

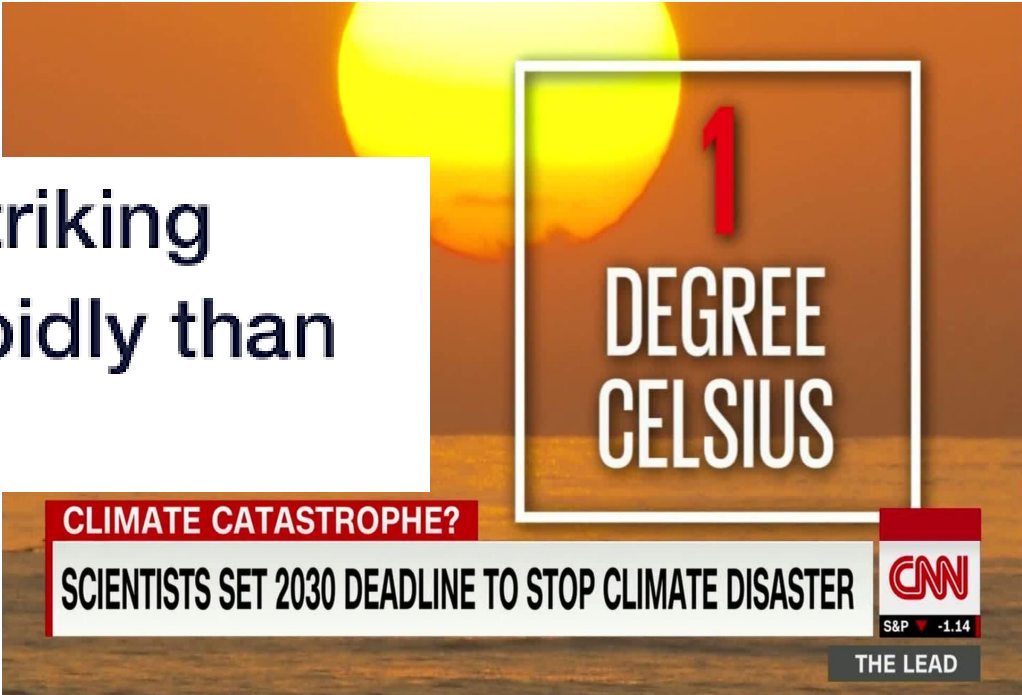
Clean Energy: Our Role





What is the role of municipal level decision making in climate mitigation?

Climate change is striking
harder and more rapidly than
many expected



1
**DEGREE
CELSIUS**

CLIMATE CATASTROPHE?

SCIENTISTS SET 2030 DEADLINE TO STOP CLIMATE DISASTER

CNN

S&P ▼ -1.14

THE LEAD

WHY CITIES?



ENDING CLIMATE CHANGE BEGINS IN THE CITY



**YOU
ARE
HERE!**

Ready for 100 Communities



Commit

Pass a resolution

Goal setting
shows political will

Plan

Develop a written
plan for achieving
the goals of the
resolution

The plan identifies
priority actions

Act

Municipal
Operations

Enabling Policies

Community Action
Plan

Leading and joining other U.S. municipalities

Communities are ready for 100%

Find a Ready For 100 campaign or city that is committed to—or powered by—100% clean energy near you. Learn more or take action now!

[Explore Our Map](#)

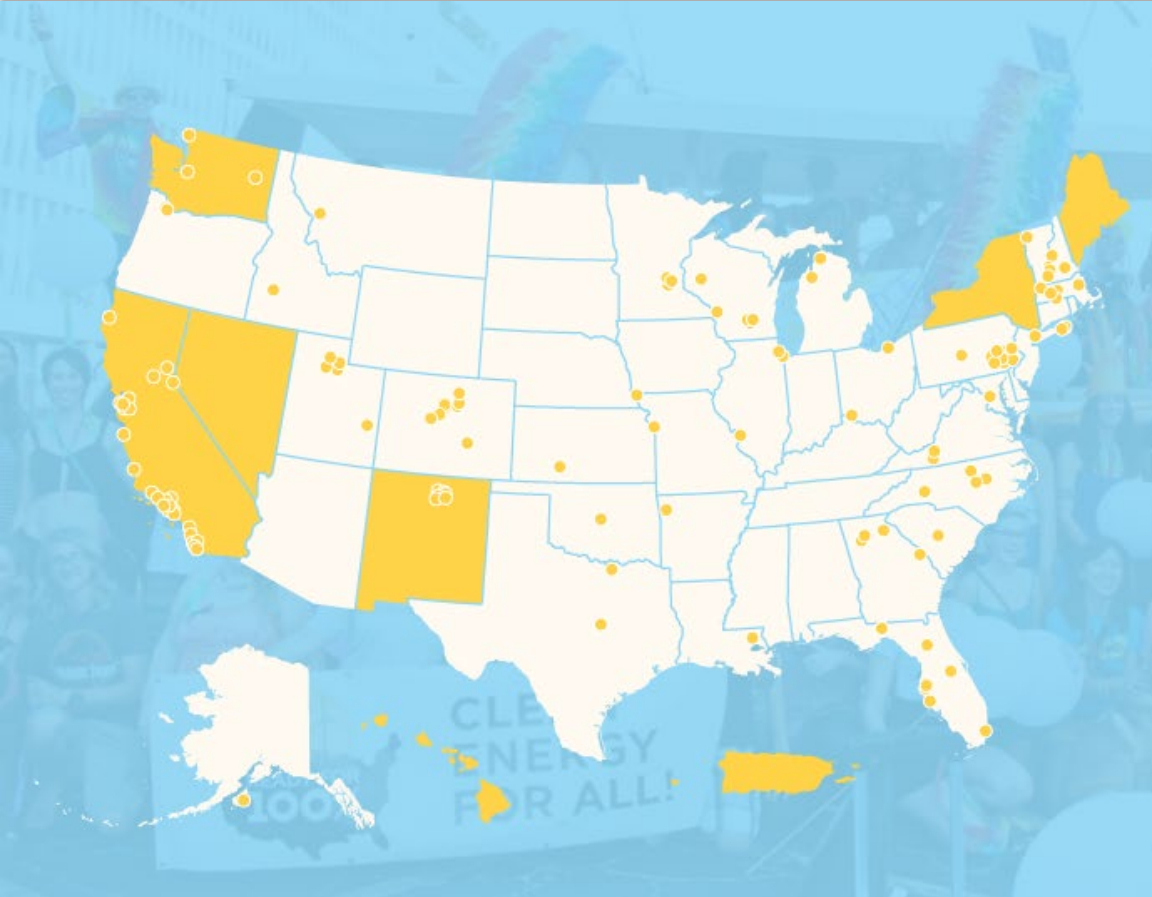
165

Committed Cities & Towns

60+

Active Campaigns





1*in*4

people in
America now live
in a community
committed to a
transition to
100% clean,
renewable energy.

Climate Action Plans

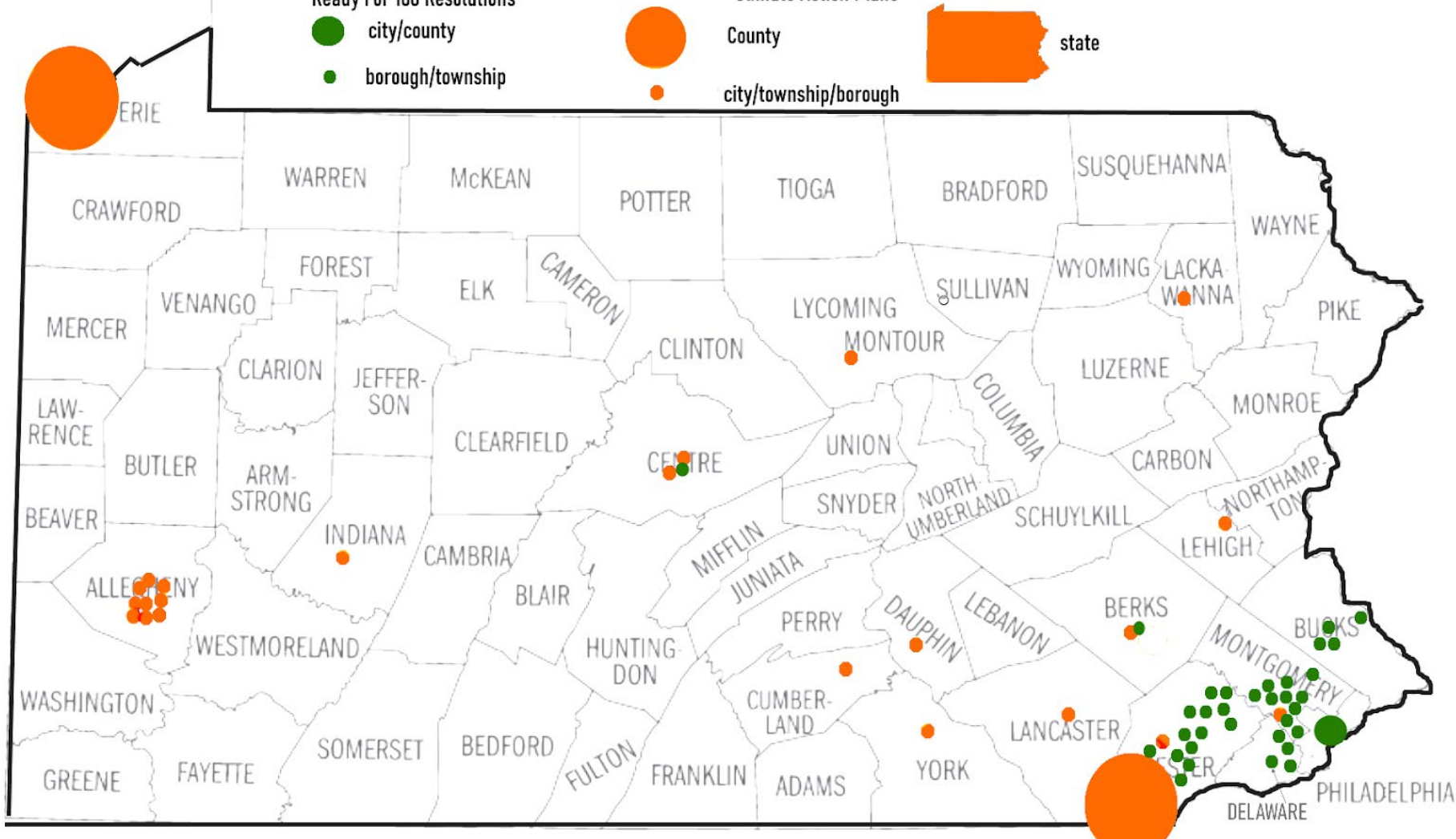
city/county

County

state

- borough/township

city/township/borough



An inspired group of municipalities



Passed *Ready for 100* Resolutions in our region



**CLEAN
ENERGY
FOR ALL!**
Readyfor100.org



Now what?



Phase 2 Planning the Roadmap for



CARBON NEUTRALITY BY YEAR 2050

Limiting global warming to 1.5°C with no or limited overshoot requires rapid and far-reaching transitions in energy, land use, infrastructure, and industrial systems.* The good news is, the pathways are clear and feasible with existing technology!

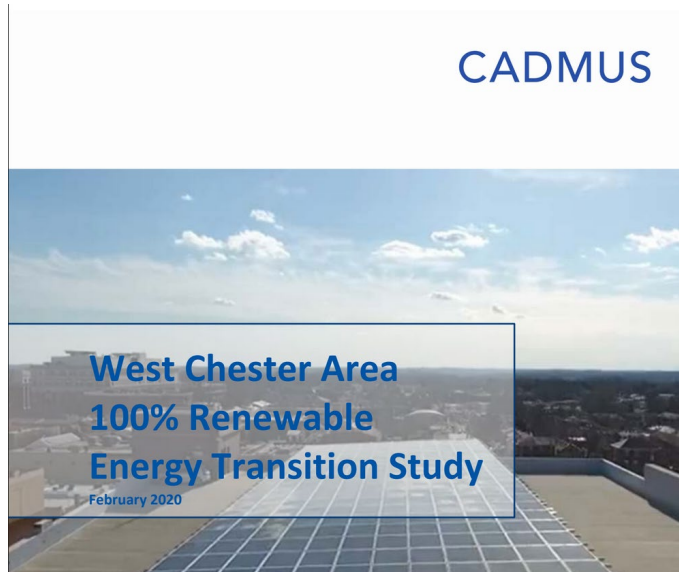
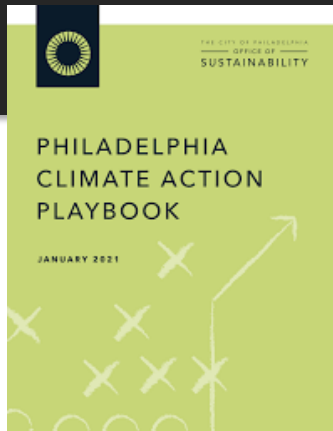
Contract with a
Consultant



Apply for a
DEP – Climate
Action Plan



DIY



RADNOR TOWNSHIP

Renewable Energy and Conservation Plan

The Renewable Energy and Conservation Plan provides actionable strategies for achieving the *Ready for 100* Goals in Radnor Township. These strategies include reducing energy consumption, transitioning to all electric system, and accelerating the use carbon-free energy sources, with considerations for all sectors in the Township.

February 2021

Prepared by



[Jurisdiction] Climate Action Plan



Local Actions and Policies to Reduce [Jurisdiction]'s
Greenhouse Gas Emissions

Approved by [Local Authority]

[Date Approved]

[Reference to Public Record]

[Reference to Further Information]

Produced by [Name of Lead Department or Task Force]

Through partnership with ICLEI - Local Government for Sustainability (ICLEI)



Local Climate Action Program (LCAP)

- ICLEI Local Governments for Sustainability – USA hired as contractor
- College student matched with local government
- ICLEI trains student on ClearPath inventory tool (fall semester) and climate action planning (spring semester)
- Final result: 41 GHG inventories & 40 local climate action plans

dep.pa.gov/LocalClimateActionProgram

The invitation to work together

The Process for Developing a CESP

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



Guide To Community Energy Strategic Planning



MARCH 2013

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy
RECOVERY.gov

Who responded!

Abington

Buckingham

Charlestown

Borough of Downingtown

East Marlborough Township

East Pikeland

Lansdowne Borough

Plymouth Township

Pocopson Township

Schuylkill Township

Solebury Township

Springfield Township

Swarthmore Borough

Tredyffrin Township

Upper Dublin Township

Upper Merion Township

Uwchlan Township

West Pikeland

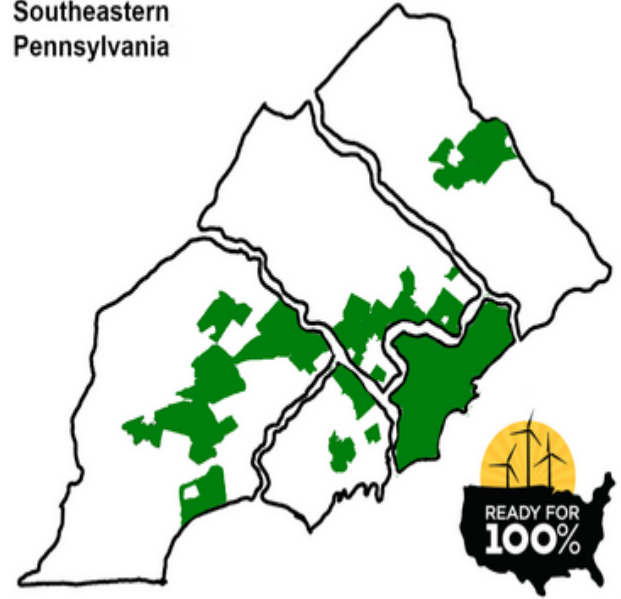
West Vincent Township

Whitemarsh

Auditors: Charlestown, Conshohocken, Lower
Providence, Phoenixville, West Bradford,

West Chester Area Council of Government
communities

Southeastern
Pennsylvania



One big plan for everyone and
everything?

Defining the municipal role



Lead by example in municipal operations: implement energy efficiency measures, beneficial electrification and shift energy sources to renewable energy as expeditiously as possible.

nbi new buildings
institute

ZERO ENERGY | BUILD

LOCAL GOVERNMENTS CAN LEAD BY EXAMPLE IN CLIMATE ACTION, STARTING WITH THE BUILDINGS THEY OWN

Townships can determine planning, zoning and development guidelines



- **Support and guidance:** undertake changes to its planning, zoning code, road system, and other aspects of municipal governance that impact energy usage throughout the community.
- **Reduce roadblocks:** implement changes to reduce roadblocks for climate-positive investments and encourage adoption of energy transition programs and investments by residents, institutions, and businesses.



Lesson: Two types of plans needed!



- To reduce *municipal operations* GHG emissions
- To reduce *community-wide* GHG emissions


It is more than we can handle



RECOMMENDATIONS BASED ON MUNICIPAL ENERGY PROFILES



Your municipal energy use profile



Energy and CO₂ Emissions Survey for Solebury Township, Bucks County PA

1.) Summary for municipal operations (Aug 2019 - Jul 2020)

Solebury												
Facility Nickname	Total Annual Electric Consumption (kWh)	Total Annual Gas Consumption (Ccf)	Liquid Fuels (gallons)	Facility Type	Street Address	Carbon Emissions from Electricity	Carbon Emissions from NG	Liquid Fuel Emissions	Total Carbon Emissions	% of Total Emissions	Cum. % of Total Emissions	Total Cost
Gasoline			22,000					176.80	176.80	55.7%	55.7%	\$62,000
SOLEBURY TOWNSHIP SUPERVISOR	274,443			Government Office	3092SUGAN RD3-PHASE	164.31	0.00	0.00	164.31	32.9%	88.5%	\$23,328
SOLEBURY TWP	42,434			Government Office	3092SUGAN RDMAIN GARAGE	16.13			16.13	5.1%	93.6%	\$3,607
SOLEBURY TOWNSHIP SUPER	20,544			Government Office	3092SUGAN RDNEW	7.81			7.81	2.5%	96.1%	\$1,746
FREE PUBLIC LIBRARY OF NEW HOPE & SOLEBURY	13,993	850		Library	93FERRY ST	5.32	4.4	9.68	9.68	3.0%	99.1%	\$1,197
SOLEBURY TWP	4,251			Government Office	0UWR-YORK ROSOCCER 14 MI N	1.62		1.62	1.62	0.5%	99.6%	\$361
SOLEBURY TOWNSHIP SUPER CAL FIELD	3,102			Government Office	0HAGAN RDSNACK SH SUNSET DR	1.18		1.18	1.18	0.4%	100.0%	\$264
SOLEBURY TWP	0			Government Office	6650LAUREL RDLAUREL PARK	0.00		0.00	0.00	0.0%	100.0%	\$0
SOLEBURY TOWNSHIP	0			Government Office	0RIVER RDP49555	0.00		0.00	0.00	0.0%	100.0%	\$0
Total	358,767	850	22,000			196.36	4.36	176.80	317.52	100.0%		\$92,502

2019 ENERGY USE SNAPSHOT



In 2019 Plymouth Township facilities consumed:

3,668
MEGAWATT-HOURS
OF ELECTRICITY

750,000
CUBIC FEET OF
NATURAL GAS

— which translates to —



\$318,000
TOTAL ENERGY COST



1,433
metric tons
TOTAL GHG EMISSIONS



In 2019 Plymouth fleet vehicles & equipment consumed:

95,000
GALLONS OF
VEHICLE FUEL

— which translates to —



\$214,500
TOTAL FUEL COST



894
metric tons
TOTAL GHG EMISSIONS

OUR
HIGHEST
EMITTERS

VEHICLE FUEL
894 TONS

34%

COMMUNITY
CENTER
722 TONS

20%

TOWNSHIP
BUILDING
267 TONS

11%

STREET
LIGHTING
206

15%



REDUCE DEMAND

ENERGY EFFICIENCY AND CONSERVATION

Reduce energy consumption by optimizing efficiency. Potential energy efficiency measures include: choosing Energy Star certified products, using high efficiency electric or geothermal heat pumps, and switching to LED lighting.

DECARBONIZE ELECTRICITY

CLEAN UP THE GRID

Accelerate the trend towards zero-emissions electricity. Transform the power sector infrastructure by transitioning states and utilities away from polluting fossil fuels to using clean and renewable energy like solar and wind.





END-USE ELECTRIFICATION FOR BUILDINGS, TRANSPORT AND INDUSTRY

Use electricity for all space heating and cooling, industry operations, and transportation. Substitute gas and oil furnaces with electric heat pumps and replace combustion engine vehicles with electric vehicles.

CARBON CAPTURE

VIA NATURAL FOREST SYSTEMS

Pennsylvania's forests and urban trees absorb nearly 11 percent of the states total GHG emissions. If we expand these natural systems, we can reduce the amount of emissions entering the atmosphere and lessen PA's contribution to climate change.



Phase 3 ACT!!



Start with a specific “lead by example” efforts by proposing one or more of these 7 actions through your EAC



No Regret Actions EACs can propose #1



- Conduct a **fleet-wide inventory of vehicles** that could be replaced with hybrid or electric vehicles.
- [Apply for state funding for EV Chargers](#). There is still money available from Driving PA Forward.
- Reach out to other townships to see if you can get a discount on cost based on aggregation.

For inventory analysis:

- Dennis Rowan, Rowan Energy Integration at drowan@rowanenergyintegration.com

For aggregated Purchases with other municipalities through COSTARS:

- Contact Scott Harford at srh18@psu.edu



No Regret Actions EACs can propose #2



Request an Operational Energy Audit

- Municipal buildings
- Water/Wastewater



Options:

- PECO – NOW! Jennifer Robinson Jen.Robinson@icf.com
- Hire a consultant

Paul Spiegel has done excellent work for several of our participating communities. pspiegel@practicalenergy.net Practical Energy Solutions <https://practicalenergy.net/>

No Regret Actions EACs can propose #3



Request that all facilities be Benchmarked

We should all be using the Energy Star Portfolio Manager. It is free and a great tool for measuring progress.

1. [Set up and account here.](https://www.energystar.gov/buildingshelp) You can also find answers to frequently asked questions about ENERGY STAR Buildings at www.energystar.gov/buildingshelp
2. **Get Trained!** To access the suite of ENERGY STAR® training resources and materials, as well as a list of upcoming webinars, please visit <https://www.energystar.gov/buildings/training>.

3. Connect your Energy Star Portfolio Manager Account with your PECO account.

4. Ask for regular reports.



No Regret Actions EACs can propose #4



Implementation through Regional Cooperation: Regional Streetlight Procurement Program

35 municipalities in southeastern PA pooled their decision making and purchasing power to access energy performance contracting, finance, and technical assistance to convert their entire street lighting systems to LED.



>26,000 streetlights, etc, converted to LED



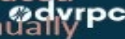
\$16 million net savings over 20 years



10.6 million kWh saved annually



5,500 metric tons of CO₂e reduced annually



Convert Streetlights/traffic signals

Contact PECO

Angela.Fareri@exeloncorp.com

And DVRPC for lessons learned.



No Regret Action Steps EACs can propose #5



Contract for a utility bill audit
(generally free or for a percent of funds recovered)

Facility and
Utility Bill Auditing



- Through **Penn State Facilities Engineering Institute** (PSFEI) Scott Harford at srh18@psu.edu
- Dennis Rowan, Rowan Energy Integration at drowan@rowanenergyintegration.com

No Regret Action Steps EACs can propose #6



Removing barriers: Join Solsmart program and make the solar permitting process as transparent, simple, and efficient as possible

- Standard solar PV permit application
- Reduce permitting costs
- Align with national best practices

Register for Solsmart at the [Solsmart site](#).

- If you are in greater Philadelphia, contact the Delaware Valley Regional Planning Commission



No Regret Action Steps EACs can propose #7



Integrate Energy
Conservation and
Renewable Energy
into
YOUR NEXT
Comprehensive Plan

13 *Energy* *Conservation* *Plan*

Findings..... 13-2

**Analysis of Strengths, Weaknesses,
Opportunities and Threats 13-5**

Programs for Energy Conservation. 13-8

**Interrelationships of Energy
Conservation 13-10**

▶ **9 Years**
to make a
difference

▶ **Let's get
started!**

Countdown



2030

EACS- the right people, in the right place at the right time



Register for a Climate Action Plan & Learn about RF100



Ready for 100 Contact **Jim Wylie:** jim.wylie@verizon.net
Paula Kline kline.paula@gmail.com

Resources for RF100 in Southeastern PA:

<https://www.sierraclub.org/pennsylvania/southeastern/ready-for-100>



If you know of a community
interested in LCAP year 3,
please contact:

Heidi J. Kunka, LEED AP BD+C, CC-P

Energy Program Specialist
PADEP Energy Programs Office

hkunka@pa.gov

717-214-4243

Phase 2 If your community has a resolution, but hasn't passed a clean energy transition plan yet . . .



- Your Environmental Advisory Council (or the equivalent) can
 - organize its own planning team
 - work with elected officials to hire a consultant (a la Radnor)
 - apply now for a CAP plan (DEP)
 - ask your county planning commission for technical or financial support
- Use the Department of Energy's [Guide to Community Energy Strategic Planning](#) to support your planning process
- Encourage the preparation of both a municipal operations and a community wide transition plan. Use RF100 templates and resources.
- Review the completed plans of [similar size municipalities](#)
- Consult with DVRPC, your County Planning Commission, or neighboring townships with plans for assistance or to review of your plan

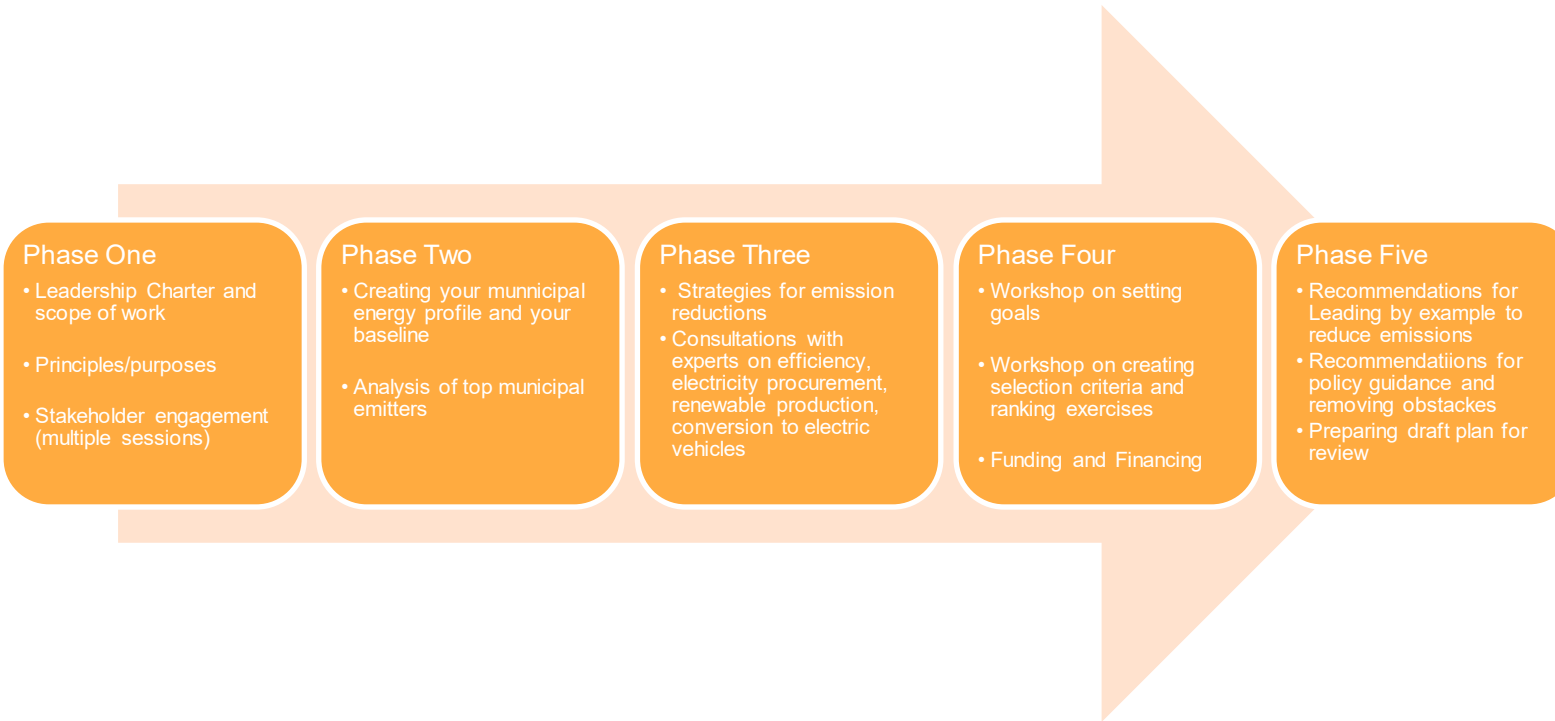
Phase 1 – Make the commitment



If your community DOES NOT yet have a 100% renewable energy transition resolution, your EAC will want to

- Get familiar with the [RF100 Campaign](#) at the national level
- Sign on to the organizing principles ([Jemez Principles](#))
- Register for an orientation workshop (next dates 4/28 and 5/26)
- Contact a state (PA) or regional RF100 coordinator or volunteer to get a local orientation and learn about our lessons learned ([SE PA website](#))
- Review [RF100 materials and Toolkit](#)
- Convene an orientation for other residents to share RF100. Invite a speaker from an active RF100 community. Contact Jim Wylie jim.wylie@verizon.net

Phases of DYI Municipal Operations Clean Energy Transition Plan development



DIY Community emissions reduction planning



Phase One

- Community wide energy and emissions profile

Phase Two

- Identification of sectors and high emitters

Phase Three

- Greenhouse Gas Emission Reduction Strategies
- Calculations of conversions required by year to meet 2050 goal

Phase Four

- Recommendations by community sector for voluntary program options

EACs and Clean Energy – Entry points recommended in the EAC Guidelines



- **Alternative Energy Usage** Recent global events have pushed energy conservation to the forefront of the environmental agenda and many incentives exist for municipalities to take action. Among them are improved air quality and better health conditions for residents, potential cost savings and positive publicity benefits, reducing carbon footprint and reducing dependence on non-renewable resources. Municipalities can improve their energy usage, and *an EAC is an appropriate group to encourage and educate municipalities about the many available options.*
- **Advising on permitting, zoning and planning** Environmental Education EACs are well suited to host workshops and speakers on a wide range of environmental topics and issues. Programs can provide specific information for citizens to use in adopting environmentally sound practices, such as composting, or information on environmental issues or programs, including growth management, and hazardous waste. **Climate change**, wildlife, forestry, and invasive species concerns are also viable topics.

Ready For 100 recommends that the adopted goal includes the following elements:



- **Community-wide Electricity Use:** A full transition of the electricity sector to clean, renewable energy;
- **By 2035:** A target year for when this commitment will be achieved no later than 2035 for electricity and 2050 for all energy sectors;
- **Ensure Justice, Equity, Affordability, and Access**
- **Clean and Renewable Resources Only**
- **A Transparent and Inclusive Planning and Implementation Process** ensuring that the community members and local businesses have an opportunity to participate.

Strong commitments also include



- **All Energy Sectors:** A commitment to transition other energy sectors to 100% including transportation and heating and cooling;
- **A Local Generation Goal:** A goal for how much of the community's energy needs will be met by local, distributed generation;
- **Near term implementation steps:** At least the first year and ideally a five-year plan;
- **Commitment to Collaboration:** A commitment to work with surrounding communities in achieving aligned clean energy and equity goals;
- **Commitment to Advocate:** A commitment to advocate for policies or regulations at the state, regional and/or federal level that aid the city in their transition.

A crash course on Virtual Meetings from Habitus



Yikes. Things sure changed fast.

Over the past month, we've all had our lives disrupted by the COVID-19 pandemic. It's been scary and disorienting but there's still work to be done, and Habitus is here to help you do it, and help you do it well.

To successfully navigate through this challenging period, you and your teammates need to get comfortable with the remote work format and learn to collaborate virtually while still being effective. The first step is running great and energizing meetings that keep engagement, productivity, and morale high!

Yes, it can be done! And more importantly, **YOU** can do it! The Habitus team has put together some resources to support you in running great meetings.

This video featuring Habitus CEO Justin Wright highlights some of the most common challenges that plague virtual meetings. We'll cover them in more depth while providing solutions [in our e-course](#), available now on demand.