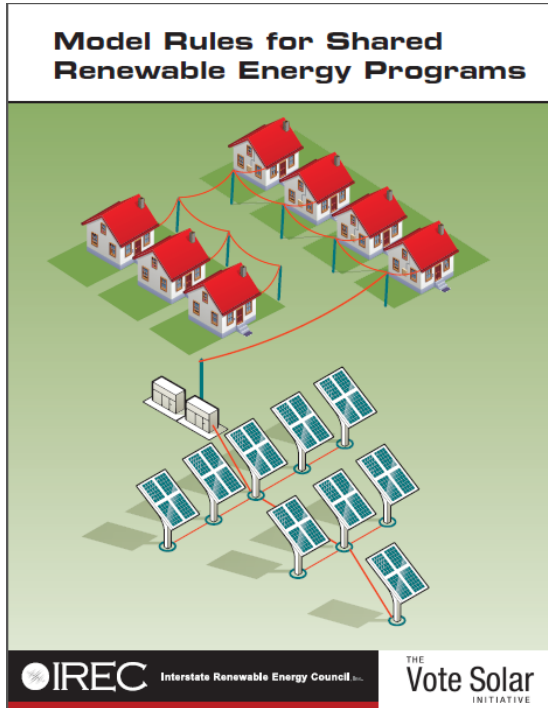
^c Specific rules are still being considered by the state regulatory commissions.

Disclaimer: General overview table may not be comprehensive and does not account for all program nuances

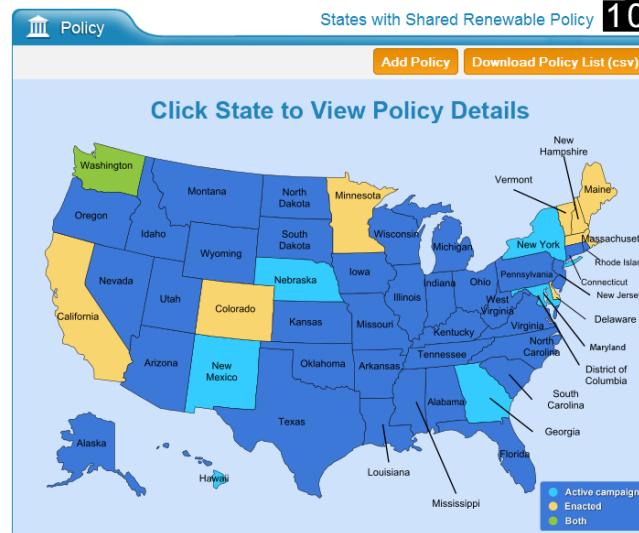
Enacted, proposed, and expected shared solar legislation, February 2015



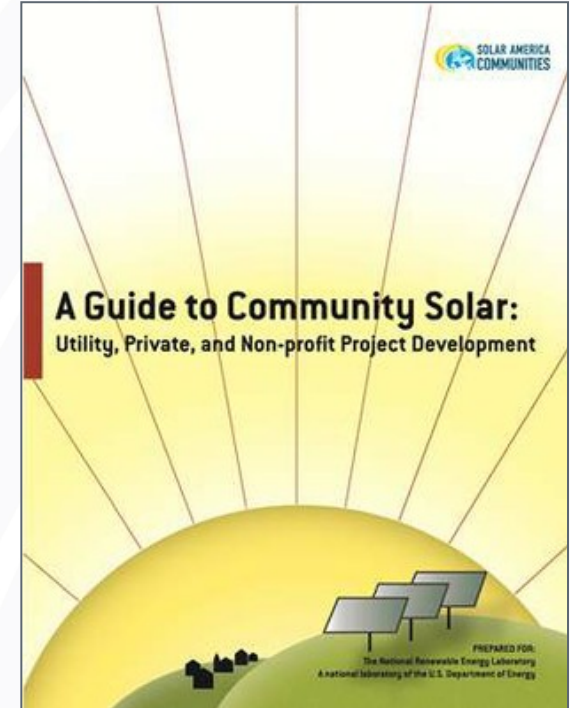
Selected Resources



Interstate Renewable Energy Council & The Vote Solar Initiative
www.irecusa.org



Shared Renewables HQ
www.sharedrenewables.org



SunShot Initiative
Solar Energy Resource Center
www4.eere.energy.gov/solar/sunshot/resource_center/

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Thank You!

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