Low-income Community Solar
NEUAC Conference Denver, CO
June 6th 2016

GRID ALTERNATIVES

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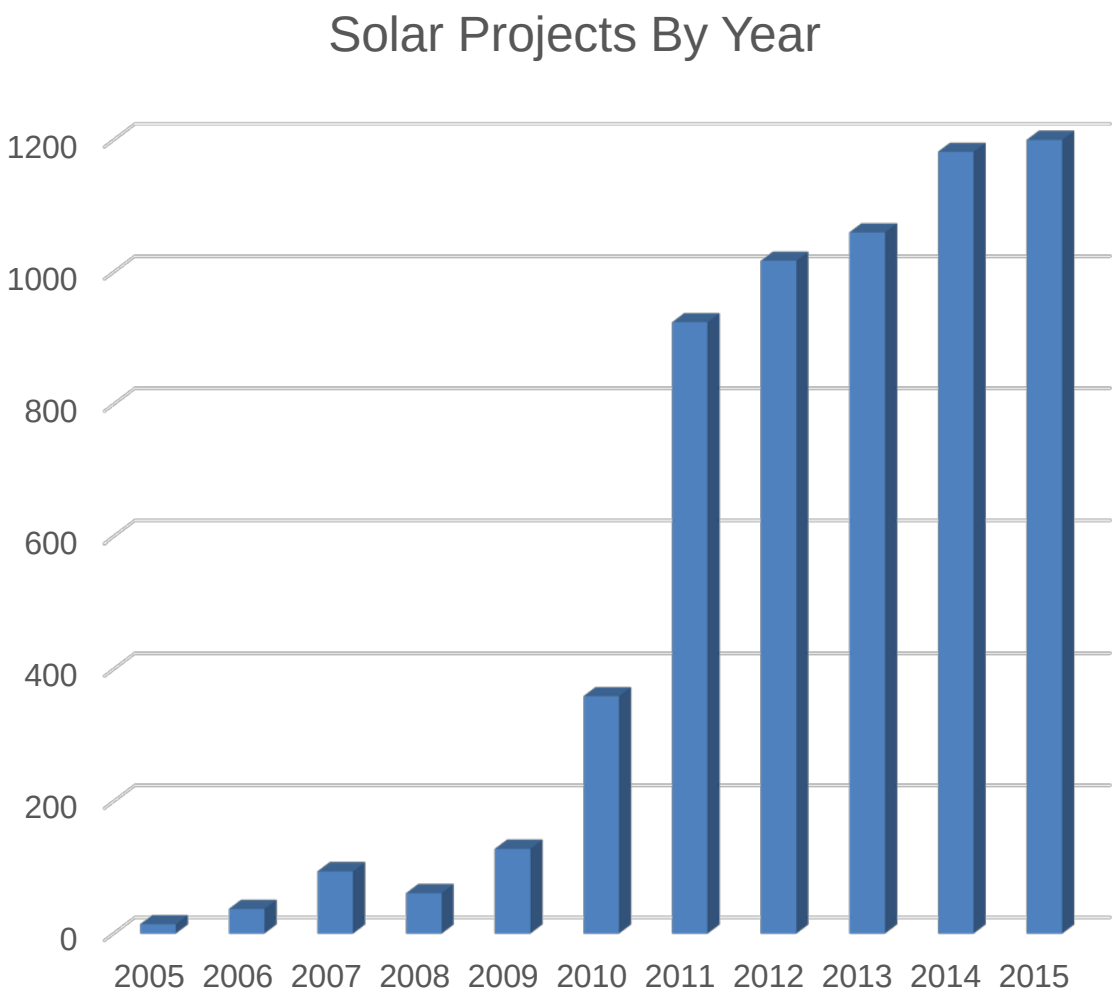
Our Mission

Access to solar technology and job training for underserved communities

Our Model

- The country's largest nonprofit solar installer
- GRID trains and leads job trainees and other volunteers to install solar for low-income families who most need the savings, but have the least access
- Focus on low-income (LI) single-family homes, multifamily housing, community solar
- Workforce development and energy efficiency integration

Impact



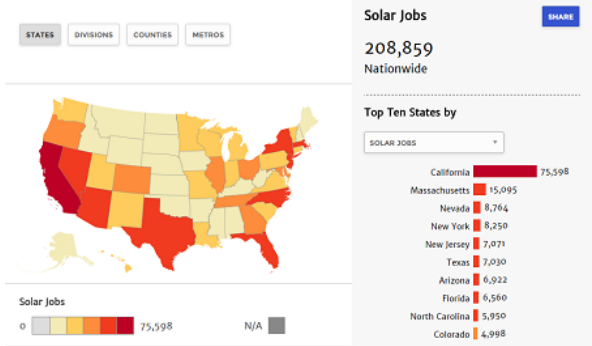
- 6,600 families, 22 MW
- $180 million savings
- 26,000 individual workforce trainees
- White House Champions of Change for Solar Deployment

Partnerships & Commitments

- RENEW 300
  - Technical assistance for HUD 300 MW solar commitment
- National Community Solar Partnership
- RISE Initiative
  - Increasing diversity & inclusion in solar workforce
- Tribal partnerships
- www.lowincomesolar.org

Why Low-income Solar?

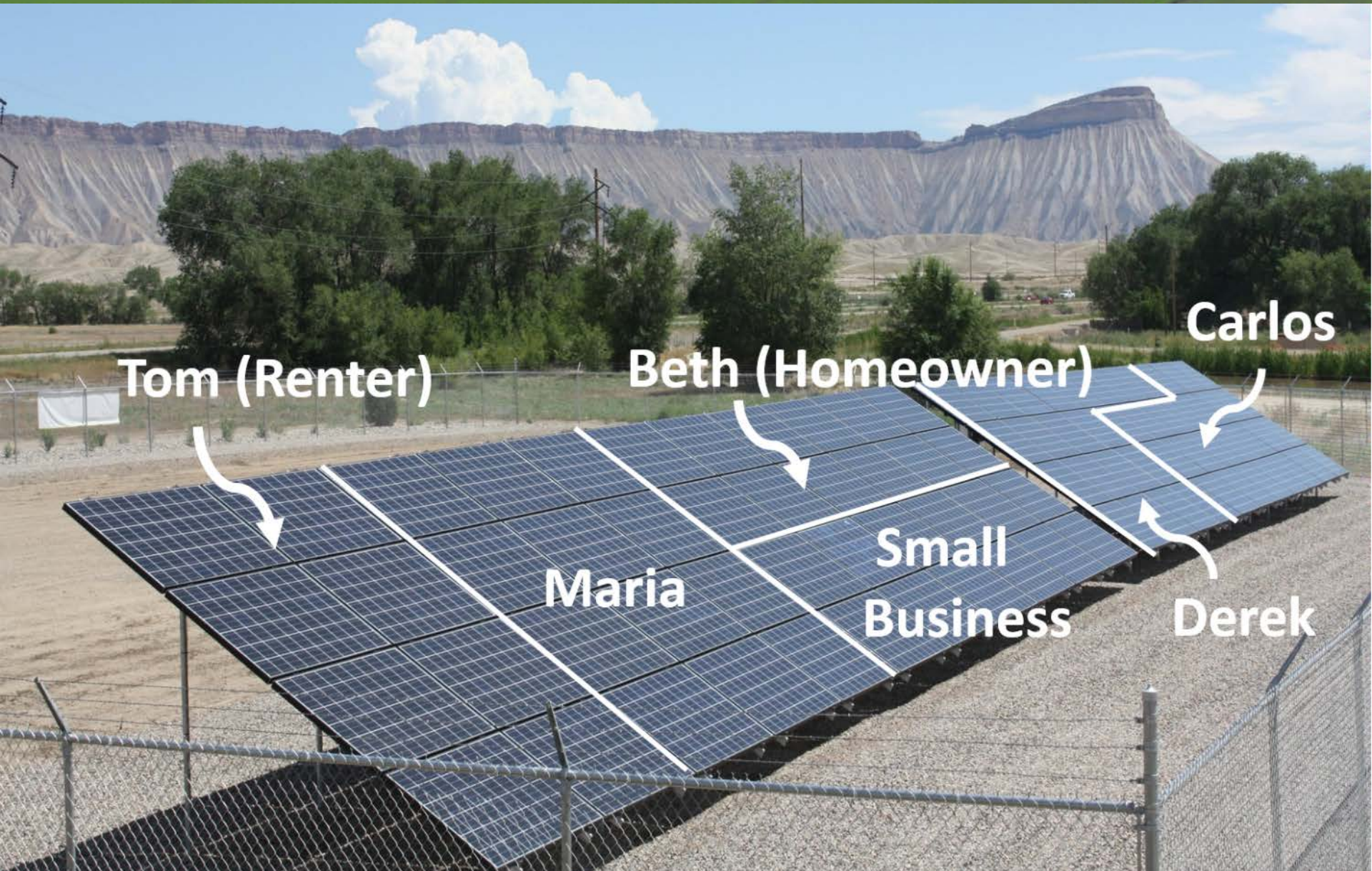
- Equitable access
- Economic Benefits
- Environmental Justice
- Jobs
- Widespread adoption



Elements of a Successful LI Solar Program

- Cash-flow positive from day one
- Removes financial barriers for low-income families to access solar
- Consumer protection focus and benefit on maximizing household savings
- Multi-lingual and multi-cultural marketing approach
- Incorporates energy-efficiency, weatherization, and consumer education
- Works with mission-aligned partnerships and community-based organizations
- Creates employment and job training opportunities

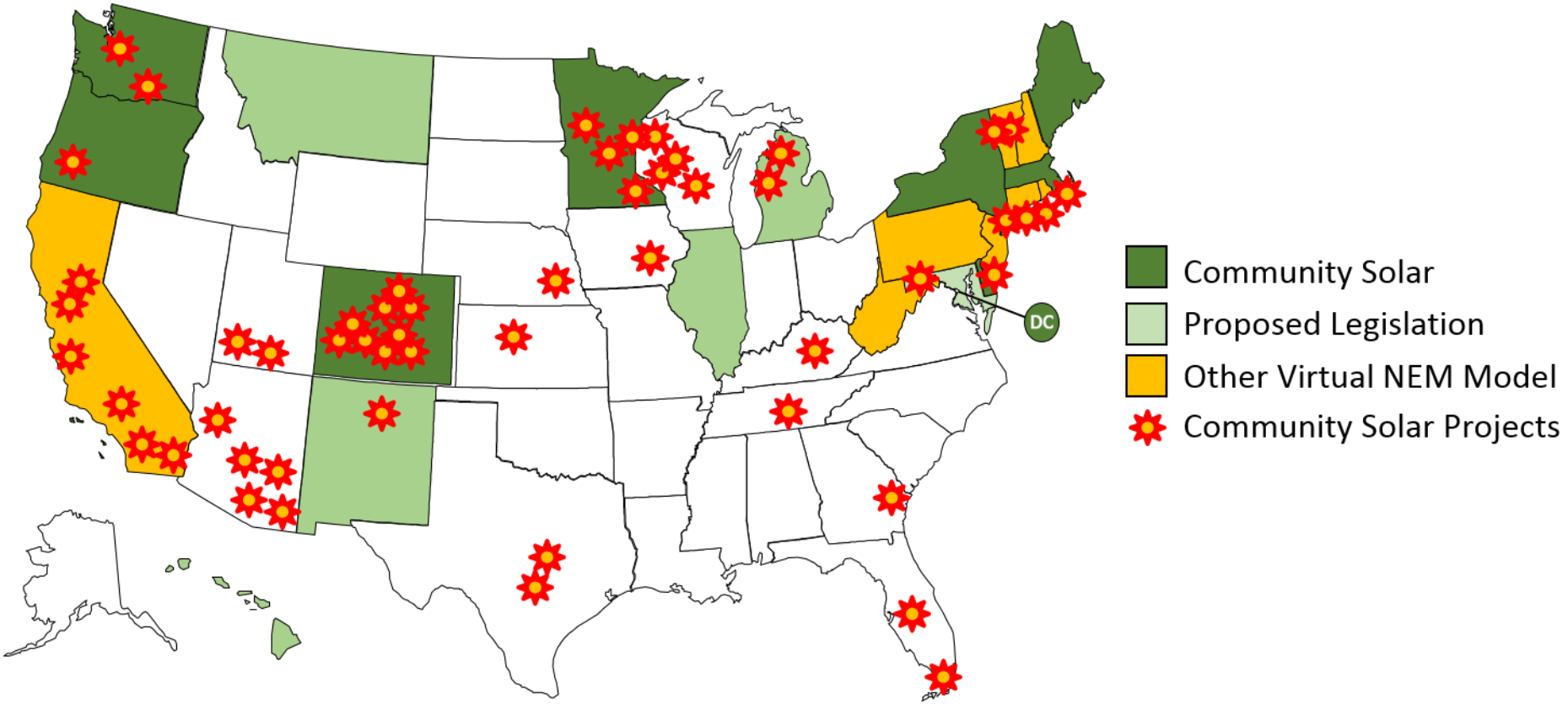
Community Solar



Why Community Solar?

- Flexible model
  - Access for other 49% of country
  - Renters, those without suitable roofs for solar
- Lower barriers to entry
- Control of asset, transferrable
- Scale can reduce costs
- Siting flexibility
  - Optimal grid integration
- Wide range of business models and partners
  - Utility-owned, third-party, etc.

National CS Landscape



Initiated as a **policy by a state**, or **program by a utility**

GRID's Work in Community Solar

First developer of 100% low-income arrays in the country

GRID Colorado's primary focus due to challenging regulatory environment in Colorado for low-income rooftop solar

- 125 kW in operation, 2.9 MW under development
- Colorado Energy Office Low-income Community Shared Solar Demonstration Project
- Technical assistance for Denver Housing Authority for 2 MW community solar garden in Xcel service territory
- Customer acquisition support for partners
- National Community Solar Partnership

Community Solarthon

COMMUNITY SOLARTHON

GRID Alternatives Colorado 2015

Low-Income Community Shared Solar Demonstration Project

$1.2 million to implement low-income community solar projects - GRID leverages 2:1

Two overarching goals:

- Reduce household energy burden by enhancing low income access to solar
- Demonstrate the scalability and viability of low income community solar arrays

Two project phases:

- Phase 1: Partner with Rural Electric Cooperatives and Municipal Utilities (unregulated territories)
- Phase 2: Partner with Investor Owned Utilities (regulated territories)

CEO COLORADO Energy Office

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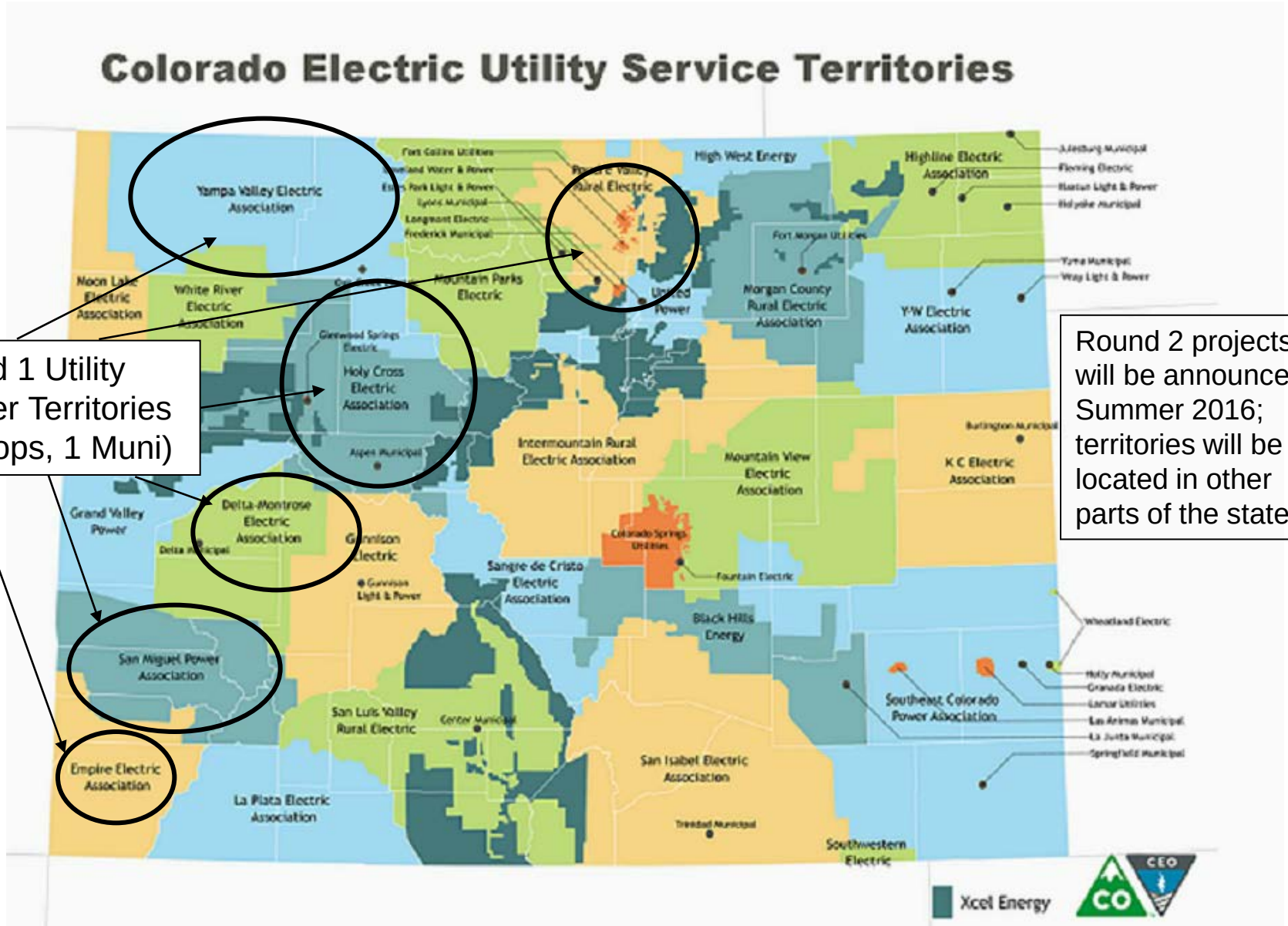
Low-Income Community Shared Solar Demonstration Project



Round 1 Utility Partner Territories (5 Coops, 1 Muni)

Round 2 projects will be announced Summer 2016; territories will be located in other parts of the state

Financing

Current project financials based on existing pipeline

Projected Capacity	Total Cost	CEO (State) Investment	Utility Investment	Philanthropic Leverage
1.84 MW	$4.6 M	$1.2 M	$3 M	$.4 M

Strong opportunity to leverage utility investment for low-income community solar projects

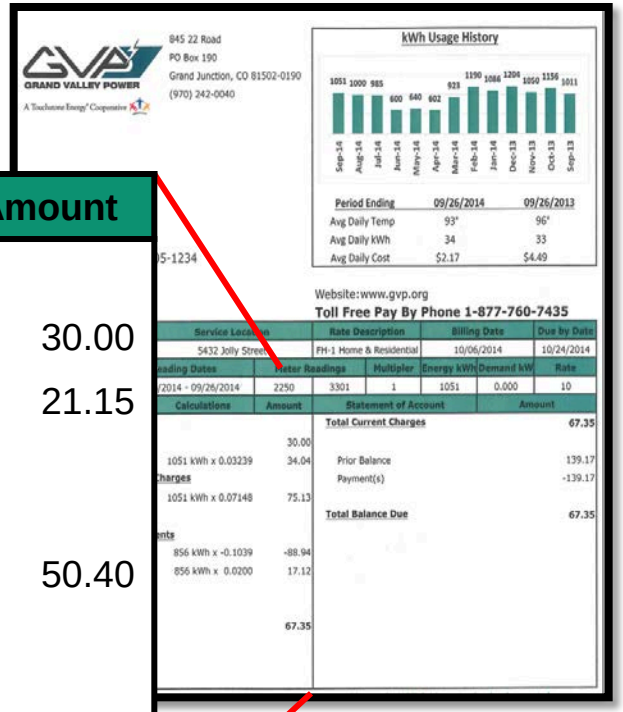
Utilities invest in low-income community solar for a number of reasons:

- State renewable energy requirements (SB252 in CO)
- Internal solar goals
- PR / community engagement
- Philanthropy / low-income benefit
- Participants contributing $1.7M on-bill towards utility cost recovery

Impact

- 50% average savings for participants

Current Electric Charges	Calculations	Amount
Distribution Charges		
Grid Connectivity		30.00
Energy Delivery	675 kWh x 0.03134	21.15
Generation & Transmission Charges		
Power Cost Pass Through	675 kWh x 0.07467	50.40
Other Services and Adjustments		
GVP/GRID Solar Credit	520 kWh x 0.10601-	-55.13
GVP/GRID Solar Payment	520 kWh x 0.02000	10.40
Total Electric Charges		56.82



Summary

- Low-income solar programs can provide participating households with long-term economic benefit, cost stabilization, and savings for the system's lifetime
- Programs can be designed under comprehensive strategies that integrate energy efficiency and workforce development programs
- Solar can complement LIHEAP funded programs (such as WAP in CO) to delivery comprehensive low-income energy burden reduction
- Community solar presents an opportunity to bring additional utility investment into low-income assistance programs

Thank you

Low-income solar policy guide: www.lowincomesolar.org

Sign up for GRID's newsletter: www.gridalternatives.org

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