Better Buildings®
U.S. DEPARTMENT OF ENERGY

Innovative City Strategies to Renewable Energy Procurement

5/11/2016

U.S. DEPARTMENT OF ENERGY

Agenda

- **9:45 Welcome & Roll Call**
  - ***Speaker: Sarah Zaleski (DOE)***
- **10:00 Municipal Electricity Aggregation in Cleveland**
  - **Speaker: Matt Gray**
- **10:15 Innovative Municipal Clean Energy Purchasing Strategies**
  - **Speaker: Eric Coffman**
- **10:30 Solarize the Flower City 2016**
  - **Speaker: Melissa Chanthalangsy**
- **10:45 Discussion/ Questions**
- **11:00 Adjourn**

Municipal Electricity Aggregation in Cleveland

Speaker: Matt Gray

U.S. DEPARTMENT OF ENERGY

Municipal Electricity Aggregation in Cleveland

Better Buildings Summit

May 11, 2016

SUSTAINABLE CLEVELAND

TOGETHER, WE'RE BUILDING A THRIVING GREEN CITY ON A BLUE LAKE

CITY OF CLEVELAND

Mayor Frank G. Jackson

Sustainable Cleveland

SUSTAINABLE CLEVELAND
MUNICIPAL ACTION PLAN

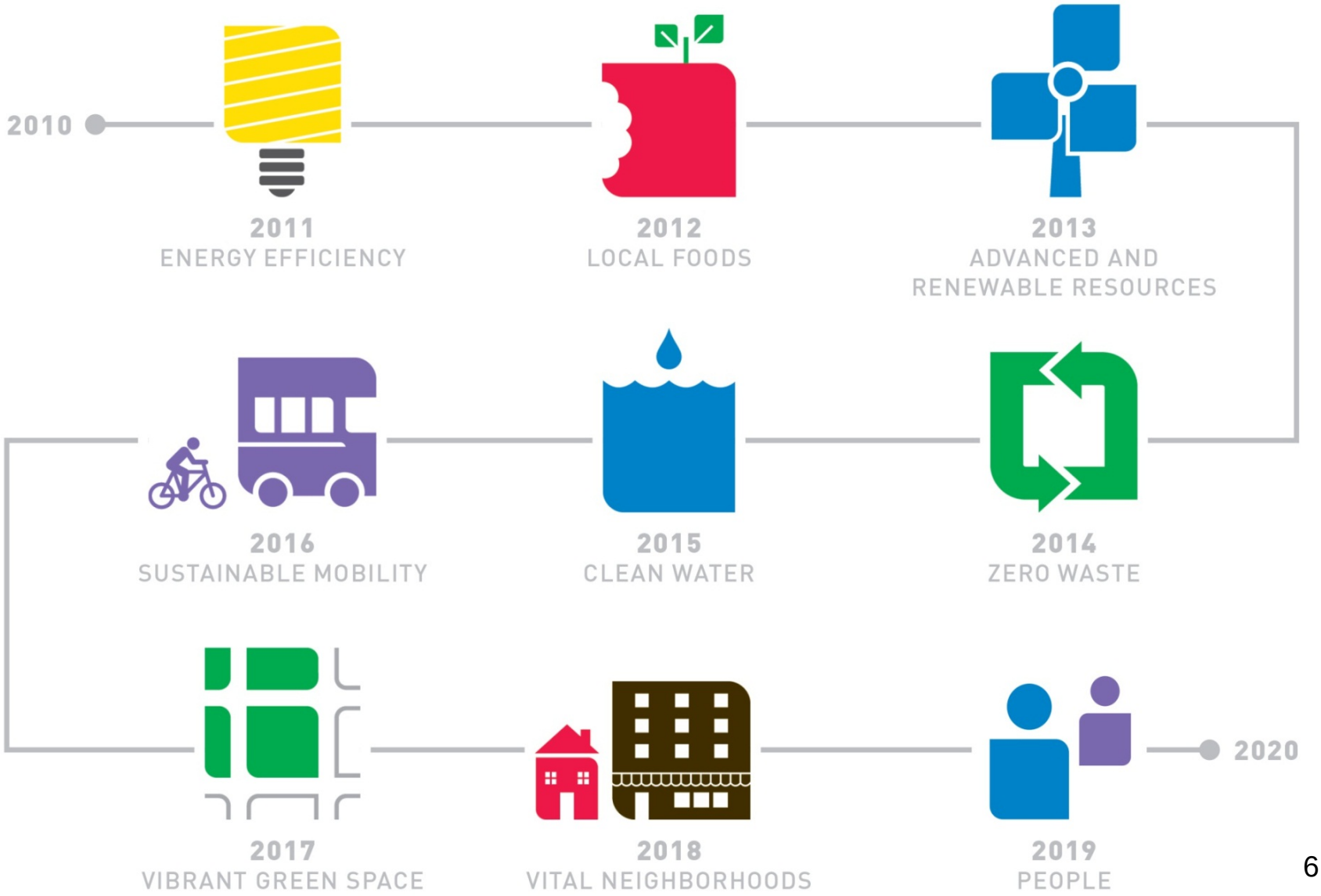
EXECUTIVE SUMMARY

October 2013

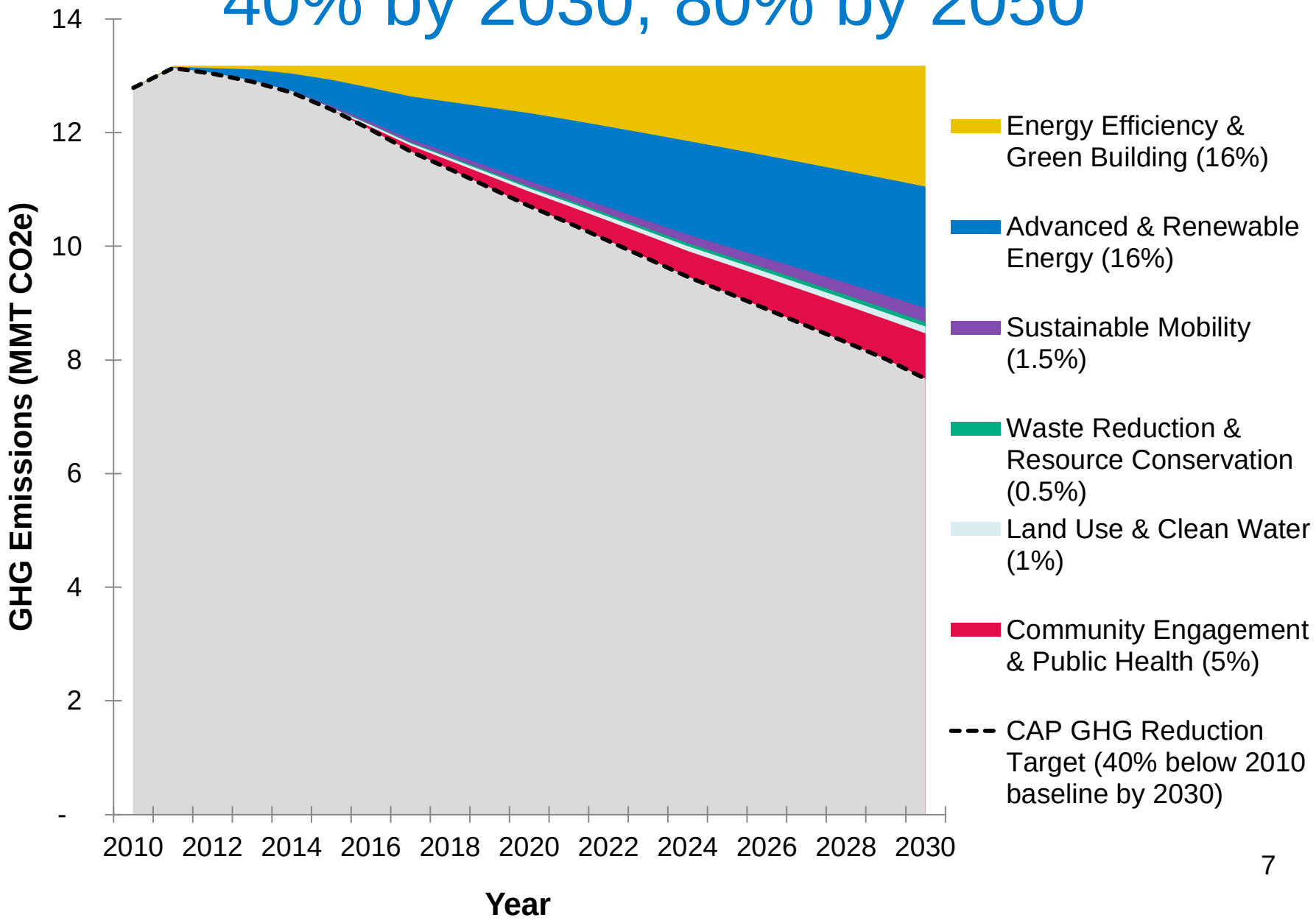
CITY OF CLEVELAND
Mayor Frank G. Jackson

SUSTAINABLE
CLEVELAND 2019

Celebration Years



GOALS: Reduce Emissions 16% by 2020, 40% by 2030, 80% by 2050



What is Municipal Energy Aggregation?

- In Ohio, local communities are allowed, by law, to join their citizens together to buy electricity as a group and thereby gain "buying power".
- The governmental aggregator chooses an outside supplier for all of the customer-members in its group.
- Cleveland voters approved “opt-out” aggregation in the November 2000 election.

Benefits of Aggregation

- Residents and small businesses save money on their electricity bills.
- Under aggregation, the City has no liability to either the aggregation supplier or the retail customers for failure to deliver the power or failure to pay for it.
- There are opportunities to purchase renewable energy as part of the electric supply, and to support energy efficiency.

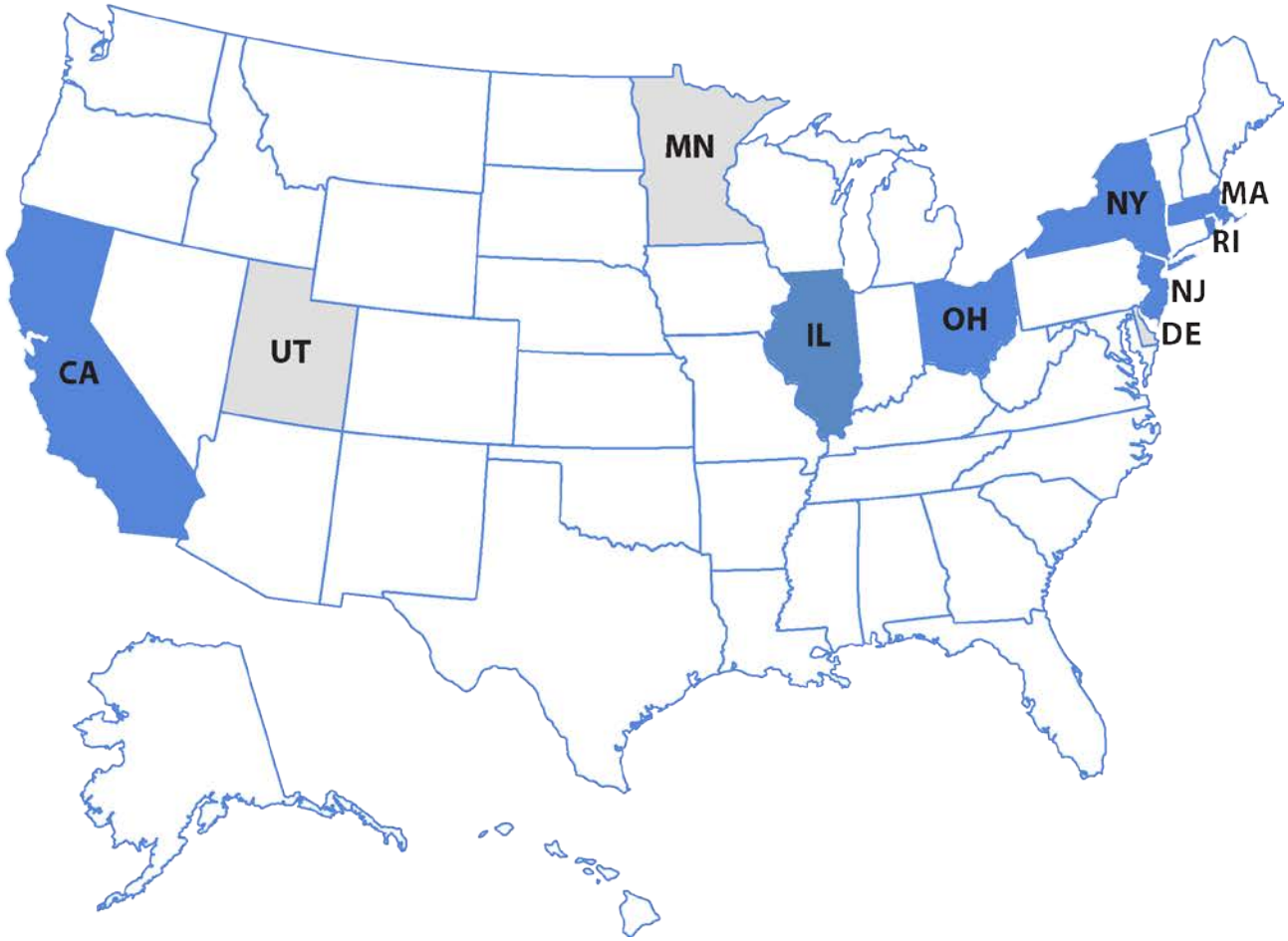
Community Choice Aggregation by State

Legal in 7 States:

- California
- Illinois
- Massachusetts
- New Jersey
- Ohio
- Rhode island
- New York

Under Consideration in:

- Utah
- Delaware
- Minnesota

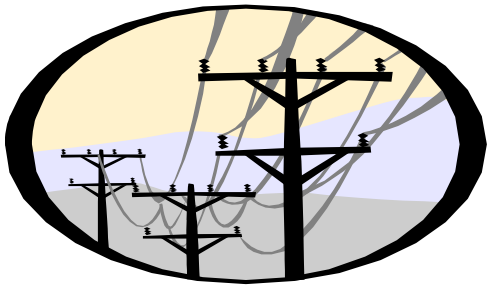


Source: Local Energy Aggregation Network, www.leanenergyus.org

How Cleveland's Aggregation Works

City issues RFP and chooses an energy supplier for CEI customers

The electricity sources proposed can be "conventional" (in Ohio, mostly coal), or can specify renewables



The electricity is delivered to residents and small businesses through the CEI distribution network.

CEI customers receive a lower price for this energy because of group buying and are automatically enrolled

Automatically Enrolled (50% green)

Opt in (100% green)

Opt in (conventional)

Opt-Out

RFP Example – Pricing Data

Each Proposer would fill out this table for X months:

Pricing Option	**Fixed cost ($/kWh)**	**% off Price to Compare**	**Savings per year for average small business**	**Savings per year for average small business** (With $.0003/kWh efficiency charge)	**Savings per year for average household**	**Savings per year for average household** (With $.0003/kWh efficiency charge)
Conventional Energy Mix	$x / kWh	X%	$x	$x	$x	$x
No Coal / No Nuclear	$x / kWh	X%	$x	$x	$x	$x
100% Green Product (all out of state)	$x / kWh	X%	$x	$x	$x	$x
100% Green Product (50% Ohio, 50% out of state)	$x / kWh	X%	$x	$x	$x	$x
100% Green Product (all Ohio)	$x / kWh	X%	$x	$x	$x	$x

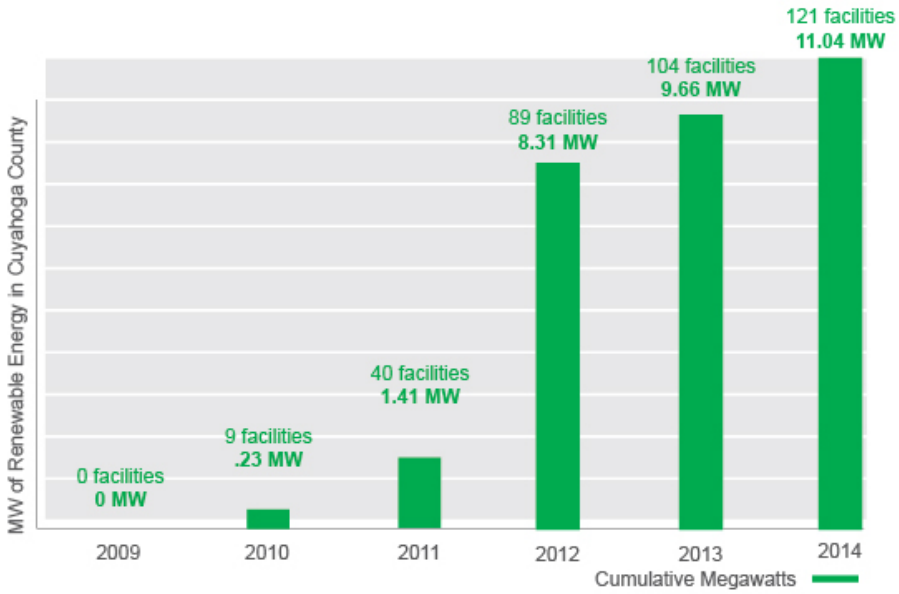
Notes: All Green Energy purchased would be Green-e Third Party Certified;
The Efficiency Charge would fund the Cleveland Energy $aver program

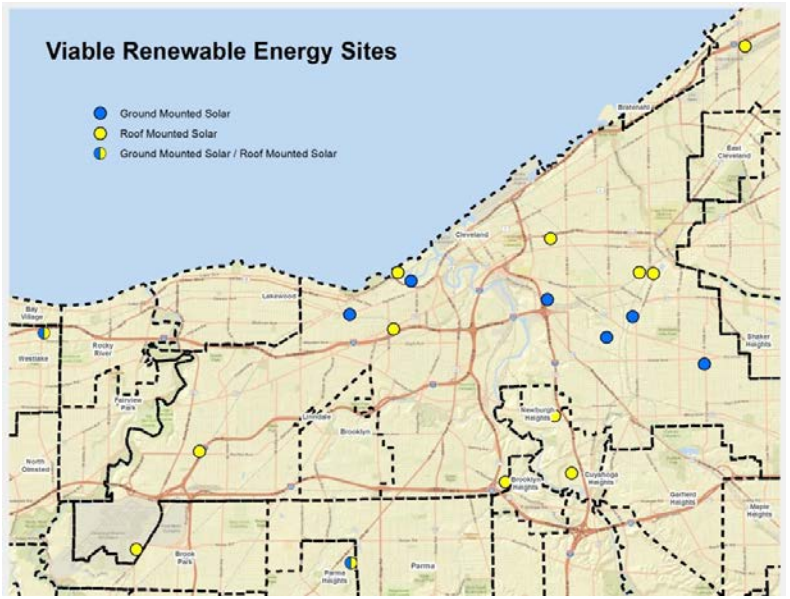
FACTOR	*2013 Aggregation*	*2015 Aggregation*
Electricity Supplier	First Energy Solutions	Constellation
Contract	24 months	24 months
Aggregation Price	21% off Price to Compare (24% off for conventional)	Fixed Price
Opt-Out Renewable Energy	100% Renewable, incl. 30% Ohio wind (50% GPP eligible)	50% Renewable
Opt-In Options	Conventional	Conventional, 100% Renewable
Energy Efficiency Supplier	-	Empower Gas & Electric

The aggregation includes about **50,000** residents and small businesses. Combined, they support more than **200 GWh of wind energy** per year.

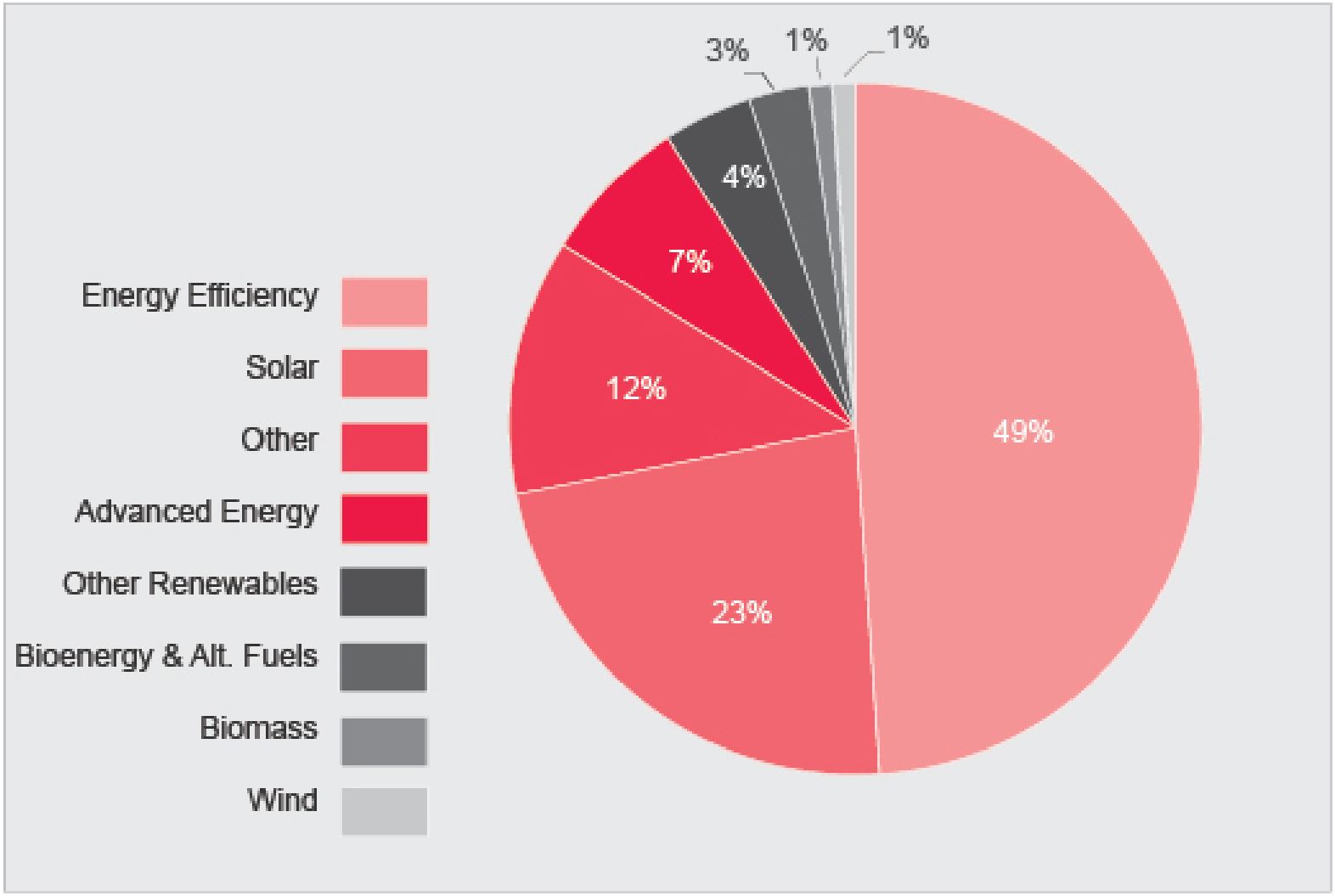
Considerations for Next Aggregation

- Can we support local generation?
  - Policy: rate case, the “freeze”, Clean Power Plan, etc.
  - Renewable Energy Site Assessment; Offshore Wind
- Can we continue to support energy efficiency?
- Fixed vs. % off the Price to Compare
- Should the City go it alone?





Employment in Ohio's Alternative Energy Industry (31,000 jobs in Ohio)



Recognition

You are here: EPA Home » Green Power Partnership » Green Power Communities

Green Power Communities

Leading local governments across the nation are partnering with EPA to become Green Power Communities (GPCs). GPCs are towns, villages, cities, counties, or tribal governments in which the local government, businesses, and residents collectively use green power in amounts that meet or exceed EPA's Green Power Community purchase requirements.

GPC Rankings Based on Green Power Usage

Community	Annual Green Power Usage (kWh)
1. Washington, DC Community	1,202,743,808
2. Hillsboro, OR Community	1,117,846,784
3. Portland, OR Community	691,498,284
4. Philadelphia, PA Community	611,915,278
5. Santa Clara, CA Community	309,127,990
6. Cleveland, OH Community	275,360,000
7. Aurora, IL Community	211,928,000

GPC Rankings Based on Percentage Green Power

Community	Green Power % of Total Electricity Use
1. Hillsboro, OR Community	50.5%
2. Glen Ellyn, IL Community	40%
3. Olympia, WA Community	35.4%
4. Swarthmore, PA Community	32.4%
5. Mill Valley, CA Community	31.3%
6. Fairfax, CA Community	30.8%
7. Arlington Heights, IL Community	30%

Thank You!

Matt Gray, Director
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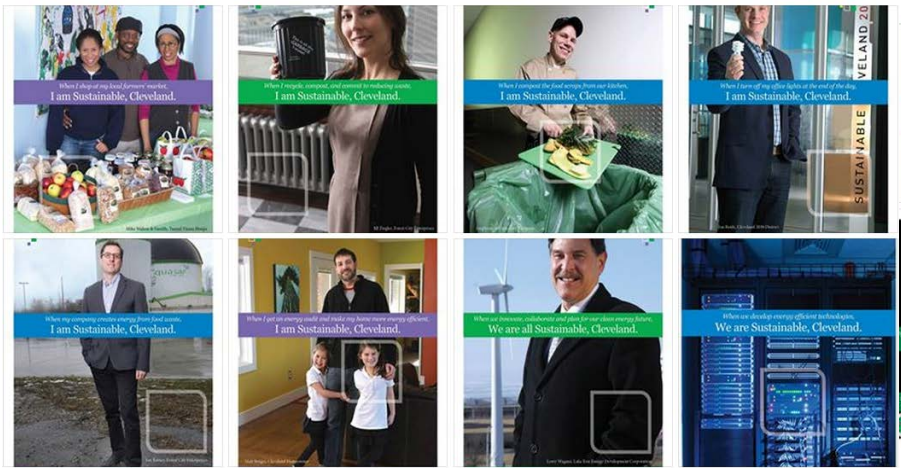


Join us at :

www.SustainableCleveland.org

Innovative Municipal Clean Energy Purchasing Strategies

Speaker: Eric Coffman

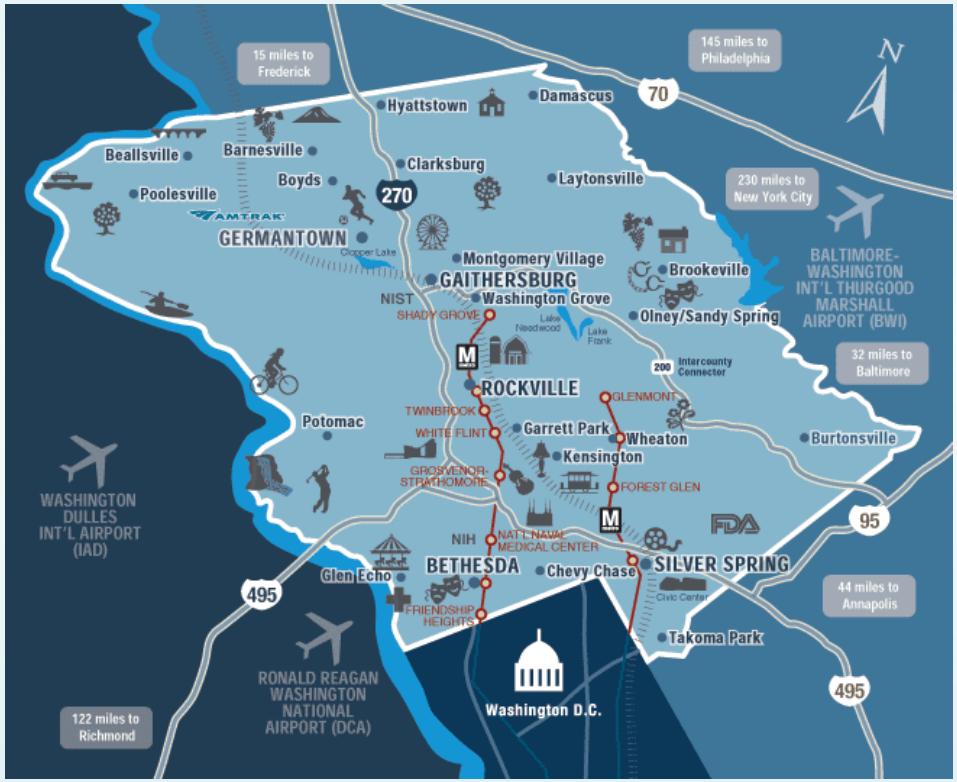
U.S. DEPARTMENT OF ENERGY

Innovative Municipal Clean Energy Purchasing Strategies

Eric R. Coffman
Office of Energy and Sustainability
May 11, 2016

About Montgomery County

- $1 million residents,
- 507 square miles
- $5.08 billion annual operating budget
- 9,000,000 square feet of County Gov Buildings



About Montgomery County

- Created in 2013
- Reduce the environmental footprint of County operations
- Build resiliency in Public facilities
- Energy purchasing and procurement
- $35 million in annual utility purchases

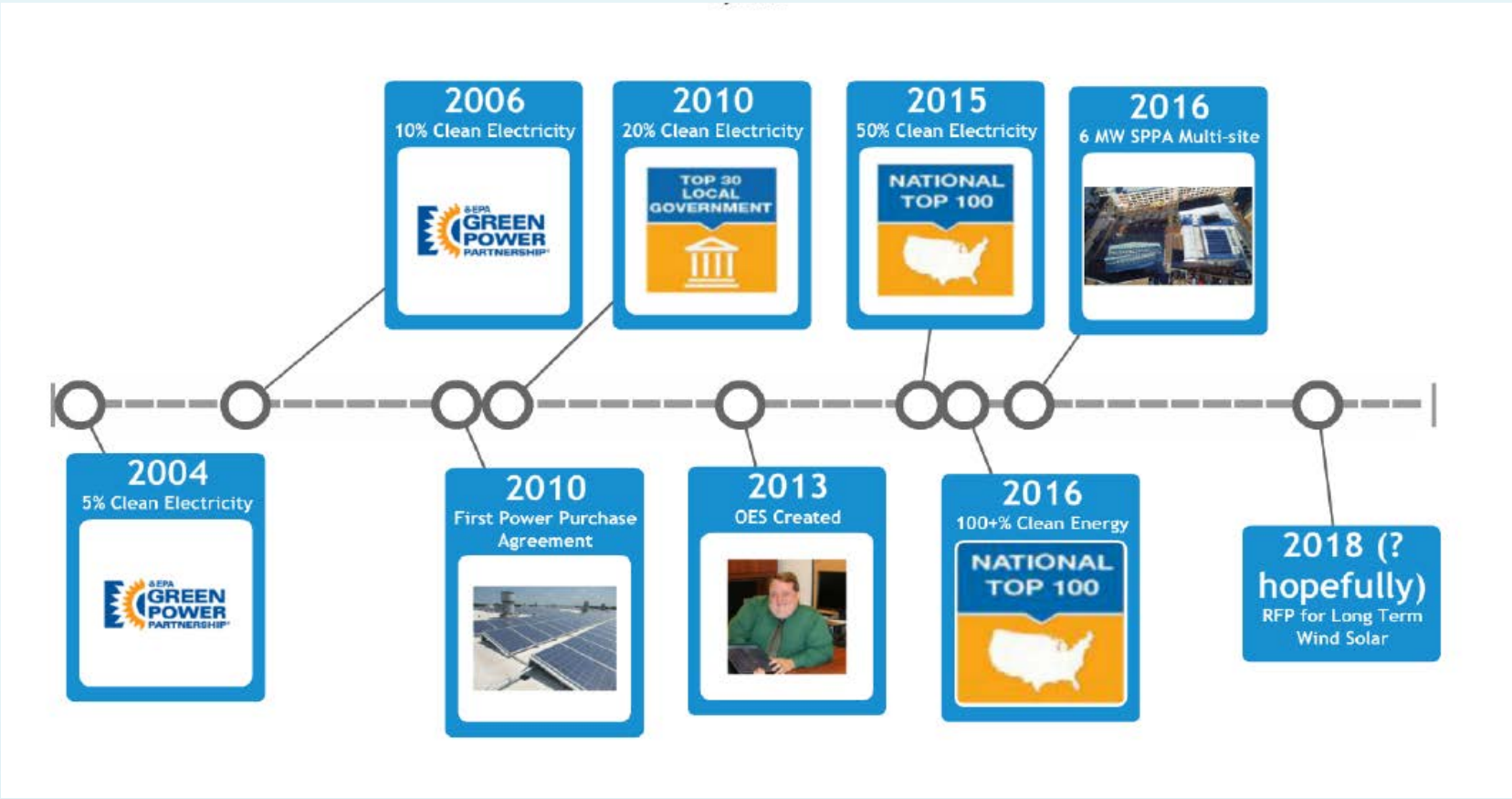
County Energy Efficiency and Supply Goals

- 80% by 2030 reduction in GHG emissions
- 25% energy intensity reduction in 10 years
- 6 MW onsite solar by 2017
- 100% clean energy
- 100% carbon offset of building fuels

Montgomery County Clean Energy Buyers Group

- Aggregate 10 County agencies and municipalities
- Purchase Green-E certified national renewable energy credits
- Participants 70% of average energy consumption. County Government 100%
- Additional offsets for County Government fuel oil and natural gas GHG emissions.

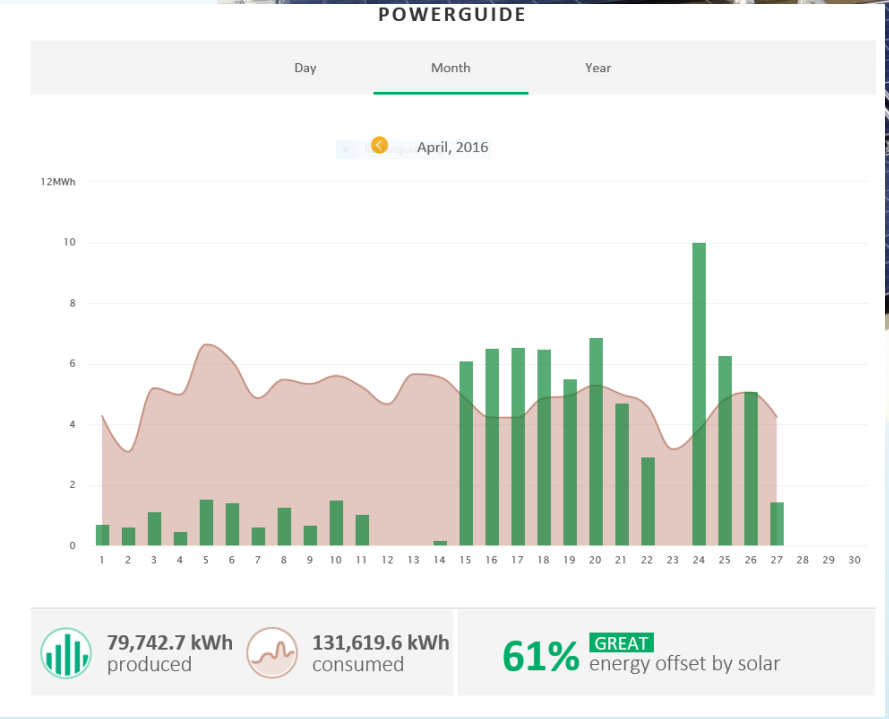
Clean and Onsite Energy Timeline



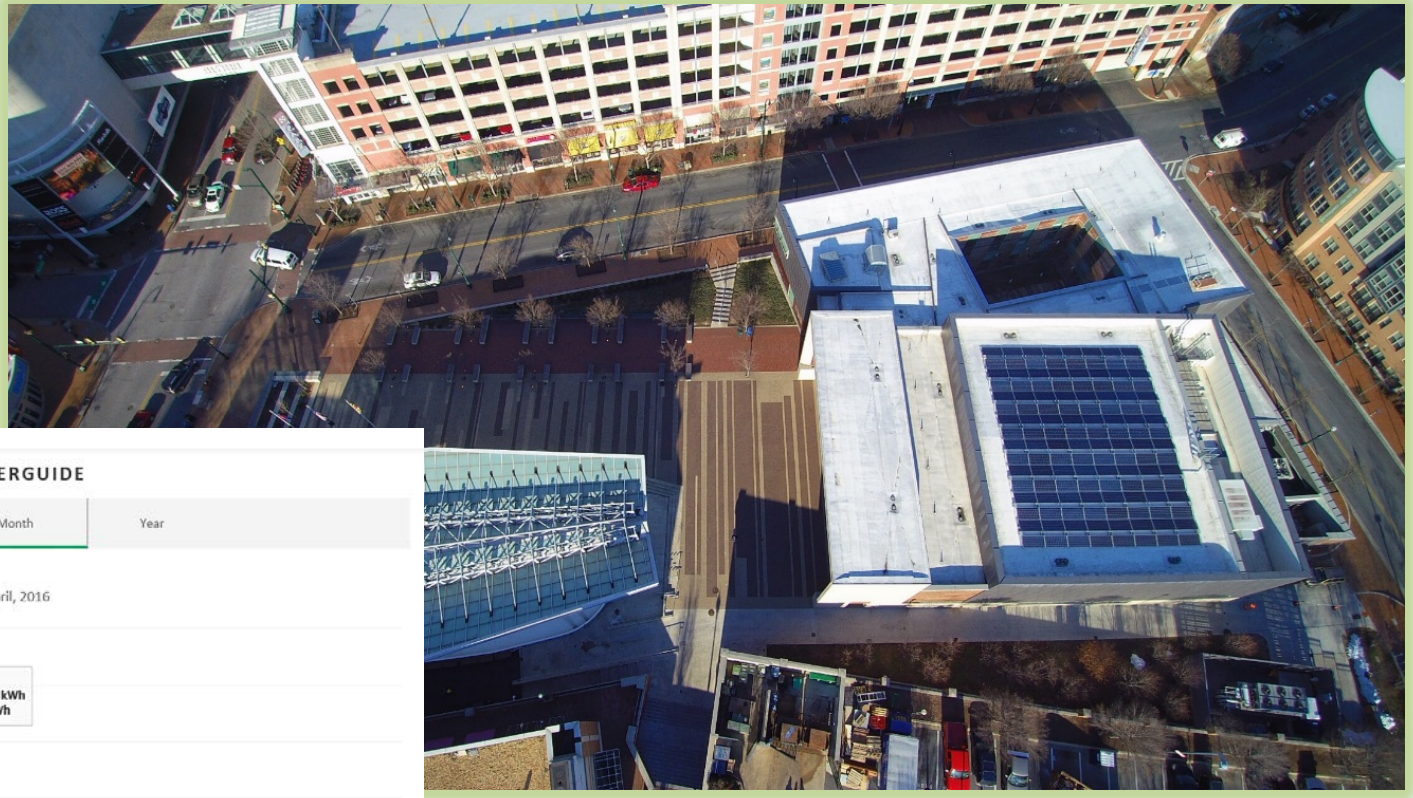
Solar Power Purchase Agreements

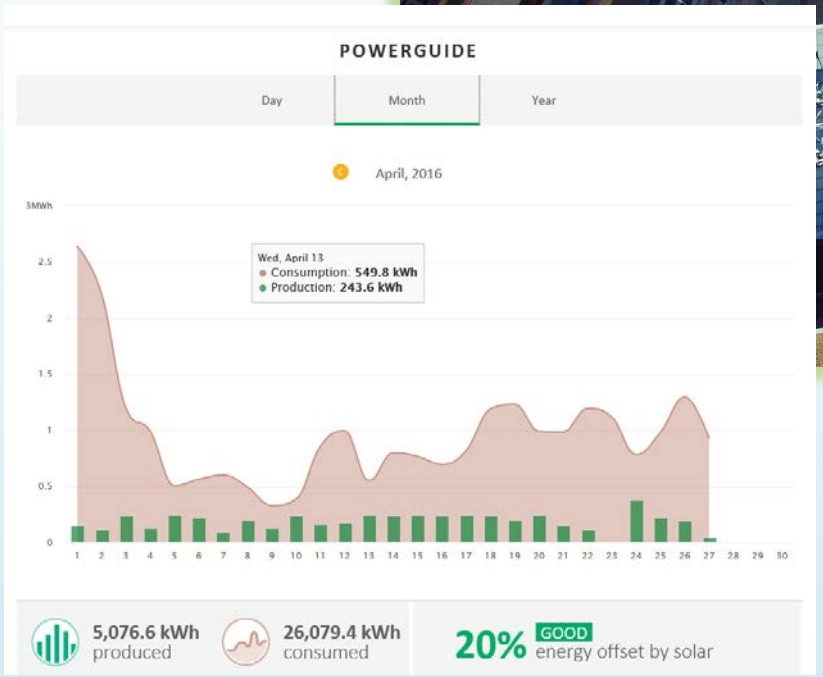
- $11 million savings over total project life
- No cash upfront
- Third party designs, finances, builds, owns maintains and operates
- 20 year life
- Pay for what is delivered
- Performance guarantee for under production

Liquor Warehouse

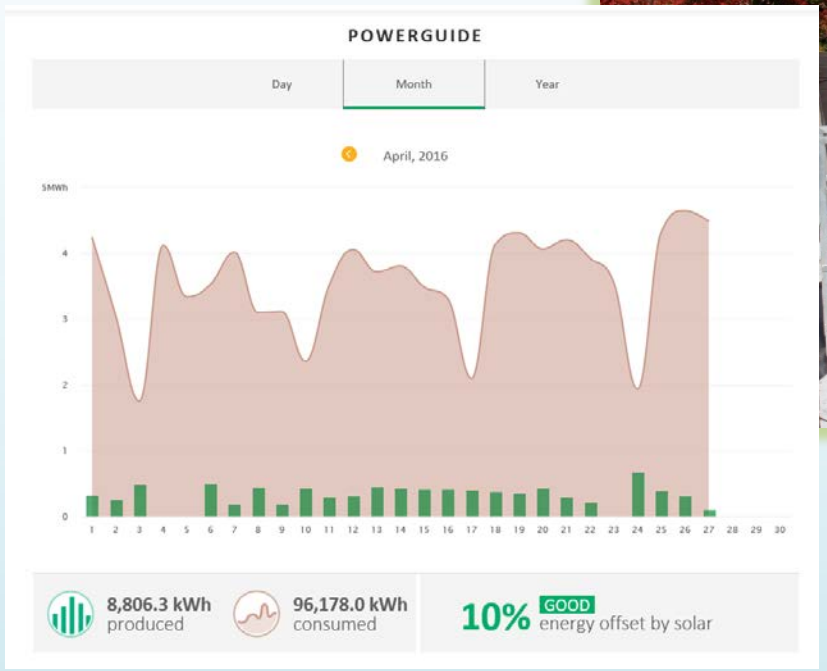


Silver Spring – Regional Services Center

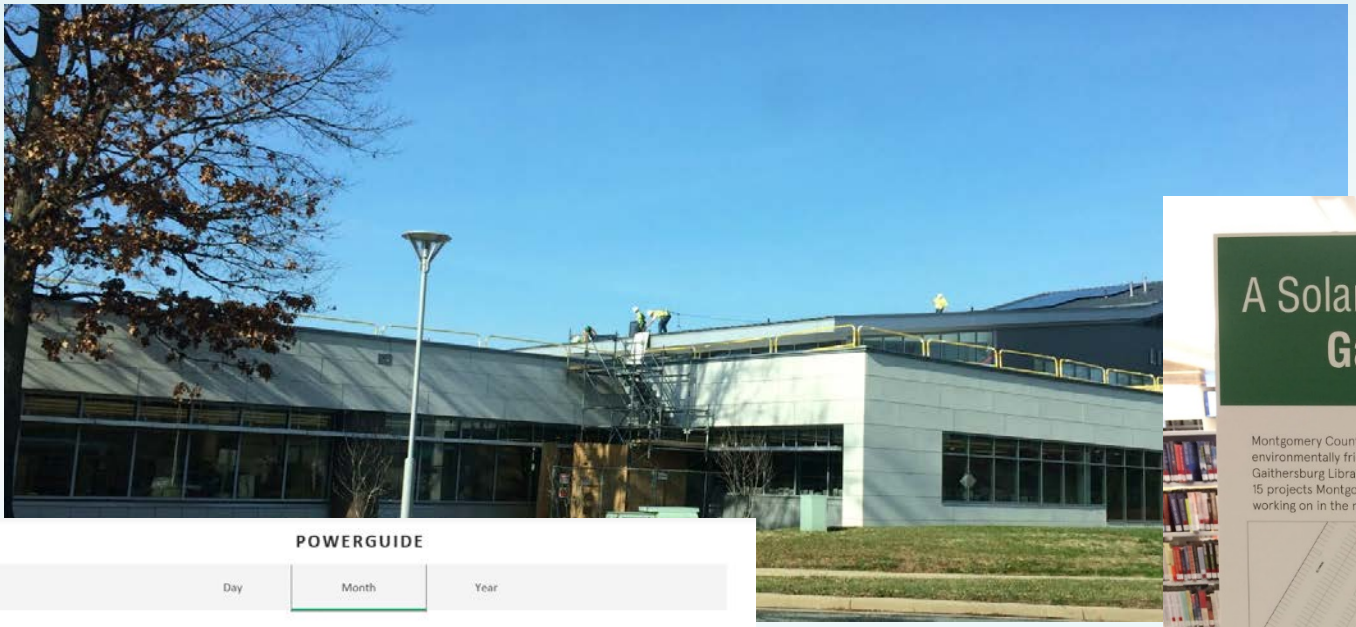


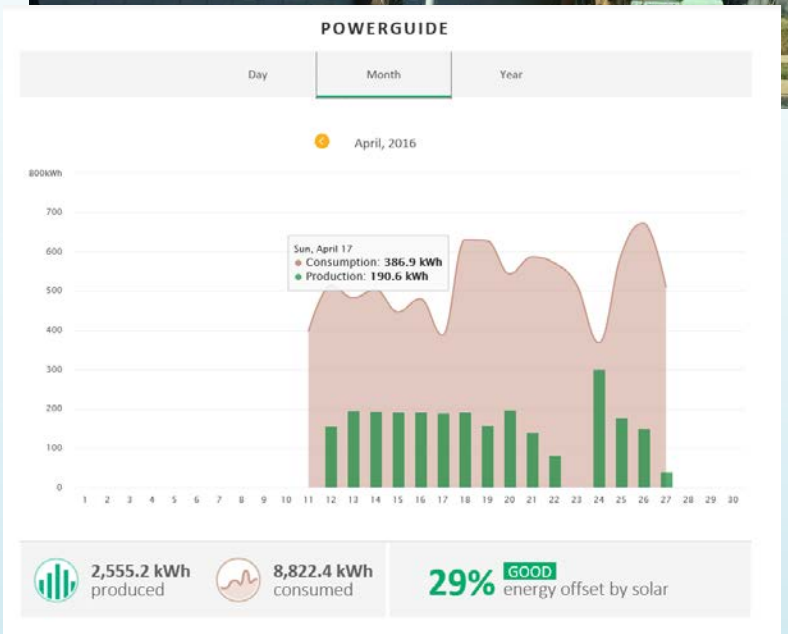


Jane Lawton Community Recreation Center



Gaithersburg Library





UpCounty Regional Services Center

Microgrids on Public Facilities

- Microgrids at two critical facilities
- 100% electric grid independent facility
- Combined solar, combined heat and power, advanced controls
- P3 structure similar to SPPA
- Expandable

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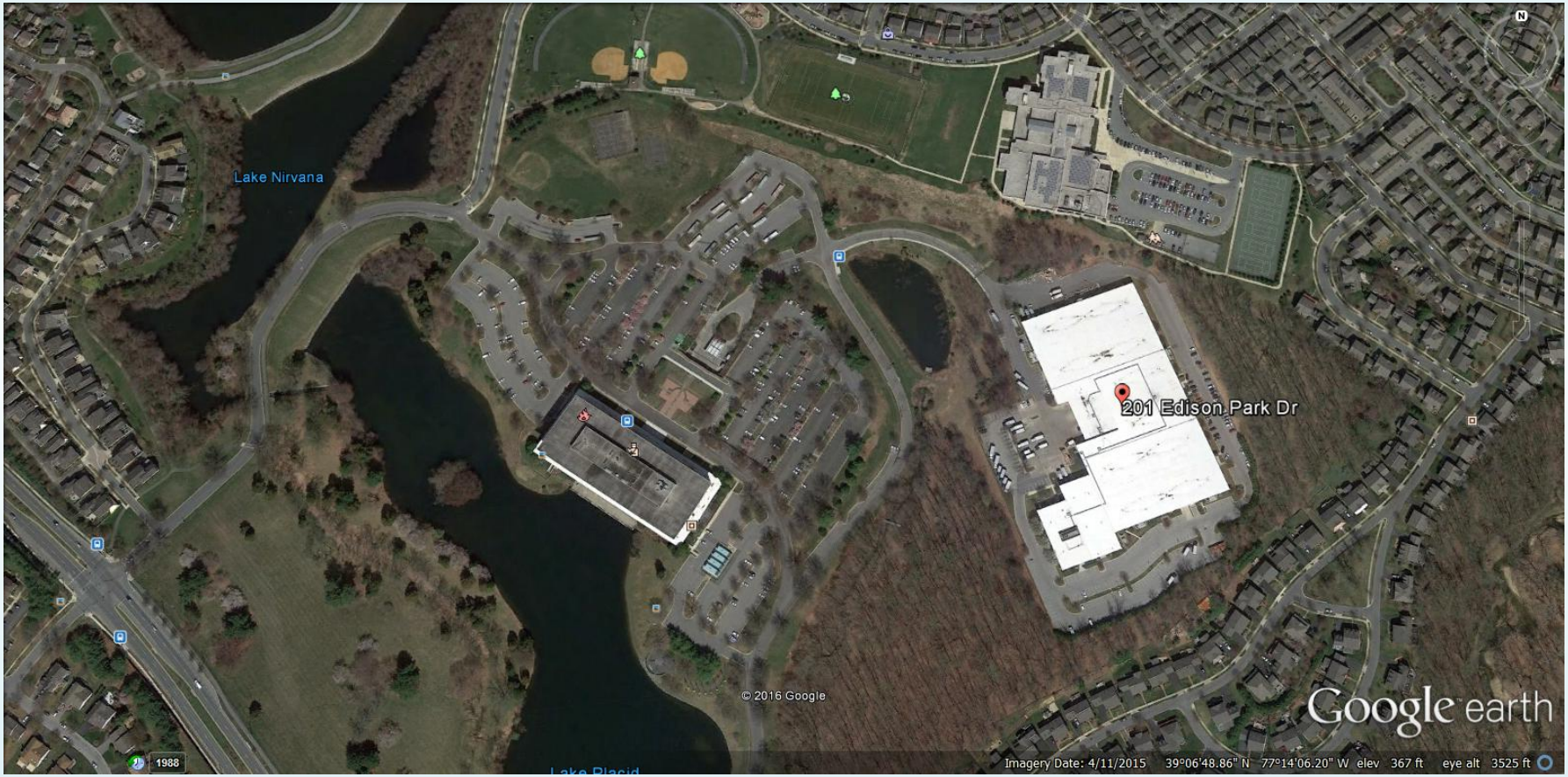
Microgrids on Public Facilities



What's Next

- Shift to block and hedge purchasing
- Enhanced building controls to enable PLC management
- RFP scheduled for 2017 for blocks of regional wind or solar

Contact Us:

Department of General Services – Office of Energy and Sustainability
http://www.montgomerycountymd.gov/dgs-oes/

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Solarize the Flower City 2016

Speaker: Melissa Chanthalangsy

U.S. DEPARTMENT OF ENERGY

Solarize the Flower City 2016
Rochester, New York

Better Buildings Summit
Washington, DC

Melissa Chanthalangsy
May 11, 2016

City of Rochester, NY
Lovely A. Warren, Mayor

sustainable rochester

Agenda

- Background
- Intro to Solarize campaigns
- Procurement process
- Takeaways and challenges
- Looking ahead

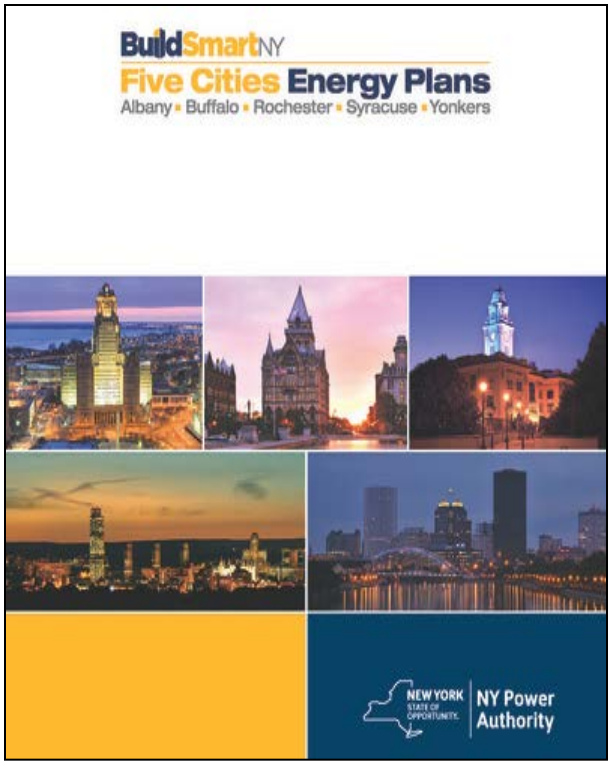
City of Rochester, NY
Lovely A. Warren, Mayor

About Rochester

- Population: 210,358 (2013)
- Third largest city in NY State
- Flour City → Flower City

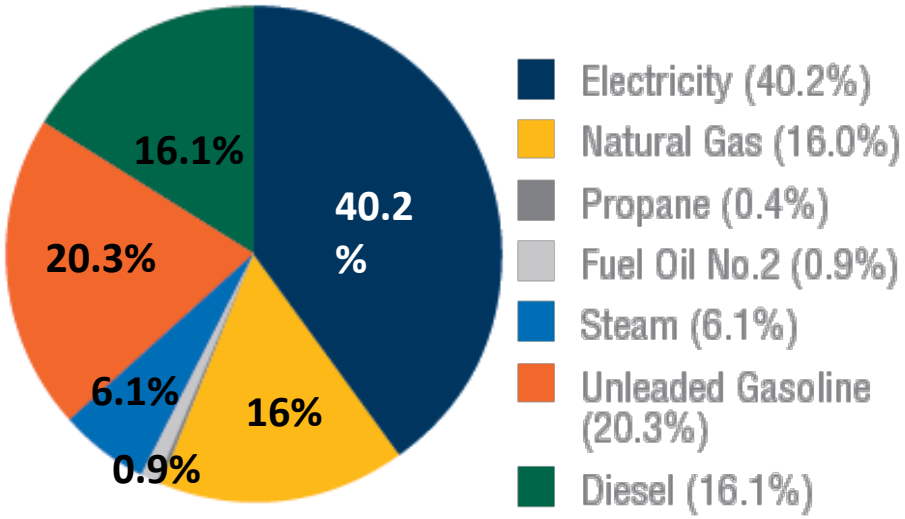
Reforming the Energy Vision (REV)

- State policy from Governor Cuomo's office
- A strategy to build a clean, resilient, affordable energy system for all New Yorkers

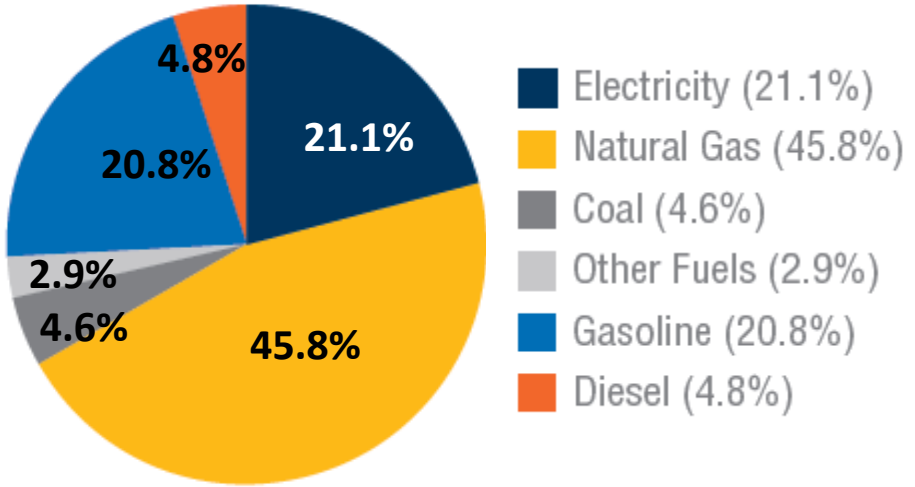


Rochester Energy Consumption by Fuel Type (mmBtu)

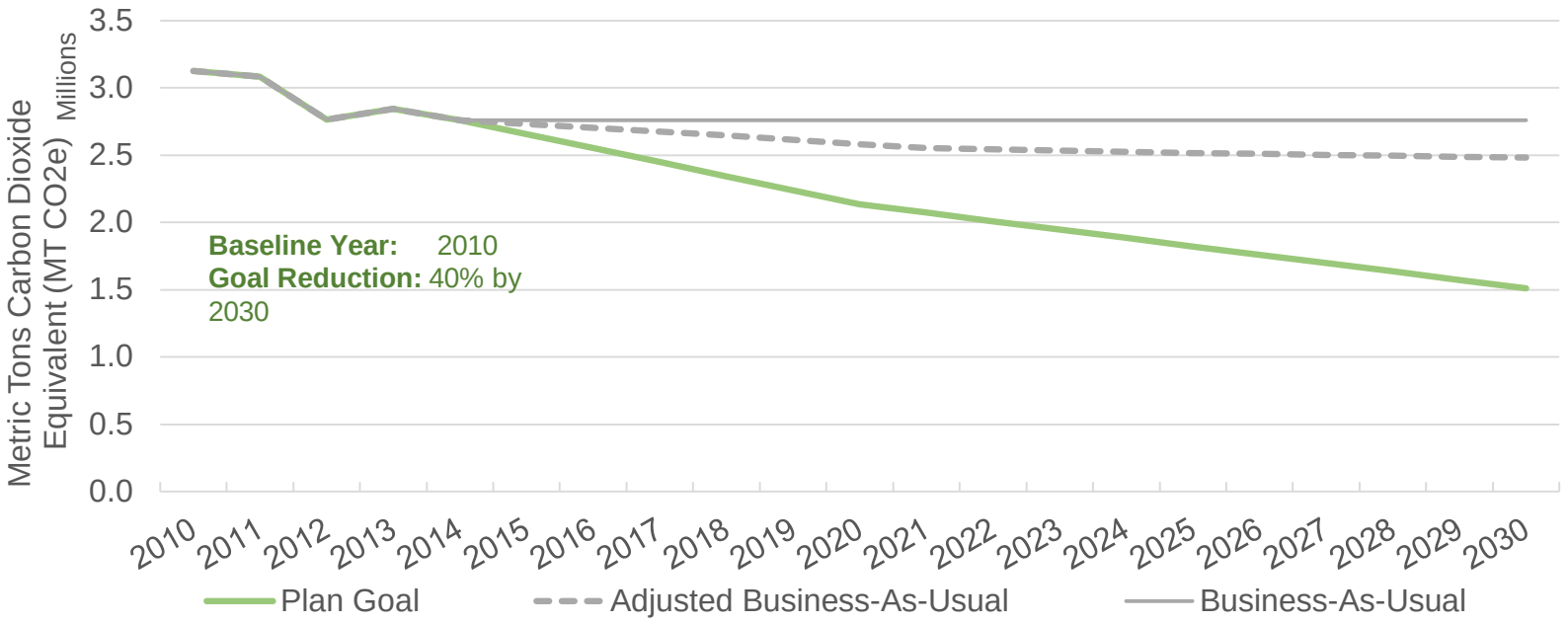
Municipal



Community



Rochester GHG Reduction Goals



Rochester EUI Reduction Goals

Benchmark Goal	Baseline Year	Goal Reduction
Rochester Energy Plan, Community	2010	20% by 2030
Rochester Energy Plan, Municipal	2010	20% by 2020
New York State Energy Plan	2012	23% by 2030

City of Rochester Solar Initiatives

Agenda

- Background
- Intro to Solarize campaigns
- Procurement process
- Takeaways and challenges
- Looking ahead

Solarize the Flower City 2016

ROCSPOT

NYSERDA	City of Rochester	Rocky Mountain Institute	Neighbor Works	Brighton Irondequoit

Solarize the Flower City 2016

Tier I: Residential

- Open to all homeowners
- Additional incentive for low-moderate income (Affordable Solar)

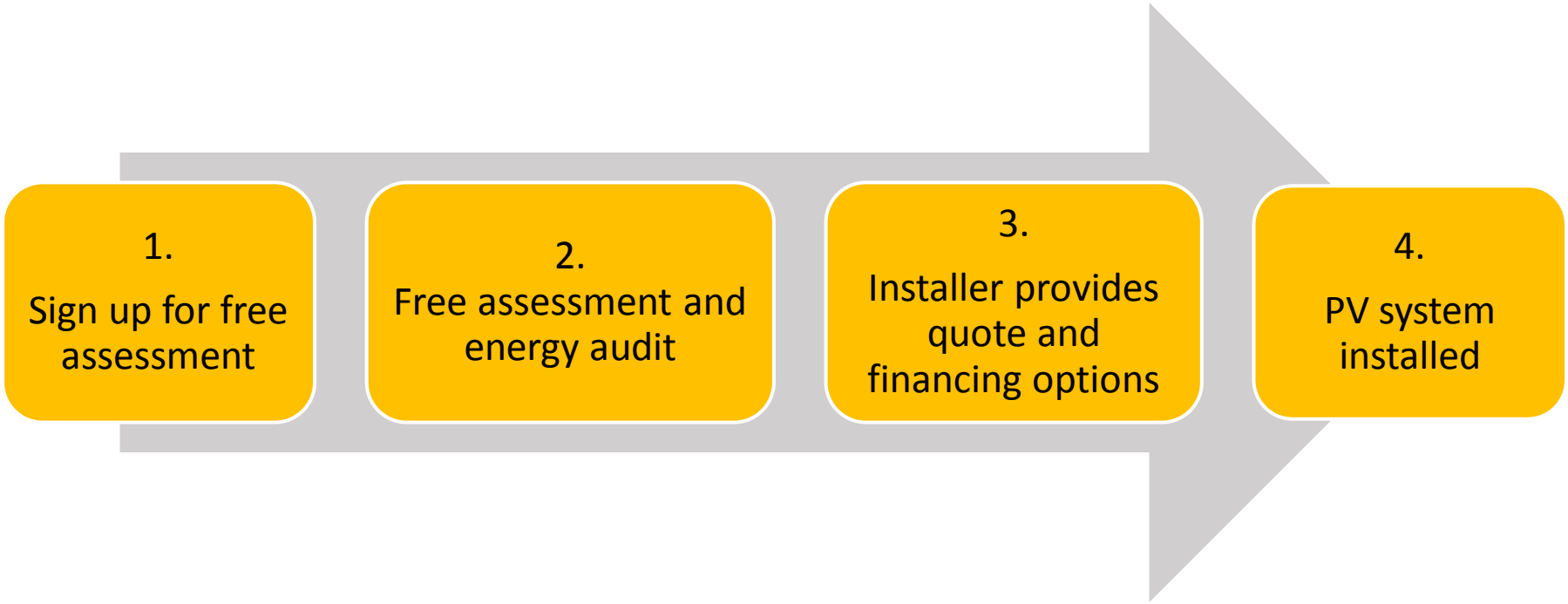
Tier II: Commercial

- Small, medium, large businesses
- Pricing based on size of system

Tier III: Community Microgrid

- Community Distributed Generation
- Unqualified homeowners

Solarize the Flower City 2016



Solarize the Flower City 2016 Goals

1,500 sign ups for free assessments

Four 2-MW solar microgrids underway by June 2017 (8 MW total)

Total of 2,450 kW installed in 2016

250 total installations

Agenda

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Request for Proposal Process

1. Prepared the RFP using NYSERDA template
2. Collaborated with NYSERDA and Rocky Mountain Institute for review
3. Extracted and evaluated data from proposals
4. Ranked proposals based on criteria
5. Selected residential and commercial installers

Request for Proposal Evaluation Process

	*Possibly anomalous score due to they way the company provided data.						7.5 pts		5 pts
Company	Total Years Experience	# of People	Total	Total Score	Percentage		Company	Volume Capacity	Financial Strength
1	24	5	4.80	1.09	21.82		1		
2*	36	6	6.00	1.36	27.27		2		
3	37.5	6	6.25	1.42	28.41		3		
4	60	4	15.00	3.41	68.18		4		
5	26	7	3.71	0.84	16.88		5		
6*	88	4	22.00	5.00	100.00		6		
7	45	7	6.43	1.46	29.22		7		
8	52	4	13.00	2.95	59.09		8		
9	41	23	1.78	0.41	8.10		9		

Company	1	2	3	4	5	6	7	8	9
Years in business	32	6/38	13	40	14	106	13	7	13
Inst. in last 12 mo. (NY)	134	103	275	205	70	61	30	26	354
Inst. in last 12 mo. (SFC16 area)	4	103	9	x	35	29	30	4	0
Certifications (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Evaluation Capacity per week	23	6	50	20	100	20+	50	8	40
Installation Capacity per week	50-100 kW	4	20	15	12	5 to 7	3	4	16 to 20
Maximum ability/desired total workload for program (total installations and/or kW)	2,000+ kW	1-2 MW	2,000+ kW	500 kW	150 residential, 10 commercial, overall goal of 400 contracts	840 kW	80	Same for Duration of Campaign	575 installs

City of Rochester, NY
Lovely A. Warren, Mayor

Community Solar Microgrid

Assembled City of Rochester internal review team

Planning and Zoning	Environmental Quality	Real Estate

Evaluated, identified, and suggested potential properties

Provided address, acreage, zoning code	Connected ROCSPOT to property owners	Identified zoning restrictions

Technical and financial analysis conducted by ROCSPOT

Review environmental site assessments	Explore opportunity for lease on properties	Reach out to property owners

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Lessons learned

- Affordable Solar – poverty alleviation; make solar accessible
- Engage more with the City of Rochester – helpful compared to last year's pilot program
- Utility – on-going effort to engage local utility for interconnection processes

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What's next?

- Because municipalities do not receive tax credits for solar, we anticipate municipalities partaking in more PPAs
- Low-Moderate Income communities – more access to solar through shared solar and Affordable Solar incentive
- Accelerated growth and acceptance of solar

Thank you

Melissa Chanthalangsy, Energy Analyst

City of Rochester Office of Energy and Sustainability

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Questions / Contact

Sarah Zaleski

Better Buildings Challenge

Local government and Energy Strategic Planning Sector Lead

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