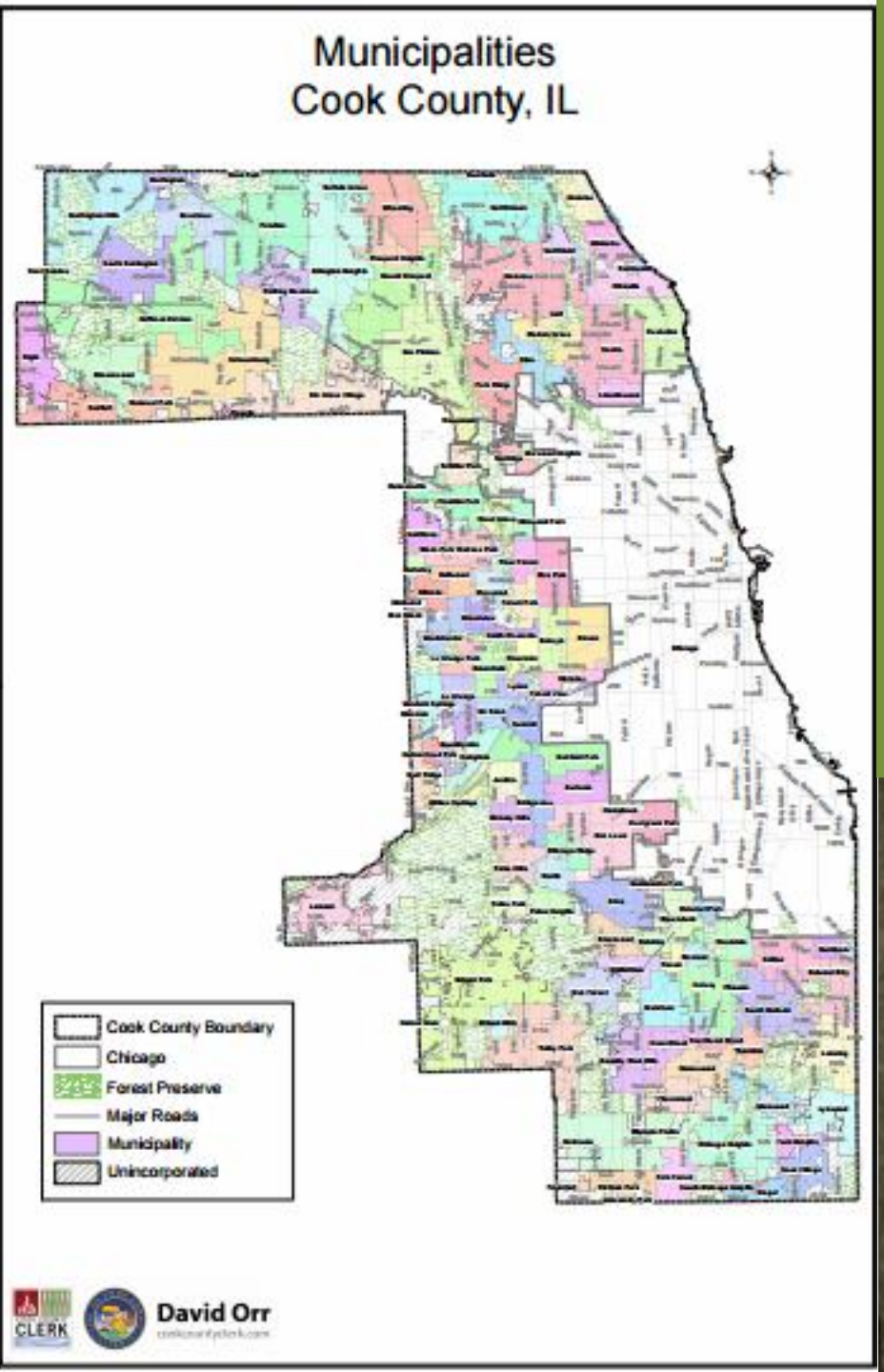


"I set a goal to reduce the County's harmful greenhouse gas emissions by 80% by the year 2050 as a meaningful way to fight climate change."

Cook County Board President Toni Preckwinkle

Regulate Polluters, Inspect, Enforce

Suburban Cook County

Cook County Ordinance 1970 (2017)
(& Delegation of State Inspections*)

Air

- Commercial, industrial polluters*
- Asbestos removal, demolition
- Open burns

Land

- Solid Waste disposal and transfer*
- Recyclers
- Liquid Hazardous Waste
- Illegal dumping

Other Nuisances

Complaints Hotline

24 hours a day

(312) 603-8200

Air Quality Monitoring

Cook County is Part of USEPA, IEPA Air Monitoring Network

- Ozone
- Fine particulates
- Carbon Monoxide
- Nitrogen Oxide
- Sulphur Dioxide
- Lead

High levels of pollution can aggravate **heart disease, asthma** and other **respiratory diseases**.

Air Quality Index

www.airnow.gov

Get Alerts

www.enviroflash.info

Tips to protect yourself and the environment

www.cleantheair.org

Cook County Green Leadership Team

Chair: Chief of Staff

- Asset Management
- Administration
- Economic Development
- Finance
- Technology
- Health and Hospitals
- Sherriff
- Staff, Sustainability Officer

Committees:

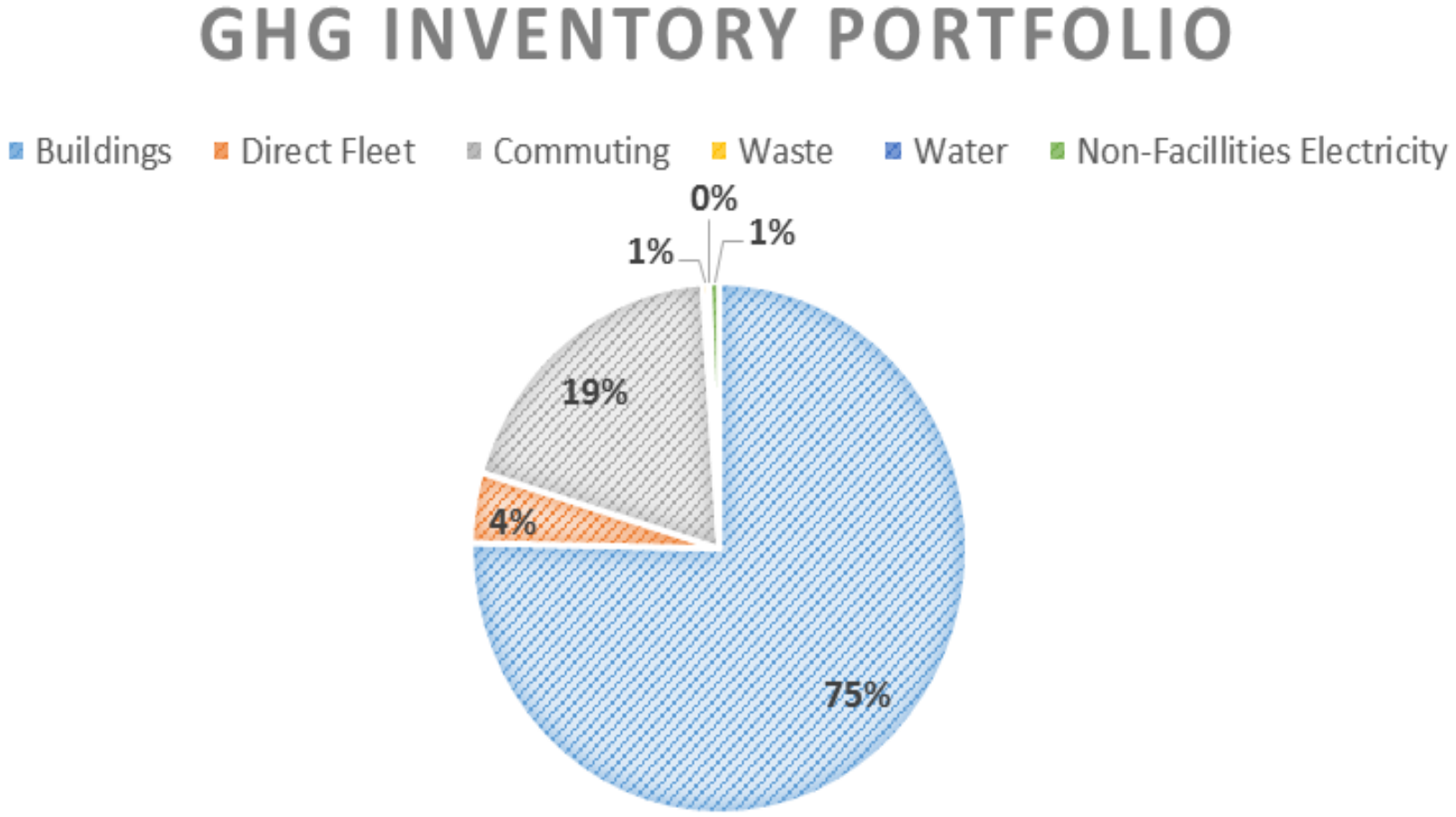
Energy and Water

Waste/Recycling

Transportation/Fleet

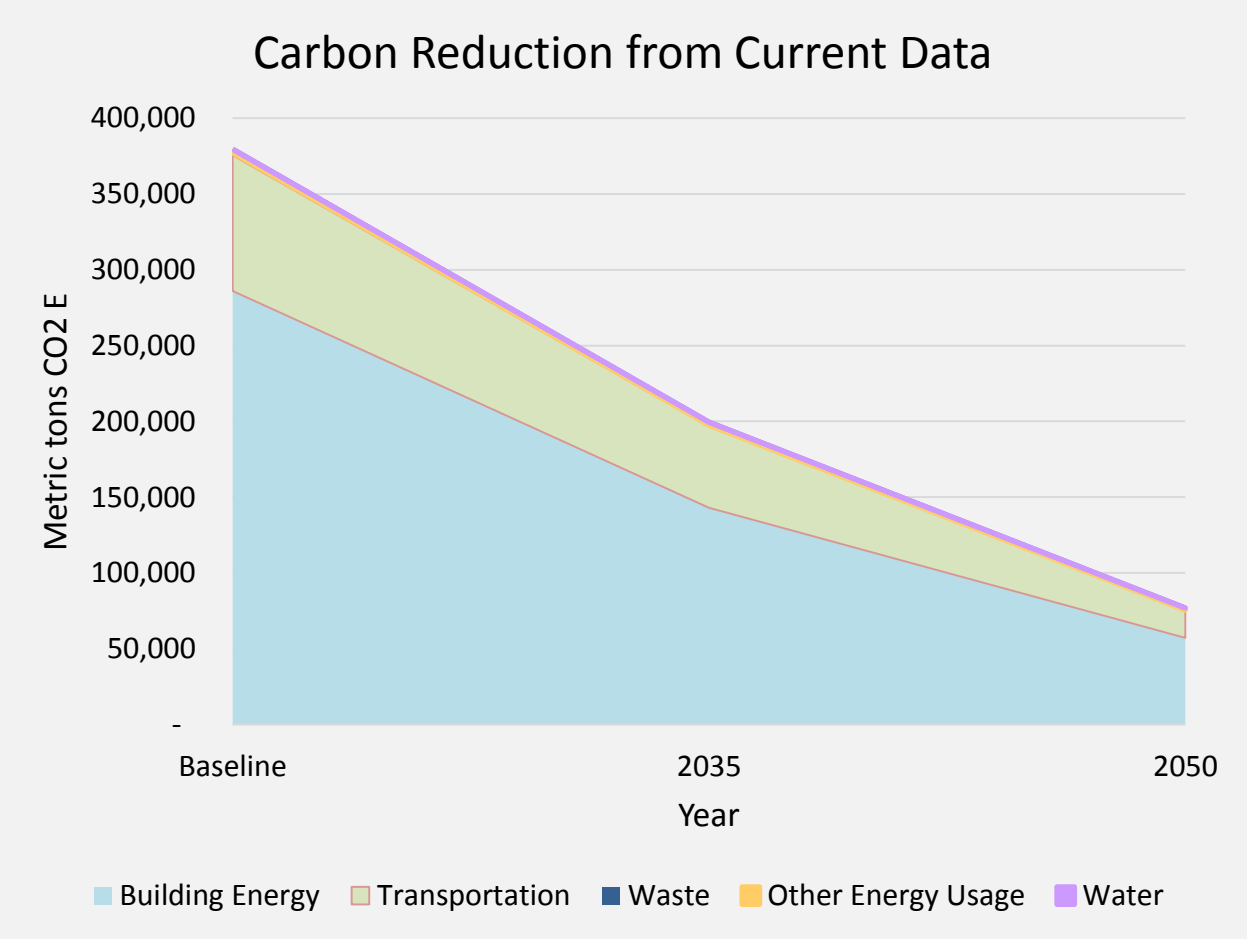
GHG Inventory

Kate Buczek, Bureau of Asset Management

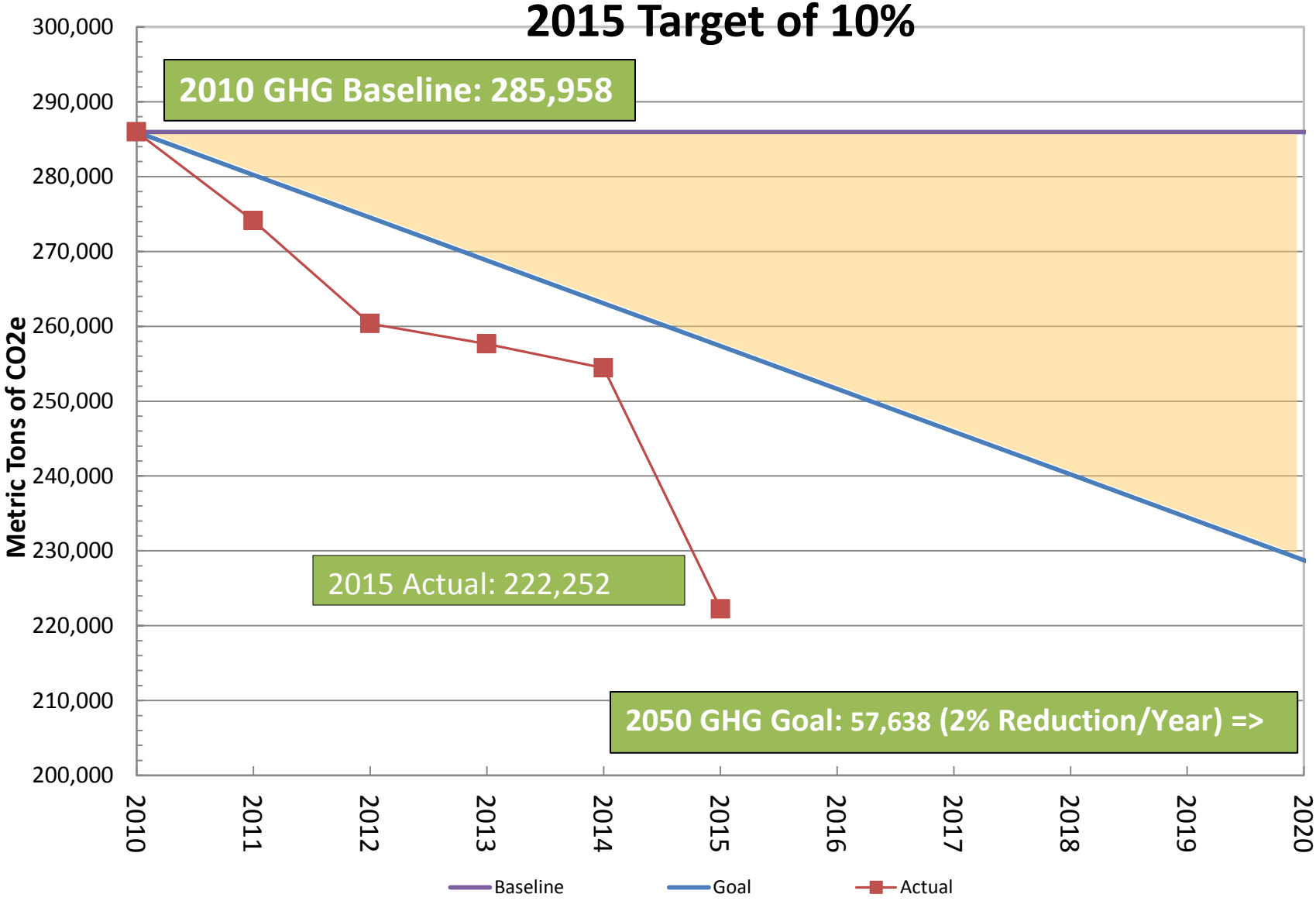


Updated Emissions Baseline and Targets

Comprehensive Baseline (2016)



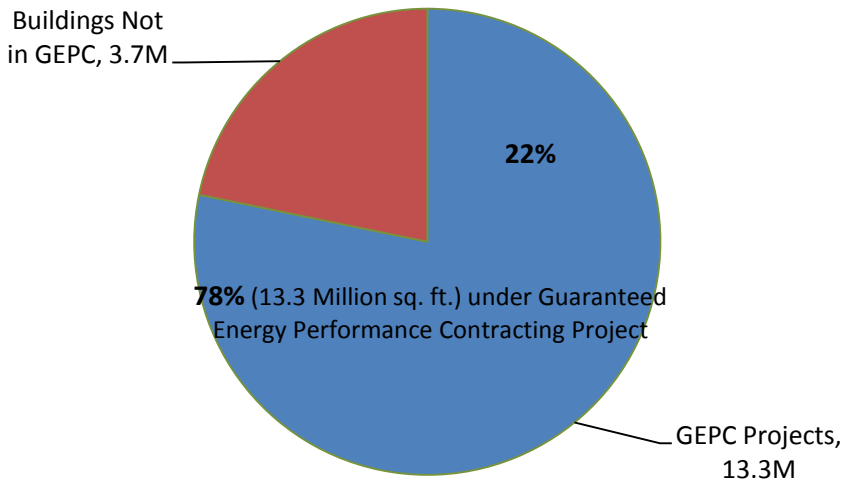
County Building GHG Abatement of 22 % Exceeds 2015 Target of 10%



County Building Energy: 20% + Reduction in major buildings

78% of the County Portfolio is under Contract for Major Energy Efficiency Upgrades. Costs are paid for with energy cost savings.

Cook County Buildings Portfolio - Square Footage



Current FY 2017 Capital Improvement Projects Guaranteed Energy Performance Contracts

- Package 1 (Administrative, Downtown)
- Package 2 (Courthouses and Highways)
- Domestic Violence Court PV Inverter Replacement
- Rockwell Energy Efficiency Upgrades

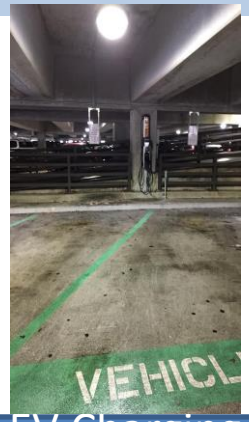
Demand Response Program

2016: Single event
4,833 kW committed
153% site performance achieved
$119,830

Current FY 2017
Capital Improvement Projects

- Current Status
  - Solar Trees
  - Geothermal
  - Solar Thermal Walls
  - EV Charging Stations and Policy
    - 4 courthouses and 2 highways facilities
- Energy Savings to Date
  - DOC example next slide

Geothermal

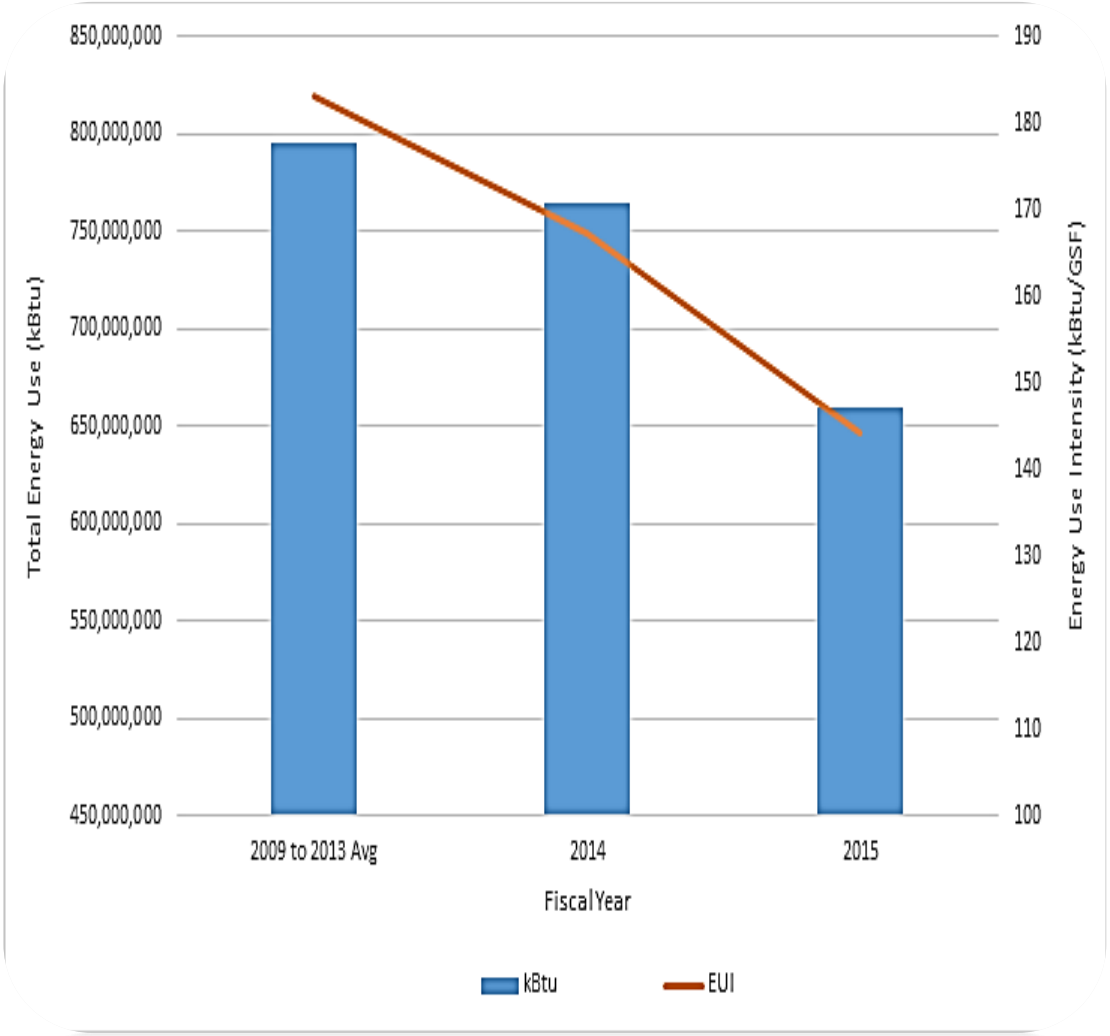


EV Charging Station

Schaumburg Dept .of Transportation and Highway Maintenance Facility Solar Thermal

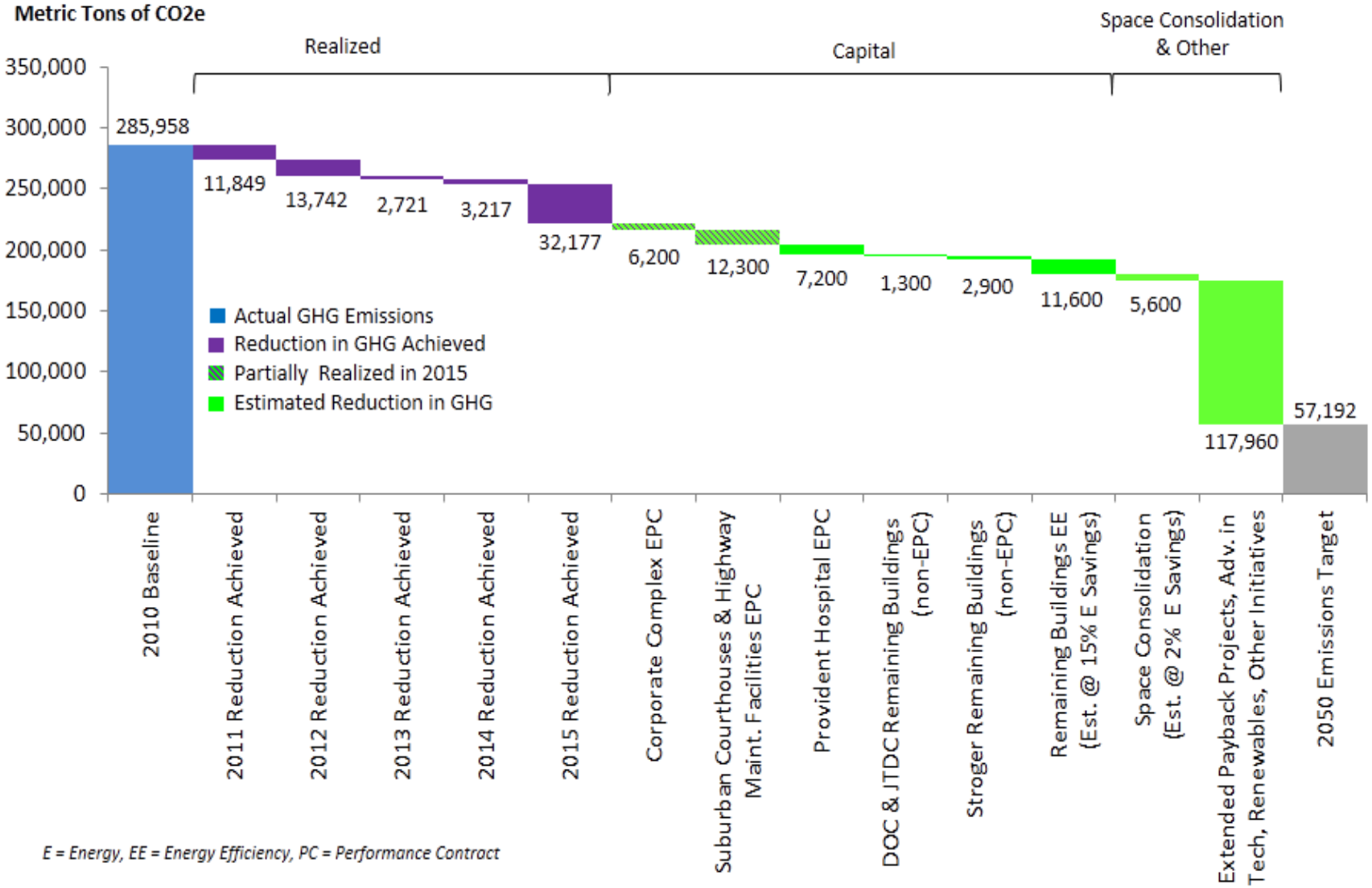
Solar Trees

Department of Corrections Campus Energy Use Intensity and Total kBTU Over Time



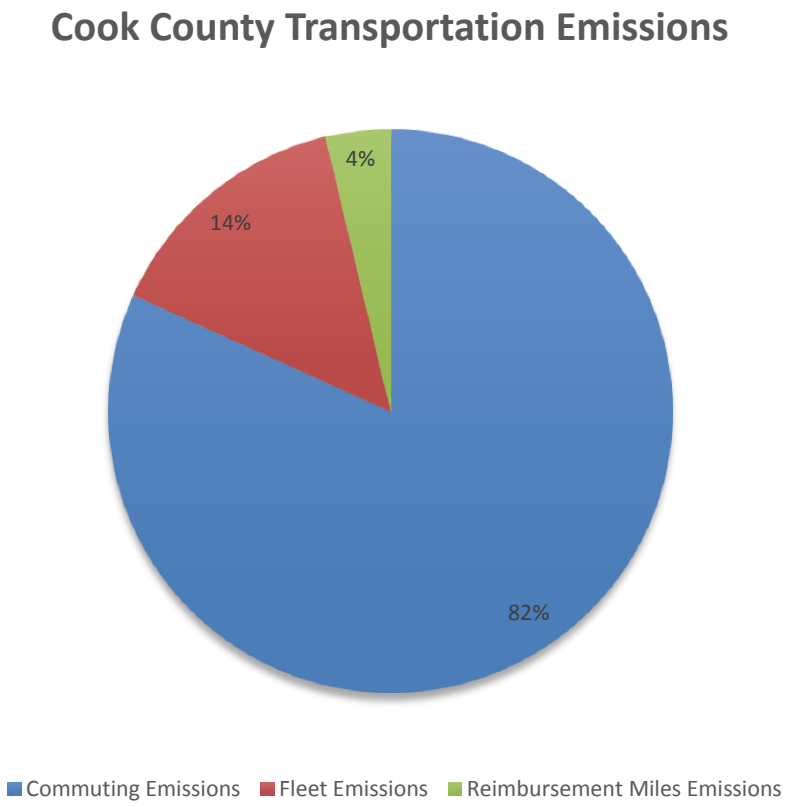
Cook County Facilities 2050 GHG Reduction Strategy

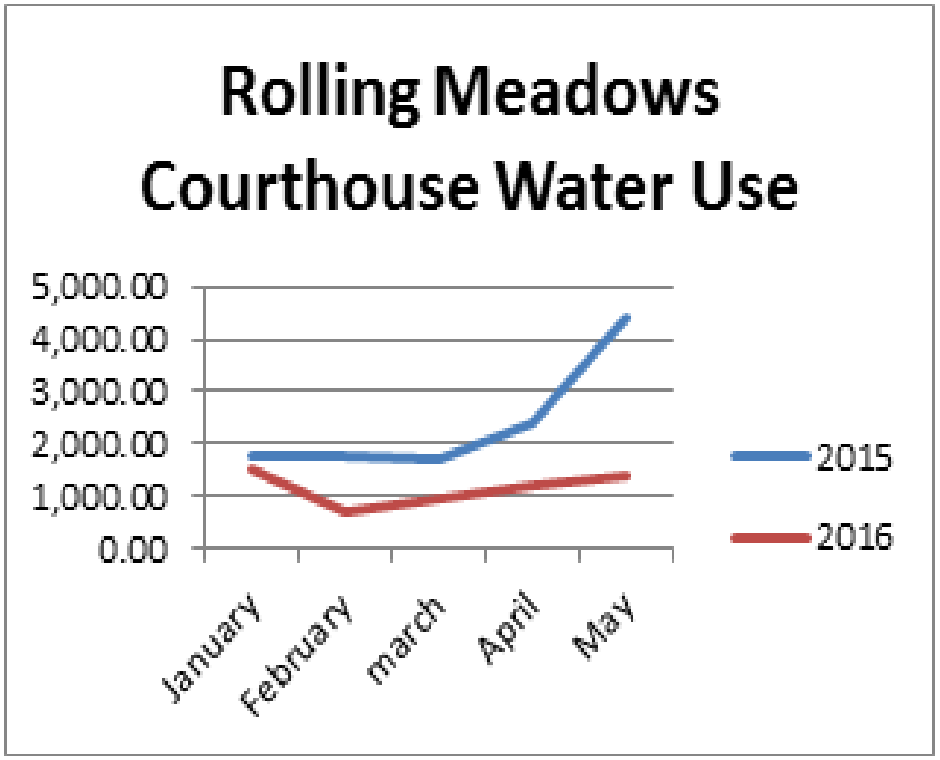
- Estimated Reductions of Different Initiatives -



E = Energy, EE = Energy Efficiency, PC = Performance Contract

…working on other GHG sourc es





Community Sustainability

CONNECTING COOK COUNTY

SUBURBAN COOK COUNTY
RESIDENTIAL RESILIENCE PROGRAM

Was your home affected by the severe storms and flooding that occurred between April and May 2013?

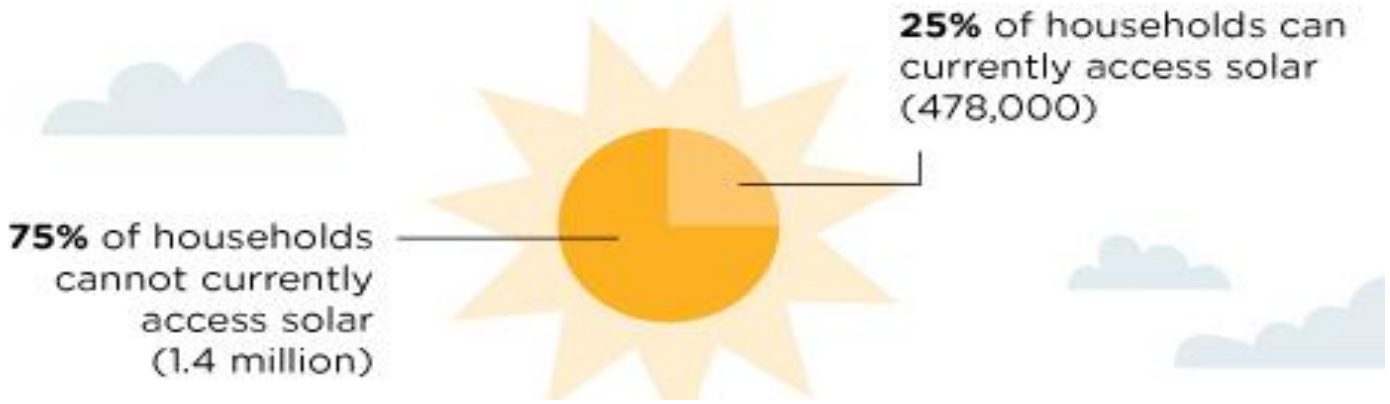
If so, you may be eligible to receive assistance with home repairs.

This program is restricted to Suburban Cook County.

How do we reduce emissions in the other 1.8m built parcels in Cook County?

Expanding Access to Solar

- Only 25% of Cook County's 2,000,000 households are able to install solar on their roofs.
  - They do not own their roof (renters)
  - They co-own their roof (condos)
  - Home/roof is not structurally sound
  - Shading on roof
  - Financial barriers and up-front costs of installation



Community Solar Pilots

WHAT?

A solar-electric system that provides power and/or financial benefit to multiple community members

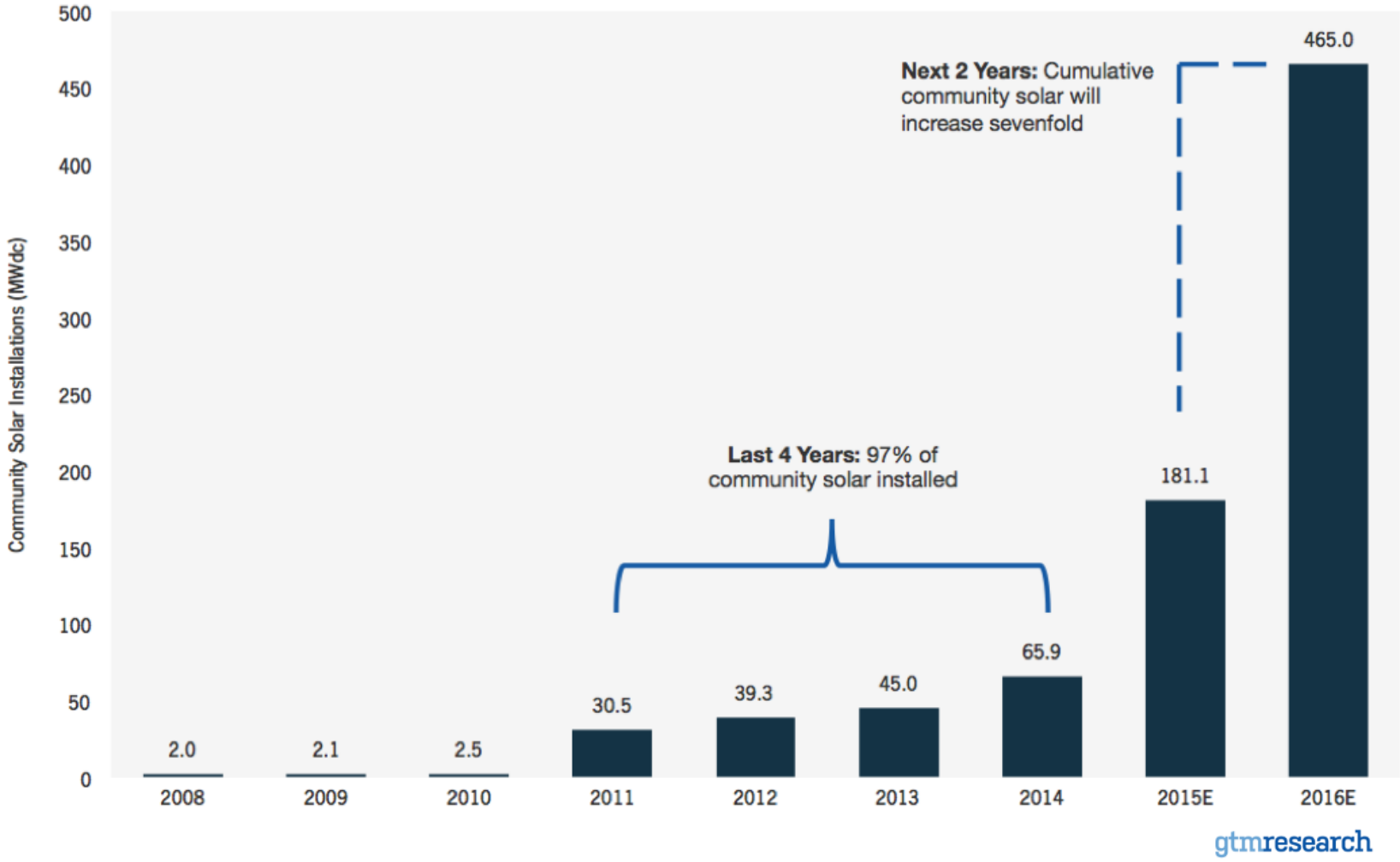
WHY?

On average, only 25% of residential rooftop area is suitable for solar photovoltaic systems – less in Cook County

BENEFITS:

- Expands access to solar for renters, condo owners, those with shaded roofs and those who choose not to install solar for financial reasons
- Economies of scale
- Optimal project siting (vacant land, public facilities, etc.)
- Increased public understanding
- Local job generation
- Fairness/equity

The Growth of Community Solar



SunShot Initiative:
Cook County Community Solar:

Identify models for community solar & eliminate barriers to implementation

- Inventory, & Opportunity Assessment
- Stakeholder Outreach
- Policy Issues, Market Barriers
- Identify, Analyze Pilot Case Studies
- Document Benefits & Next Steps

https://www.cookcountyil.gov/service/solar-energy

Participation

- Steering Committee; meets monthly.

ELEVATE ENERGY
Smarter energy use for all

ComEd
An Exelon Company

ENVIRONMENTAL LAW & POLICY CENTER
Protecting the Midwest's Environment and Natural Heritage

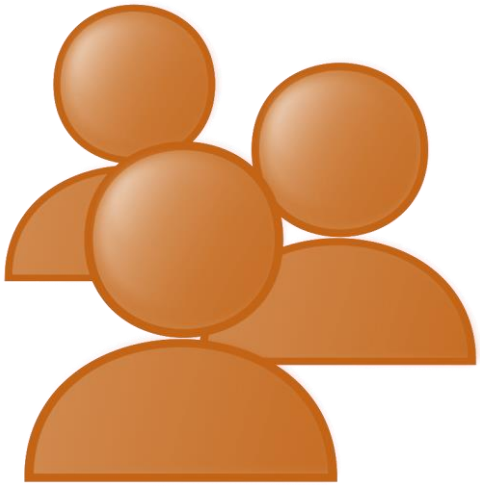
westMONROE

- Project Team; meets bi-monthly.
- Stakeholder Advisory Group of more than 200 individuals across 100 organizations.

Community Development Organizations	Government Agencies
Colleges & Universities	Real Estate Development & Management
Solar Contractors & Developers	Legal & Consultant Organizations
Nonprofits & Community Organizations	Foundations
Utilities & Energy Services Companies	Manufacturing Organizations

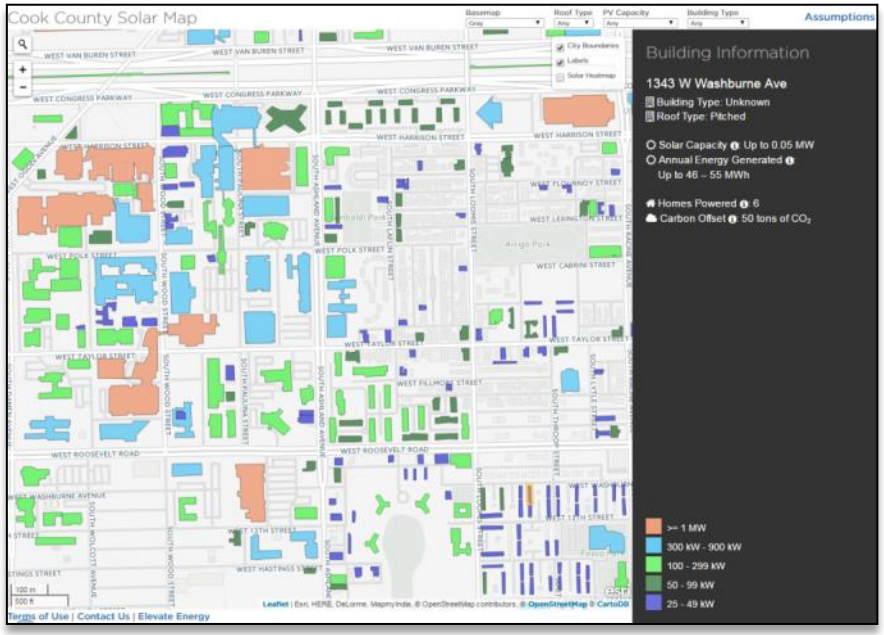
Stakeholder Engagement

- Established Working Groups to analyze
  - Business Models
  - Policy Barriers
  - Marketing and Outreach
- Stakeholder-driven work sessions
  - Financial Models
  - Valuation of Community Solar



Community Solar Suitability Website

- The objective of the solar map is to facilitate community solar development by giving community leaders and developers a tool to identify suitable sites in Cook County.
- Suitable area = rooftop (or land) area minus obstructions, shading, spacing.
- PV capacity displayed: > 25 kW for roof-mounted and >300 kW for ground-mounted installations

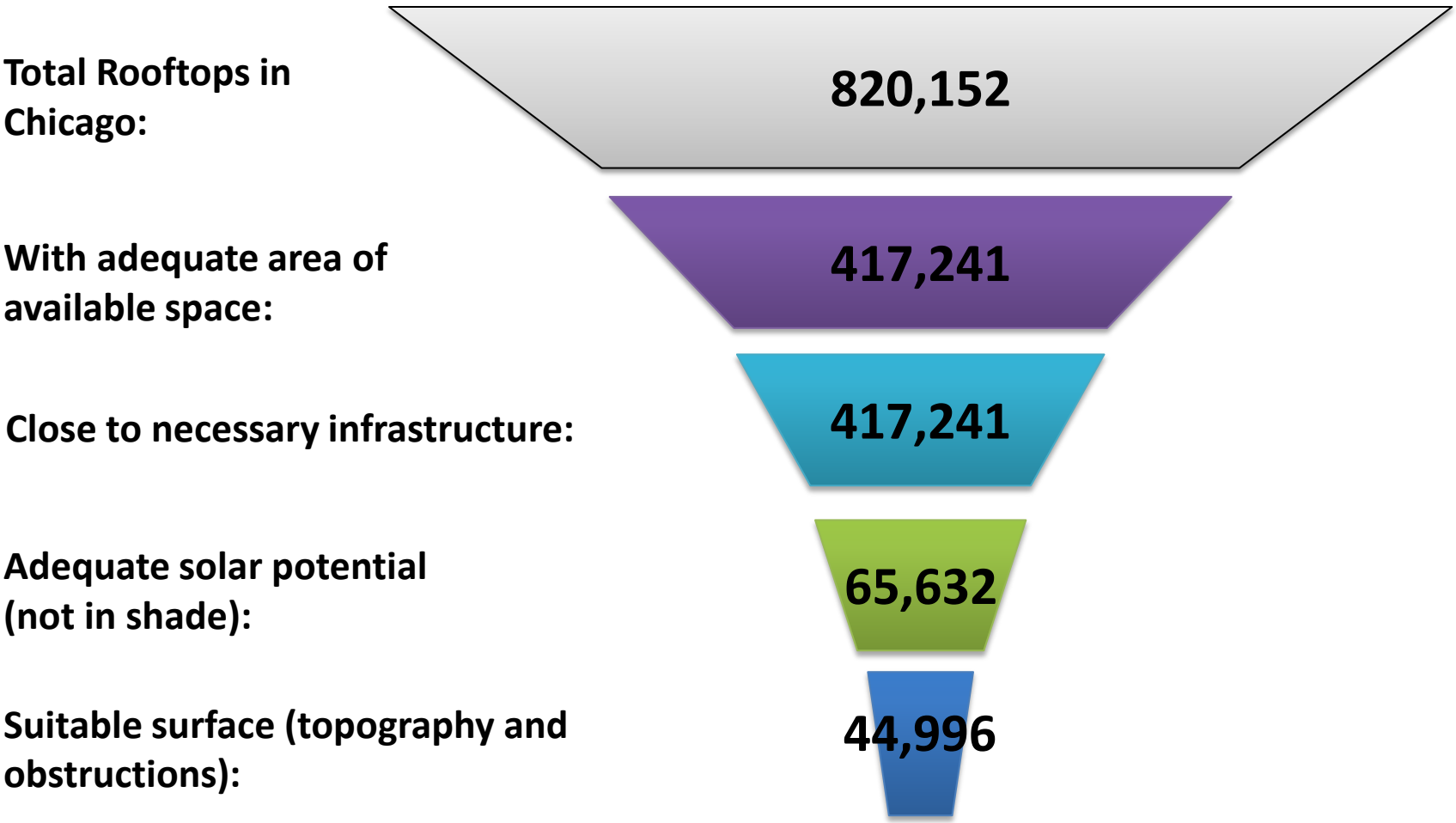


www.illinoiscommunitysolar.org

Elena Savona, PMP, CEM, LEED AP
Technical Program Manager
Elevate Energy

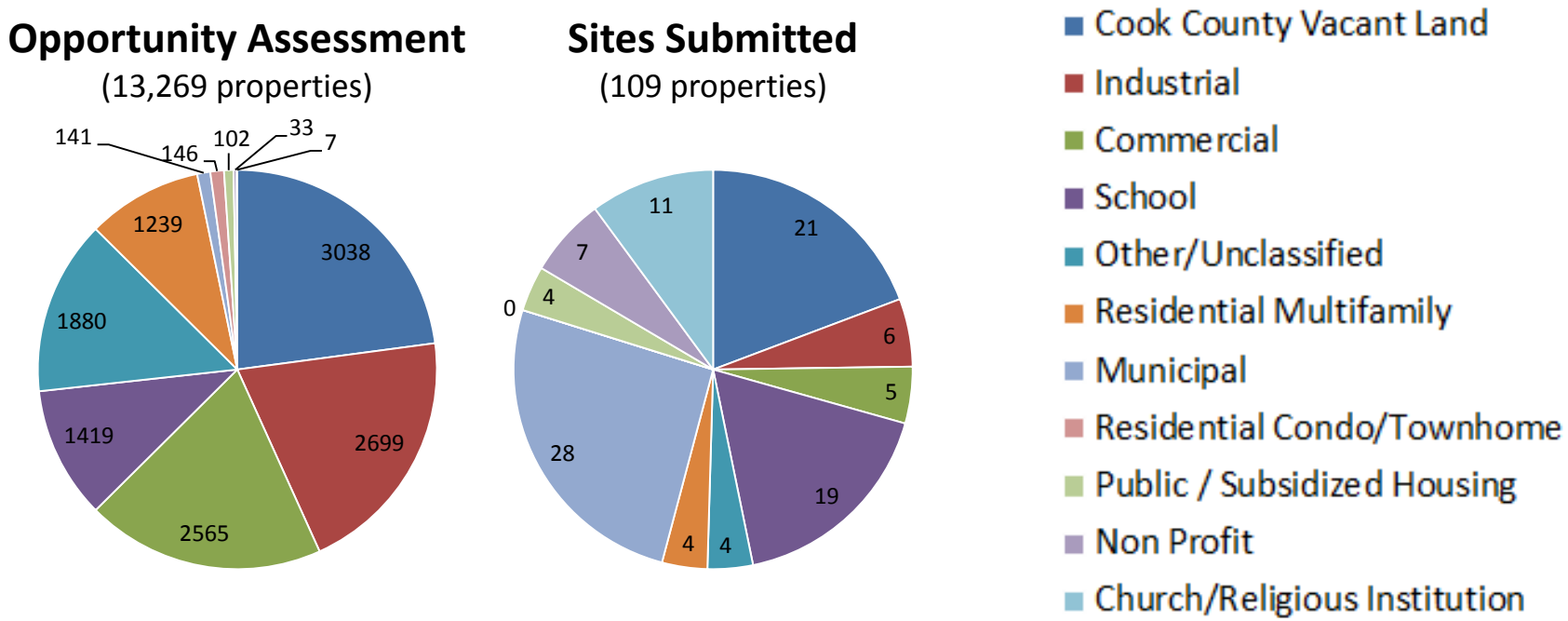
ELEVATE ENERGY
Smarter energy use for all

Opportunity Assessment: Rooftops (Chicago only)



Number of suitable rooftops will be significantly larger adding Suburban Cook County.

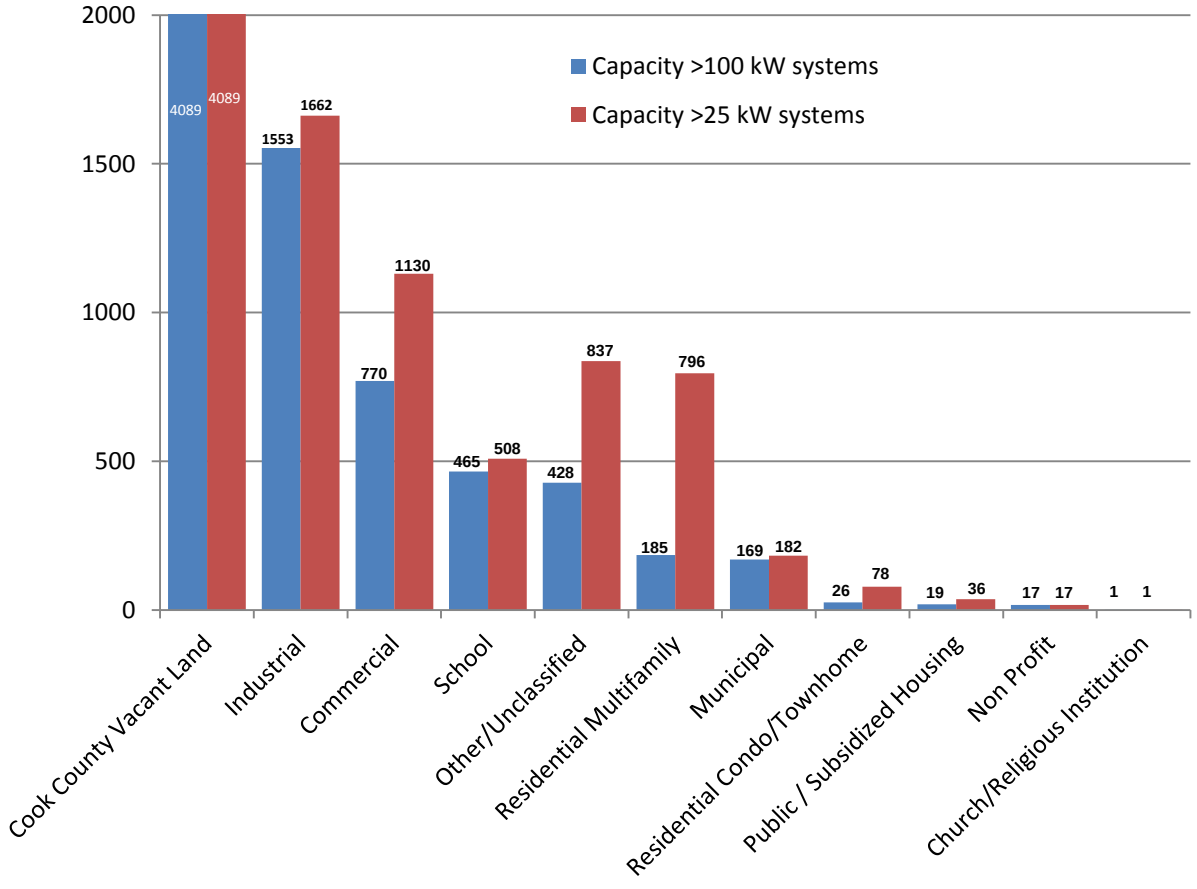
Opportunity Assessment
Solar Capacity by Opportunity Category



Assumes properties suitable to host 100 kW capacity or greater.

Solar Opportunity Assessment – No Shortage of Space

- Comparison of 100 kW to 25 kW potential sites.



9.3 GW of capacity

7.2 GW of capacity

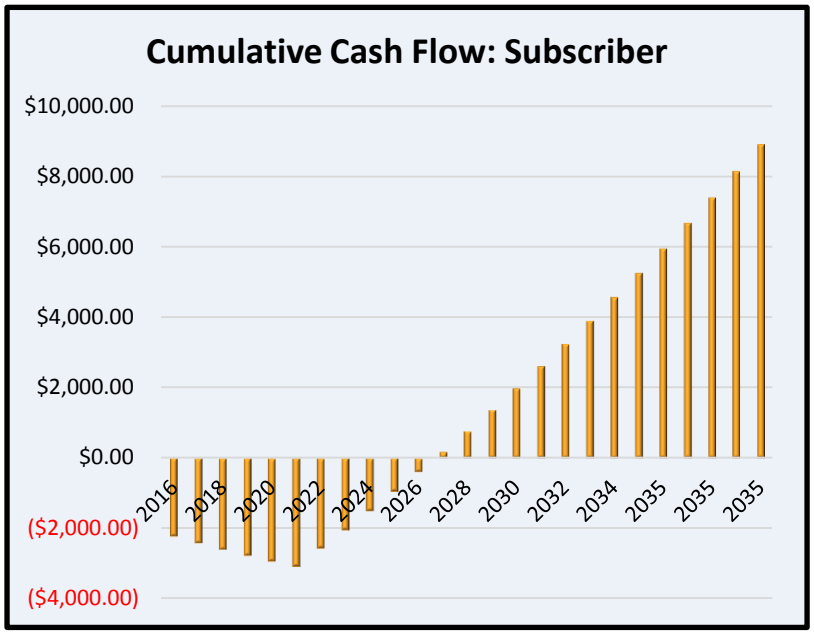
Excludes Cook County rooftop properties

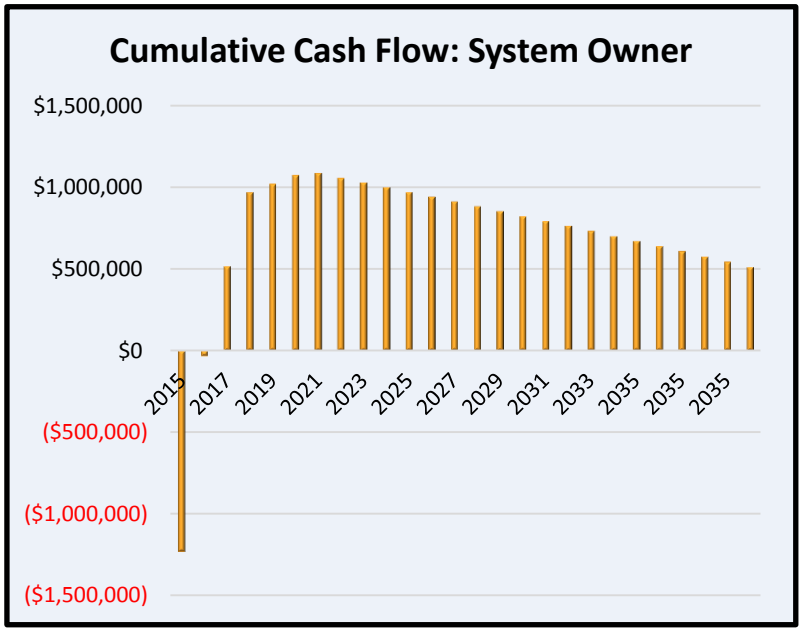
Su

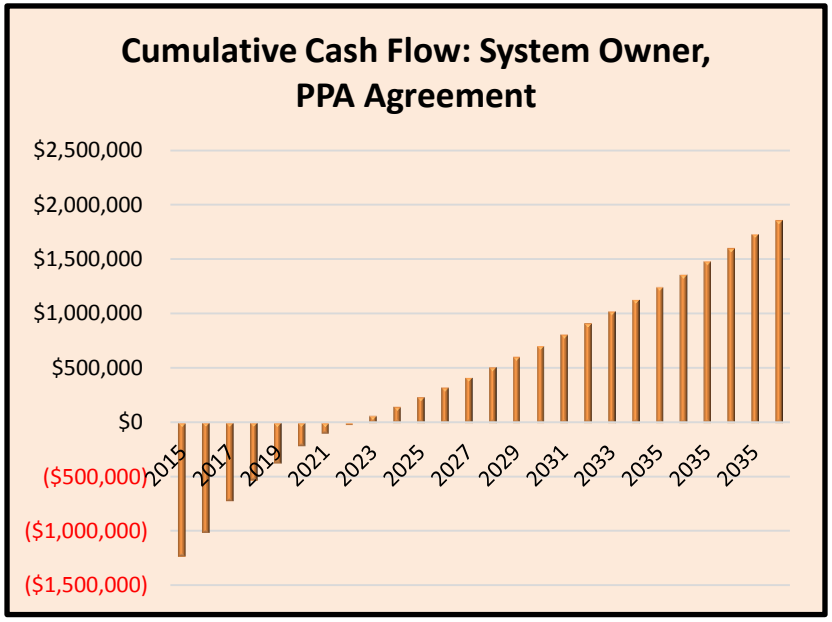
[Community Solar Business Case Tool]

Provides a flexible financial model that projects costs and benefits to system developer and subscriber of a single community solar project. Incorporates administrative, transactional and customer acquisition costs for community solar projects.

http://www.elevateenergy.org/community-solar/communitysolarbusinesscasetool/







Pilot Development Update

109 Sites Submitted. Of those…

59 **> 100kw, > 20 year roof life**

44 Multiples removed

15

- **Selected based on diversity**
- **No Interconnection limitations found!**

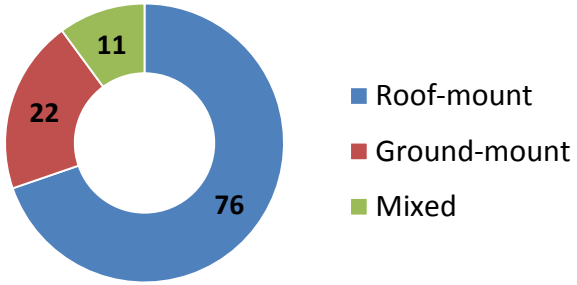
Sites to be announced late March

Next steps: engineering analysis and business case/subscriber acquisiti

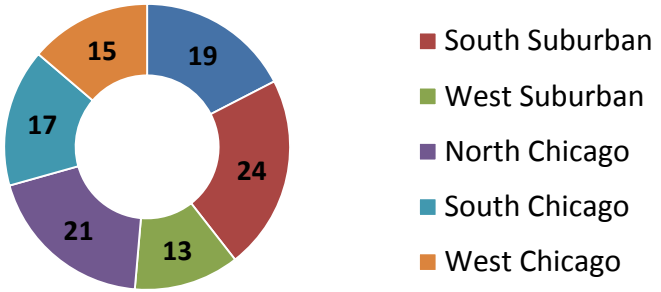
Site Selection: Properties Submitted

109 sites submitted

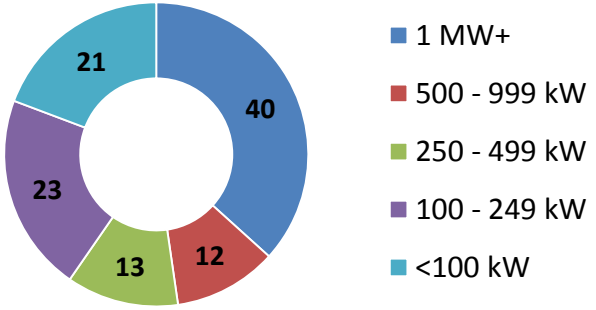
Installation Type by Site
(109 sites)



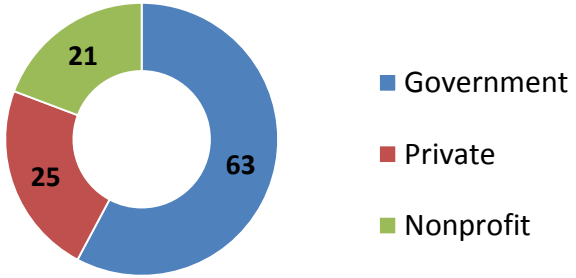
Geography by Site
(109 sites)



Solar Capacity by Site
(109 sites)



Ownership Type-All Submissions
(109 sites)



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

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

Site # 060

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%)

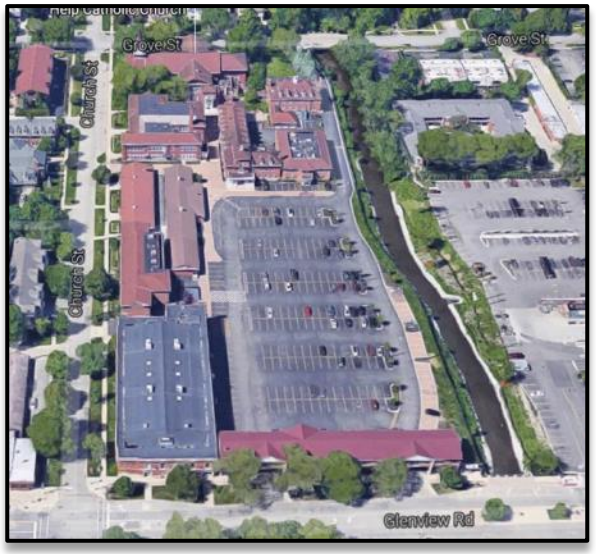
Low Income (10%)

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%)

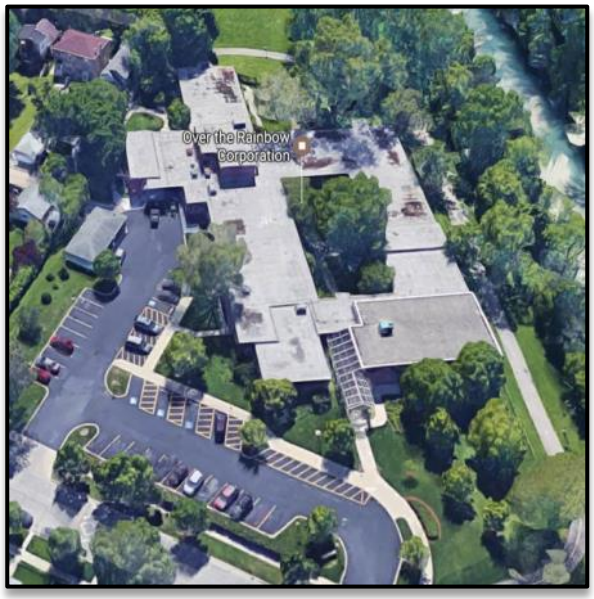
Hill Arboretum Apartments

Hill Arboretum Apartments

- Evanston
- 244 kW
- 1111 Panels

Nonprofit

Roof Mount



Third-party 100% LMI 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%)

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%)

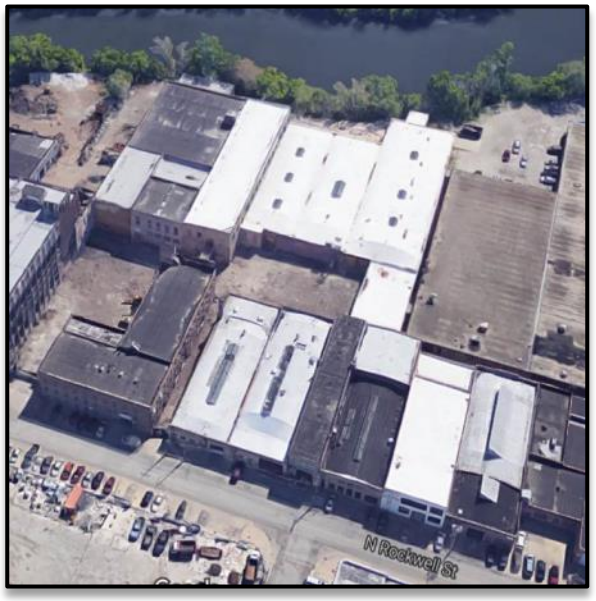
Site # 122

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%)

Next Steps: Local Impacts Analysis

- Document and disseminate the pilot site outcomes. Quantify community shared solar costs and benefits to local, state and regional stakeholders

  - **Value Proposition** - quantify the costs and benefits of a community solar project 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

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Director, Dept. of Environmental Control
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Chicago, IL 60602
312-603-8204
deborah.stone@cookcountyil.gov (email to get on newsletter list)

CCDEC website: (Solar tab)
www.cookcountyil.gov/agency/environmental-control

http://www.blog.cookcountyil.gov/sustainability

A Message from the President

I believe that Cook County should be a world-class model of sustainability. We are working not only to boost sustainability practices throughout County government, but also to join forces with local governments, nonprofits and business, to accomplish more than we could separately in making each of Cook County's communities sustainable.

Toni Preckwinkle,
Cook County Board President