

American Cities
Climate Challenge

RENEWABLES ACCELERATOR



WORLD
RESOURCES
INSTITUTE

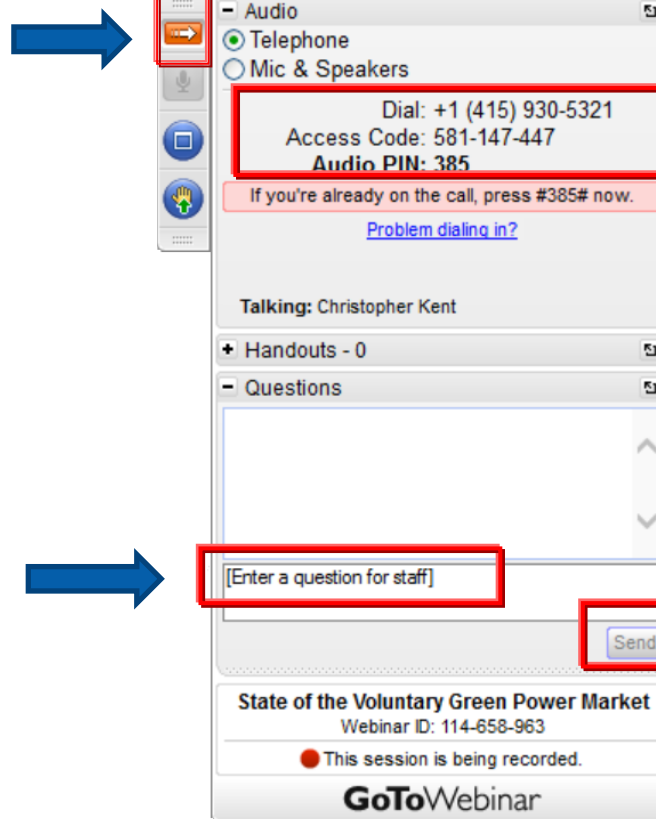
LOCAL GOVERNMENT CLEAN ENERGY TRENDS AND RESOURCES

JULY 8, 2020



WEBINAR LOGISTICS

Open and close your control panel



Audio is available via:

- computer's microphone and speakers (VoIP)
- telephone:
+1 (213) 929-4232
D: 306-684-327

Type your questions here

Hit "send" to submit your questions

If you experience any technical difficulties, please contact Meredith Outterson at:
Meredith.Outterson@erg.com

SPEAKERS

- **Christopher Kent**, Program Manager, U.S. EPA's Green Power Partnership
- **Lacey Shaver**, Renewable Energy Manager, World Resources Institute
- **Steve Abbott**, Carbon-Free Cities & States Manager, Rocky Mountain Institute
- **Heather Bolick**, Energy & Sustainability Coordinator, City of Charlotte
- **Katie Riddle**, Sustainability Analyst, City of Charlotte
- **Patricia Gómez**, Resilience/Energy Program Manager, Miami-Dade County

AGENDA

- Webinar logistics and GPP overview
- Renewables Accelerator program overview
- WRI Tools & Resources Library showcase
- New Local Government Renewables Action Tracker overview
- Perspective from Charlotte, NC
- Perspective from Miami-Dade
- Question and Answer session



Green Power Partnership Overview

- **Summary**
 - The U.S. EPA's Green Power Partnership is a voluntary program that encourages organizations to use green power
- **Objectives**
 - Educate stakeholders on voluntary procurement options within the U.S. renewable energy market
 - Recognize leadership in REC-based green power procurement
 - Motivate stakeholders to expand engagement in green power market
 - Standardize green power procurement as part of best management practice
- **Program Activities**
 - Provide technical assistance and tools on procuring green power
 - Provide recognition platform on organizational use of green power
- +1000 Partners procure more than 67 billion kWh annually, equivalent to the annual electric use of more than 6.2 million American homes.



Solar Project Portal Overview

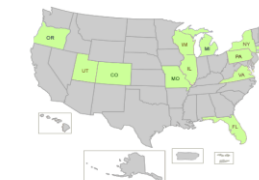
- **Solar Project Portal Home Page**
 - Recognizes municipalities seeking to develop solar projects
 - The project list serves as a peer exchange platform where you can identify examples of milestones achieved by other municipal governments
- **Project Development Pathway & Resources**
 - Identifies in detail the 7 steps of project development
 - Offers key resources and tools to assist you in achieving each step
- **Share Your Solar Project Experience**
 - Describes how to have your municipality listed on the Portal Home Page
 - Here you will find information on how to update EPA on your progress
 - Find information regarding upcoming Peer Exchange and Workshop events
- **Frequently Asked Questions (FAQ)**
 - Details expert answers to common project development questions
 - Have a question? Submit it on this page and receive an answer



Local Government Solar Project Portal

EPA invites local governments across the country to meet their environmental, energy, economic and domestic job creation goals through greater utilization of solar energy from on and off site solar projects that serve municipal operations.

Local governments will find [project development resources](#) and opportunities to [learn from industry experts](#) and their peers. To [Share Your Progress](#) and learn more about available resources and [technical support](#), see below.



Click on the Map to View Individual Local Government Progress

- Project Development Pathway & Resources
- Share Your Solar Project Experience
- Frequently Asked Questions
- Webinars & Events



<https://www.epa.gov/repowertoolbox/local-government-solar-project-portal>

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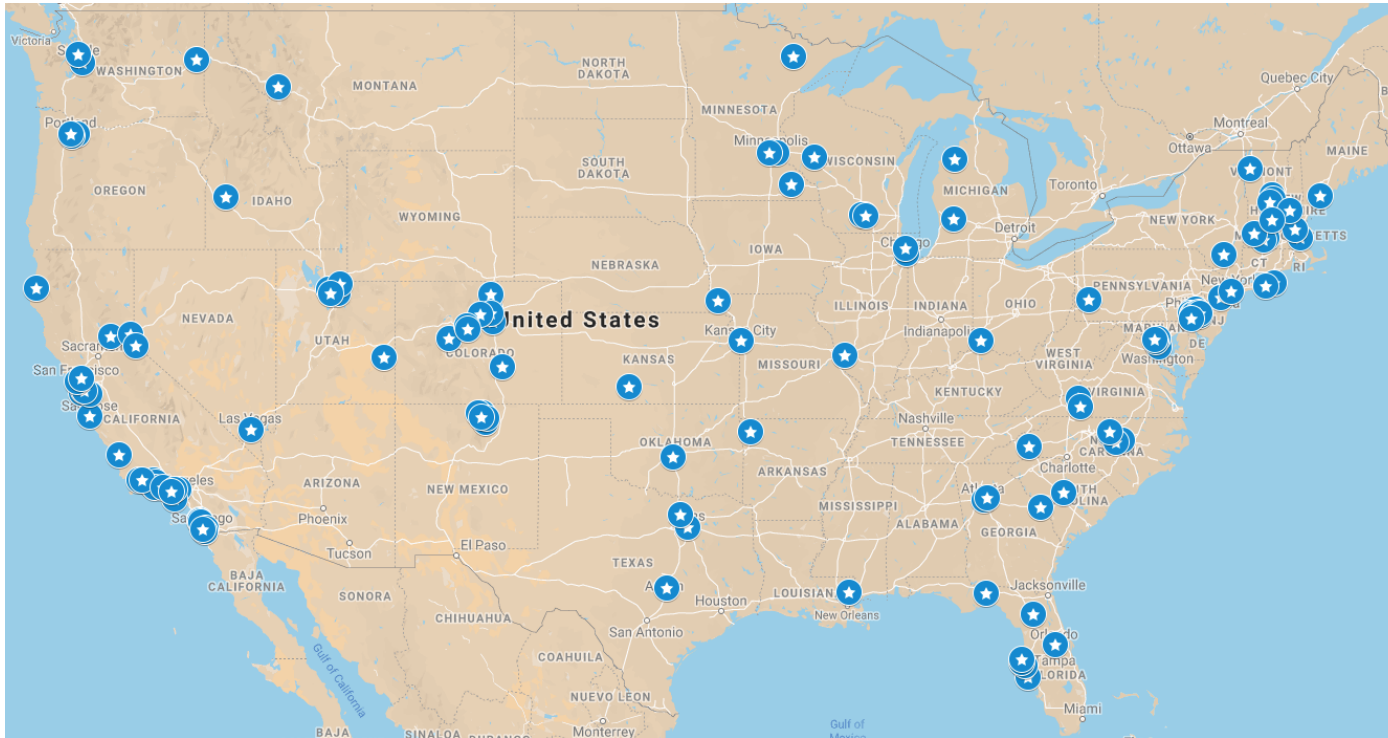


WORLD
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INSTITUTE

SIMPLIFYING CITY RENEWABLE ENERGY PROCUREMENT

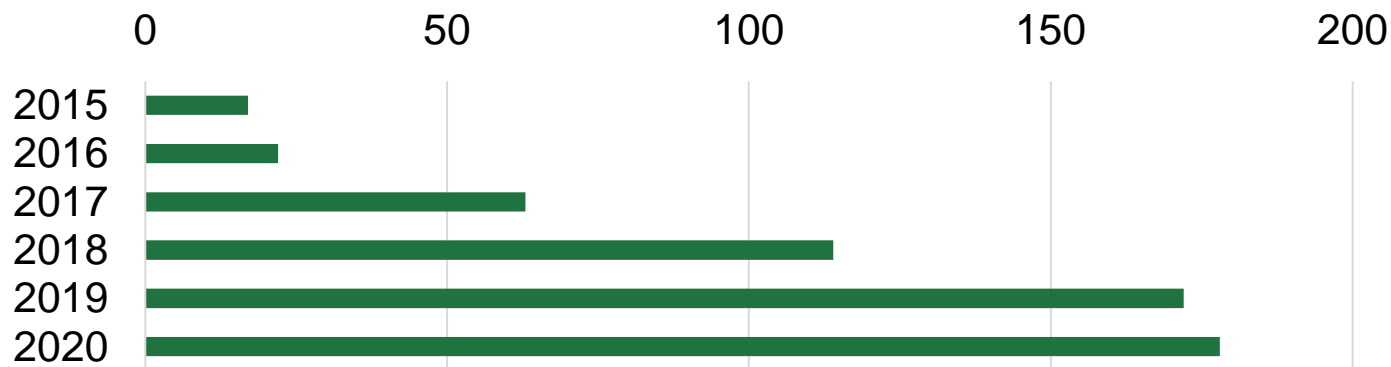
Lacey Shaver and Steve Abbott | July 8, 2020

CITIES AND COUNTIES ARE INCREASINGLY SETTING 100% RE GOALS



Local governments with 100% renewables goals:

- >178 cities spanning 32 states
- >200 TWh of electricity demand



Cumulative growth in the number of city commitments over last few years

LOCAL GOVERNMENTS HAVE MULTIPLE OBJECTIVES FOR TRANSITIONING TO RENEWABLES

- Meet GHG reduction and climate goals
- Procure clean energy for facilities at scale
- Potentially save on energy costs
- Obtain fuel price stability benefits
- Drive new and local renewables projects
- Create jobs and economic benefits
- Obtain community co-benefits:
 - Reduced pollution
 - Health benefits
 - Grid resilience
 - Increased equity and access



CURRENT STATUS OF LOCAL RENEWABLES PROCUREMENT

- Most local governments are staging efforts and addressing renewables for **municipal facilities first**
- However, many cities and counties are developing **implementation plans** and taking steps toward achieving community-wide goals
- Strong focus on stakeholder engagement processes and ensuring that **all customers benefit from the transition** to clean energy
- Cities are focusing on renewable projects that offer co-benefits to **low-income or disadvantaged communities; workforce development**
- **New models** are emerging to offer renewable products to community through **utility and third-party offerings**

YET PURCHASING RENEWABLE ENERGY REMAINS CHALLENGING FOR MOST LOCAL GOVERNMENTS

Many cities and counties face barriers relating to:

1

Staff capacity

- Energy projects often require specialized skill and knowledge
- Sustainability staff are already stretched thin with competing tasks

2

Internal buy-in and resource allocation

- Many city staff see renewables projects as risky or expensive
- Renewables must compete for resources and attention

3

External factors

- Options and autonomy may be limited by state policies/regulations
- Renewable development may be limited by natural factors

ABOUT THE RENEWABLES ACCELERATOR

- Supported by Bloomberg Philanthropies, WRI and RMI provide technical assistance
- 25 Climate Challenge cities on renewables procurement
- Provide resources a support to 150+ cities and counties through cohorts with similar interests in partnership with the Urban Sustainability Directors Network



ALBUQUERQUE, NM
ATLANTA, GA
AUSTIN, TX
BOSTON, MA
CHARLOTTE, NC
CHICAGO, IL
CINCINNATI, OH
COLUMBUS, OH
DENVER, CO
HONOLULU, HI
INDIANAPOLIS, IN
LOS ANGELES, CA
MINNEAPOLIS, MN
ORLANDO, FL
PHILADELPHIA, PA
PITTSBURGH, PA
PORTLAND, OR
SAINT PAUL, MN
SAN ANTONIO, TX
SAN DIEGO, CA
SAN JOSE, CA
SEATTLE, WA
ST. LOUIS, MO
ST. PETERSBURG, FL
WASHINGTON, D.C.

THE RENEWABLES ACCELERATOR SUPPORTS LOCAL GOVERNMENTS VIA:



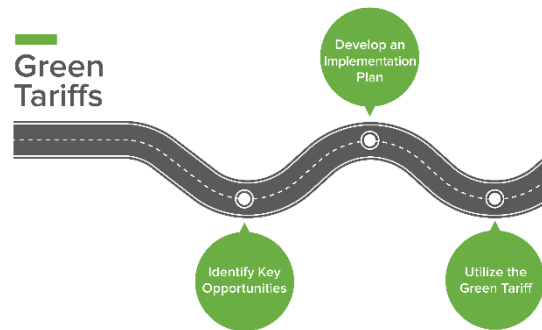
One-on-one technical assistance

- Provide strategic consulting and technical support to recipients of the American Cities Climate Challenge



Workshops and cohort-based peer learning

- Provide foundational training to city staff through partner networks
- Help groups of cities execute a type of transaction in parallel
- Support collective engagement efforts with utilities, regulators, etc.



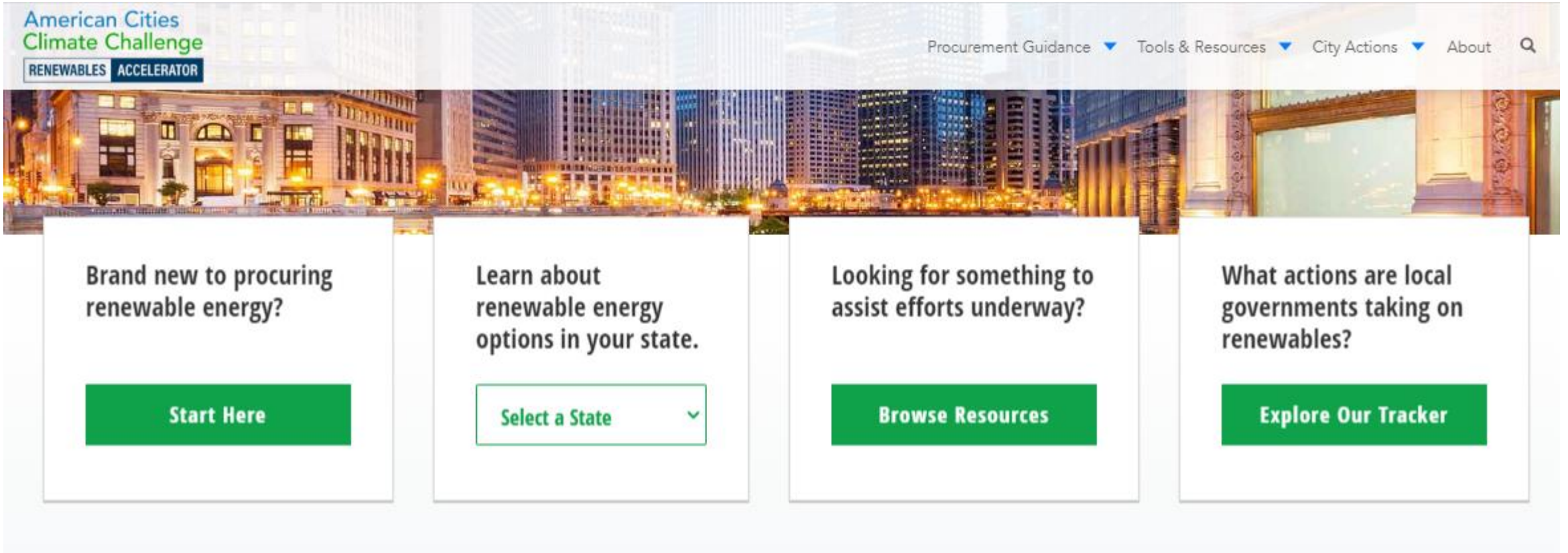
Tools and resources

- Codify the approaches and lessons learned from our individual and collective city engagements
- Develop tools to help city staff overcome specific barriers

An aerial view of a city skyline at dusk, featuring numerous skyscrapers and buildings. The sky is a deep blue, and the city lights are beginning to glow. A prominent building with a green-tinted top is visible in the center-right. The entire image is overlaid with a semi-transparent green filter.

TOOLS TO STREAMLINE RENEWABLE ENERGY PROCUREMENT

THE RENEWABLES ACCELERATOR WEBSITE IS A ONE-STOP SHOP FOR LOCAL GOVERNMENT STAFF LOOKING FOR RENEWABLE TOOLS AND RESOURCES

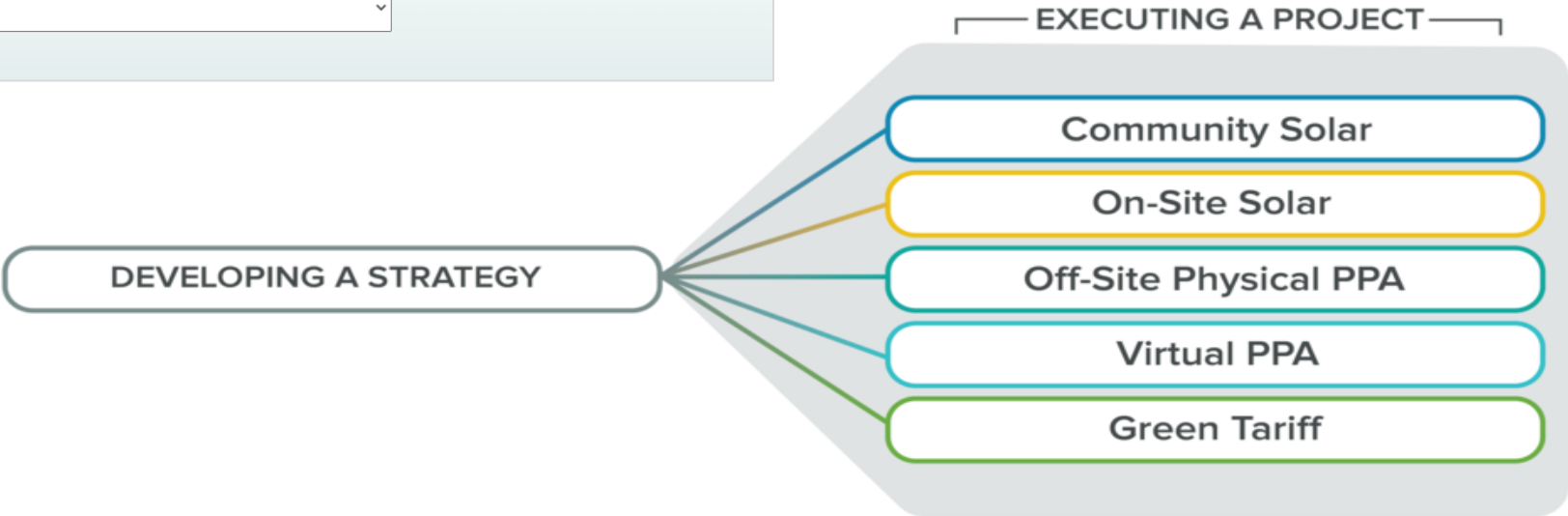
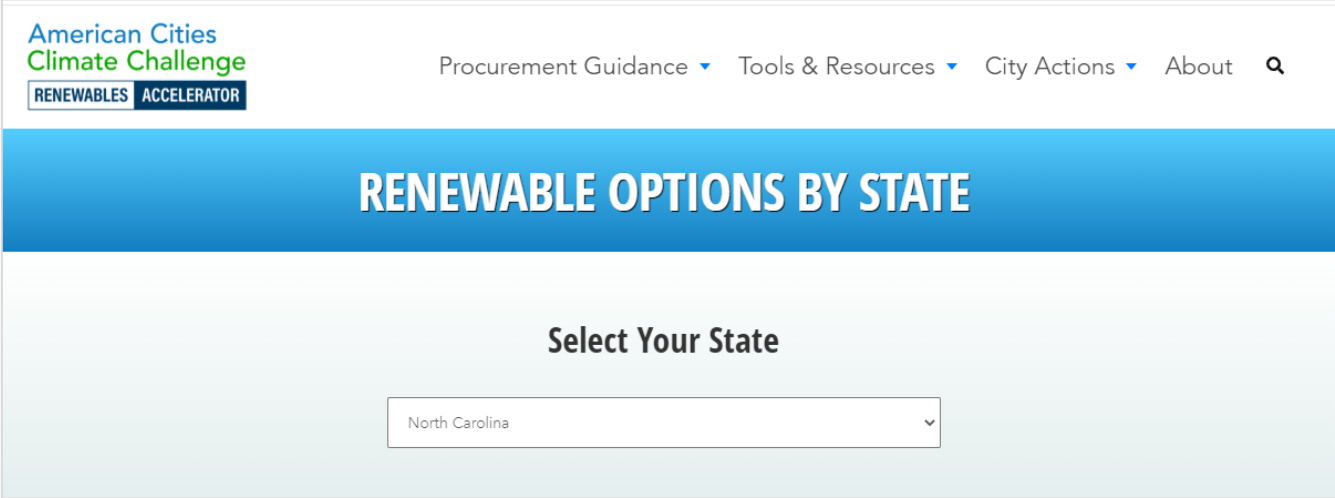


The screenshot shows the homepage of the American Cities Climate Challenge Renewables Accelerator website. The header includes the logo "American Cities Climate Challenge" and "RENEWABLES ACCELERATOR" in a blue box. Navigation links for "Procurement Guidance", "Tools & Resources", "City Actions", and "About" are visible, along with a search icon. The main content area features a cityscape background and four white boxes with green buttons:

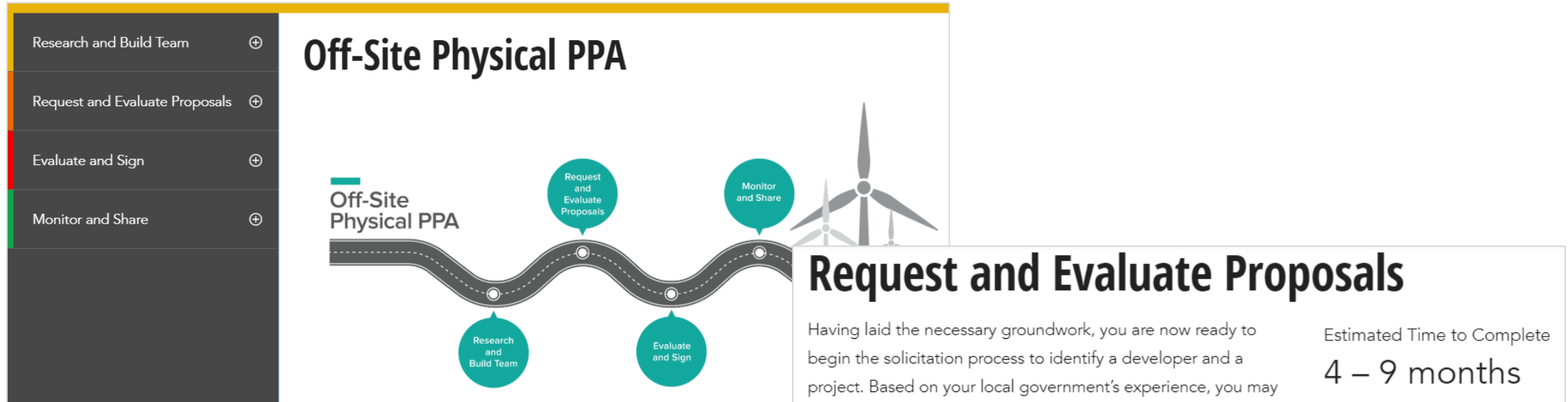
- Brand new to procuring renewable energy?** with a "Start Here" button.
- Learn about renewable energy options in your state.** with a "Select a State" dropdown menu.
- Looking for something to assist efforts underway?** with a "Browse Resources" button.
- What actions are local governments taking on renewables?** with an "Explore Our Tracker" button.

www.cityrenewables.org

LOCAL GOVERNMENTS JUST GETTING STARTED CAN LEARN ABOUT PROCUREMENT OPTIONS IN THEIR STATE AND HOW TO DEVELOP A STRATEGY



EACH PROCUREMENT PATHWAY IS BROKEN DOWN INTO A SERIES OF KEY ACTIVITIES



The diagram illustrates the procurement pathway for an Off-Site Physical PPA. It features a central wavy path with four key activities: Research and Build Team, Request and Evaluate Proposals, Evaluate and Sign, and Monitor and Share. A sidebar on the left lists these activities with expandable icons. A detailed callout for the 'Request and Evaluate Proposals' activity includes a description, an estimated completion time of 4-9 months, and three key activities: 1. Discover Providers and Pricing, 2. Develop Your RFP, and 3. Distribute Your RFP. The background of the callout features a wind turbine illustration.

Off-Site Physical PPA

Request and Evaluate Proposals

Having laid the necessary groundwork, you are now ready to begin the solicitation process to identify a developer and a project. Based on your local government's experience, you may wish to issue a request for information (RFI) or request for qualifications (RFQ) before moving on to the final request for proposal (RFP).

Estimated Time to Complete
4 – 9 months

Key Activities

1. Discover Providers and Pricing
2. Develop Your RFP
3. Distribute Your RFP

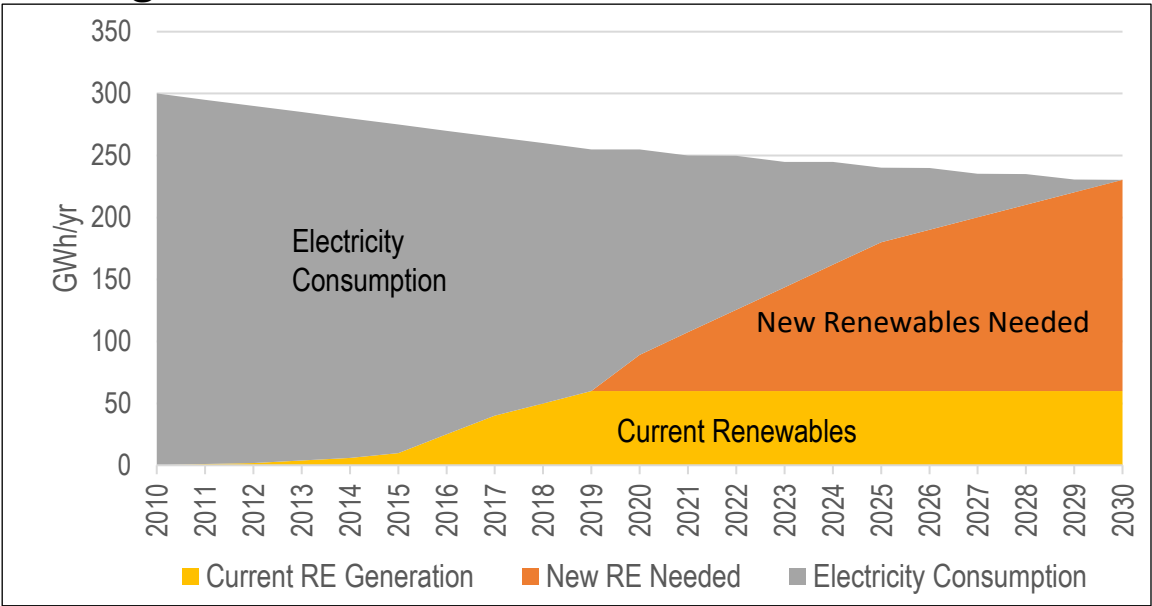
Within each key activity, users can find information on the process, key considerations, information on timelines and staffing, and links to tools, resources, and examples from other cities and counties.

PITCH DECKS HELP LOCAL GOVERNMENT STAFF COMMUNICATE THE BENEFITS OF RENEWABLE ENERGY PROJECTS TO KEY DECISION MAKERS

Example Page

Increases our renewable energy percentage

- [City's] goal is [X%] renewable energy by [20XX].
- We currently generate [X%] renewable energy.
- On-site solar can help close the remaining gap, as maximizing on-site solar can typically provide 10-20% of a city's municipal electric load.



Decreases our greenhouse gas emissions

- A [#] MW project would reduce [#] metric tons of CO₂ equivalent per year.¹
- This is equivalent to:



[#] vehicle miles driven per year



[#] trees planted per year



[#] homes powered per year



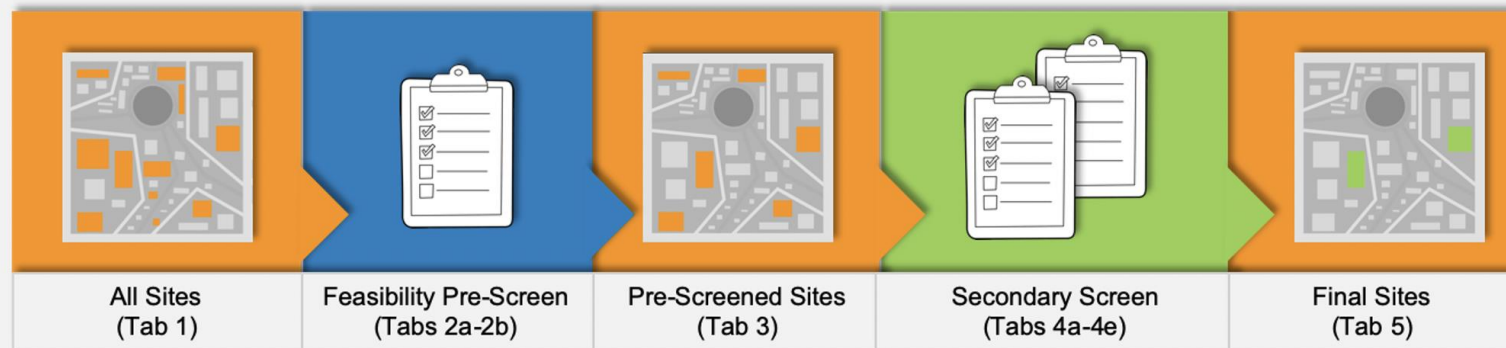
[#] pounds of coal burned per year

THE MUNICIPAL SOLAR SITE SELECTION TOOL PROVIDES STEP-BY-STEP INSTRUCTIONS TO HELP CITIES IDENTIFY THE OPTIMAL PROJECT LOCATIONS

How to use this resource (MSSST Tutorial available at: <https://youtu.be/DPIf7XcyTrM>)

Before using this workbook, we recommend reviewing different renewable energy procurement options on the **American Cities Climate Challenge (ACCC) Renewables Accelerator Procurement Guidance** webpage (hyperlinked below).

Workbook Overview:



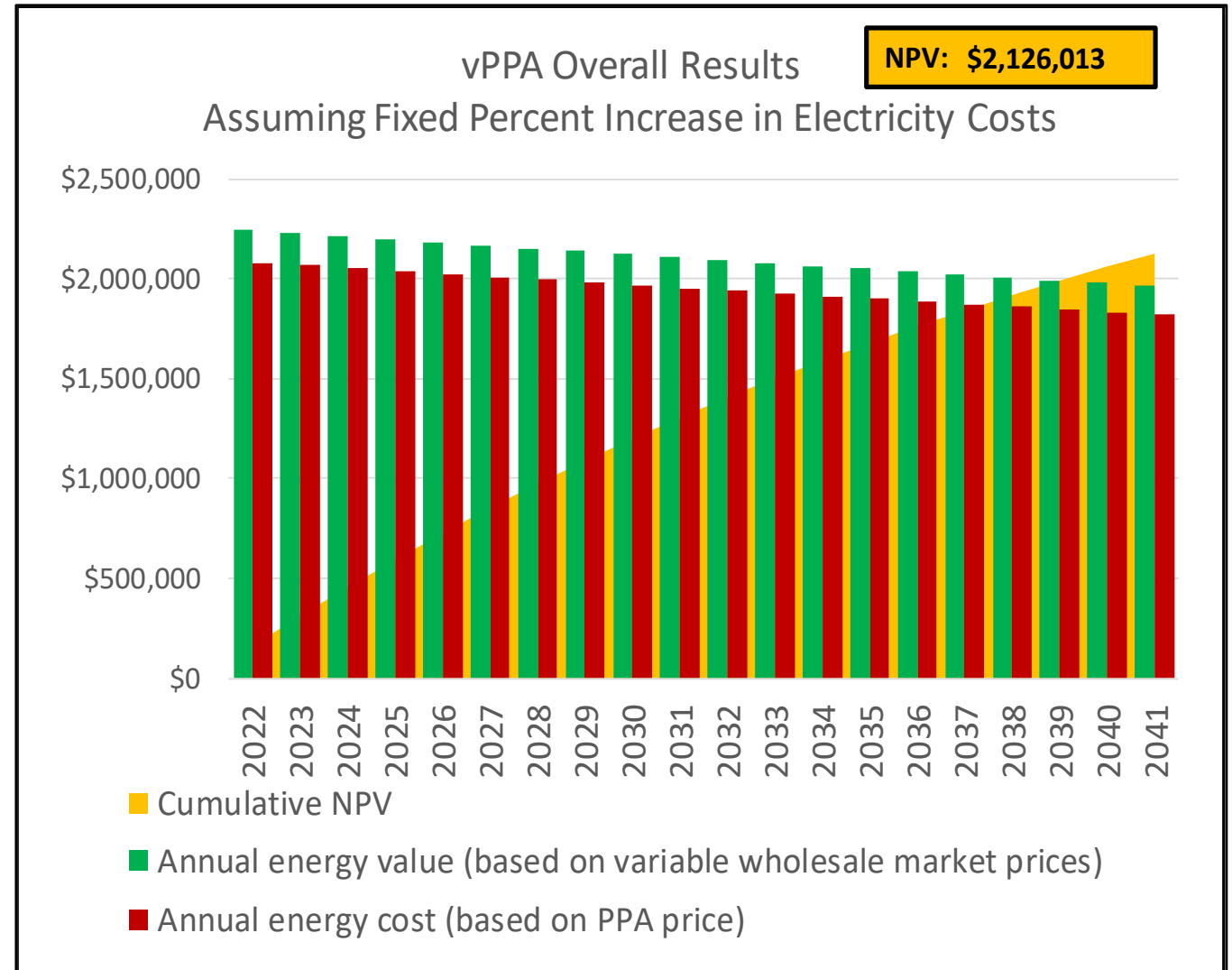
To use this workbook: Work sequentially through the numbered tabs and read the instructions on each page. At a high level, you will follow these steps:

- Identify applicable solar policies, incentives, and goals (*"Policies & Goals" Tab*)
- Identify potential sites for solar PV development (*Tab 1*)
- Conduct a basic pre-screen to create a shortlist of sites (*Tabs 2a, 2b, 3*)
- Conduct a secondary screen of your shortlisted sites (*Tabs 4a-4e*)
- Review results and identify next steps to engage developers in the procurement process (*Tab 5*)

THE SOLAR AND WIND OFF-SITE PPA ECONOMIC CALCULATOR COMBINES GENERATION AND MARKET DATA TO EVALUATE PPA ECONOMICS

Users can tailor the model to their specific situation by adjusting:

- Renewable resource
- Contract terms
- Wholesale market
- Market price forecast method



BOTH EXTERNAL AND INTERNALLY-CREATED TOOLS CAN ALSO BE FOUND ON OUR TOOLS & RESOURCES PAGE

Filter By

PROCUREMENT TYPE

- All
- Community Solar (22)
- Community-Wide (23)
- General (37)
- Green Tariff (8)
- Off-Site Physical PPA (34)

CATEGORY

- Communication and Engagement (17)
- Developing a Strategy (45)
- Equity/Workforce Development (20)
- Finance and Risk (37)
- Legal and Accounting (12)
- Ownership Models (PPA/Lease/Own) (19)

RESOURCE TYPE

- Case Study/Example (20)
- Report (58)

REPORT

COMMUNITY-WIDE | POLICY/REGULATION + MY RESOURCES

2018 Resource Guide to Solarize Campaign Success

New York State Energy Research and Development Authority

This guidebook is a roadmap for community leaders who want to utilize solarize campaigns to make solar power easier and more affordable for their neighbors.

TEMPLATE

COMMUNITY SOLAR | LEGAL AND ACCOUNTING, RFP/RFI/RFQ + MY RESOURCES

A Guide to Sample Community Solar Garden Leases

University of Minnesota Law School, Minnesota Renewable Energy Society

The guide provides a predefined set of terms and an overview of the key clauses to include in a community solar lease contract.

WEBSITE

GENERAL, OFF-SITE PHYSICAL PPA | DEVELOPING A STRATEGY, POLICY/REGULATION + MY RESOURCES

AWEA State Wind Energy Factsheets

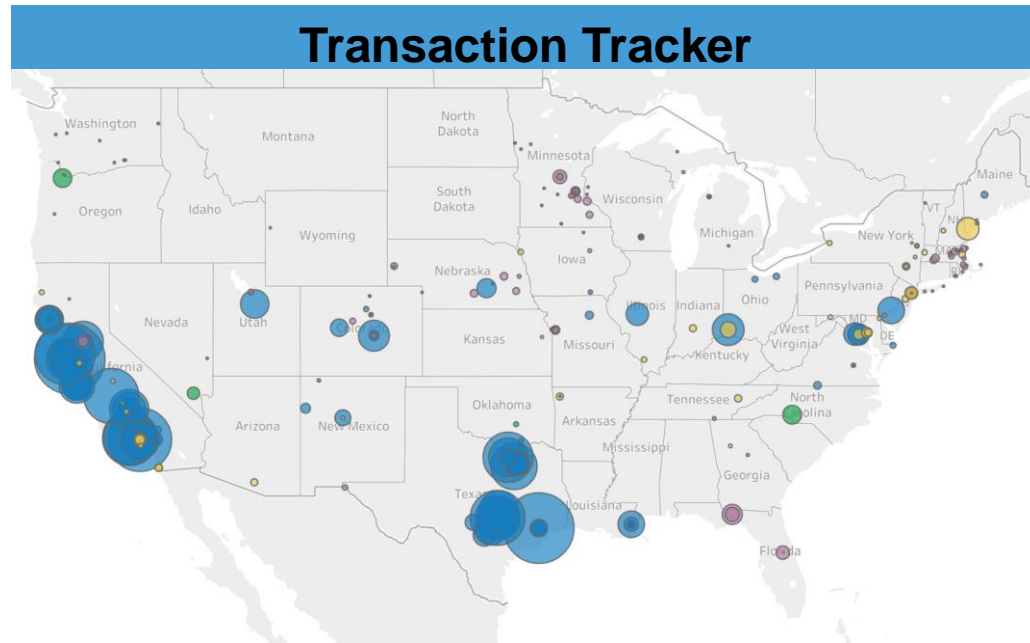
American Wind Energy Association

This website provides wind energy facts for each state, including the number of projects, energy generation, jobs and economic development, and environmental benefits.

An aerial view of a city skyline at dusk, with a prominent skyscraper (the Empire State Building) illuminated in green. The image is overlaid with a semi-transparent green filter. The text is centered on the left side of the image.

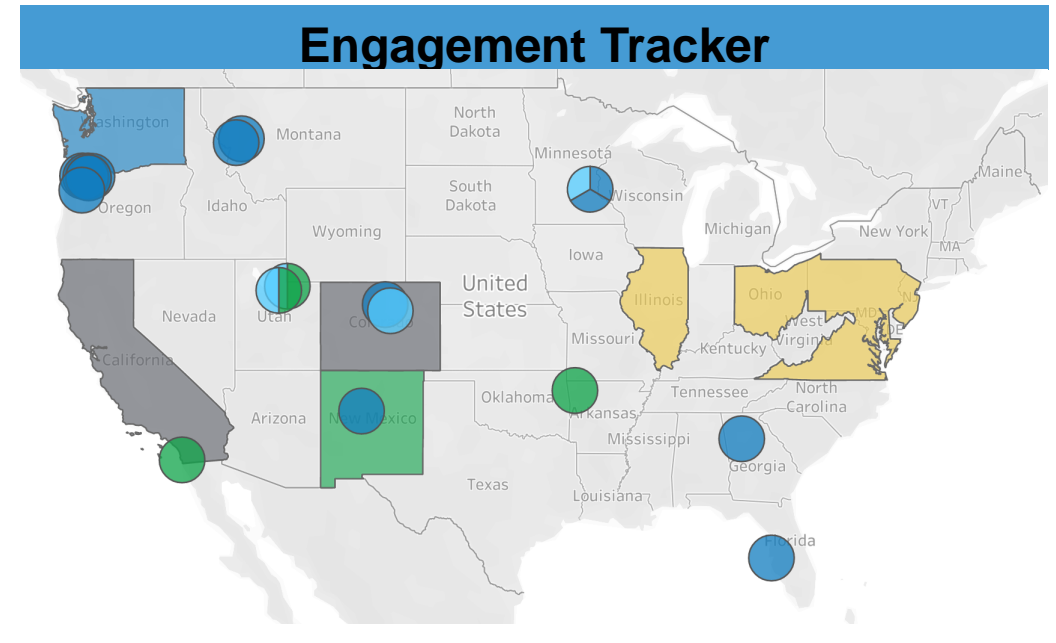
TRACKING LOCAL GOVERNMENTS' RENEWABLE ENERGY ACTIONS

THE TRACKER IS AN INTERACTIVE WEB TOOL THAT PRESENTS THE RENEWABLE ENERGY TRANSACTIONS AND ADVOCACY EFFORTS COMPLETED BY U.S. LOCAL GOVERNMENTS



Records renewable energy transactions, including:

- On-site generation
- Off-site physical PPAs
- Off-site virtual PPAs
- Community solar projects
- Green tariffs

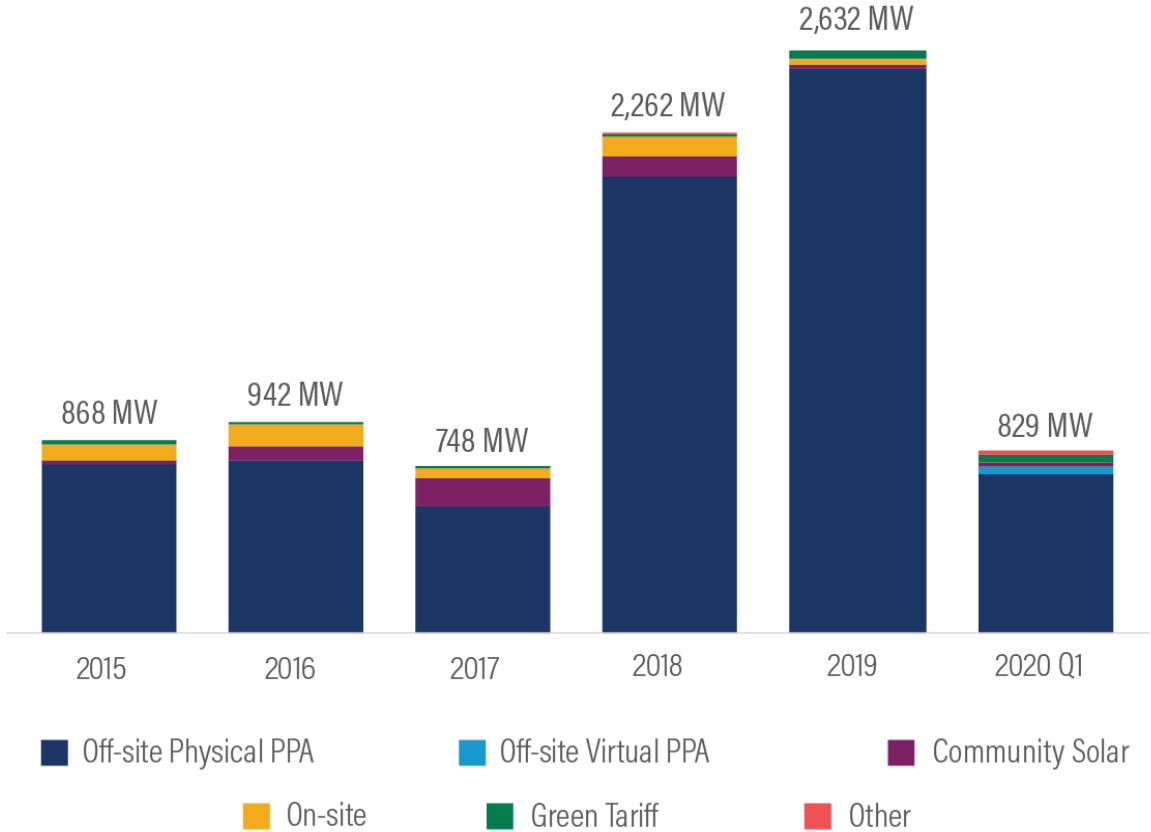


Highlights local governments' engagements with:

- Utilities
- Regulatory bodies (e.g. PUCs)
- Legislators
- RTO/ISOs

LOCAL GOVERNMENT RENEWABLES EFFORTS ARE GROWING

Renewables Transactions by U.S. Local Governments*



335 deals

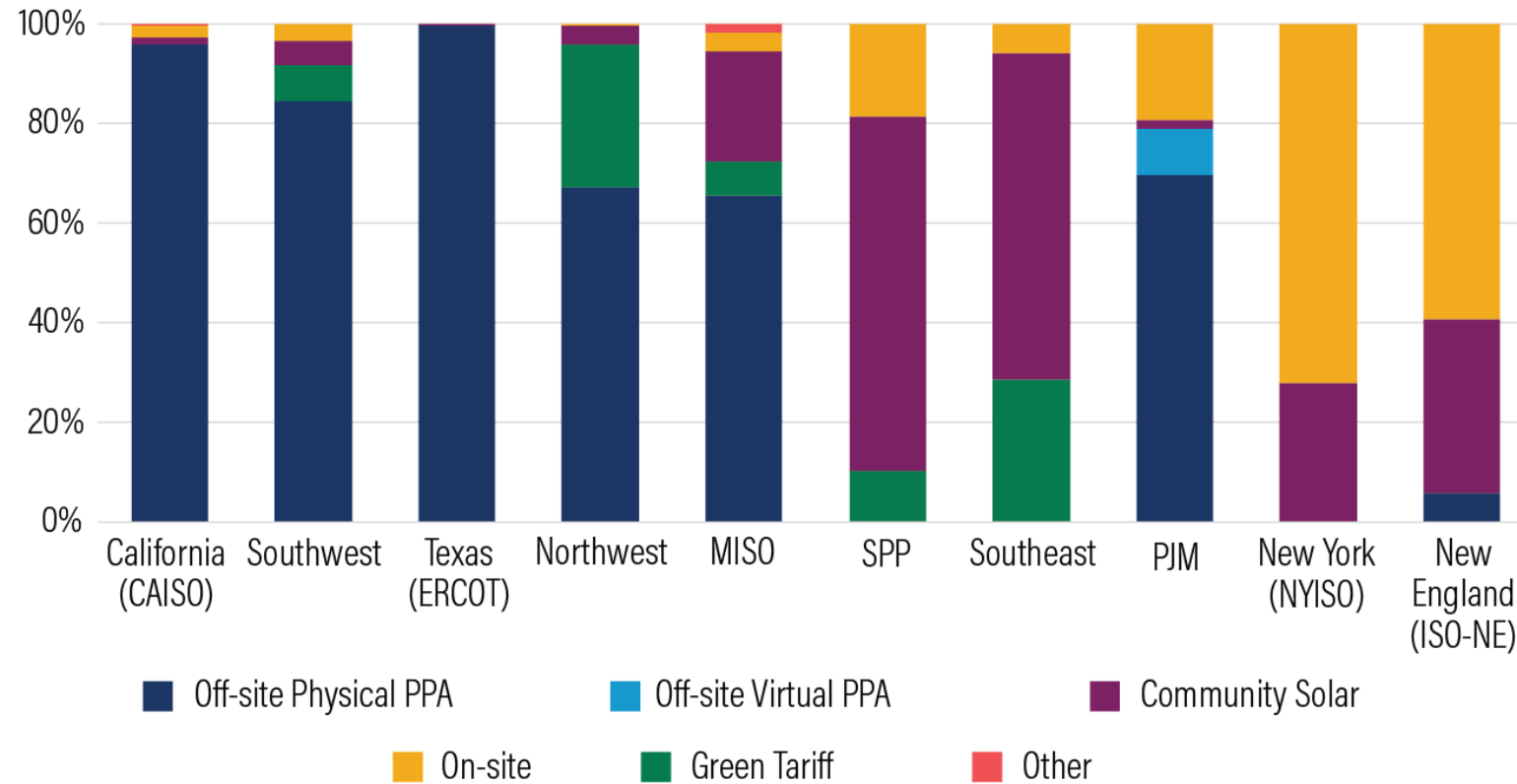
8.28 GW

Note: * Announcement year (or operation start year if announcement year unavailable)
Source: cityrenewables.org.

20.06.24

TRANSACTION STRUCTURE POPULARITY VARIES BY REGION

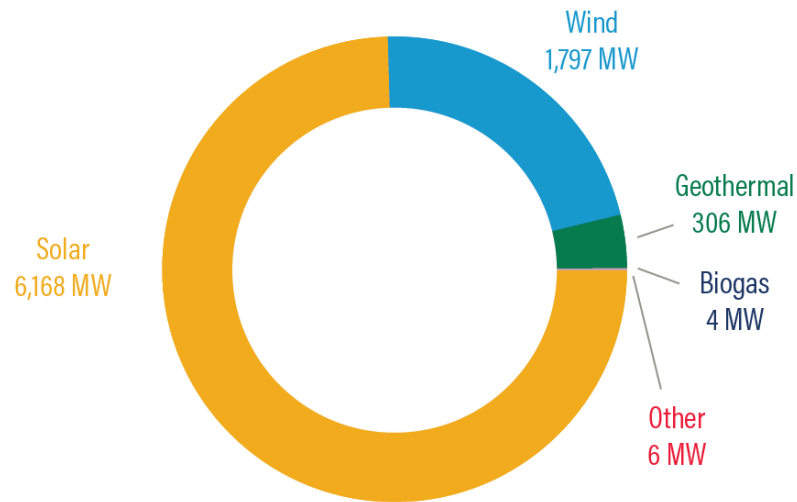
Types of Local Governments' Renewables Transactions, by Electric Power Market (2015-Q12020)



Source: cityrenewables.org.
20.06.24

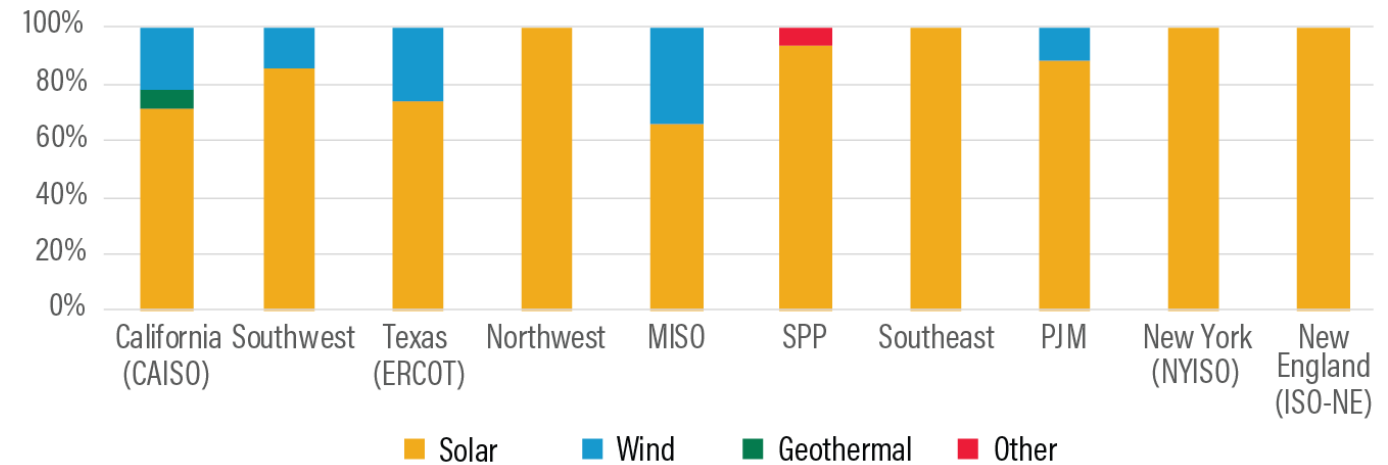
YET SOLAR PV REMAINS THE MOST POPULAR TECHNOLOGY

U.S. Local Governments' Renewables Transactions, by Technology (2015-Q12020)



Source: cityrenewables.org.
20.06.24

U.S. Local Governments' Renewables Transactions, by Technology and Electric Power Market (2015-Q12020)

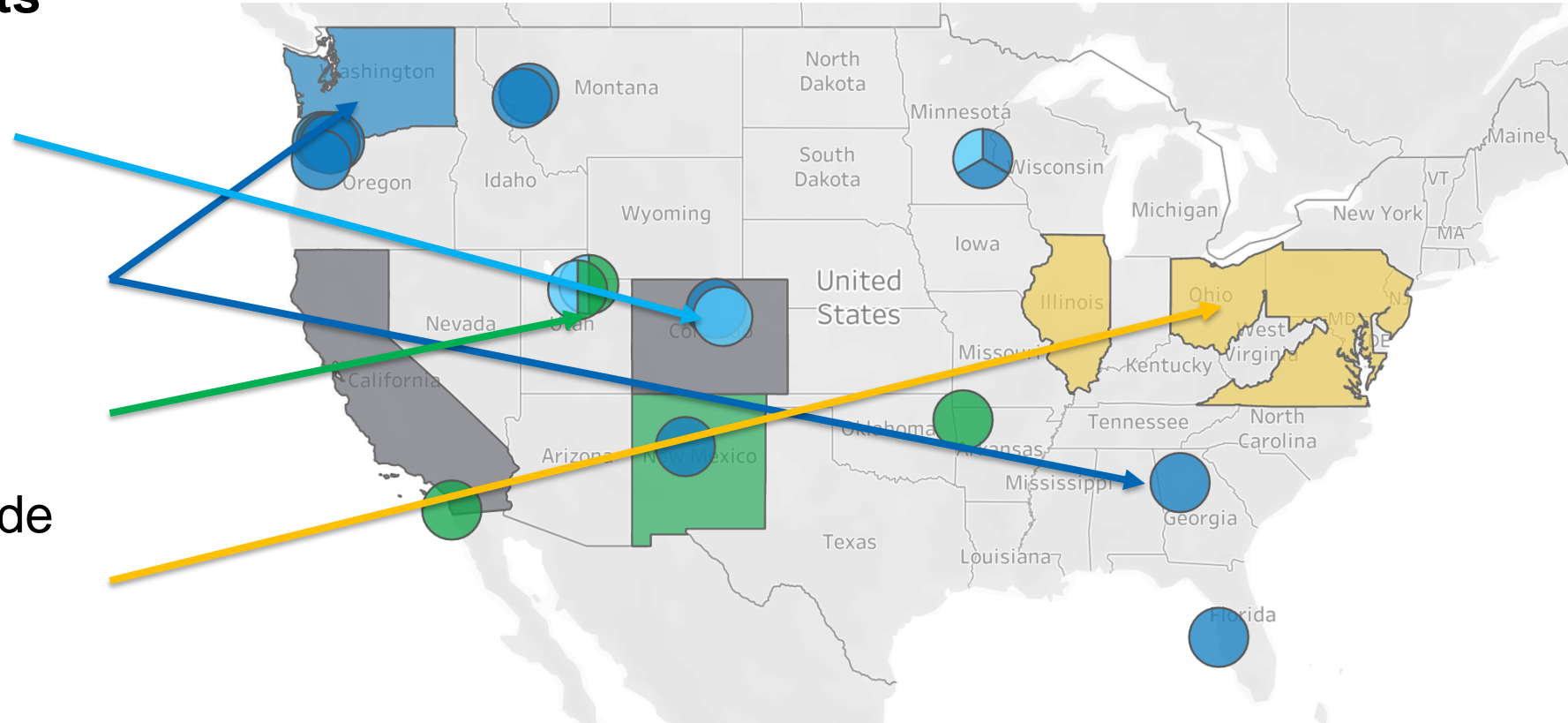


Source: cityrenewables.org.
20.06.24

CITIES ARE ENGAGING A VARIETY OF ACTORS TO ACCELERATE RENEWABLE ENERGY DEVELOPMENT

Emerging City Efforts

- Partnering with Utilities
- Engaging in State Regulatory Proceedings
- Influencing Statewide Energy Policy
- Getting Involved in Wholesale Market Design





City of Charlotte Solar Energy

Renewables Accelerator & EPA Green Power Partnership
Local Government Clean Energy Trends & Resources



SEAP

STRATEGIC ENERGY ACTION PLAN

 CITY *of* CHARLOTTE

By 2030, we will **strive to source 100% of City's energy use** in our **buildings and fleet** from **zero carbon** sources.





American Cities Climate Challenge



Reduce building energy use

+



Increase renewable energy

+



Reduce vehicle travel

+



Electrify vehicles

=



Cities Reach Paris Climate Goals

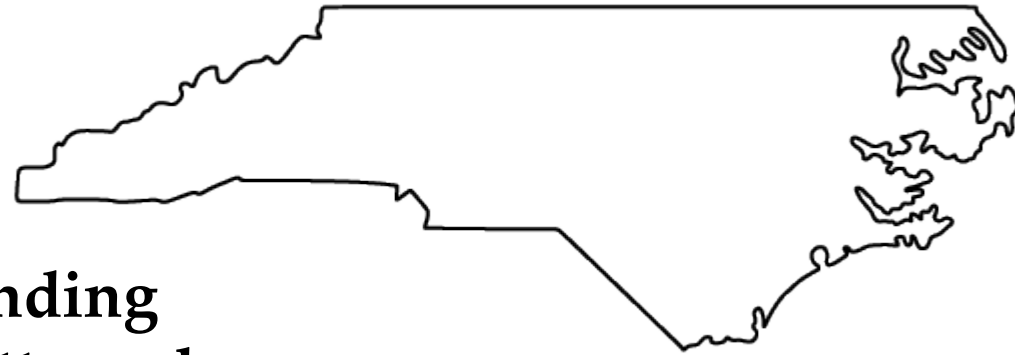
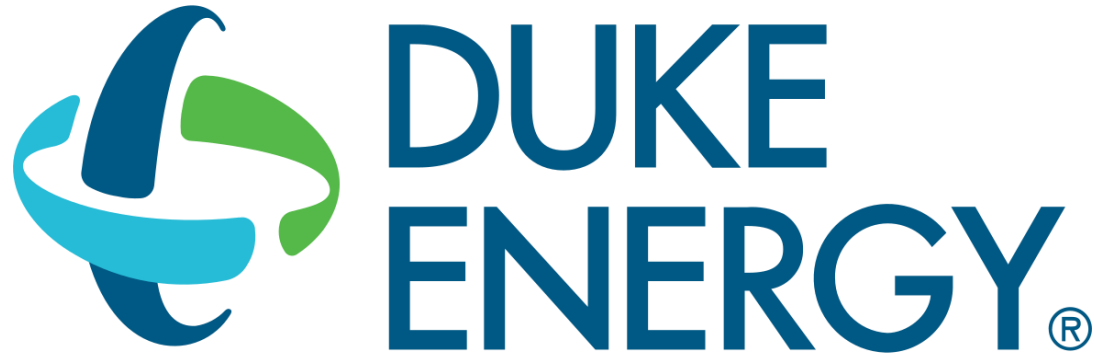
WHAT DOES IT COST?

- The term of the GSA Service Agreement is 20 years
 - Years 1-5: ~\$350K annual premium
 - Years 6-10: ~\$135K annual premium
 - Years 11-15: ~\$250K annual savings
 - Years 16-20: ~\$625 annual savings
- Projected Cumulative Savings: **\$2.0 million** (*\$415K NPV*)

Out-year cost/savings values based on modeled projections



- *City's current annual electricity spend: \$35M*

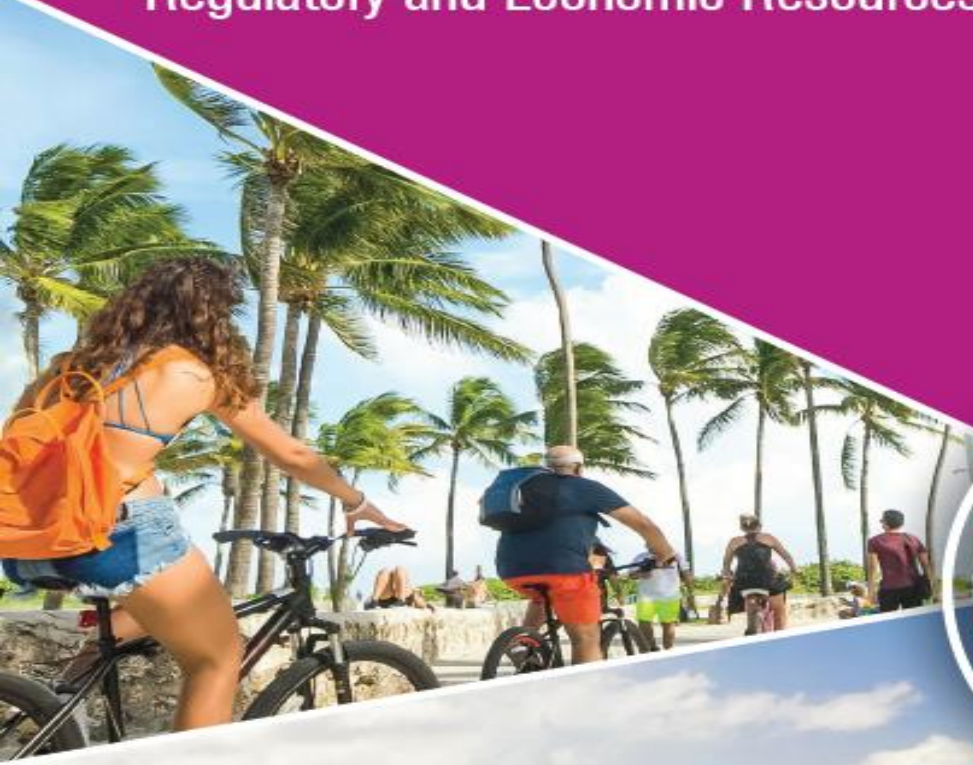


**Memorandum of Understanding
between the City of Charlotte and
Duke Energy Carolinas to Establish
a Low Carbon, Smart City
Collaboration**

<https://charlottenc.gov/sustainability/seap/SEAP/Duke%20MOU.PDF>

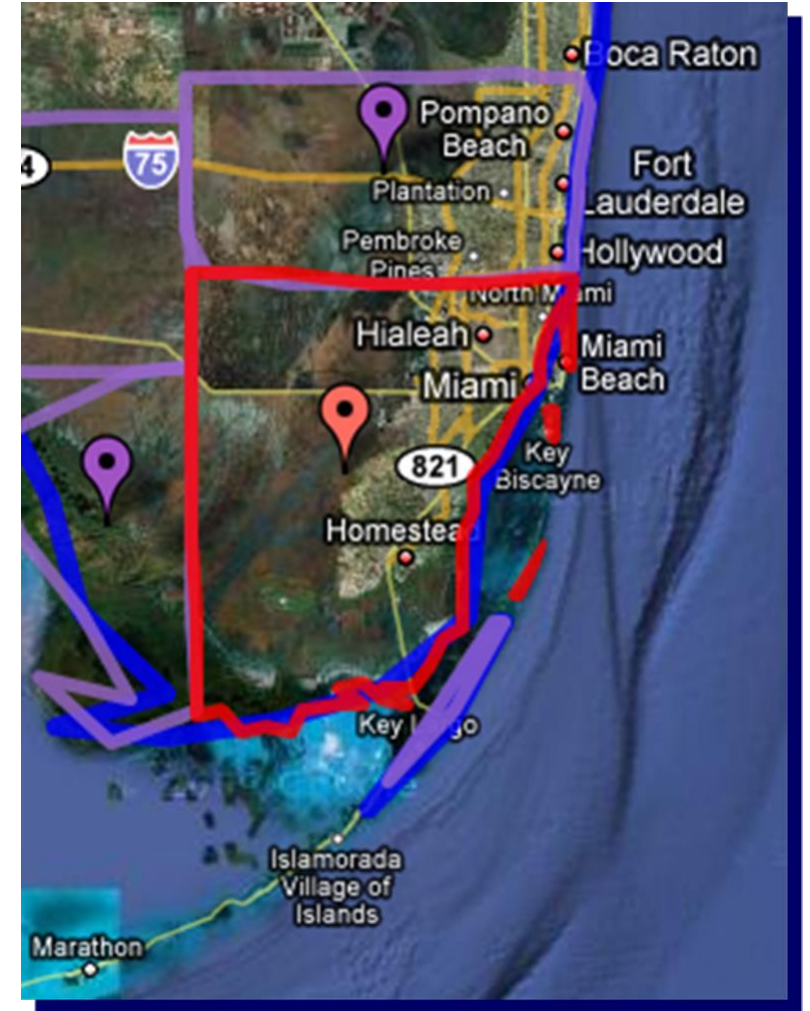
OFFICE OF RESILIENCE

Regulatory and Economic Resources



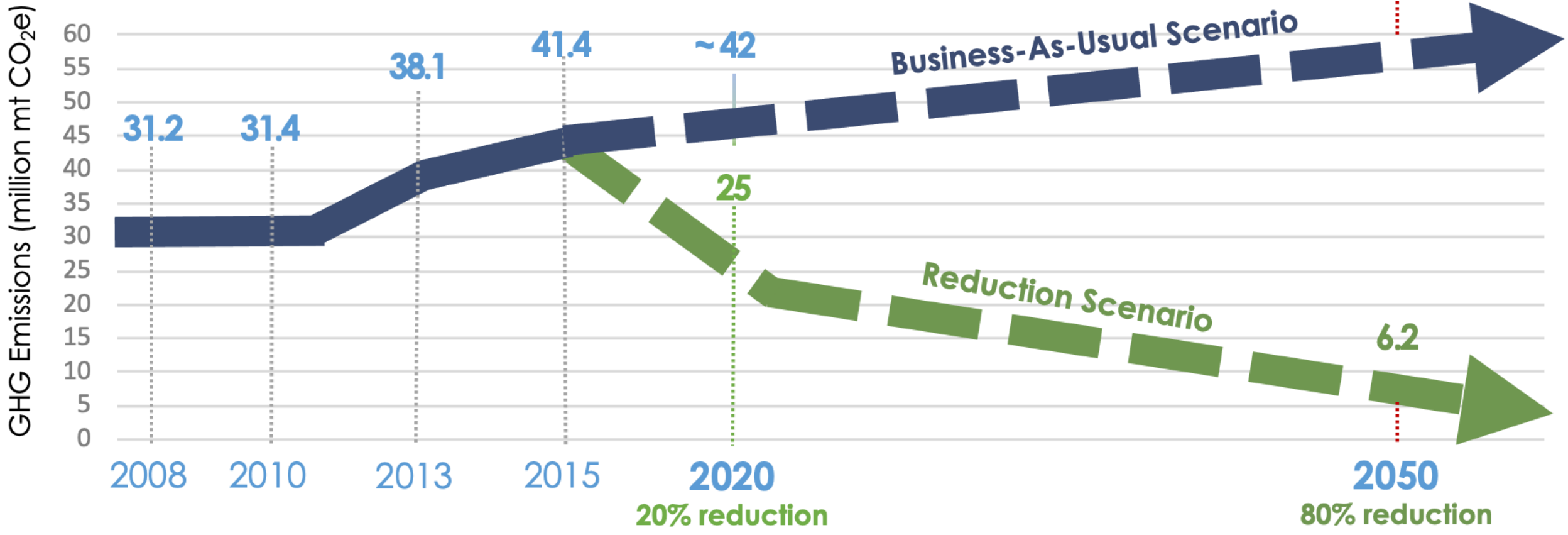
Miami-Dade County

- Total land area covers 2,431 square miles
- 5,830 people per square mile within urban area and 2.5 million people total
- Seagrass to sawgrass ecosystem. Low lying coastal community with porous substrate
- County Government #1 in FPL territory, uses 1.2 billion (1,234,844,938) kWh of electricity per year (2018)
- 37% of community-wide climate pollution (linked to impacts including sea level rise) is related to electricity usage in residential and commercial buildings.

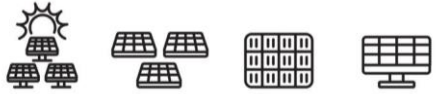


Climate Pollution in Miami-Dade County

- Between 2005 and 2019 - 36 solar-related legislative items put forward by the BCC
- Goal: Reduce greenhouse gas emissions in Miami-Dade County 80% below 2008 levels by 2050 in order to minimize sea level rise impacts



Renewable Energy Implemented Projects



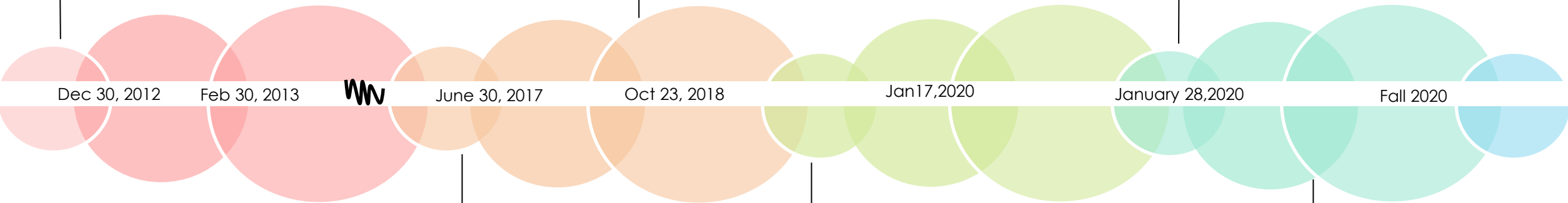
With federal funding installed small PV systems in 3 parks:
 15 KW Dr. MLK Jr. Memorial Park
 15 KW Westwind Lakes Park
 19 KW Country Village Park



Solar Feasibility Study of Miami-Dade County buildings (R-303-17). Phase 1 analysis, 543 County facilities examined and 238 County facilities were determined to have suitable roof areas. Completed with technical assistance from NREL.



Floating Solar Pilot Project at Miami International Airport with FPL, part of Joint Participation Agreement. And No. R-611-19 report pending.



Solar EPC with Ameresco (RFQ-10) for ISD managed facilities. Ongoing

Miami-Dade County is one of 300 SolSmart communities nationwide, having received SolSmart Gold-level designation.



Renewables Accelerator On-site Solar Cohort. Solicitation being completed. 2019-2020.



Renewables Accelerator On-site Cohort

- Help us prioritize the list of 238 sites with suitable roof areas identified in Phase 1 study. 30 sites being considered for the solicitation.
- Expand scope to specific ground mounted systems not identified in Phase 1 analysis.
- Frequent check-ins pushed us to make progress on tasks.
- Provided tools and analytical assistance to run sizing, prioritization and economic analysis.
- Connected to peers pursuing similar projects, validation of data and analysis, etc.
- Convening allowed us to work with procurement staff and provided time to work on solicitation...



Site Details			Solar PV Details					Site Details	
Department	Name	Address	Electric Load	Electric Rate	PV Type	Estimated PV Size		Roof	
			kWh/year	Rate Schedule		kW-DC	kWh/year	Roof Age as of 6/2020	Est Years to Replacement
Seaport	1751 N. Cruise Blvd	1751 N. Cruise Blvd	4,464,000	62 or GSLD1	Rooftop	2,096	3,010,412		
Seaport	1265 N. Cruise Blvd	1265 N. Cruise Blvd	2,812,080	62 or GSLD1	Rooftop	1,125	1,585,642		
Correction	MetroWest Correction Center	13850 NW 41st St, Doral, FL 33	8,061,000		Rooftop	1,025	1,444,080	New	>20
ISD	Elections Headquarters	2700 NW 87 Avenue	2,327,760	170 or HLFT1	Rooftop	958	1,375,774	15 years	?
Seaport	1509 N. Cruise Blvd.	1509 N. Cruise Blvd.	1,349,400	72 or GSD1	Rooftop	939	1,349,400		

Thank you!



**Patricia Gómez, PE, CEM, GBE,
LEED AP**

Resilience/Energy Program Manager

**Miami-Dade County Office of
Resilience**

Department of Regulatory and
Economic Resources

E-mail: gomezp@miamidade.gov

QUESTIONS?

