



PHILADELPHIA  
ENERGY AUTHORITY

# The Philadelphia Energy Campaign: Building a Robust, Equitable Clean Energy Economy

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# Overview

- Philadelphia & the PEA story
- Solar Means Jobs: Building a diverse workforce
- Housing Interventions: energy insecurity, public health and safety, and reducing displacement
- Moving forward

# Philadelphia: The Poorest Big City in America

- Pre-COVID, 25% live below the poverty line, incl. 1 in 3 children
- Consistent Clean Air Act non-attainment in low-income neighborhoods, 4<sup>th</sup> highest rate of asthma in US
- Residents below 30% AMLI pay 23% of their income to utilities (**energy burden**)
- >50% of African-American households at any income level, and >40% of all renters face **energy insecurity**\* at least once a year



*\*Energy Insecurity: forgoing food or medicine to pay for utilities, setting the home to an unsafe or unhealthy temperature, or at risk of utility shut-off*

CLEAN, EFFICIENT, AFFORDABLE

# energy as a tool for impact

## ECONOMIC development

Projects that move the needle on carbon reduction are bringing established companies, investors and entrepreneurs to the city.

## CREATING jobs

Statewide, the number of clean energy jobs already outpaces the number of fossil fuel jobs.

## ALLEVIATING poverty

Reducing the energy burden for Philadelphians means homes that are safe, warm, healthy and affordable for the long term.

## IMPROVING public health

In public buildings, schools, homes and businesses, clean and efficient energy is a vehicle for improving the health of our communities.



# Philadelphia Energy Campaign

A 10-Year initiative to spur **\$1 Billion of investment** and **create 10,000 jobs**

## Highlights:

- 70MW solar PPA to procure 22% of City's electricity
- \$12MM project reduced energy consumption by ~25% at Philadelphia Museum of Art
- \$50MM+ of school energy makeovers, incl. lighting, boilers, windows
- \$10MM of residential rooftop solar contracted through Solarize program
- 85,000+ households enrolled in water and sewer protection program
- Launched C-PACE for C&I efficiency and renewables

	New Project Investments	Jobs Created*
Year One: 2017	\$53 million	225
Year Two: 2018	\$48 million	759
Year Three: 2019	\$35 million	317
Total To Date	<b>\$136 million</b>	<b>1,301</b>

*\*Direct, indirect, and induced jobs across 10-year Energy Campaign*

# Clean Energy Workforce Development (#SolarMeansJobs)

# 3 Rounds, Largest in the U.S.



Contracts Signed as of  
Today

**654**



Contracted Solar  
Capacity

**2.8 MW**



\$ Invested in Philly's  
Clean Energy Economy

**\$10 million**



Households Signed up

**5,856**



Direct Jobs Created

**94**

The background image shows three young men in a workshop setting, focused on working with solar panels. They are wearing dark clothing, some with 'POWER CORPS' branding. The workshop has a high ceiling with exposed pipes and fluorescent lighting. One man in the foreground is wearing a dark beanie and a quilted jacket, looking intently at a solar panel. Another man in the middle is wearing a dark hoodie with 'POWER CORPS' on it, also working on a panel. A third man is visible in the background, partially obscured. The overall atmosphere is one of hands-on learning and technical training.

# Bright Solar Futures: Workforce Training

- **PowerCorpsPHL Solar Fellowship**
  - 18-30-year-old Opportunity Youth
  - 2020 classroom training (680 hrs) + summer internship
  - Provided drivers' ed for licensing & job placement, plus wraparound services
- **First CTE Solar Program in Pennsylvania**
  - Approved by PA Dept of Education, launched in September 2020 (\$ available statewide)
  - Solar Lab at Frankford High School sponsored by PECO and Community Energy
  - Starts in 10<sup>th</sup> grade, 1080 hours of instruction over 3 years, 2 internships, career placement



# Bright Solar Futures: Workforce Training

- **Curriculum Includes:**
  - Electricity Basics
  - Solar Installation & NABCEP prep
  - OSHA standards & certs
  - Weatherization & Energy efficiency
  - Drivers' Licensing (where needed)
- **Career Paths:**
  - Solar installation, design, sales
  - Building trades apprenticeship
  - Utility line apprenticeship
  - Higher education (partnerships with CCP & Temple Univ.)



# Philly's Citywide Solar Training Consortium

- Citywide collaborative training model to match supply and demand for labor
- Designation of High Priority Occupation and demand creation through Solarize allowed for workforce training dollars to be committed to other training programs serving additional populations.
- **Bright Solar Futures** at scale will graduate ~60 graduates annually, 90+% students of color.
- Other labs: **OIC Philadelphia** focuses on adult trainees, graduating ~20 people/year; **Energy Coordinating Agency (ECA)** focuses on adults and returning citizens, capacity to graduate ~40 people/year. Add union trainees.
- Core strengths: Occupational Advisory Committee, siting training in transit-accessible minority-majority communities

# Affordable Housing Restoration

to tackle energy insecurity, public health and safety, and  
reducing displacement

# Philly's Low-Income Housing Crisis

- Over 60,000 low-income owner-occupied homes in Philadelphia, many generational
- Poor housing conditions from lack of long-term maintenance contribute to negative health outcomes\*, energy insecurity, displacement
- Local, State and Federal home repair programs bring significant dollars, but without systemic program coordination. “Maintaining poverty”
- **Goal: to stabilize homes so they are affordable, healthy and safe for the long-term**



*A Kingsessing home after participating in Basic Systems Repair for a roof.*

*\*See research on Social Determinants of Health (SDOH)*

# The Built to Last Platform:

Layered, Coordinated Service Delivery+

## Benefits Screening

- Identify eligible benefits
- Screen homeowners for utility, health, and City housing services
- Inter-agency data sharing -- protect personal info

## Property Assessment

- Identify all home needs
- Eliminate referrals to multiple programs
- Match program services and funding to needs
- Inter-agency data sharing -- protect personal info

## Construction Management

- Streamline delivery of multiple program services
- Shorten project timeline
- Address all major home needs
- Bring in external funding to fill service gaps

# Built To Last Funding Needs

## Average Home Improvement Costs\*

Solar + Electric Conversion

\$15K/home

Weatherize + Utility Services

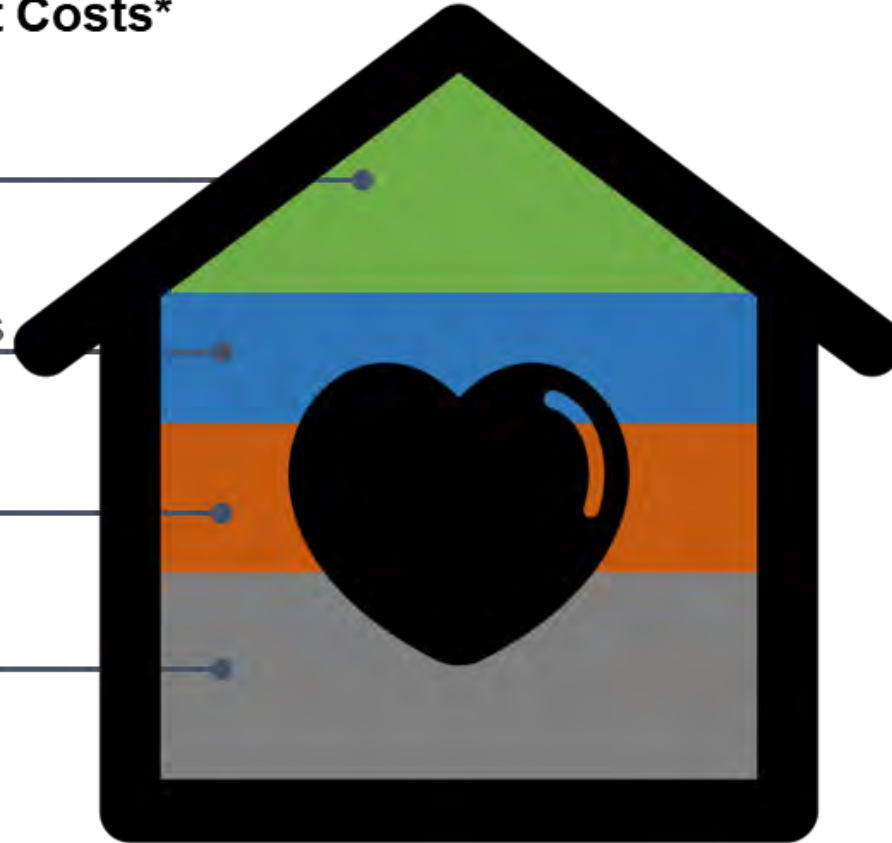
\$8K/home

Health

\$10K/home

Basic System Improvements

\$17K/home



**70-80% of the cost of repairs can be covered by an existing program, properly ordered and layered.**

**But this is not a small problem. To reach 10,000 homes, we must invest \$250MM+.**

*\* Not all improvements have existing funding sources.*

**Making DEIJ Actionable:  
Partner with Implementers and Bring  
New Resources to the Table**

# Solar as a tool for economic recovery, job creation, poverty reduction

- Solar installer was fastest growing occupation in the country in 2019, including in PA. ([source](#))
- Rooftop solar creates the most jobs per dollar invested compared to other energy projects, according to ACEEE economic modeling in Philadelphia.
- Entry-level solar jobs do not require a college degree and pay a living wage.
- Solar is a lifeline for low- and moderate-income homeowners to take control of utility costs long-term, reduces energy burden, among other benefits.



# Proposal: Solar Equity and Access Fees

- Offer utility-scale customers an opt-in (or require an opt-out) to an Equity and Access charge offered to utility-scale solar offtakers to support equitable access to rooftop solar and solar jobs.
- Creates long-term, sustainable funding source for programs like ours that require big hairy resources to match big hairy problems.
- Funds initiatives that are:
  - Increasing solar adoption in communities of color and LMI communities, and
  - Offering training pathways for people of color and people from LMI communities to enter the solar workforce.