



PHILADELPHIA
ENERGY AUTHORITY

Philadelphia Energy Campaign: *Scaling Up to Reduce Poverty, Create Jobs and Fight Climate Change*

October 27, 2016

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Agenda

- Campaign Overview
 - Goals
 - Program
 - Process
- Key Components
 - Job Creation
 - Stakeholder Engagement
- Progress to Date
- Ways to Participate
- Pay for Success/Social Impact Bonds (BlocPower)



Youthbuild Charter School, Solar Installation Training Program

Campaign Overview - Goals

- Launched February 2016
- **\$1 billion investment over 10 years**, leveraging public and private dollars
- Will create **10,000 jobs**
- Reduce expenses and preserve housing for **25,000 households**
- Cut utility costs and improve business stability for **2,500 small businesses**
- **Adapting models that work** locally, globally and across sectors to applications and scale that have **real impact**
- Key Concept: **Scaling Up**



Why this is important

1. Poverty Reduction
 - a. CNT Report: 25% reduction possible in Philadelphia via household expense reduction + job creation (<http://www.cnt.org/urban-opportunity-agenda> - see ppt at bottom of page with specific Philadelphia detail)
 - b. Preserving affordable housing stock
2. Neighborhood-Driven Economic Development
 - a. Driving local and diversity hiring
 - b. Food Trust Corner Stores project: higher utilities than rent
3. Bringing in Outside Investor Groups
 - a. Energy lenders and Climate Change investors nationwide, looking for projects to move the needle on carbon reduction
 - b. Pay for Success & Social Impact Bonds
4. Healthy Buildings, Cost Reduction for City and Schools
5. Helping us meet our City sustainability goals

Campaign Overview - Program

- Targeting 4 sectors
- Key Criteria:
 - The sector has a need (i.e. energy can be used as a vehicle to solve larger problems)
 - The sector has not yet been able to scale up (e.g. municipal buildings)
 - The sector is not currently reached comprehensively or effectively by existing programs (e.g. very small businesses and low & moderate income households)
 - PEA can provide unique value/bring something new
- All target numbers* were developed using real data from Philadelphia-specific programs and buildings



*Job creation estimates utilized a generic national framework developed by the American Council for an Energy-Efficient Economy (ACEEE), checked against 2011 PA-specific data. Currently in progress to update labor numbers to reflect actual 2015 Philadelphia conditions.

Campaign Overview – Process

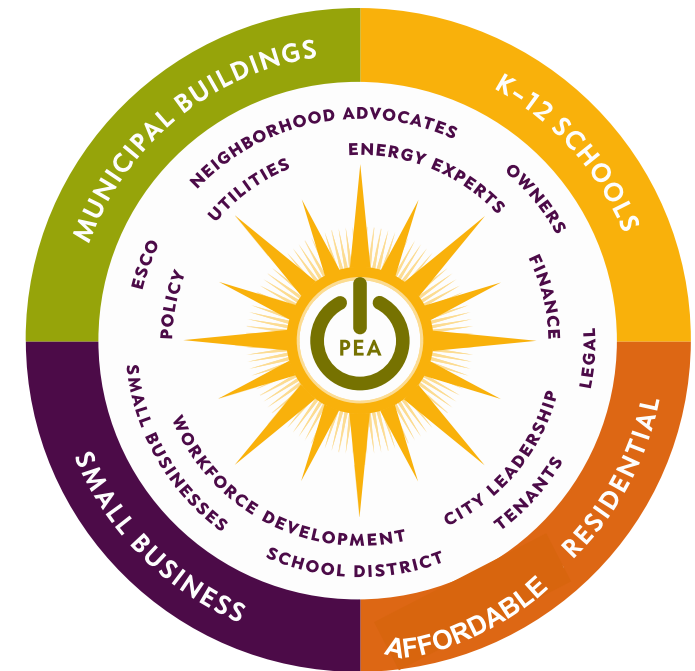
1. Completed initial 6-month planning period

- Networked over 200 local and national stakeholders to engage in the process
- Developed key partnerships for initial pilots including utilities, lenders (including those new-to-Philly investors), energy services companies, property owners, city programs, corporations and non-profits

2. Pilot Development, Modeling, Testing

- 3 programs in motion (will scale up to half of total job creation over the next 5 years) + others in development
 - **Multi-family & small business pilots** up and running
 - PHA program in audit phase, contracted with JCI
 - School District of Philadelphia evaluating solar and efficiency options for Spring 2017 start
 - City Council Housing Preservation Initiative (\$100M bond)
 - Administration energy projects (rec centers, libraries, police & fire stations, Art Museum and more)

3. Scale up pilots in each sector (through 2026)



Key Components - Job Creation



- Increase local and DBE participation across all programs (working with American Association of Blacks in Energy (AABE), Commerce, ECA, OIC, SEPTA, a variety of ESCOs, consultants and others)
- Philly-specific **job creation tracking methodology** in development
 - Awarded to ACEEE, utilizing a Philadelphia-specific data set (which we will share with other programs as desired)
- **Key training opportunities:**
 - SDP solar installer training program in development (will work with CTE at SDP, Clean Air Council, Solar States, Penn State, ECA and many more)
 - OIC/ECA/Commerce training partnership (building automation system control techs)
 - PHA project – increased local subcontractor engagement, ECA partnership

Key Component - Stakeholder Engagement

- Releasing **Campaign Roadmap & Update** in November 2016 (with feedback from 20+ key reviewers)
- Providing strategic briefings, outreach and talks to key policy, non-profit and business leaders to **develop support and relationships** needed to drive innovation in each sector
- Bringing in **outside investors and energy lenders** (including more than a dozen interested parties in a variety of sectors, some new to Philadelphia)
- Upcoming PEA event (11/30): **“Bridging the Gap between Public Health, Energy Efficiency and Poverty”** at PECO with MGMT 100 students, co-sponsored by Wharton’s Initiative for Global Environmental Leadership (RSVP [here](#), seats are limited)



Council President Clarke and Councilman Al Taubenberger recently visited Metropolis Farms, an innovative new vertical farming operation and Philadelphia’s largest solar installation (worked with students at The Workshop School in West Philly).

Progress to Date

October 2016



ECA Training Center, David Dennis, Lead Trainer

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MUNICIPAL BUILDINGS



- Supporting leadership of Philadelphia Office of Sustainability and Energy Office to move **City projects** forward
 - Energy Master Plan
 - Rebuild Philadelphia (rec centers & libraries)
 - Philadelphia Museum of Art RFQ (expected November 2016)
 - Renewables RFI soon to be released focused on scaled up solar implementation city-wide
- PEA supporting effort to update streetlighting citywide to LEDs
 - Developing business case on financial and social benefits
 - Includes **increased commercial corridor revenue, crime reduction, improved sense of safety, litter reduction**
 - Supporting Energy & Streets departments on technical, financial, case studies and utility issues

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K-12 SCHOOLS



- **Can include deferred maintenance**
 - Some maintenance/capital projects can be bundled into energy financing projects
- **Solar Pilot (targeting Spring 2017)**
 - Developed Solar Schools Lessons Learned + Analysis report for SDP, delivered 8/16
 - Evaluated 18 schools for feasibility, put together complete financial analysis with support from 8 solar providers, evaluating subsidized SRECs and new state funding
 - Targeting pilot at 3 schools, not yet selected (500 kW and above, next step is roof analysis)
- **Energy efficiency pilot (targeting Spring 2017)**
 - Providing technical assistance and support as internal staff put program parameters together for approval by COO, Superintendent and School Reform Commission
 - Seeking ways to combine the two pilots into one

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AFFORDABLE / LMI
RESIDENTIAL



- **Multi-Family Pilot**

- Completed meetings with all partners, designing audit process now in partnership with PECO, collected data, audit begins end of 2016.
- Identified 3 buildings (2 in Northeast, 1 in West), 110 total units, that model conditions we're looking for
- Partners include Mission First Housing Group, BlocPower (NY), PECO, CMC Energy Services, PGW and others

- **PHA Energy project (targeting 20,000 units citywide) in audit phase**

- Site surveys through Sept 2016, engineering through Dec 2016, finalizing ECMs with PHA through June 2017, implementation expected to begin July 2017
- Awarded to JCI, working w/ key stakeholders to support exceeding local and D&I requirements by connecting to local skilled labor pool (e.g. JCI visit to ECA training center)

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SMALL BUSINESS



- **Small Business Pilot**

- Focused on corner stores & restaurants, completed 30 audits so far.
- Penn State is our key partner, received a grant from PA DEP for matching funds
 - Grant includes up to \$9500 towards each retrofit, requires 1 for 1 matching funds (evaluating scalability and other sources of matching funds in future)
 - Students audited 30 stores, in proposal stage now. Targeting 75 qualified assessments and 15 retrofits by June 30, 2017.
 - Recruitment (now led by City Council Fellow) includes Department of Public Health, Commerce Department, Corridor Managers, PACDC, Centennial Parkside CDC, Tacony CDC, New Kensington CDC, Fairmount CDC, North Broad Renaissance, UAC, Sustainable Business Network, municipal and state constituent services and many others
- PEA facilitating matching funds financing program (roughly 1/6 of total project cost)
 - Meeting with a small group of interested orgs and CDFIs in November
- Partnering with PECO and PGW to figure out how to incorporate rebate programs



Ways to Participate

PEA at OIC Philadelphia, Low-Income Residential Working Group

Ways to Participate

1. Connect

- Departments, programs, agencies, organizations, businesses, individuals

2. Advocate

- Home repair = healthy homes = efficient, affordable homes
- Solar = Jobs in Philadelphia
- Wherever you see opportunities

3. Recruit

- Help us reach small businesses

4. Communicate

- Publicize our work
- Attend our events



Councilwoman Blackwell and Stefanie Seldin of Rebuilding Together at their April 2016 Block Build in Mantua

New Financing Models



The energy counselors of Philly's Neighborhood Energy Centers at ECA

Pay for Success and Social Impact Bonds



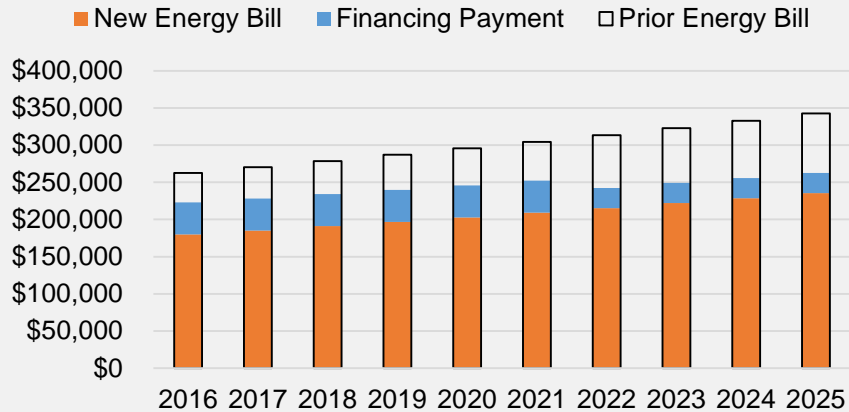
Source: Bank of America & Social Finance

Energy Efficiency Financing

- Deep building retrofits that increase building system efficiency have the potential to **reduce energy consumption by 20 to 60%**
- Investments in capital upgrades and new equipment that improve building efficiency can be **financed and repaid using energy savings**
- Individual buildings that, on their own, would be difficult to underwrite can be **grouped together and financed by private capital**





BlocPower Project Example

Customer Cost Reduction



Environmental Impact

CO2 emissions avoided: 257 tons

Energy Use Reduction		EPA Emissions Reduction	
Electricity (kWh)	259,648	 10.4 cars	
Oil (gallons)	12,061	 18.6 tons of waste	
Oil (MMBTU)	1,665	 40.8 acres of forest	
Natural Gas (therms)	8,533	 116 barrels of oil	
Natural Gas (MMBTU)	853		

Job Creation Impact

Our Lady Queen of Angels audited by Mercedes Hodge, after receiving training from Green City Force. A resident of public housing, she works part-time on BlocPower projects as she pursues her nursing degree at BMCC



Green City Force auditors

Investor Returns

	Loan Term	Interest Rate
Fordham UMC Church	72	5.0%
Fordham Parsonage	60	5.0%
AME Zion	96	5.0%
First Glorious	60	5.0%
St Simon Stock School	60	5.0%
Tremont UMC	60	5.0%
Total	81	5.0%

Contact Us

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*Students visit the solar installation at the Crane Arts Bldg in Kensington
(PC: Solar States/Youthbuild)*