



PHILADELPHIA
ENERGY AUTHORITY

annual report
2022



Photo: Solar States



MESSAGE FROM THE PRESIDENT & CEO

2022 was a big year for PEA. \$90 million of investment is a big number, but there was an important difference this year from previous years: \$70 million of that \$90 million came from PEA programming, not from big City or School District projects. That means more than three quarters of 2022's investment came from residential solar rooftops through Solarize Philly; from commercial and industrial buildings financing energy efficiency and renewables through C-PACE; from workforce development programs, Built to Last, and more.

This marks a turning point for our team as our programming scales up. We're no longer piloting, we're expanding. We're attracting new types of funding and preparing for new federal opportunities. We're hiring and growing our staff – and leveling up our work.

I'm incredibly proud of the work we've produced and the way we've done it – with equity, engagement, and substantive impact at the forefront of our approach. We go into 2023 with project momentum, an energized, well-trained workforce and billions of dollars of opportunity in federal programs. Philadelphia has taken a leading role in building the national clean energy economy, and we are grateful for the opportunity to continue to serve all Philadelphians.

Emily Schapira



MESSAGE FROM THE BOARD CHAIR

As Board Chair, it has been my pleasure to have a front row seat to PEA's growth in 2022 and to celebrate the progress towards meeting and exceeding the goals of the Philadelphia Energy Campaign.

PEA's innovative approach to braiding varied funding streams has allowed it to scale efforts to fight poverty through energy cost reduction, job creation, and helping under-resourced Philadelphians train for work in clean energy jobs. State and federal grant awards received in 2022 have positioned PEA to further expand program offerings across the city and the surrounding counties.

New resources enable PEA to model effective planning and implementation of inclusive and sustainable residential and commercial energy-saving solutions for other municipalities across the state and nation.

Every dollar in energy that we DON'T spend on energy is a dollar that is not 'exported' out of the region, and every hour that our residents are employed saving those energy dollars is an investment that repays us as those residents spend their new-found income on goods and services in the Philadelphia region. Money we are not burning is money we can spend on building a better city and region for us all.

E. Mitchell Swann



mission

PEA aims to be a catalyst for the growth of a robust, equitable, diverse clean energy economy in Philadelphia through the development of long-term energy projects, policy, education and market-building activities.

vision

Philadelphia will serve as a model for leveraging clean energy to address the climate crisis, create local jobs, attract global businesses, drive economic development and improve the quality of life for its residents.

values

In order to achieve our goals, PEA subscribes to the following core values:

- Strategic Partnerships
- Diversity and Equity
- Transformational Impact
- Organizational Sustainability and Accountability

The Philadelphia Energy Campaign

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The Philadelphia Energy Campaign launched in 2016 with the leadership of City Council President Darrell Clarke (5th District) to drive \$1 billion in investment in energy efficiency and clean energy, creating 10,000 jobs over 10 years. Completing its sixth year in 2022, the Philadelphia Energy Campaign is performing as projected, creating living wage, family-sustaining jobs while supporting solutions to Philadelphia’s biggest challenges, like public health and climate impacts, poverty, education, housing preservation, and neighborhood stabilization.

Meeting Our Goals

In 2022, PEA spurred \$90MM in clean energy investments and created 771 jobs.

Unlike in previous years, 78% of that investment came from PEA programs and not from major energy retrofits with the City or the School District. While those projects continue to move forward in their now-standard procurement and construction cycles, programs like Solarize Philly, C-PACE, Built to Last and PEA’s workforce development programs kept the momentum going and accounted for \$70MM of that investment. Since inception, the Energy Campaign has deployed more than \$380MM in projects and created 3,275 jobs in total. It remains on track to hit its \$1 billion, 10,000 jobs goal ahead of schedule.

4 Goals	Cut energy bills	Create jobs	Reduce air & water pollution	Strengthen communities	
5 Sectors	MUNICIPAL	SCHOOLS	AFFORDABLE HOUSING	SMALL BUSINESSES	COMMERCIAL & INDUSTRIAL
Our 10-Year Objectives	Invest \$1 billion Create 10,000 jobs				



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The Philadelphia Energy Campaign



Job Creation

PEA programs continue to generate living-wage employment across Philadelphia’s economy both directly and indirectly. In 2022, the Philadelphia Energy Campaign created 771 jobs.

Direct jobs are generated by the increased demand for solar installers, energy auditors, energy efficiency technicians, skilled building trades and other professions directly engaged in the deployment of solar or energy efficiency projects. Indirect jobs include employment in upstream industries that supply and support solar and energy efficiency investments such as manufacturing of materials and equipment and financial and other services jobs needed to complete the clean energy projects.

PEA pairs workforce development with its programs and projects to train the employees needed to fill the increased demand for workers in the solar and residential home repair industries.

- PEA’s management of the **C-PACE** program, **Solarize Philly**, **Built to Last**, facilitation of **City and School District** investments in clean energy:
- Stimulates local investment that creates jobs.
 - Reduces wasteful spending on utilities that is redirected to other critical household needs including food and medicine and into the local economy.
 - Supports the growth of traditional building sector jobs and “green collar” jobs such as solar installers, healthy home evaluation and residential energy auditing.

JOBS CREATED

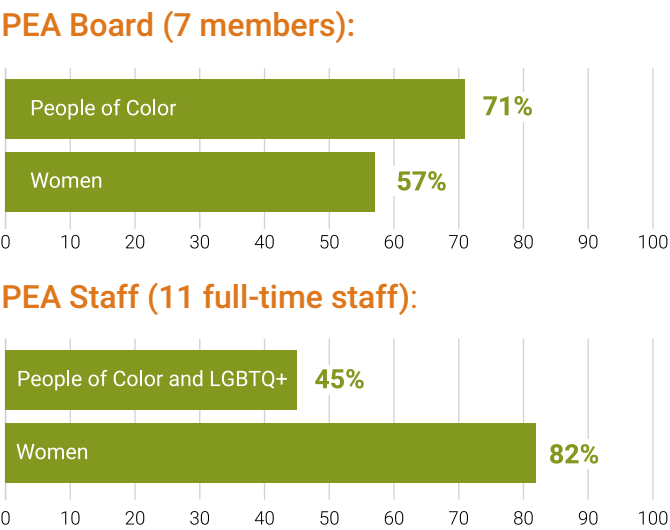
$$\begin{array}{ccccccccc}
 402 & + & 580 & + & 319 & + & 411 & + & 792 & + & 771 & = & 3,275 \\
 2017 & & 2018 & & 2019 & & 2020 & & 2021 & & 2022 & &
 \end{array}$$

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Diversity, equity, inclusion, justice, and accessibility are at the heart of PEA’s work. Without utilizing all of its workforce, talent, ideas and resources, Philadelphia will not thrive. Every community must join the clean energy economy, and the city must be intentional about who has access to opportunity, and who keeps it. PEA frames its DEIJ work both internally and externally in three categories: Hiring and Leadership, Procurement and Program Design and Execution.

Hiring and Leadership

This category includes PEA’s staff and board, and as a proxy for diversity, PEA uses the metric of percentage of people identifying as women, people of color and members of the LGBTQ+ community. PEA has increased hiring outreach to connect with more diverse candidates to ensure a diverse, qualified candidate pool before closing out interview processes.



PEA also tracks where in the organization there is diversity. PEA’s senior leadership team, which consists of 6 people, comprises 67% women and 33% people of color.

Procurement

PEA leverages its role as a long-term energy contract holder for the City of Philadelphia by obtaining commitments from vendors to exceed minimum requirements for minority-, women-, and disabled person-owned business (M/W/DSBE) participation on City projects. These additional commitments also extend to creating diverse and local workforce opportunities for individuals.

PEA secures these commitments through Economic Opportunity Plans and supplemental agreements that feature higher M/W/DSBE percentage participation, job fairs for local subcontractors and individuals, and educational opportunities for our workforce development cohorts, among others. PEA is committed to ensuring that local, diverse companies and individuals are connected with the opportunities that municipal clean energy projects create and provides additional oversight on projects to ensure that these additional commitments are met. We continue to work to develop ways to encourage M/W/DSBE participation as prime respondents and joint ventures that facilitate diverse participation.

In PEA’s own internal contractor network, 12.67% of annual spend goes to M/W/DSBEs for varied and comprehensive services. Another significant portion goes to non-profit organizations. In future years, PEA will also track Local Business Enterprises, those which are located in Philadelphia.

Program Design and Execution

PEA’s Built to Last program has matured into a model for how to restore and preserve low-income, owner-occupied homes both in Philadelphia and throughout the nation. Built to Last leverages existing assistance programs to remove the barriers for the low-income community to access services from holistic repair and energy upgrades to other vital services like in-home healthcare. In 2022, Built to Last accelerated program operations to work with over 50 households in completing holistic home repairs and energy upgrades. Program participants report feeling safer in their homes and being more secure in their ability to stay in them.

2022 was the first full year that PEA’s Solarize Philly program offered homeowners the option of going solar through a lease with no upfront cost and no minimum credit score. This lease option significantly removes barriers for low- to moderate-income residents—and all Philadelphians—who might not have access to upfront capital or who have credit concerns.

In its programmatic work, PEA integrates workforce development as an essential component of each initiative to create a well-trained, diverse workforce that is ready to meet local demand for jobs created by PEA’s programs.

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PEA supports Philadelphia city government to meet its goals of reducing greenhouse gas emissions from the City’s built environment by 50% and generating or purchasing 100% of its electricity from renewable sources by 2030. PEA provides long-term contracting, energy-related procurement, project development and management, technical assistance, and workforce development services. In conjunction with the City’s Office of Sustainability and other city government partners, PEA helps drive forward energy projects that produce equitable and measurable outcomes

JUMP TO:

[Philly Streetlight Improvement Project Kicks Off](#)

[Adams Solar Project Breaks Ground](#)

[Solar Procurement at Northeast Philadelphia Airport](#)

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Municipal

Better visibility

Faster lighting
replacement times

Improved public
safety

9% reduction in
Philadelphia's
carbon emissions

Philly Streetlight Improvement Project Kicks Off

Following approval by Philadelphia City Council, the [Philly Streetlight Improvement Project](#) (PSIP) kicked off in July 2022. The project will replace 120,000+ high-pressure sodium streetlights with long-lasting, energy efficient LED lights. It will connect new and existing LED streetlights to a remotely-controlled lighting management system, providing residents with better visibility, improved public safety and faster lighting replacement times. PSIP is projected to reduce municipal carbon emissions by at least 9% – greater than any other municipal energy efficiency project – and is expected to pay for itself through savings in about 10 years.

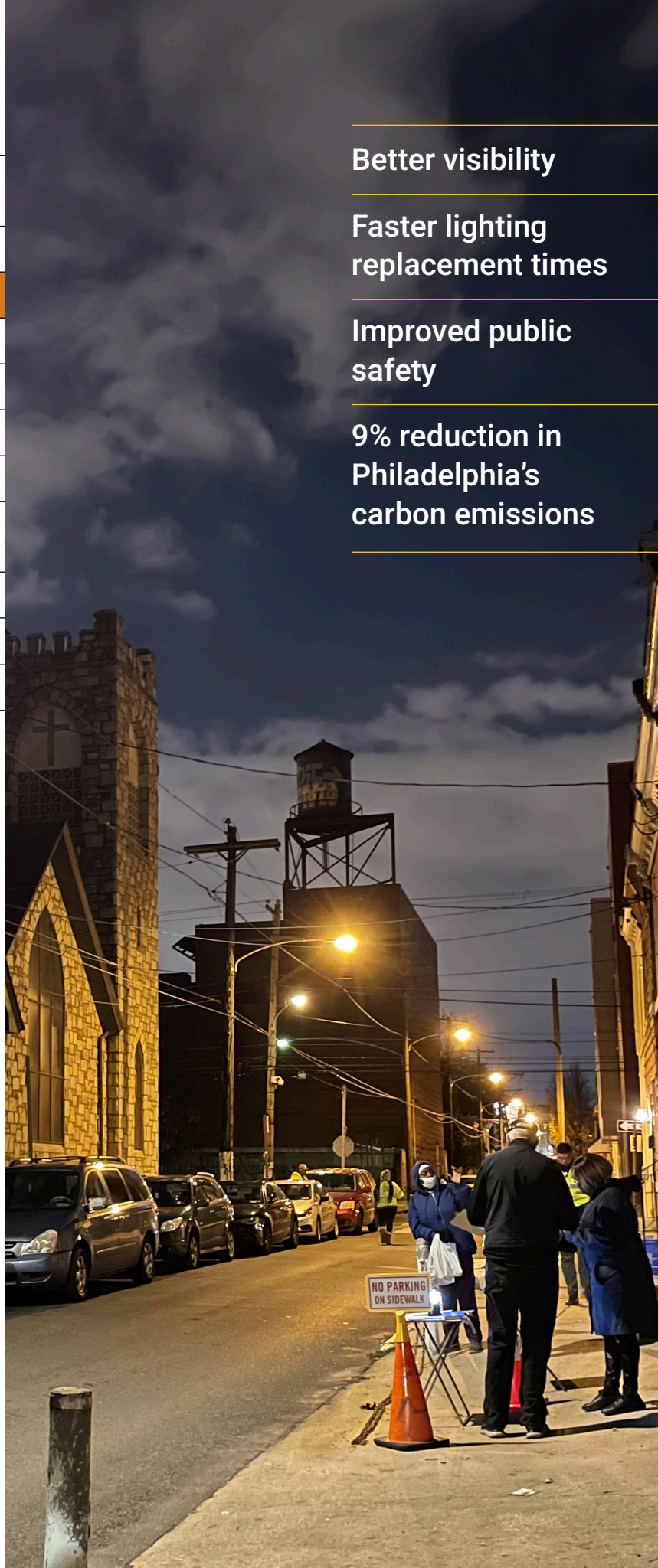
In 2022, PEA finalized the contract with the selected vendor, Ameresco, which included the addition of a supplemental workforce development agreement to help support local hiring and job training on the project. City Council approved the contract in June 2022, and with the leadership of the Office of Sustainability and the Streets Department, the investment-grade audit and final project design and development began.

The project team completed 15 LED streetlight trial installations on ten residential blocks and five driveways throughout the city.

Residents provided feedback online or during live tabling sessions on color temperature, brightness and other features of modern LED streetlights. The project team selected the in-person trial locations based on nighttime crime and crash data, prioritizing neighborhoods where clearer, more reliable streetlighting could make the biggest impact.

In addition to the trial installations, members of the project team presented on PSIP to community meetings in every City Council District. PEA participated in these presentations to answer project-specific questions. Stakeholder engagement will continue throughout the duration of the project.

Ameresco hired 20 Philadelphians to conduct a citywide field audit of lighting, and an additional four to six local individuals will be hired to assist with on-site fixture assembly. The project is on track for 58% Minority, Women, Disabled Owned Business (M/W/DSBE) participation and 58% Local Business Enterprise (LBE) participation. Citywide implementation is slated to begin spring 2023, and PEA will issue the bond for the project in partnership with the City Treasurer's Office.



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Adams Solar Project Breaks Ground

The Philadelphia Energy Authority and Energix Renewables signed an updated Power Purchase Agreement (PPA), enabling the City of Philadelphia to move forward with plans to purchase energy generated by the Adams Solar project in a major step towards its 2030 goal of powering 100% of the City’s electricity needs through purchased or generated renewable energy. The Adams Solar project will provide at least 22% of the City’s municipal energy needs.

Energix Renewables, a renewable energy project developer and long-term owner, took over the development, construction, and ownership of the Adams Solar project. The project, located in Adams County, Pennsylvania, is expected to become operational by the end of 2023 and will provide 70 megawatts (MW) of clean energy to the City of Philadelphia. The project broke ground in December 2022.

Beyond the supply of clean energy, the Power Purchase Agreement for the project is governed by an Economic Opportunity Plan (EOP), which requires the developer to make Best and Good Faith Efforts to contract with at least 40% minority-, women-, and disabled person-owned business (M/W/DSBE). This is the first time the Office of Economic Opportunity has created an EOP for a project outside of Philadelphia, and PEA expects to learn more about how to design and implement diversity in its energy procurement. Energix is also committed to providing valuable on-site educational and workforce training opportunities for [Bright Solar Futures](#) trainees.

The Adams Solar project will provide at least 22% of the City’s municipal energy needs.



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Solar Procurement at Northeast Philadelphia Airport

To meet the City’s goal of 100% renewable electricity by 2030, the Division of Aviation and PEA released an RFP for an on-site solar project at Northeast Philadelphia Airport (PNE) in 2021. In June 2022, Philadelphia City Council authorized a 1.5MW on-site solar power purchase agreement (PPA) at PNE. The array will serve all of PNE’s electricity needs and will be the City’s first on-site solar project using a public-private partnership model.

PEA worked closely with the City’s Division of Aviation Law Department and Office of Sustainability to select and procure the developer for the project. The selected developer will utilize diverse subcontractors for at least 41% of the construction work. PEA will be the long-term contract holder of the PPA.

The project is designed to be budget neutral and to mitigate future electricity price increases for at least 20 to 25 years while providing clean, renewable energy to PNE and helping the City meet its climate goals.

In addition, this project will provide educational and internship opportunities for students in PEA’s Bright Solar Futures solar training program to gain on-the-job experience on a renewable energy project in Philadelphia.

The City has begun discussions with PECO to provide any necessary upgrades to existing power infrastructure for interconnection.

Photo courtesy of Northeast Philadelphia Airport



Other Municipal Projects

In 2022, the City of Philadelphia’s Municipal Energy Office funded LED lighting upgrades in several buildings, including fire stations and Streets Department facilities. The LED fixtures allow for improved lighting conditions for employees and provide more than \$35,000 annual energy cost savings. Additionally, a building automation system upgrade project completed at the City’s Health Centers improved HVAC controls for these critical healthcare facilities, supporting better building operations and comfort for staff and patients alike.

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Schools



In 2022, the School District of Philadelphia (SDP) continued to move forward with construction of its existing GESA projects, using energy savings as a discount to implement critical capital projects. SDP completed construction on GESA-1, Phases 2 and 3, and began the scope approval process on GESA-1, Phase 4 with Johnson Controls. They continued construction on GESA-2 with The Efficiency Network (TEN), and they completed procurement for GESA-3 – up to 10 schools utilizing federal ARPA dollars that was awarded to Noresco. That brings the District’s total to 24 schools completed or under construction, serving over 15,000 students.

JUMP TO:

Federal Funding Boosts Energy Efficiency at Philly Schools

Federal Funding Boosts Energy Efficiency at Philly Schools

The School District of Philadelphia received \$1.1 billion in ARPA Federal Funding to address the impacts of the Covid-19 pandemic. Some of this funding was deployed towards safely reopening and sustaining in-person learning, but given the tight timeline to use the funding, SDP elected to use the existing Guaranteed Energy Savings Act (GESA) framework to spend the remaining money by procuring and delivering energy efficiency upgrades quickly.

In February 2022, SDP released a GESA Request for Proposals to complete roughly \$125 million in energy efficiency projects at up to ten schools to improve indoor air quality and comfort. This investment doubles the \$124 million already committed to date to GESA projects throughout the School District and brings the total investment to \$248.5 million in 24 schools serving 15,670 students.

PEA participated in the vendor selection process as a non-voting proposal reviewer. The review committee selected Noresco as the contractor, and the Board of Education approved the selection in May. Construction will be completed by September 2024.



Workforce Development

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PEA's workforce development model pairs training initiatives with existing PEA programs that build the market demand for these newly-skilled workers. This holistic approach, underpinned by a focus on equity, is a national leader. In 2022, PEA expanded its successful Bright Solar Futures (BSF) program by offering a summer program for high school students and releasing BSF curriculum resources to schools that wish to replicate the program nationally. Additionally, PEA's green retrofit training program entered its second year with the addition of life and soft skills training offered to participants to ensure success in the workforce.

JUMP TO:

[Solar Training Program
Expands Its Reach](#)[Green Retrofit Training
Program Enters Second Year](#)

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“The Bright Solar Futures program has not only invigorated my passion for the renewable energy sector, but the technical skills I’ve learned from the program have allowed me to be introduced to a new promising career path. I know the experience and exposure I’ve gained will definitely help to open doors for me in the sector over the long-term.”

—Isaiah Smith, BSF program participant

Solar Training Program Expands Its Reach

Bright Solar Futures (BSF), the first-of-its-kind solar training program that launched in 2020 as a career and technical education (CTE) program at Frankford High School (FHS) and as an out-of-school program in partnership with PowerCorpsPHL, expanded in 2022 with the addition of a summer solar program at FHS. The summer program serves as a recruitment tool for incoming students as well as a retention aid for existing students. 88% of students who participated in the 2022 summer program enrolled in the 10th grade program at FHS in the fall. The 2022-2023 academic year saw 27 new and returning students enrolled in the 3-year BSF program.

To support the expansion, Sol Systems provided a \$50,000 grant to Bright Solar Futures for wrap-around services and summer programming at FHS. PECO also provided \$100,000 for the 2022-2023 school year and has committed to \$100,000 per year for the next four years to support BSF at FHS.

Along with laying the groundwork for BSF and continuing to support and grow the program, PEA worked with the Philadelphia Education Fund, Solar States, a Philadelphia-based solar installer, and the Energy Coordinating Agency to develop and oversee the implementation of the BSF curriculum as part of a grant through the Department of Energy’s Solar Energy Technologies Office. In September 2022, PEA held a virtual launch for the 3-year curriculum that attracted attendees from school districts and workforce development programs across the country. Curriculum resources are now available on [PEA’s website](#) for other school districts that want to replicate the program.

In addition to the expansion of the BSF program at Frankford High School, the BSF Opportunity Youth (OppY) program, offered by PEA in partnership with PowerCorpsPHL, launched its third cohort in January 2022 with 13 16- to 26-year-old trainees, who are not in school and are un- or under-employed, enrolled in the 17-week (680 hours/40 hours per week), hands-on solar training program.

Green Retrofit Training Program Enters Second Year

Launched in 2021, PEA’s Green Retrofit Immersive Training (GRIT) program prepares participants for jobs in the field of energy conservation construction. The 18-week program has three core components: a 12-week hybrid training that includes hands-on labs, a 6-week internship rehabilitating affordable housing units, and placement into living wage jobs with contractors performing green home retrofits. Participants receive a weekly stipend of \$500 for active participation in the program.

The Energy Coordinating Agency (ECA) recruited trainees to the 2022 GRIT cohort, which ran from May 9th through September 9th. Of the 20 individuals who entered the program, 16 completed it, and 11 were placed into jobs with an average starting wage of \$17 per hour.

PEA leverages its [Built to Last](#) home restoration program to build market demand for the trained workforce that emerges from this training program.



Photo: Don Pickney, Provisional Vocational Technical Center (PVTC)

Trainees also prepare to attain five industry certifications:

OSHA 10
Health and safety training for construction and other industries

OSHA 40 HAZWOPER
Health and safety training related to hazardous waste operations

EPA Lead RRP
Certification for safe work practices on projects involving lead-based paint

BPI WHASI
Home air sealing and insulation certification

NCCER Level 1
Carpentry, electrical and plumbing certification

In 2022, F.A.V.O.R. became a new program partner to provide participants with life skills and soft skills. To supplement technical training provided by program partners ECA and Friends Rehabilitation Program, F.A.V.O.R. provides one-on-one coaching to support and enhance communication skills, goal setting and attaining, basic technical skills and preparation for the workforce, including interviewing, resume building and professional/ social etiquette.

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Building off the successful launch in 2021 of Built to Last, a program to restore and preserve low-income owner-occupied homes and make them energy-efficient, healthy places to live, PEA was awarded two multi-million dollar federal grants in 2022. This work helps keep Philadelphians in their homes by reducing energy insecurity, stabilizing housing, and improving climate resilience through electrification and solar.

Supporting PEA's goals to provide solar access to all Philadelphians regardless of income, Phases 5 and 6 (the first non-stop multi-year-round) of Solarize Philly added 504 new solar contracts—and 2.87 MW of solar capacity—to Philadelphia's residential totals, with a third of new solar installations at low- to moderate-income households. In 2022, Solarize saw its highest level of interest to date, demonstrating the power of the new no-upfront-cost solar lease option.

JUMP TO:

[Built to Last Accelerates the Pace of Low-Income Home Repairs](#)[Water and Sewer Line Protection Program](#)[Solarize Philly](#)[Solar Week](#)

Photo: Superior Solar Design LLC



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Built to Last Accelerates the Pace of Low-Income Home Repairs

Launched in September 2021, Built to Last is an integrated platform to layer, coordinate and supplement existing home repair programs to restore and preserve low-income owner-occupied homes in Philadelphia. In 2022, Built to Last accelerated program operations to work with 52 households in completing holistic home repairs and energy upgrades. Construction was complete or nearly completed on 34 of the homes, and 38 homes are in the process of having solar installed on them. The remainder of the homes are ready for construction and are expected to be completed in early 2023.

Each homeowner received services from an average of 3.5 existing assistance programs and spent nearly \$50,000 per home across all programs. To date, the program has invested \$1.6 million in home repairs across all partners. Program participants who had unhealthy or unsafe home conditions say that those conditions have been remedied, and all surveyed program participants say that their homes feel safer and easier to stay in.

To grow the program further, PEA was awarded \$2.1 million in federal Congressionally Directed Spending. PEA will begin its next phase of Built to Last, incorporating the experience gained during the pilot, to complete another 100 holistic home repairs in 2023.

The U.S. Department of Energy also awarded PEA a \$2 million Weatherization Assistance Program Enhancement and Innovation grant, which will allow Built to Last to demonstrate the applicability of whole-home repair in conjunction with the Weatherization Assistance Program. Using the grant funding, PEA will establish procedures for incorporating deep energy measures in low-income home repairs. PEA will also develop a methodology for assigning monetary value to the energy, health, and avoided maintenance impacts of holistic home repairs. This grant work will begin in 2023.

Pennsylvania State Senator Nikil Saval (1st District) sponsored groundbreaking legislation titled the [Whole-Home Repairs Act](#), which was modeled on the Built to Last program. Passed into law in 2022, it allocates \$125 million of federal funds to support whole-home repairs and job training across Pennsylvania, including funding for Built to Last.

To learn more about the Built to Last program, [watch this video](#) produced by program partner Carrier.

Photos: Energy Coordinating Agency

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Water and Sewer Line Protection Program

In 2022, nearly 90,000 homes remained enrolled in the Water and Sewer Line Protection Program offered through a public-private partnership between PEA and American Water Resources (AWR). For a cost to homeowners of less than \$10 per month, the program protects Philadelphians from expensive repairs to water and sewer service lines that run underground from their homes to the Philadelphia Water Department (PWD) main line in the street. Homeowners saved over \$12 million in avoided repair costs in 2022, and the program has generated over \$42 million in repair cost savings since its inception in 2018. Customer satisfaction with the program is high (92%), and 22,000 homes enrolled in additional AWR products in 2022.

As part of PEA’s contract, AWR also provides \$100,000 per year for the Help to Others (H2O) Fund, which supports low- to moderate-income (LMI) households that are ineligible for other financial assistance because of complications with their homeownership, such as tangled titles or foreclosure prevention. In 2022, 28 LMI households received help through the H2O program.

M/W/DBE contractors completed 74% of all repair work, and all contractors were LBEs. Repaired water line leaks saved nearly 550 million gallons of water, generating \$200,000 in water delivery and energy cost savings for the Philadelphia Water Department. The energy saved through these repairs is enough to power 28 homes for a year.

Homeowners saved over \$12 million in avoided repair costs in 2022.

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Photo: Solar States

Solarize Philly

Solarize Philly is the nation’s largest rooftop solar program. Launched by PEA in 2017, the program makes the process of installing solar as easy and affordable as possible so that all Philadelphians have access to solar.

To ensure successful outcomes, PEA selects high quality installers and equipment and negotiates discounted pricing for equipment, labor and financing. PEA reviews and approves consumer contracts, provides permitting and interconnection support, installer oversight, and ongoing customer support. The consumer protections PEA provides are integral to the growth of solar in Philadelphia.

In late 2021, PEA expanded Solarize to offer homeowners the option of going solar through a lease with no upfront cost and no minimum credit score. This option, coupled with a return to in-person events, allowed PEA to reach more homeowners and grow solar adoption in Philadelphia.

In 2022, PEA attended fifteen community events to promote the Solarize program, and PEA saw its highest interest to date in Solarize Philly with over 12,000 program sign-ups. Solarize installers added 504 new solar projects representing 2.87 MW of new solar capacity and an investment of \$8.9 million.

Of these new solar projects, 29% identified themselves as low- to moderate-income (LMI). Over 70% (366) of projects moved forward with the lease, demonstrating the power of this option to provide solar access to all Philadelphians regardless of income.

Affordable Housing

By the Numbers	 Sign-ups	 Contracts signed	 Contracts self-identified as LMI	 Leases signed	 Interconnected projects	 MW of signed contracts	 Value of signed contracts
SOLARIZE PHASE 6	13,851	504	147	366	377	2.87	\$8.8M
SOLARIZE TO DATE	26,384	1,491	245	486	1,327	8.01	\$26.1M

Solar Week

With the return to in-person events, Solar Week 2022's hybrid schedule consisted of eight virtual and in-person events that highlighted PEA's residential, commercial and workforce development programs. Events attracted over 350 attendees, including residents, property owners, solar installers and clean energy professionals. WURD Radio hosted a live discussion on solar's role in creating an equitable energy future, reaching many more individuals in the Philadelphia region.

PEA highlighted its continued partnership with PECO through a webinar as part of PECO's Solar Collaborative to bring together solar developers and industry leaders for meaningful conversation about advancing solar in the region. During the webinar, PECO representatives explained best practices regarding the interconnection process and the policy efforts PECO is taking to grow solar across the region.

SOLAR WEEK
AUGUST 2022

Register for SolarizePhilly

DAY	TUESDAY	WEDNESDAY	THURSDAY
5	16	17	18
<p>10-11am Solar Kickoff Press Conference with City Council at City Hall for the Public</p> <p>3-4pm Residential Solar 101: Learn How to Go Solar at Home Webinar For anyone interested in going solar</p>	<p>2-3pm Commercial Solar 101: How Businesses Are Approaching Turnkey Design, Finance, and Build Options Webinar For property owners, small businesses, nonprofits, public schools, and local government</p>	<p>12:30-2:30pm PECO Collaborative - Doing Solar Business in Philadelphia: Interconnection and Permitting Updates Webinar For solar installers and clean energy companies</p>	<p>10-11am Solar: Tackling the Equity Gap Webinar For anyone interested in solar</p>

Join us for the **Youth Art Competition** and inspire Philadelphians to go solar!
Prizes will be awarded to the top entries

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solarize@philaenergy.org

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Commercial Buildings



Solar adoption in the commercial and industrial sectors continues to grow with the support of PEA programs. In 2022, Philadelphia’s C-PACE program reached the milestone of \$100 million in total investment by private lenders in renewable energy, energy efficiency and water conservation projects. The first commercial Solarize Philly projects broke ground, and PEA began to explore a virtual power plant program to spur clean energy and energy efficient investments and reduce household energy burdens.

JUMP TO:

C-PACE Program Expands Eligibility

Virtual Energy: Exploring a Distributed Power Plant Network in Philly

Commercial Solarize Breaks Ground

Photo: Solar States

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C-PACE Program Expands Eligibility

Launched in 2019, the original Commercial Property-Assessed Clean Energy (C-PACE) financing program allowed commercial and industrial property owners to finance energy efficiency, water conservation and renewable energy projects through a property assessment, rather than traditional debt. PEA serves as Program Administrator for this innovative financing tool, which deploys private capital and allows borrowers to save money on utility bills while reducing their carbon footprints.

In July of 2022, the Pennsylvania legislature expanded the C-PACE program to include eligibility for multifamily properties of five or more units. The expansion also added indoor air quality (IAQ) and resiliency as financeable measures under C-PACE. Sponsored by PA State Senator John Yudichak (14th District) and PA State Representative Doyle Heffley (122nd District), this expansion provides additional opportunities to finance critical new and existing building resilience upgrades, help mitigate the spread of airborne contaminants in indoor environments, and create good paying jobs across Pennsylvania.

The Philadelphia C-PACE program implemented the expansion in September. PEA and the Sustainable Energy Fund (SEF), C-PACE Program Administrator for other PA counties, conducted an extensive stakeholder engagement process to create the Program Guidelines to implement expansion. The revised Program Guidelines and all other C-PACE resources can be found [here](#).

Three new C-PACE projects closed in 2022. In February, South 19th Street LP closed on more than \$8 million in C-PACE financing to fund energy efficiency and water conservation measures in the construction of a new Motto by Hilton hotel in Philadelphia’s Rittenhouse neighborhood. In May, Argo Property Group secured \$3 million in C-PACE financing to fund energy and water efficiency for a new construction self-storage facility in East Falls.

“C-PACE filled a hole in our capital stack that would have made completing the project much more difficult. Going through the process we learned we were also benefiting from environmentally smart building methods and technologies and we were pleased there is a program to move more developers into this mindset during the design phase.”

—Jeremy Terr, Argo Property Group



In November, the third project of 2022 to close allowed Philadelphia’s C-PACE program to hit a major milestone. Total investments by private lenders through the C-PACE program reached \$100 million, a true landmark for a program that only became active in late 2019. \$30 million in financing for a new Freezpak Logistics cold storage facility at 2201 E. Allegheny Avenue in the Port Richmond neighborhood of Philadelphia—the largest C-PACE deal to-date in Pennsylvania—raised the total to \$100 million. Nuveen Green Capital is the capital provider, and BG Capital is the developer.

Commercial Solarize Breaks Ground



Photo: Solar States

In 2021, PEA expanded the Solarize Philly program to include large multifamily, retail, commercial and industrial properties. In 2022, PEA and Solarize Philly installers broke ground and completed the first commercial Solarize projects.

Among other projects, Solarize Philly installer Solar States completed a unique project at the Second Baptist Church of Germantown that combines a roof sharing arrangement with virtual net metering to supply solar power to a local homeless services non-profit, Family Promise.

Through a lease arrangement with Second Baptist Church, Family Promise arranged for solar to be installed on the church-owned roof. The electricity produced from Family Promise's solar panels on Second Baptist Church are used to offset electricity usage at two separate but nearby buildings occupied by Family Promise. Through virtual net metering, the solar electricity produced at Second Baptist Church is credited to Family Promises's electric bills.

Looking forward to 2023 and beyond, the Inflation Reduction Act (IRA) will build upon Solarize Philly's successes and be instrumental in accelerating the pace of Philadelphia's commercial solar market. Learn more on the [Solarize Philly website](#).

Virtual Energy: Exploring a Distributed Power Plant Network in Philly



In 2022, PEA started exploring a virtual power plant (VPP) program in Philadelphia. A VPP is a network of distributed energy resources (DERs), like solar panels, battery storage and smart thermostats, that are connected and aggregated in a way that allows them to replace traditional, centralized power plants.

The individual resources are not physically interconnected but are linked under common cloud-based management. PEA's interest in VPPs is to help create a program to speed the adoption of energy efficiency upgrades, energy storage, solar energy, smart appliances, and electric vehicle chargers by residential, commercial and institutional electricity consumers. By networking individual DER owners in a virtual power plant, PEA hopes to create revenues and savings that reduce VPP participants' costs for purchasing distributed energy resources, in turn reducing household energy burdens, lowering facility energy costs and meeting the City's sustainability goals.

VPPs at large enough scale also can reduce the need for the dirtiest power plants to come online during peak load events, multiplying the climate impact.

In late 2022, PEA released a request for information (RFI) for VPP solutions and received 11 responses from VPP providers across the globe. In 2023, PEA and a number of key agencies will review the RFI responses with the goal of developing a request for proposals (RFP) for VPP providers and launching a VPP program in Philadelphia.

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Launched in September 2021 as the non-profit “green bank” affiliate of PEA, the Philadelphia Green Capital Corp. (PGCC) connects projects to capital to drive a robust, equitable, clean energy market in Philadelphia, support PEA, and respond to the local challenges of climate change. PGCC uses proven tools from green banks nationwide to unlock capital for local clean energy projects and programs.

In 2022, PGCC demonstrated its crucial role in scaling two of PEA’s flagship residential programs: Built to Last and Solarize for low- to moderate- income households. PGCC attracted \$2.1 million in investment to support the growth of Built to Last and PGCC’s own capacity to further support and amplify PEA’s current work.

JUMP TO:

Bolstering Built to Last’s Expansion

Supporting Solar Access for Low- to Moderate-Income Philadelphians

Positioning Philadelphia for Clean Energy Investment



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PGCC



Bolstering Built to Last’s Expansion

In 2022, PGCC received two grants totaling \$2.1 million to build capacity within the organization to support PEA’s [Built to Last program](#), which layers, coordinates and supplements existing home repair programs to restore and preserve low-income owner-occupied homes in Philadelphia. The Green Family Foundation provided \$100,000 to PGCC, which allowed the organization to hire a third staff member to support PEA’s Built to Last program.

In further support of Built to Last, PGCC was awarded a \$2 million grant from the U.S. Department of Energy (DOE) to support the program through FY2025. This funding allows PGCC to pay for home repairs and clean energy upgrades (like solar and heat pumps) that are not covered by other Built to Last program partners, and will help scale the program to hundreds of homes in Philadelphia.

Supporting Solar Access for Low- to Moderate-Income Philadelphians

PGCC supports PEA’s low- and moderate-income (LMI) solar programs through its Solar Renewable Energy Credits (SRECs) Revolving Fund, which grew significantly in 2022 from 50 to nearly 250 homes. PGCC’s work on low-income solar is designed to be capital efficient while ensuring equitable access to the clean energy future.

To expand LMI solar access in the Solarize Philly program, PGCC makes special SREC purchase arrangements with installers who provide low-cost solar leases for low- and moderate-income homeowners. PEA and PGCC aim to help 400 LMI homes go solar using the SREC Revolving Fund to support Solarize and Built to Last in the next three years.

Positioning Philadelphia for Clean Energy Investment

The passage of the Inflation Reduction Act (IRA) in 2022 marks the most significant climate spending bill of this generation. The IRA includes a \$20 billion green finance program, through which nonprofit entities will support state and local clean energy finance organizations like PGCC. The funding will also leverage public and private capital to fill gaps in access to green finance that have long persisted to ensure that all communities—particularly the most underserved and marginalized communities—can benefit from the transition to a low-carbon economy. PGCC has been actively engaged in the American Green Bank Consortium regarding the structure, purpose, and partnership opportunities of the national green bank.

PGCC is an affiliate of PEA and the green bank of the Philadelphia region. It launched in September 2021 to scale and amplify the work of PEA and build a robust clean energy economy in the broader region. PGCC coordinates closely with PEA on the Built to Last and Solarize programs and is keenly focused on securing funding from the Inflation Reduction Act for the Philadelphia area.

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Policy



2022 was a transformative year for clean energy policy. It marked major legislative victories at the federal, state, and local levels that expanded the scope and scale of PEA programs and projects and provided critical funding to ensure that equity is at the forefront of Philadelphia's clean energy transition.

JUMP TO:

[Inflation Reduction Act](#)

[C-PACE Expansion](#)

[Solar Canopy Legislative Fix](#)

[Whole Home Repairs](#)

Photo: Joel Zar (Pexels)

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Inflation Reduction Act

The Inflation Reduction Act (IRA) is a once-in-a-generation \$369 billion Federal investment in equity-focused climate solutions. Philadelphia is well-positioned to receive funds as a leader in building an equitable clean energy economy.

Since its passage in August 2022, PEA and the Office of Sustainability have been jointly working on a strategy to bring \$5 billion in IRA funding to Philadelphia to support new and existing programs and projects and create 50,000 jobs.

BILL HIGHLIGHTS:

Greenhouse Gas Reduction Fund

\$27B

for direct and indirect investment in projects to reduce greenhouse gas emissions via green banks and governments.

Energy Efficiency Home Improvement Credit

\$12.5B

to cover 30% of the cost of electric equipment and appliances and related efficiency and electrical upgrades. Costs are inclusive of equipment and upgrades.

Residential Clean Energy Credit

\$12.5B

to restore an existing credit, allowing households installing solar to deduct 30% of the cost of the project from their taxes. The credit is guaranteed for 10 years and has expanded to include residential battery storage systems.

Electrification Rebate Program

\$4.5B

for individuals and households for electric equipment and appliances and related efficiency electrical upgrades.

Home Owner Managing Energy Savings (HOMES)

\$4.3B

for performance-based energy efficiency upgrades in single and multifamily homes.

Workforce training for contractors

\$200M

to states involved in the installation of home energy efficiency and electrification improvements.

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C-PACE Expansion

In the program's first two years, C-PACE brought \$72 million of private capital to the Commonwealth to make its buildings more efficient, more comfortable, and less expensive to operate. Given the success of the C-PACE program to date, PEA and many other organizations supported legislation to expand C-PACE-eligible projects in Pennsylvania. The bill (SB 635) passed in July 2022.

The bill expanded eligibility for C-PACE funding to include multifamily commercial buildings of 5+ units, indoor air quality improvements (such as COVID-19 mitigation), and resiliency improvements.

Solar Canopy Legislative Fix

When an update to the Philadelphia Code unintentionally modified the original intent of the solar canopy bill, resulting in permit application rejections, PEA worked swiftly with the Philadelphia City Planning Commission and the Department of Licenses and Inspections to pass a technical fix (Bill No. 220418) to ensure permit applications were no longer rejected.



Photo: Jared Piper

Whole Home Repairs

Modeled off of Built to Last, the Whole-Home Repairs Act builds on existing programs to create a one-stop shop for home repairs and weatherization to ensure that people can stay safely housed in homes they can afford long-term.

Passed in July 2022, the Whole-Home Repairs Act (SB1135) created a fund to fill three main gaps: funding for home repairs, coordination and technical assistance, and workforce development.

↑ PEA Director of Residential Programs Alon Abramson speaks at a press event introducing the Whole Home Repairs Act

The legislature seeded the fund with \$125 million dollars to be distributed to counties through a competitive grant process administered by the PA Department of Community and Economic Development (DCED). The application opened in November 2022, and PEA is working with Philadelphia's lead applicant and Built to Last partner, Philadelphia Housing Development Corporation, to prepare a submission.

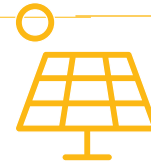
“Holistic improvements not only preserve low-income housing but make homes healthy, safe, comfortable, affordable, and climate resilient.”

—Alon Abramson, Director of Residential Programs, Philadelphia Energy Authority

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Ways you can take action to support our work



Consider solar for your own home or business!

Visit <https://solarizephilly.org/>



Make a donation to support solar energy training at the School District or any of our other programs.



Know of a neighborhood association, commercial corridor, or a large company whose employees might be interested in any of our programs?

Invite us to present at a meeting or host a Lunch and Learn!

Email info@philaenergy.org or call us at 215-686-4483 to set it up.



Attend an upcoming event and meet like-minded Philadelphians.

See the full calendar at <https://philaenergy.org/events/>



Become a mentor or host an intern!

Email info@philaenergy.org to express interest.



Finance energy efficiency and clean energy projects for your commercial property with Philadelphia C-PACE.

Visit <https://philadelphiacpace.org/>



Find a Philly energy job on our job board.

Visit <https://philaenergy.org/job-board/>

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