



Community Solar Stakeholder Advisory Group

Fifth Meeting

April 7, 2017

Agenda

- **Part 1**
 - Introduction
 - Progress to date
 - Future Energy Jobs Act
 - Implementation Timeline FEJA
 - Interconnection Process
- **BREAK**
- **Part 2**
 - Value Proposition Analysis
 - Pilot Sites
 - Case Study Development
 - Next Steps & Timeline

Introduction

Deborah Stone
Chief Sustainability Officer & Director
Cook County Department of Environmental Control



Introduction

- **Welcome from Host Elevate Energy**
- **Project Overview**
- **Introductions of Attendees**



Host's Welcome:
Anne Evens
CEO
Elevate Energy

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CEO
Elevate Energy



U.S. Department of Energy SunShot Initiative

- A national effort to drive down the cost of solar electricity and support solar adoption. SunShot aims to make solar energy a low cost electricity source for all Americans through research and development efforts in collaboration with public and private partners.
- Solar Market Pathways Program supports 15 projects that are advancing solar deployment across the United States.
- We are working collaboratively with other awardees across the nation and will share lessons learned.



Steering Committee

- **Cook County** – Overall Project Oversight and Direction
- **City of Chicago** – Steering Committee Member, Advisory Support
- **Commonwealth Edison** – Implementation Feasibility and Energy Market Expertise
- **Elevate Energy** – Program Management, Stakeholder Engagement, and Local Solar Market Analysis
- **West Monroe Partners** – Technical Expertise and Economic Modeling
- **Environmental Law & Policy Center** – Regulatory Expertise



Cook County Community Solar Project

Dec. 2015 to June 2017

- Goal: identify and establish **models** for community solar in Cook County by analyzing pilots.
- Address **barriers** to implementing community solar in Cook County and provide options for resolution.
- Engage a diverse group of **stakeholders** to inform the analysis and deliverables.
- Conduct analysis on the **opportunity, best practices, policies and impact** of community solar.
- <http://www.cookcountyil.gov/environmental-control-2/solar-energy/>



Progress To Date

Vito Greco
Solar Program Manager
Elevate Energy



Progress To Date

Task 1: Opportunity Assessment	Task 2: Stakeholder Engagement	Task 3: Policy & Market Barriers	Task 4: Pilot Development	Task 5: Benefits & Impact
Opportunity Assessment	Establish Steering Committee	Best Practices Report	Site Submission Launch	Value Proposition Part 1
Solar Capacity Mapping Website	Establish Stakeholder Advisory Group	Rate Structure - Bill Crediting Analysis	Site Screening	Value Proposition Part 2
	Conduct Working Groups	Economic & Policy Barriers & Resolutions Analysis	Site Selection	Business Case Tool
	Business & Financial Models		Interconnection Pre-screening	
	Marketing & Outreach Planning		Community Solar Pre-development	

Future Energy Jobs Act Overview

Brad Klein
Senior Attorney
Environmental Law & Policy Center



The Future Energy Jobs Act

SB 2814 / Public Act 99-0906

<http://www.ilga.gov/legislation/publicacts/99/PDF/099-0906.pdf>



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- What's in?
 - Renewable Energy
 - Energy Efficiency
 - Nuclear
- What's out?
 - Coal
 - Demand charges
 - Microgrids / Electric Vehicles



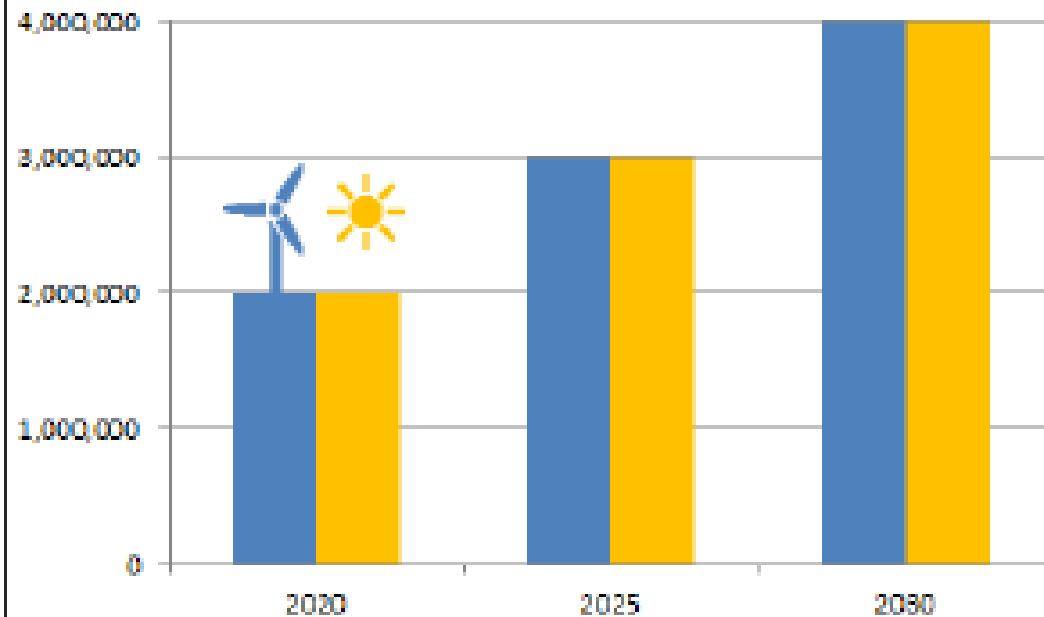
Elements of RPS “Fix”

- Long-term planning
- Stable, secure budget (~\$200M/year)
- “New build” for wind/solar
- New programs:
 - Distributed Generation
 - Community Solar
 - “Solar for All”



New Wind/Solar Requirements

Annual Renewable Energy Credits
Procurement Requirements

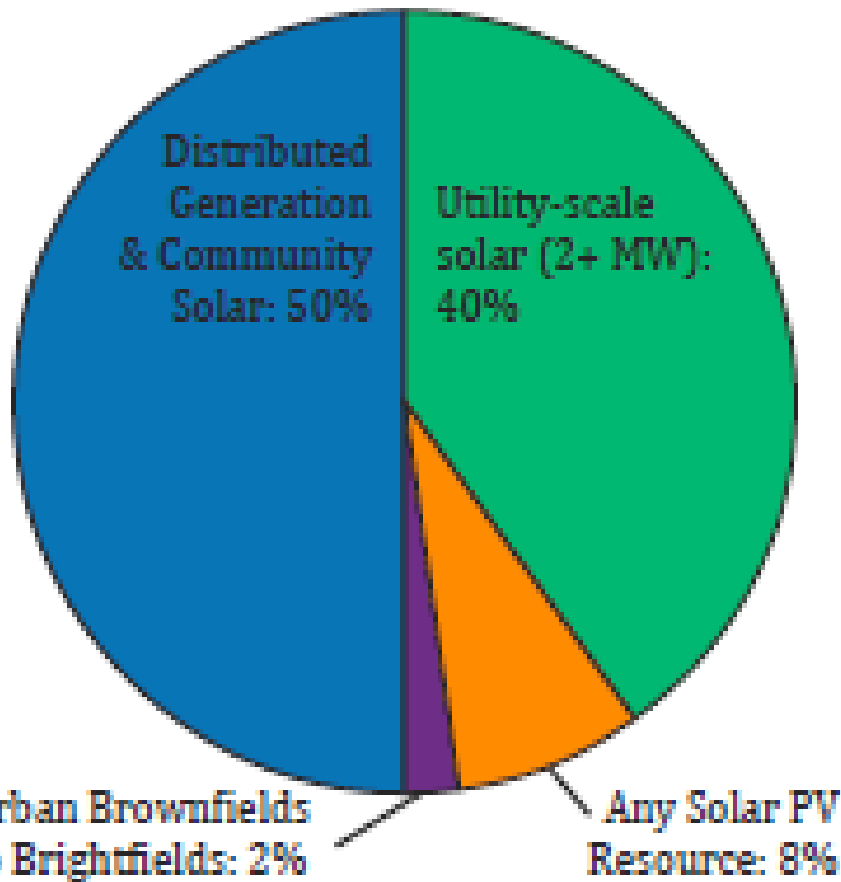


Here are estimates of the amount of new wind and solar required by the new build targets:

Year	New Wind (MW)	New Solar (MW)
2020	650	1,350
2025	1,000	2,000
2030	1,350	2,700



New-Build Solar Carve-Outs



Rough Estimates of Capacity Required

Year	DG/CS (MW)	Utility (MW)	Brown (MW)	Any (MW)
2020	675	540	27	108
2025	1,000	800	40	160
2030	1,350	1,080	54	216

Community Solar

20 ILCS 3855/1-75(c)(1)(N)



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(N) The long-term renewable resources procurement plan required by this subsection (c) shall include a **community renewable generation program**. The Agency shall establish the terms, conditions, and program requirements for community renewable generation projects **with a goal to expand renewable energy generating facility access to a broader group of energy consumers, to ensure robust participation opportunities for residential and small commercial customers and those who cannot install renewable energy on their own properties**. Any plan approved by the Commission shall allow subscriptions to community renewable generation projects to be **portable and transferable**. For purposes of this subparagraph (N), "portable" means that subscriptions may be retained by the subscriber even if the subscriber relocates or changes its address within the same utility service territory; and "transferable" means that a subscriber may assign or sell subscriptions to another person within the same utility service territory.

Electric utilities shall provide a **monetary credit** to a subscriber's subsequent bill for service for the proportional output of a community renewable generation project attributable to that subscriber as specified in Section 16-107.5 of the Public Utilities Act. The Agency shall purchase renewable energy credits from subscribed shares of photovoltaic community renewable generation projects through the **Adjustable Block program** described in subparagraph (K) of this paragraph (1) or through the Illinois Solar for All Program described in Section 1-56 of this Act. The electric utility shall purchase any unsubscribed energy from community renewable generation projects that are Qualifying Facilities ("QF") under the electric utility's tariff for purchasing the output from QFs under Public Utilities Regulatory Policies Act of 1978.



– Requirements:

- Systems up to 2 MW
- Need at least three subscribers
- 200 W minimum subscription
- Subscriptions portable and transferable within same utility service territory.

– Compensation:

- Bill credits at supply rate
- RECs through “adjustable block” program
- \$250/kW up-front rebate

“Solar for All” (Low-Income) Program

20 ILCS 3855/1-56



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- The Illinois Power Agency Renewable Energy Resources Fund shall also be used to create the Illinois Solar for All Program, which shall include incentives for **low-income distributed generation and community solar projects**, and other associated approved expenditures. The objectives of the Illinois Solar for All Program are to bring photovoltaics to low-income communities in this State in a manner that maximizes the development of new photovoltaic generating facilities, to create a long-term, low-income solar marketplace throughout this State, to integrate, through interaction with stakeholders, with existing energy efficiency initiatives, and to minimize administrative costs.

“Solar for All” (Low-Income) Program

20 ILCS 3855/1-56



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- **Lower bills for low-income members/customers**
- **Job training pipeline for environmental justice communities**

Future Energy Jobs Act Implementation

Anthony Star
Director
Illinois Power Agency



Overview of Public Act 99-0906

Implementation of Renewable Portfolio Standard Provisions

Anthony Star

Director, Illinois Power Agency

Overview of RPS Responsibilities



Illinois Power Agency

- Initial Forward Procurement
- Development of Long-Term Renewable Resources Procurement Plan
- Adjustable Block Programs
- Illinois Solar for All Programs
- Other Procurements per the Long-Term Plan

Utilities

- Job training funding
- Net metering
- Inverter Rebates

Illinois Commerce Commission

- Approval of Long-Term Plan
- Approval of contracts
- Installer certification
- ARES compliance



Renewable Resources Timeline

(Draft, dates subject to change)

<p>April</p> <ul style="list-style-type: none"> • Energy Procurement • Spring DG Procurement 	<p>May</p> <ul style="list-style-type: none"> • <u>Workshops</u> • <u>Release Request For Information</u> 	<p>June</p> <ul style="list-style-type: none"> • <u>P.A 99-0906 Take Effect (6/1)</u> • <i>Release Draft Initial Forward Procurement Contracts</i> • <u>Request For Information Responses Due</u>
<p>July</p> <ul style="list-style-type: none"> • <u>Deadline To Release Draft ZEC Plan (7/15)</u> 	<p>August</p> <ul style="list-style-type: none"> • <u>Draft Plan Released</u> • <i>Initial Forward Procurement (Wind And Solar)</i> • IPA Releases Draft 2018 Power Procurement Plan • Energy/Capacity Procurement • <u>Deadline To File ZEC Plan For ICC Approval</u> 	<p>September</p> <ul style="list-style-type: none"> • <u>Public Comments Due</u> • <u>Deadline To Release Draft Plan (9/29)</u> • IPA Files 2018 Power Procurement Plan For ICC Approval • <i>Fall DG Procurement Begins</i> • <u>Deadline For ICC To Approve ZEC Plan</u>
<p>October</p> <ul style="list-style-type: none"> • <u>IPA Files Plan For ICC Approval</u> • <i>IPA Issues Program Administrator RFQ</i> • <i>Fall DG Procurement, Cont.</i> 	<p>November</p> <ul style="list-style-type: none"> • <u>Deadline To Hold Wind Initial Forward Procurement (11/8)</u> • <u>Deadline For Comments On Draft Plan (11/13)</u> 	<p>December</p> <ul style="list-style-type: none"> • <u>Deadline To File Plan For ICC Approval (12/4)</u> • <i>IPA Issues Program Administrator RFP</i> • <i>ICC Approves 2018 Power Procurement Plan</i>
<p>January, 2018</p>	<p>February</p> <ul style="list-style-type: none"> • <u>ICC Approves Plan</u> • <i>Program Administrator RFP Responses Due</i> 	<p>March</p> <ul style="list-style-type: none"> • <i>Program Administrator(s) Selected</i>
<p>April</p> <ul style="list-style-type: none"> • <u>Deadline For ICC Plan Approval (4/3)</u> • Energy Procurement 	<p>May</p>	<p>June Through December</p> <ul style="list-style-type: none"> • <u>Programs Launch (Schedule TBD)</u>

Color Coding
 Statutory Deadline
 Plan Development Schedule
 Process Development Schedule
 Other Renewables Schedule
 Power Procurement Schedule

Initial Forward Procurement

- Competitive procurement
 - 1 million annual RECs each from new utility scale wind and utility scale solar/brownfield solar
- 15 year contracts
 - Earliest delivery start June, 2019, must start delivery by June, 2021
 - RECs paid for as they are delivered
- One procurement event for wind within 160 days of effective date of Act
- Multiple procurement events for solar over the year
- Held prior to, and separate from, the development/approval of the Long-Term Renewable Resources Procurement Plan

- Goal is to hold procurement in August for both wind and solar
- Additional solar procurements to be scheduled at a later date
- Solar targets expected to increase for each procurement

Long-Term Renewable Resources Plan

Plan will include:

- Analysis of utility load forecasts, budgets and annual RPS goals
- Proposed approaches for the Adjustable Block and Illinois Solar for All programs
- Proposed schedule and approach for other procurements to meet annual RPS goals
- Plans for evaluation and ongoing adjustments

Adjustable Block Programs

- Contracts to purchase 15 years of RECs
 - DG below 10 kW, upfront payment (25%)
 - DG between 10 kW and 2 MW, 20% payment when energized, remainder over four years (25%)
 - **Community Solar, 20% payment when energized, remainder over four years (25%)**
 - To be determined (25%)
- Long-term Plan will include proposed approach for the determination of prices, block size/schedule, application process/criteria, etc.
- Contracts will have clawback provisions to ensure REC delivery
- Detailed program rules to be developed in conjunction with Program Administrator subject to the provisions in approved Plan

Illinois Solar for All Programs



- Low-income Distributed Generation Incentive (22.5%)
- **Low-income Community Solar Project Initiative (37.5%)**
- Initiatives for Non-profits and Public Facilities (15%)
- **Low-Income Community Solar Pilot Projects (25%)**

- Up to 5% of funding to community-based groups for grassroots education
- Pilot projects competitively bid, other programs presumably will be based on the Adjustable Block approach
- Long-term Plan will specify methodology for determining incentives
- Agency will define Environmental Justice Communities and approaches to verifying low-income eligibility

Some Issues of Note

- Timing Of Program Launches
 - Not likely to all start at the same time
- Managing Initial Blocks
 - Want to avoid an unsustainable bubble
- Application Process
 - How a developer reserves RECs and how it connects to project development timelines and interconnection requests/queue
- What Is The Community Solar Market
 - Mix of commercial and residential customers
- Need For Consumer Protections
 - Lessons learned from the bad actors in the alternative gas and electric sectors

Potential Delays

- Complexity of developing Long-Term Plan could push release later than August and would thus delay ICC approval of Plan in 2018
- Other IPA mandates could constrain available resources for development and implementation of new programs
- Lack of a State budget and resulting Agency appropriation could delay funding for Illinois Solar for All, the hiring of Procurement Administrator(s) and thus the start of new programs

Opportunities for Participation

- May
 - Attend Workshops
 - Initial Forward Procurements (Utility-scale wind, utility-scale/brownfield solar)
 - May 10, Chicago.
 - Long-Term Renewable Resources Procurement Plan
 - May 17, Chicago. Overview of the Plan; Adjustable Block Programs
 - May 18, Chicago. Community Solar; Illinois Solar for All Programs
 - May 24, Springfield. Programs for Rural Communities
- May/June
 - Respond to Request for Information
- August/September
 - Comment on the draft Long-term Renewable Resources Plan
- Fall/Winter
 - Participate in Illinois Commerce Commission Docket to approve the Long-term Renewable Resources Plan

Anthony Star

Director

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The Interconnection Process

Jim Eckert

Interconnection and System Studies

ComEd



An Exelon Company

Distributed Generation Interconnection Process

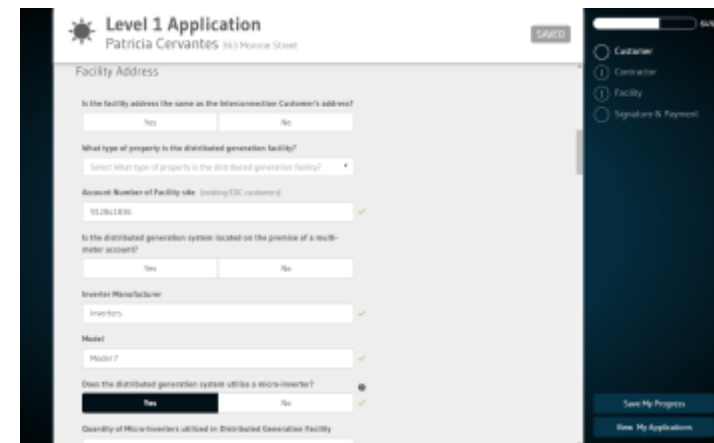
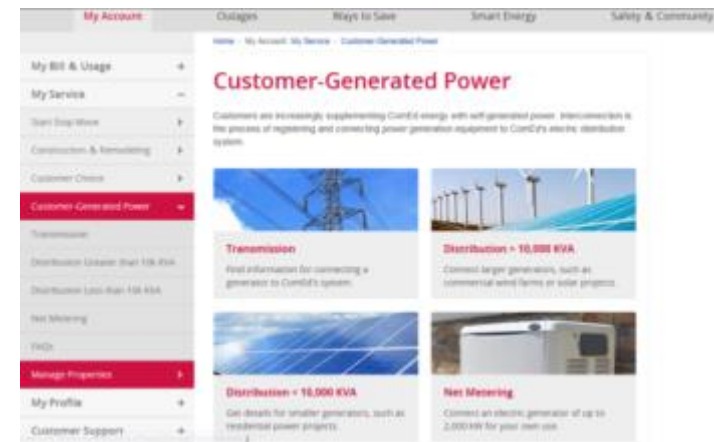
- ✓ Governed by the Illinois Administrative Code
 - Part 466: Generators < 10 MW
 - Four interconnection levels, depending on generator size and connection point
 - Levels 1-3 qualify for expedited review; Level 4 requires full study process
 - Part 467: Generators > 10 MW
 - Recent updates to both Parts now provide for a Pre-Application process
- ✓ ComEd has received about 300 applications annually
- ✓ The Future Energy Jobs Legislation in Illinois will drive substantial increases in interconnections.
 - Also introduces community solar to Illinois
 - As a result, we are revamping the way we manage interconnection requests:
 - **People:** staffing, organization structure, skill sets, training
 - **Process:** customer experience, work flows, metrics, scalability
 - **Technology:** Automation, data management, analytics, systems integration



- ✓ ComEd uses the ConnectTheGrid™ tool by West Monroe Partners to manage inflow of applications
 - Online portal for customers / developers to submit applications and track progress
 - Link provided on ComEd.com website
 - Utility workflow management
 - Internal reporting and administration
- ✓ Current capabilities include:
 - Smart fields, contextual help
 - Customer/Developer dashboards
 - Document upload
 - Messages and notifications
 - Cycle time monitoring



Powered by:  westMONROE



ComEd

An Exelon Company

- ✓ Expanded process automation
- ✓ Additional (and better) online forms
- ✓ Increased project visibility
- ✓ Improved communications
- ✓ Deeper IT systems integration

All driving toward...

- ✓ Improved cycle times
- ✓ Greater transparency
- ✓ Reduced complexity

Premier Customer Experience



BREAK

Value Proposition Analysis

David South

Sr. Principal--Sustainability, Energy & Utilities Practice,
West Monroe Partners



Value Proposition Overview

Cook County Solar Market Pathways Stakeholder Advisory Meeting

BUSINESS
CONSULTANTS

DEEP
TECHNOLOGISTS



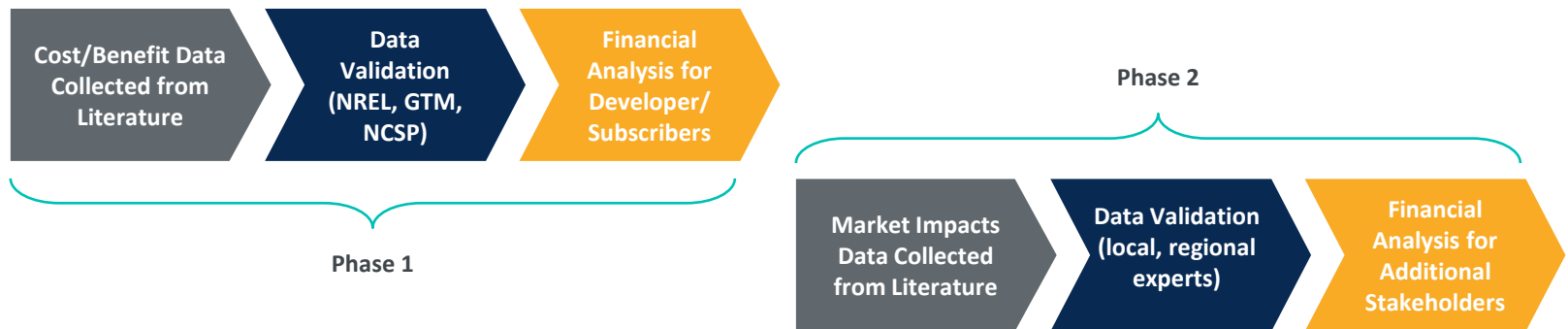


Value Proposition Overview

- ◆ The goal of Value Proposition workstream was to collect shared solar investment data from local community solar projects and analyze the value proposition to stakeholders by ownership and business model
- ◆ Because little local data was available, a financial model was developed that aggregated the costs and benefits of a hypothetical community solar project to the various stakeholders
- ◆ The model illustrated the costs and benefits of a community solar project over time and demonstrated the value proposition to each of the stakeholders
- ◆ Impacts and benefits of community solar were initially identified for the system owner and subscribers, and then to additional stakeholders, including the transmission & distribution utility

Stakeholder Engagement Process

- ◆ This analysis was conducted in 2 phases: first to analyze the costs and benefits that accrue to subscribers and developers, and then to additional stakeholders.
- ◆ Costs and benefits to subscribers and developers were represented using values from literature; values were vetted with the National Renewable Energy Laboratory, GTM Research, the National Community Solar Partnership, and a working group of regional stakeholders
- ◆ A gap in available data was identified for valuation of community solar in deregulated markets, particularly the value to wires-only utilities. Methodologies to quantify the impacts to the utility and other stakeholders were reviewed in literature and discussed in working sessions with regional and national value of solar experts



Key Market Players




SOLAR DEVELOPER

Entity that designs and builds the community solar array. This entity often, but not always, owns and operates the assets



SOLAR SUBSCRIBER

A Residential, Commercial or Industrial ratepayer that subscribes to community solar through panel purchase, lease or PPA



T&D UTILITY

An energy delivery provider that manages power lines to deliver electricity to homes and business within its service territory. T&D utilities do not generate electricity



RETAIL ELECTRIC SUPPLIER

A business that sells electricity to residential and/or commercial customers in a competitive market, including an energy reseller, aggregator, or power marketers



ELECTRIC CUSTOMERS

All rate-paying electric customers



ELECTRIC GENERATOR

An entity that produces electricity for procurement by a utility or ARES



PROCUREMENT ADMIN.

Develop electricity procurement plans and conduct competitive procurement processes to procure the supply resources identified in the plan(s)



REGIONAL TRANSMISSION ORG.

An organization that is responsible for moving electricity over large interstate areas. An RTO coordinates, controls and monitors an electricity transmission grid



SOCIETY

All people living within the community

Community Solar Impact Categories

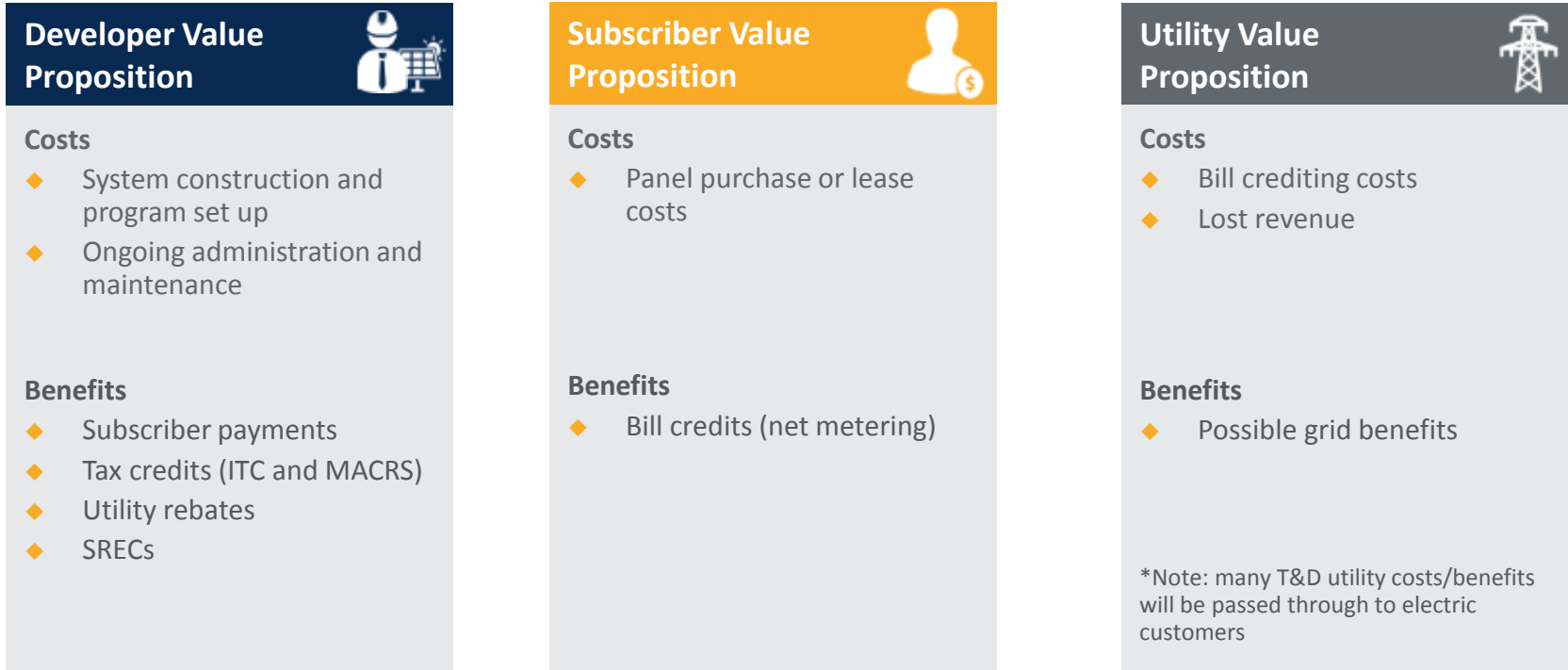
Direct Costs

- ◆ Construction Costs
 - ◆ PV Modules
 - ◆ Inverters
 - ◆ Racking
 - ◆ BOC
 - ◆ Engineering and Design
 - ◆ Permitting and Interconnection
 - ◆ Installation Labor
 - ◆ Equipment rental and freight
 - ◆ Development overhead
- ◆ Site Costs
- ◆ O&M Costs
- ◆ Panel Purchase/Lease Payment
- ◆ Administrative Costs
- ◆ Billing System Costs
- ◆ SRECs
- ◆ Salvage Value

Market Impacts

- ◆ Avoided Energy Generation
- ◆ System Losses
- ◆ Ancillary Services
 - ◆ Reactive supply and voltage control
 - ◆ Frequency regulation
 - ◆ Energy imbalance
 - ◆ Operating reserves
 - ◆ Scheduling/ forecasting
- ◆ Generation Capacity
- ◆ T&D Capacity
- ◆ Risk Reduction
- ◆ Reliability and Resiliency
- ◆ Environmental Compliance
- ◆ Environmental/Societal Benefits

Value Proposition Model



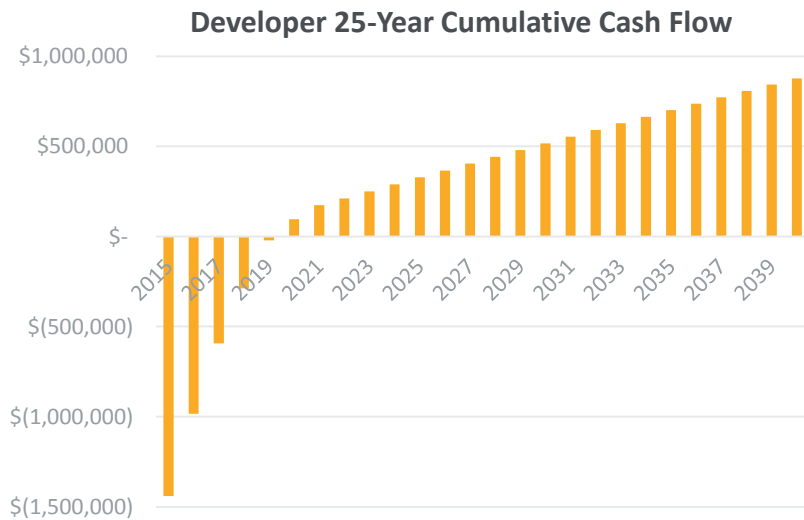
+ costs and benefits for electric customers, electric generators, ARES, and society



The model aggregates costs and benefits to each stakeholder group *for a single community solar system*, and looks at the impact over the system life

Key Findings

- ◆ The community solar program framework and incentives outlined in the Future Energy Jobs Act are anticipated to create a viable community solar market in Cook County
- ◆ The base case analysis indicates that a positive business case for community solar is possible for the system owner and subscriber; however, these financial metrics are not supported if certain conditions are not met, including access to SRECs and federal tax credits





Key Findings (Continued)

- ◆ SRECs and rebates must be offered at sufficient prices to create a viable market for community solar. The SREC price in our analysis represented the estimated value that must be offered to support community solar today; actual SREC prices when the market opens in 2018 could be higher or lower, which could spur or hinder the market

- ◆ Many of the benefits of community solar traditionally thought to impact the utility were found not to be applicable for a wires-only company
 - Because costs associated with energy generation and capacity are passed directly to customers, any savings from displacing a traditional generator would be realized by the electric customers, not the utility
 - Similarly, avoided investments in transmission and distribution infrastructure would be passed to customers. For this analysis, it was assumed no benefits would be realized for a single project
 - ComEd is expected to earn a rate of return on the rebates offered through the Future Energy Jobs Act, providing a benefit

- ◆ Electric generators are expected to suffer some displacement with increased penetration of community solar
 - Retail electric suppliers earn a margin on the electricity they supply. If they supply less due to a customer's participation in a community solar, they are expected to realize a loss in profit

Next Steps: Local Impacts Analysis and Regional Directives

- ◆ The Value Proposition Report will be submitted to the DOE this month and will be available on the Cook County website
- ◆ The Community Solar Business Case Tool used to analysis costs and benefits to the developer and subscribers is currently on the Elevate Energy Solar Map website
- ◆ Next steps include analyzing the anticipated local economic and environmental impacts of community solar, and the ability of community solar to meet or support regional directives
 - **Value Proposition** - quantify the costs and benefits of community solar to impacted parties and identify the factors that influence overall financial metrics
 - **Local Impact Analysis** - create forecasting assumptions to scale the value proposition analysis to derive total local net benefits of increased penetration of community solar on a regional level
 - **Regional Directives** - apply anticipated solar deployment levels against city, county and state renewable energy goals and the expected contributions from this initiative




























Pilot Sites

Deborah Stone

Chief Sustainability Officer & Director

Cook County Department of Environmental Control



Site Name:	City:	Capacity	Ownership	Installation :
Des Plaines-Lake Landfill	Des Plaines	2000	 Nonprofit	 Ground-Mount
Prairie State College	Unknown	2000	 Government	 Ground-Mount
Altgeld Gardens - Block 16	Chicago	2000	 Government	 Ground-Mount
Rail Heavy Maintenance Facility	Skokie	2000	 Government	 Ground-Mount
HACC land	Chicago Hts	1698	 Government	 Ground-Mount
Rich East High School	Park Forest	1500	 Government	 Roof-Mount
Taft High School	Chicago	1147	 Government	 Roof-Mount
Markham Courthouse	Markham	1123	 Government	 Roof-Mount
United Airlines Training & Data Center	Des Plaines	1000	 Private	 Roof-Mount
Rockwell Properties, LLC	Chicago	1000	 Private	 Roof-Mount
Our Lady of Perpetual Help	Glenview	500	 Nonprofit	 Mixed
4150 N Knox	Chicago	500	 Private	 Roof-Mount
Hill Arboretum Apartments	Evanston	344	 Nonprofit	 Roof-Mount
Warren Park Field House	Chicago	223	 Government	 Canopy
Theaster Gates Home & Studio	Chicago	150	 Nonprofit	 Roof-Mount

Prairie State College

- Chicago Heights
- 2 MW
- 6600 Panels



Public
Sector



Ground
Mount



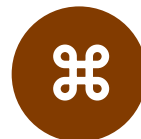
College/University Model

This 139 acre campus serves more than 12,000 students and employees. The model will allow no upfront costs to the college. The panel lease model allows immediate energy savings for all subscribers. The Host Site benefits from lease revenue and energy savings. The subscriber model will serve students, employees and the surrounding community.

- Developer owned
- Panel lease model
- 550 Subscribers



Anchor
(40%)



Students &
Employees
(20%)



Commercial
(20%)



Residential
(10%)



Low Income
(10%)

United Airlines Training & Data Center

- Elk Grove Township
- 2 MW
- 6600 Panels



Private
Sector



Roof
Mount



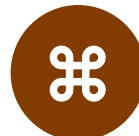
Employee Benefits Model

The campus for the Training and Data Center is on more than 69 acres, in a LEED certified building. With more than 10,000 employees in Chicago, this employee incentive programs provides discounted subscriptions and extends the subscriber base to nearby residential communities.

- Developer owned
- Panel lease model
- 500-600 Subscribers



Anchor
(40%)



Employees
(40%)



Residential
(20%)

Our Lady of Perpetual Help Parish

- Glenview
- 500 kW
- 1660 Panels



Nonprofit



Mixed



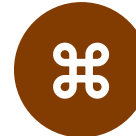
Subscriber-Donor Model

OLPH was established in 1907 and now has more than 3,000 families in its congregation. This model allows parishioners to donate by purchasing panels for the church's share, with the remaining shares extended to other congregants and the immediate surrounding community. The Developer-Flip structure allows for no upfront costs for the parish, with transfer of ownership in 5 to 7 years.

- Developer-Flip Structure
- Panel purchase model
- 300-350 Donor-Subscribers



Donors
(40%)



Parishioners
(30%)



Community
(30%)

Hill Arboretum Apartments

- Evanston
- 244 kW
- 1111 Panels



Nonprofit



Roof
Mount



Third-party 100% Low/Mod Income Model

This complex is nonprofit owned and provides housing for people with physical disabilities. This model will allow no upfront costs for installation and will provide energy savings to the organization, its 33 resident and low and moderate income households in the immediate community. This model will qualify for additional incentives for being 100% LMI/Nonprofit.

- Developer owned
- Panel lease model
- 80-90 Subscribers



Anchor
(40%)



Residents
(10%)



Nonprofit
(25%)



Low Income
(25%)

3057 N. Rockwell

- Chicago
- 1 MW
- 3333 Panels



Private
Sector



Roof
Mount



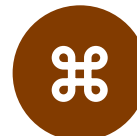
Industrial Model

This industrial redevelopment model will provide energy for the host site and 8 to 10 industrial tenants. The third-party ownership structure will allow mean the host site will have no upfront costs and the panel lease subscriber model will mean immediate savings for all tenants with no upfront costs.

- Developer owned
- Panel lease model
- 8 to 10 Subscribers



Anchor
(25%)



Tenants
(75%)

4150 N. Knox

- Chicago
- 500 kW
- 1660 Panels



Private
Sector



Roof
Mount



Industrial Model

This newly constructed, single occupant industrial development will provide 500 kW of generation capacity to be shared in a traditional community solar model. The host site will use 40% of the energy, with the remaining shares going to commercial and residential subscribers in the immediate community.

- Developer owned
- Panel lease model
- 125-150 Subscribers



Anchor
(40%)



Commercial
(20%)



Residential
(30%)



Low Income
(10%)

Taft High School

- Chicago
- 1147 kW
- 3823 Panels



Public
Sector



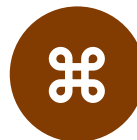
Roof
Mount



Donor-Subscriber Model

Taft High School serves nearly 3000 students and their families. This model will use a Subscriber-Donor model, where families and the community will donate panels to the school through traditional fundraising. The remaining shares will serve the surrounding community.

- Third-party owned
- Panel purchase model
- 600-650 Donor-Subscribers



Donors
(40%)



Commercial
(25%)



Residential
(25%)



Low Income
(15%)

Theaster Gates Home & Studio/ Black Cinema House

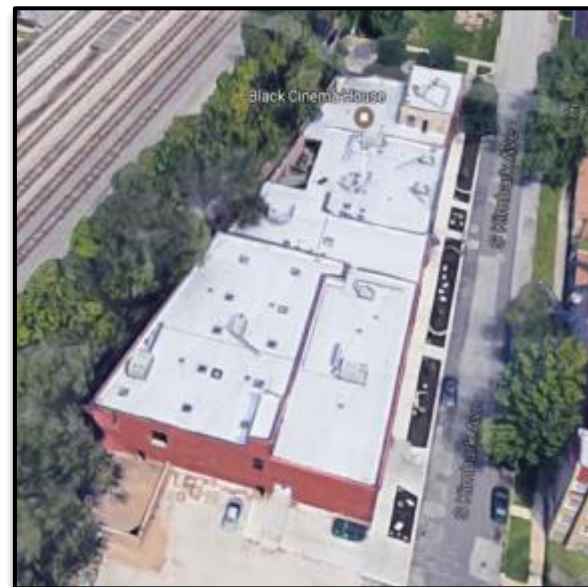
- Chicago
- 150-200 kW
- 600 Panels



Nonprofit



Roof
Mount



Low & Moderate Income Model

This recently redeveloped property is home to the Theaster Gates studio, with connections to arts programming through several south side nonprofits. The model allows for third-party ownership with no upfront costs to the host site. It qualifies for additional incentives by serving 100% low and moderate income households and nonprofits.

- Developer owned
- Panel lease model
- 40-50 Subscribers



Anchor
(40%)



Nonprofit
30%



Low Income
(30%)

Des-Plaines Lake Landfill

- Des Plaines
- 2 MW
- 6660 Panels



Nonprofit
30%



Ground Mount



Institutional Model

The Des Plaines-Lake Landfill is owned by the Catholic Cemeteries. This model will provide energy for a small set of institutional subscribers, including the Archdiocese of Chicago, a library, hospital, park district and other nonprofit and public sector institutions. A special entity will be created to take advantage of tax credits and maximize incentives.

- Special Entity
- Panel lease model
- 10-12 Subscribers



Commercial
(20%)



Institutional
(40%)



Nonprofit
(40%)

CHA Altgeld Gardens

- Chicago
- 2 MW
- 6660 Panels



Public
Sector



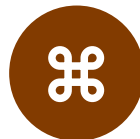
Ground
Mount



Public Housing Model

Altgeld Gardens is a Chicago Public Housing development on the south side, with more than 1600 units serving low income households. Altgeld is a master metered development. So, subscriptions will go to CHA residents at other properties throughout Chicago where they pay their own electric bills, as well as nonprofits and LMI households in the immediate community, qualifying this project for additional LMI incentives for 100% LMI/Nonprofit

- Special Entity
- Panel lease model
- 500 Subscribers



CHA Residents
(50%)



Low Income
(25%)



Nonprofit
(25%)

Warren Park

- Chicago
- 250-500 kW
- 800-1600 Panels



Public
Sector



Mixed



Traditional Community Solar

Warren Park is a 90 acre park in Chicago's Rogers Park neighborhood. This third-party owned model will allow no upfront costs for the park district and will provide shares to commercial, residential and low and moderate income households in the surrounding community.

- Third-party owned
- Panel lease model
- 80-120 Subscribers



Anchor
(40%)



Commercial
(20%)



Residential
(20%)



Low Income
(20%)

Markham Courthouse

- Markham
- 1 to 2 MW
- 3000-6660 Panels



**Public
Sector**



Mixed

Public Sector Community Solar

TBD

- TBD



CTA Heavy Rail Yard & Maintenance Facility

- Skokie
- 2 MW
- 6660 Panels



Public
Sector



Ground
Mount

Public Sector Community Solar

TBD

- TBD



Housing Authority Cook County

- Chicago Heights
- 2 MW
- 6660 Panels



Public Sector



Mixed



Public Sector Community Solar

This four acre site on Housing Authority land will provide approximately 1 MW of solar for the HACC as anchor, and various subscriber segments in this diverse community.

- Third-party owned
- Panel lease model
- 400-450 Subscribers



Anchor (40%)



Commercial (15%)



Nonprofit (15%)



Residential (20%)



Low Income (10%)

Rich East High School

- Park Forest
- 1.5 MW
- 5000 Panels



Public
Sector



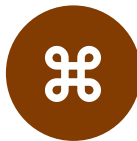
Roof
Mount



Public Sector Community Solar

Rich East High School serves 1,100 students and their families, with District 277 serving more than 5,000. District families will be targeted as Donor-Subscribers to fulfill the anchor share of 40%. The surrounding community will have access to the remaining shares.

- Third-party owned
- Panel lease model
- 400-450 Subscribers



Donors
(40%)



Commercial
(20%)



Residential
(20%)



Low Income
(20%)

Case Study Development

Vito Greco
Solar Program Manager
Elevate Energy



Case Study Rationale

- The SunShot grant will not pay for installation of solar.
- The grant will provide technical assistance and business planning for all 15 sites.
- Some of these sites are anticipated to be the first community solar installations in the region.
- These Case Studies will provide roadmaps for similar projects to begin the development process.
- Together with analysis, tools and resources provided by the Cook County Community Solar Project, these Case Studies will spur development of our emergent community solar market regionally.

Case Study Components

Host Site Description

A physical description, as well as a narrative of the owning entity, the community and it's constituency.

Structural Assessment

A formal engineering report including structural assessment, installation, component and cost details.

Interconnection Report

A formal interconnection report, where possible, including network upgrade and component requirements.

Financial Modelling

Details financial assessments, including key financial metrics for the Developer, Subscriber and Host Site.

Ownership & Financing Structure

Legal structure and requirements, incentives planning, contract requirements and capital planning.

Customer Acquisition Strategy

Demographics, customer segmentation, marketing & outreach, subscriber and billing management

O&M Planning

System and software planning and operations, component management and replacement

Next Steps

Deborah Stone
Chief Sustainability Officer & Director
Cook County Department of Environmental Control



Next Steps

Task 1: Opportunity Assessment	Task 2: Stakeholder Engagement	Task 3: Policy & Market Barriers	Task 4: Pilot Development	Task 5: Benefits & Impact
Opportunity Assessment	Establish Steering Committee	Best Practices Report	Site Submission Launch	Value Proposition Part 1
	Establish Stakeholder Advisory Group	Rate Structure - Bill Creditting Analysis	Site Screening	Value Proposition Part 2
	Conduct Working Groups	Economic & Policy Barriers & Resolutions Analysis	Site Selection	Business Case Tool
	Final Report		Interconnection Pre-screening	Regional Impact Analysis
	Final SAG Meeting		Engineering Assessments	Regional Directives Assessment
			Case Studies	

