



Philadelphia's Just Transition: DERs, Public Engagement & Solar as a Tool for Impact

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Emily Schapira, *President & CEO*



Energy and Poverty in Philadelphia

- Pre-COVID, 23.5% live in poverty, including 1 in 3 children
- 4th highest rate of asthma in US, heat differential between poorest and wealthiest neighborhoods is 22°F
- Residents below 30% AML pay 18% of their income to utilities (**energy burden**)
- >50% of African-American households at any income level 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*



Air Conditioner & Fan Drive for Hunting Park



\$25,349 raised

354 donations

Share

The organizer has currently disabled new donations to this fundraiser.



This fundraiser is located near you



Anonymous

\$25 · 8 mos



Janet Hoffman

\$20 · 8 mos

See all



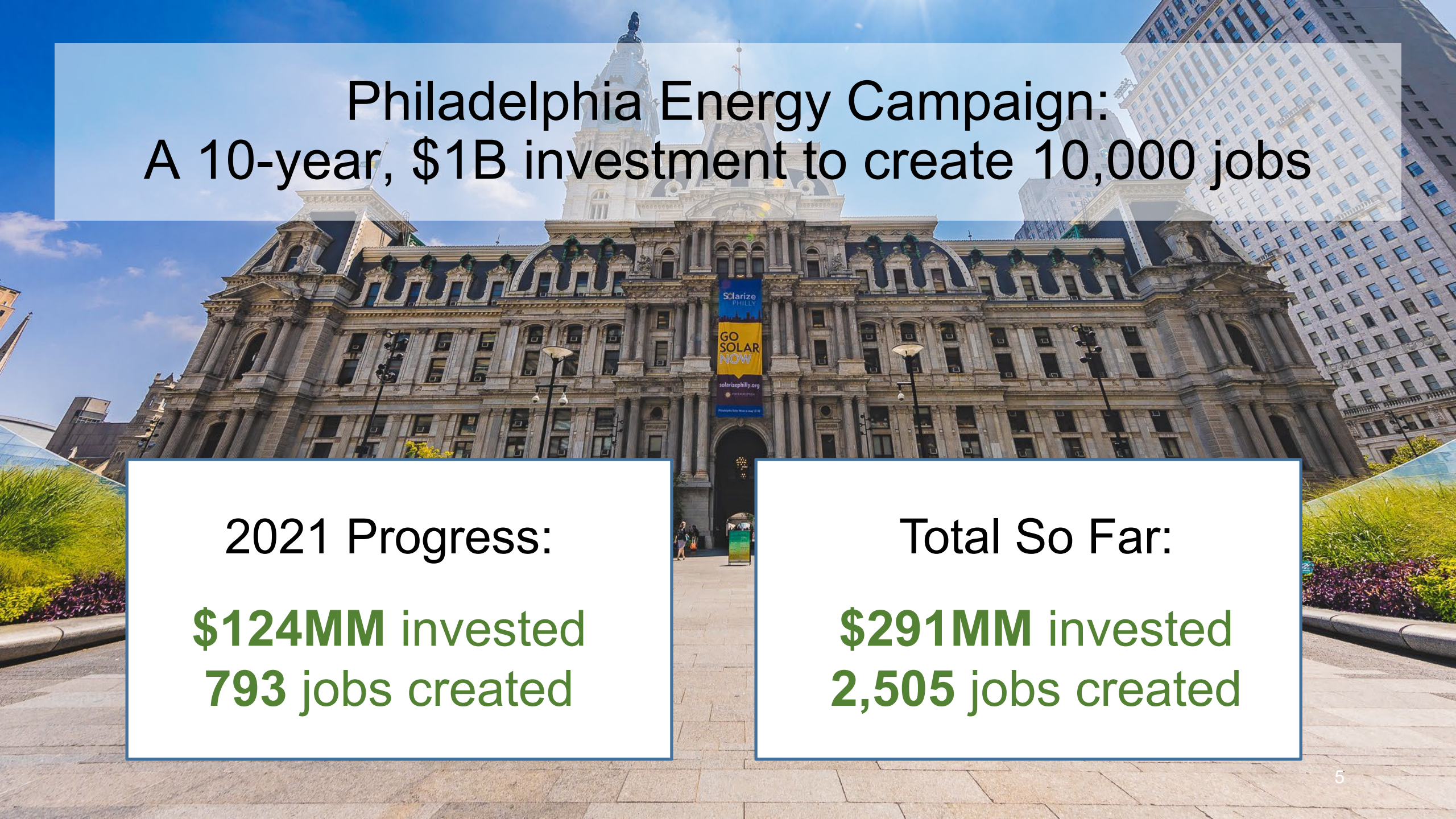
See top donations



Charles Lanier is organizing this fundraiser to benefit Hunting Park Neighborhood Advisory Committee. ✓

Philadelphia Energy Authority: Building a Robust, Equitable Clean Energy Economy

- The Philly model is a national leader – equity first, project + workforce.
 1. Creating demand for skilled labor through project development, and then ensuring equitable, diverse supply via well-trained workforce
 2. Correcting market inequities, bringing additional resources to bear locally, creating systems that allow for innovation and collaboration, ensure all communities have access to capital

A photograph of Philadelphia City Hall, a large, ornate, light-colored stone building with a prominent central tower. A banner hangs from the front of the building that reads "Solarize PHILLY GO SOLAR NOW solarizephilly.org". To the right of City Hall, a modern glass skyscraper is visible. The sky is blue with some clouds. In the foreground, there are some green plants and a paved area.

Philadelphia Energy Campaign: A 10-year, \$1B investment to create 10,000 jobs

2021 Progress:

\$124MM invested
793 jobs created

Total So Far:

\$291MM invested
2,505 jobs created

Energy Campaign Projects & Programs

- **70MW solar PPA** to procure 22% of City's electricity
- \$12MM project reduced energy consumption by ~25% at **Philadelphia Museum of Art**
- **LED Streetlighting & on-site solar at Northeast Philly Airport**
- \$250MM+ of **school energy makeovers**, incl. lighting, boilers, windows, air conditioning
- \$15.5MM, 1000+ residential rooftops contracted through **Solarize Philly**, 50+ LMI homes subsidized so far, launched commercial Solarize
- 90,000+ homes enrolled in **water and sewer line protection program**, \$30MM+ in savings
- **Launched Built to Last** low-income housing restoration program in 2021, 100 homes by 2023
- \$69MM of **C-PACE** projects financed to date (C&I)
- Paired workforce development with all programs, launched **Green Retrofit Immersive Training** (GRIT) for resi construction, and **Bright Solar Futures**, the nation's first 3-year CTE program in solar & weatherization

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.





Solarize PHILLY

A CITYWIDE
PROGRAM TO HELP
ALL PHILADELPHIANS

GO SOLAR AT HOME

SIGN UP **BY SEPTEMBER 30** at
solarizephilly.org



PHILADELPHIA
ENERGY AUTHORITY

@solarizephilly



Largest Solarize Program in the U.S.



Contracts Signed as of
Today

1065



Contracted Solar
Capacity

5.5 MW



\$ Invested in Philly's
Clean Energy Economy

\$19 million



Households Signed up

10,000+



Direct Jobs Created

100+

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

- Solar Installer was the 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, providing:
 - long-term utility cost stability & hedges against rate increases,
 - improves public health,
 - empowers owner-generators, reduces displacement from gentrification,
 - reduces long-term rate subsidies for low-income households, and
 - distributed energy resources improve the efficacy and cost profile of the grid, especially as we deploy more utility-scale resources. ([source](#))

A high-angle photograph of a rooftop solar panel array. The panels are dark and rectangular, arranged in rows. In the background, a dense urban landscape is visible, featuring a mix of brick buildings and modern skyscrapers under a cloudy sky. A semi-transparent text box is overlaid on the middle of the image.

Solar Savings Grant Program

Philadelphia's first rooftop solar program for low- and moderate-income households



Solar Savings Grant Program

- Pilot that provided rooftop solar to 50 low- and moderate-income households
- Combined grant funding with homeowner loans and fees from Solarize program in P3 model utilizing tax credits, grants and impact lending.
- Saves participants money in first year
- Serving households earning <80% AMI from 26 different zip codes



First Solar Savings Grant Program installation

Credit: Solar States 2021



Flipping the switch on our 50th SSGP installation (Sept. 2021)

News



Philly launches a solar lease program for homeowners

For five years, Philly has offered a program that lets residents purchase reduced-price rooftop solar installations. A new lease program will allow residents to install solar at no upfront cost.



PosiGen employees, Eric Cwiklinski (left) and Tim Miller, prepare to install solar panels on the home of

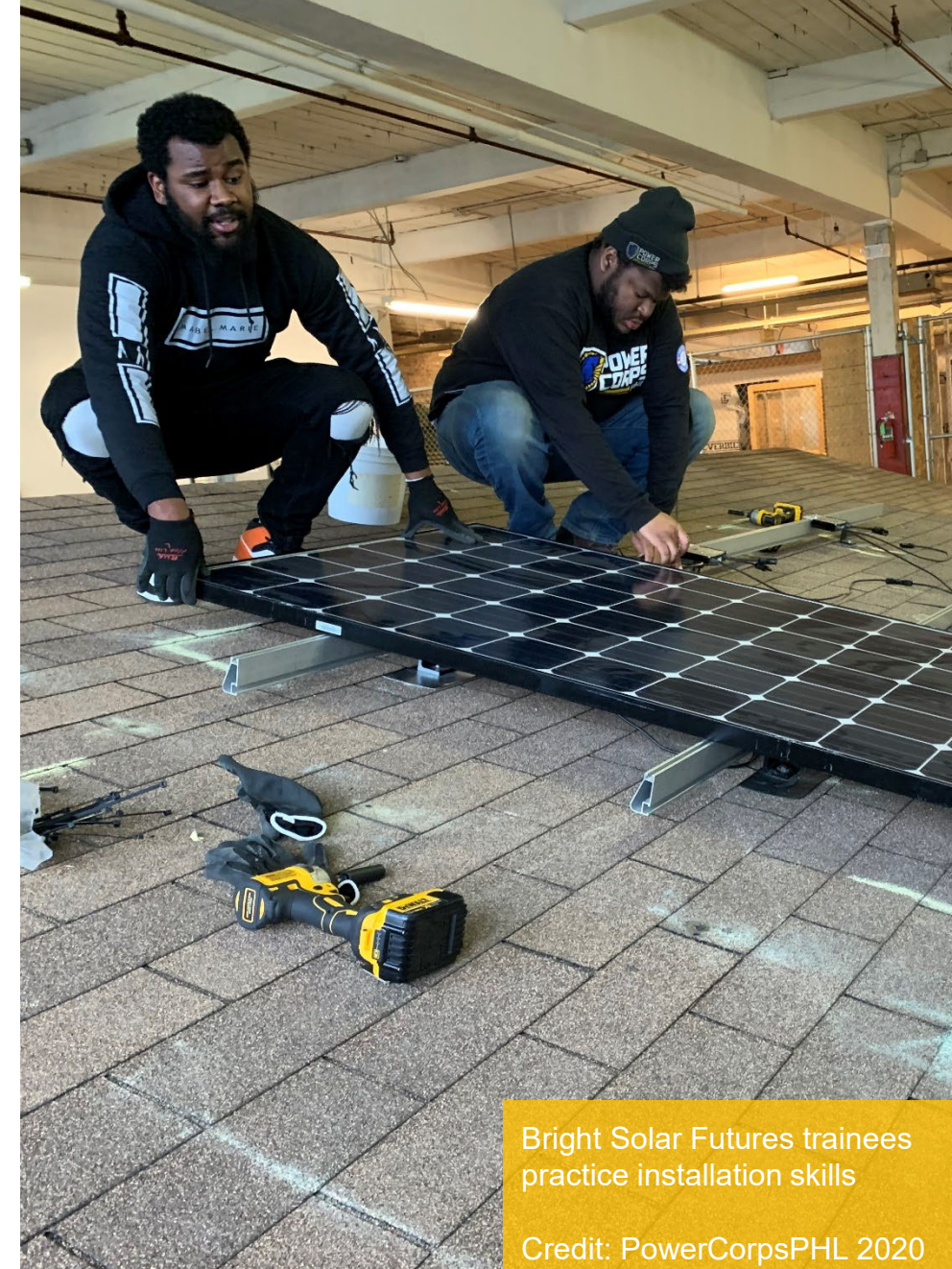


Bright Solar Futures
Ensuring equitable access to the clean
energy transition



Bright Solar Futures

- Launched PA's first Solar Energy Career and Technical Education (CTE) Program in 2020, first program of its kind in nation with hands-on intensive training for young people to join the solar workforce
 - 3-year high school CTE (1,080 hours) or 6-month (680 hours) opportunity youth fellowship
 - NABCEP certs, drivers' licenses, OSHA certs & internships
 - Solar, weatherization, job site safety, carpentry and construction basics
- 10th-12th grade program at Frankford High School, including paid summer internships + 6-month track for Opportunity Youth
- $\frac{3}{4}$ of graduates placed into industry-relevant jobs



Bright Solar Futures trainees practice installation skills

Credit: PowerCorpsPHL 2020

Built to Last

Preserving existing affordable housing through coordinated, holistic home repair



A \$500MM Challenge

- Federal, State, Local, Utility, Healthcare & non-profit programs don't often work together well
 - Lots of examples of unilateral partnerships from enterprising non-profits in Philly, unequal deployment citywide
- 60,000 homes in Philly are low-income owner occupied. Old housing stock and lack of generational maintenance.
- Home repair interventions have been shown to dramatically improve health outcomes, crime rates, educational outcomes, long-term affordability and reduce displacement from gentrification.
- Denial rates for all home repair programs, from weatherization to utility services, are as high as 50% due to another issue in the home.



Impacts Beyond Health: Increasing Neighborhood Safety

Pew polling conducted Jan. 2022 found that **70% of Philadelphians see crime, drugs, and public safety as the most important issue facing the city**—up nearly 30 percentage points from 2020.

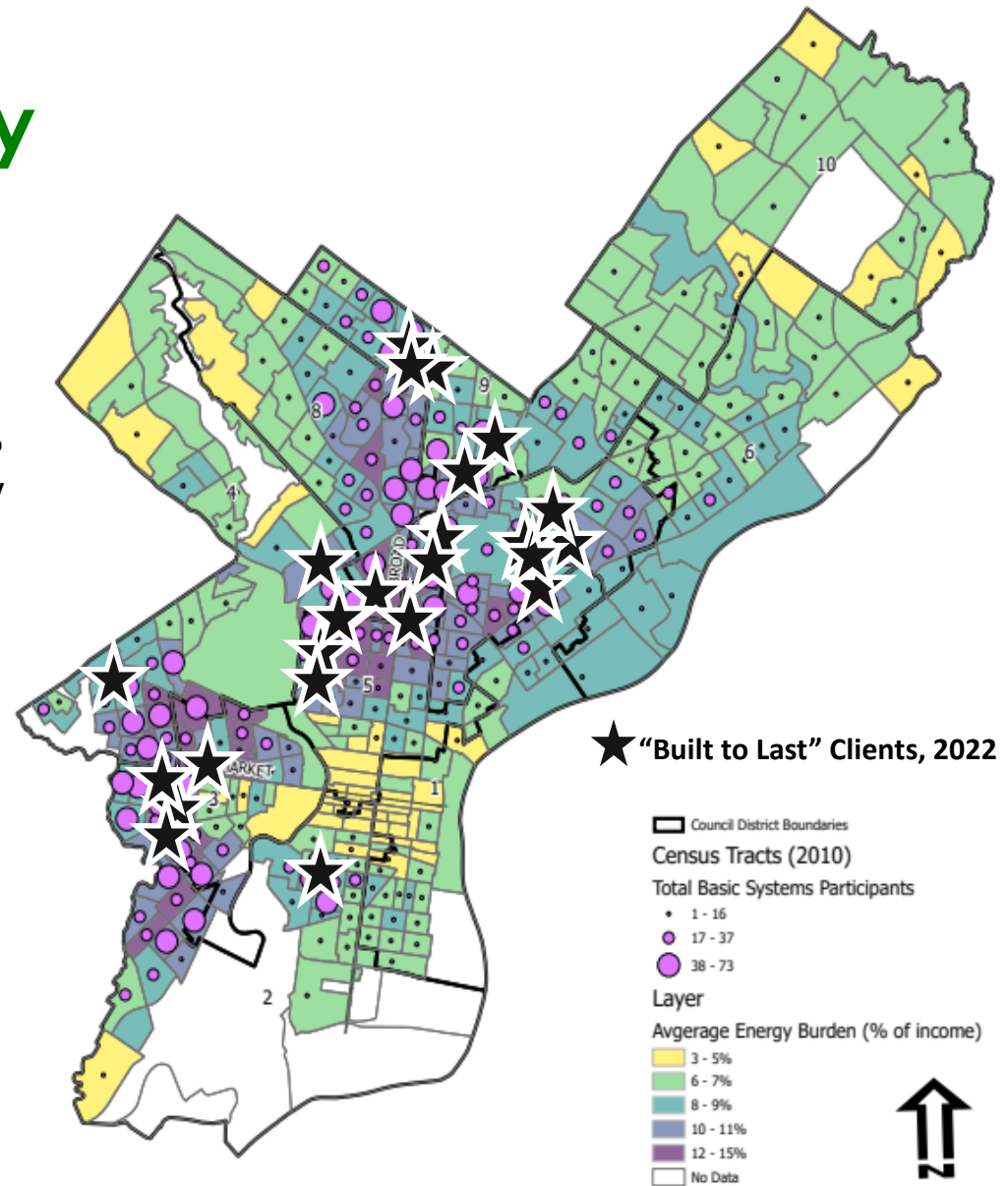
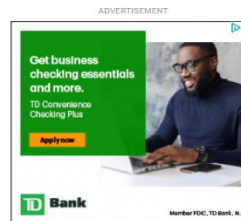
The University of Pennsylvania released a study in 2021 that found a **22% decrease in crime** after a **single home was repaired** on a block. For every additional home repaired on the same block, the crime rate was further decreased.

The Philadelphia Inquirer

esch

Philadelphia home repair grants linked to decreased neighborhood crime, Penn study finds

"When you're thinking about gun violence prevention, there's no one thing that's going to get rid of it," lead author Eugenia South said. "You need to have a multifaceted approach to prevention."



INTENTIONAL FOCUS ON EQUITY

More stable housing during formative development years

50% of Black households with children are at risk of losing their home in the next 2 months, vs. 36% of all households with children¹



Better birth outcomes and healthier babies.

13.4% of black infants are born at a low birth rate compared to 7.1% of white infants²



Job opportunities in sustainable, skill-based jobs

Unemployment in March 2021 was 9.6% for black people and 5.4% for white people³



Improvement in grade-level reading scores and high school graduation rates.

82% of black 4th graders scored below proficient reading level compared to 56% of white 4th grader⁴



Improved long-term earnings and earning power

Black people earn 75% as much as white people in median hourly earnings⁵



Lower housing costs & increase home value, enabling wealth retention and intergenerational wealth transfer

White families have 8x more wealth than black families and 5x more than Hispanic families⁶





Built to Last Home Improvements

Basic Systems

Roof
Electric
Plumbing (interior/exterior)
HVAC + Hot Water
Structural Issues

Other Measures



Solar (where feasible)
Heat pump (heat + AC)
Fuel switching

Energy Efficiency

Weatherization
Insulation (esp. attic)
LED lighting
Efficient windows/doors
Low-flow water fixtures

Health and Safety

Trip and fall hazards
Excess moisture
Lead paint
Mold
Pests



Built to Last Milestones

- Currently completing construction for 47 of 50 homes in 1st pilot. Phase 1 planned to launch in late-2022, funded by \$2.1MM CDS award via Sen. Casey.
- **Goals: 1,000 homes by 2025, 10,000 by 2032**
- Generously supported by Wm Penn Foundation, PHFA, Rocky Mountain Institute (RMI) & Peirce Phelps.
- Evaluation partners: UESF, Temple and Drexel Universities, RMI, GHHI & ProMedica Fdn





Green Retrofit Immersive Training (GRIT)

- Residential contractors in high demand, holistic knowledge critical to optimize health and energy savings benefits. Additional workforce required to scale up Built to Last.
- Green Home Retrofit training for adults in partnership with ECA and FRP.
- 12-week class, 6-week internship retrofitting single-family units for affordable housing; all trainees received stipends
- Graduated 15 trainees in 2021, 12 of 15 now employed in the field.
- 2nd cohort of 20 started May 2022, funded by Wm. Penn Foundation & Commerce Dept
- Students receive 5 portable certifications, including OSHA 10, HAZWOPER, NCCR and others.



Half of GRIT class on an in-person training day at ECA.

Credit: ECA 2021



Contact

Emily Schapira

President & CEO

eschapira@philaenergy.org

philaenergy.org

solarizephilly.org

philadelphiaCPACE.org

awrusa.com/Philadelphia

phillygreencapital.org