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*Convening Global Experts to Guide Decision Making*

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# Ending Energy Poverty

**May 30th, 2017**

**Clark Miller**
Professor
Arizona State University

**Edward Saltzberg**
Managing Director
Security &
Sustainability Forum

ASU School of Sustainability
Arizona State University

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*Solar Water Heating Is it for You – June 28th*

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# Moderator



**Clark Miller** is a Senior Sustainability Scientist in the Julie Ann Wrigley Global Institute of Sustainability and Associate Professor, School for the Future of Innovation in Society at ASU. As part of the ASU LightWorks leadership team, he coordinates social science, humanities, and policy research on energy transitions, seeking to understand the social dynamics and societal implications of large-scale changes in energy systems.

# Agenda





***Introduction:*** **Clark Miller**

**Presentations:**

- **Joy Clancy, University of Twene**
- **Kartikeya Singh, Center for Strategic and International Studies**
- **Alon Abramson, Philadelphia Energy Authority**

***Discussion: Moderated by Clark Miller***

***Audience Q&A:*** *Use the box in the go to Webinar window*

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# Discussion



**Joy Clancy,** Professor in Development Studies specializing in energy and gender at the University of Twene

**Kartikeya Singh**, Deputy Director of the Wadhwani Chair in U.S.-India Policy Studies at the Center for Strategic and International Studies

**Alon Abramson**, Program Manager at the Philadelphia Energy Authority

UNIVERSITY OF TWENTE.

# ENERGY POVERTY

JOY CLANCY

PROFESSOR, ENERGY AND GENDER

DEPARTMENT OF GOVERNANCE AND TECHNOLOGY FOR SUSTAINABILITY (CSTM), UNIVERSITY OF TWENTE, THE NETHERLANDS

# CONTENT

- Why is energy poverty a problem?
- Ending energy poverty

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# PART 1

## WHY IS ENERGY POVERTY SEEN AS A PROBLEM

# ENERGY POVERTY
## A DEFINITION

- No internationally agreed definition

- An example*:*
  *the level of domestic energy services does not allow for participating in the lifestyles, customs, and activities that define membership of society*

# ENERGY POVERTY
## THE GLOBAL SOUTH

- 1.2 billion people worldwide lack access to electricity
- 2.8 billion people do not have clean and safe cooking facilities

# ENERGY POVERTY

## A GLOBAL ISSUE

- ≈ 1 in 7 households in Europe are close to energy (fuel) poverty
- Differentiated by:
  geography
  historical processes
  gender and age
  - older people more sensitive to heat stress/cold:
  - women more likely than men to live in Energy Poverty
  - older women more likely than younger
  - woman-headed households live in energy inefficient homes

# WHY IS ENERGY POVERTY SEEN AS A PROBLEM?

DEPENDS FROM WHICH PERSPECTIVE YOU LOOK

- Social problem
- Environmental problem
- Economic problem
- Psychological/political problem

# WHO DOESN'T HAVE ACCESS TO MODERN ENERGY?

WHERE YOU LIVE IS IMPORTANT

- Mainly people classified as 'poor' – about 0,5 billion chronically poor
- Live in remote rural areas
  or in urban areas
- Low incomes
- Little political influence
- Often belong to minority social groups (eg women, ethnic groups, migrants, caste)

# HOW DO THEY BECOME POOR?

USUALLY BECAUSE SOME SORT OF DISASTER BEFALLS THEM

- **Drought** and **flooding** (**climate change** may make these events more frequent)
- **Debt**
- Widowhood, desertion, migration, divorce – for **women**
- **Illness** – major cause
- Social **breakdown**

# WHAT ARE THE CAUSES OF ENERGY POVERTY?

GLOBALLY THE CAUSES ARE SIMILAR – 3 PRIMARY CAUSES

- high energy prices
- low income
- energy inefficient homes (building envelop and appliances especially heating/cooling system).

# WHY DO PEOPLE LIVE IN ENERGY POVERTY?

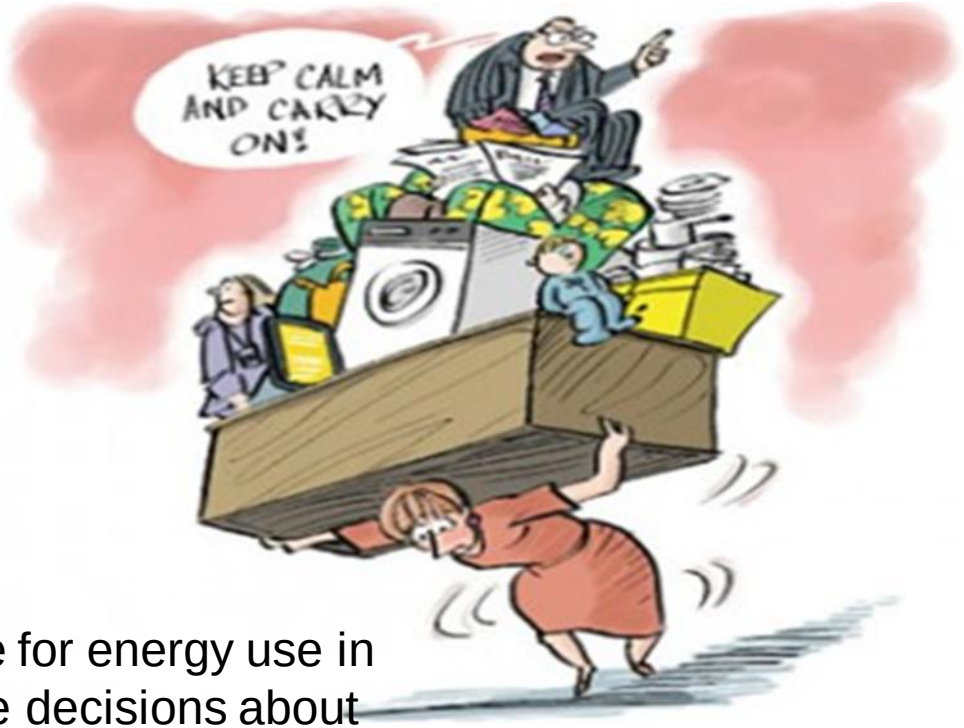
- rural subsistence economy and the cost of energy (electricity and gas)
- weak delivery infrastructure and weak institutional mechanisms; and
- miss energy–gender linkage

# GENDER DIMENSIONS OF ENERGY POVERTY

- Women & men have different roles – different energy demands
- Women are general disadvantaged compared to men from same group:
  - Women have less access to credit etc.
  - Women & men have different knowledge, skills, experiences
  - Women & men experience energy poverty differently – routes out are different

# WOMEN CARRY THE BURDEN FOR HOUSEHOLD ENERGY MANAGEMENT

GLOBAL ISSUE




women are responsible for energy use in household & men make decisions about energy sources

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# PART 2

## ENDING ENERGY POVERTY

# HOW TO END ENERGY POVERTY

## TARGET MEN & WOMEN WITH DIFFERENT MESSAGES

- Improved availability of modern energy
- Increased access through reduced financial poverty
- Improvements to buildings
- Cross-sectoral policies for supporting energy efficiency – including utilities for demand-side approaches (it's win-win)

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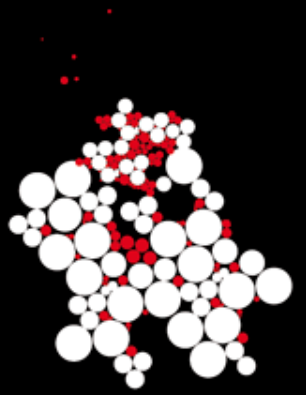
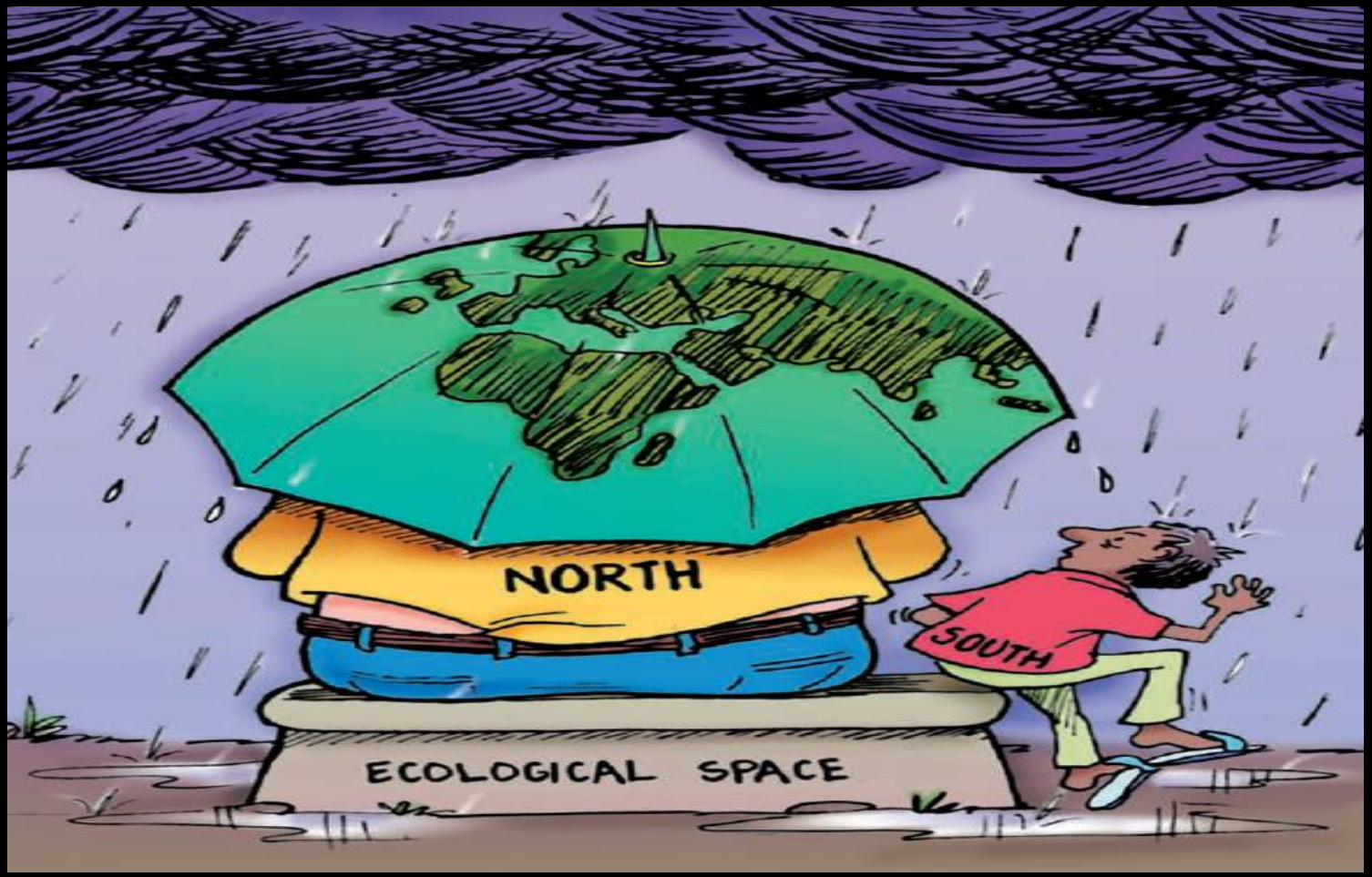


# THANK YOU FOR LISTENING

# Ending Energy Poverty

@KartikeyaSingh, PhD
Deputy Director & Fellow, Wadhwani Chair in U.S. – India Policy Studies, Center for Strategic and International Studies (CSIS)
Security & Sustainability Forum | May 30, 2017

# Energy Poverty & Climate Change



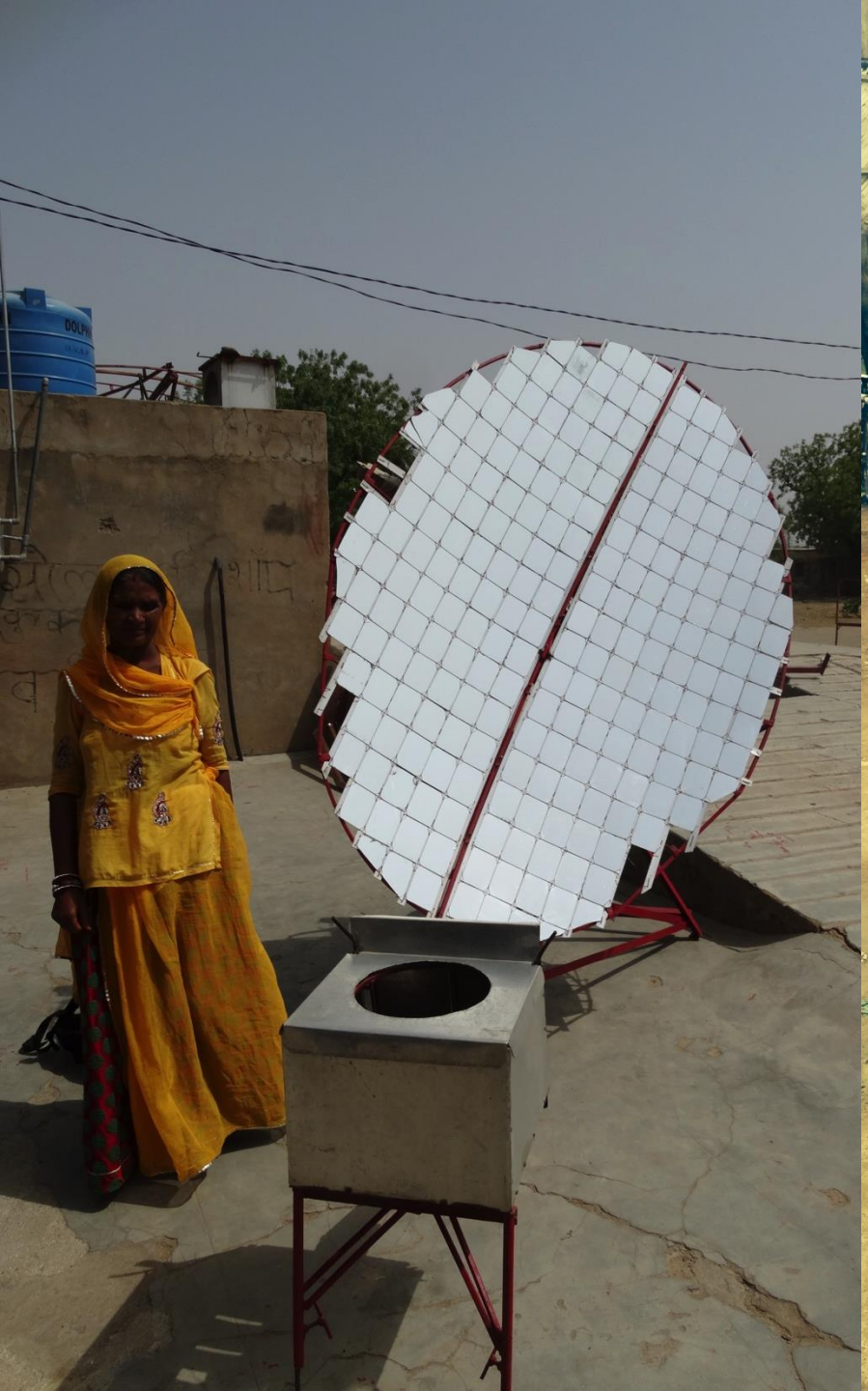
# India's Triple Challenge





Solar home-lighting systems

# Biomass-Based Solutions




পাথর প্রতিমা
P.Ed
M.Ed


Mob. : 9641893852 / 9002775807
মণ্ডল ইলেকট্রিক এণ্ড সোলার এন্টারপ্রাইজ
প্রোঃ- সুশীল মণ্ডল পরিঃ- নিত্যানন্দ মণ্ডল
এখানে হাউস ওয়ারিং, সোলার লাইট কন্ট্রোলার,
ডি.সি. ফ্যান, স্টেবিলাইজার ও ইনভার্টার
যত্ন সহকারে তৈরী ও মেরামত করা হয়।
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NOW OUR CHILDREN CAN STUDY WITHOUT POWER CUTS"
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GENUINE PARTS

# #EnergizeUSIndia: Bilateral Energy Innovation Systems

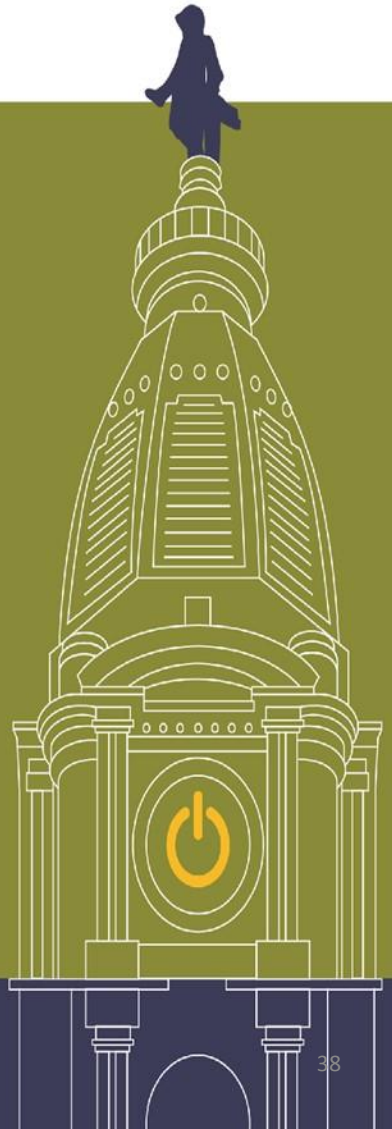
Partnership to Advance Clean Energy – Research (PACE-R)

- $100 million public-private partnership
  - $25 million /government
  - $50 million from industry
- Timeline: 5 years
- Focus: Solar, biofuels, buildings energy efficiency (smart grids and energy storage technologies)
- Shared IP agreement

# Thank You

PHILADELPHIA ENERGY AUTHORITY

# The Philadelphia Energy Campaign: *Driving Job Creation, Housing Preservation & Poverty Reduction*

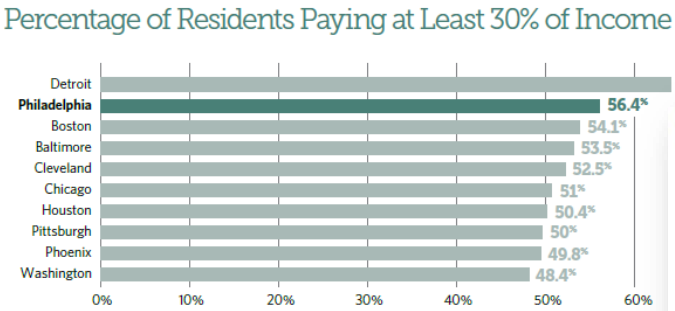


*ASU Ending Energy Poverty Webinar*
*May 30, 2017*

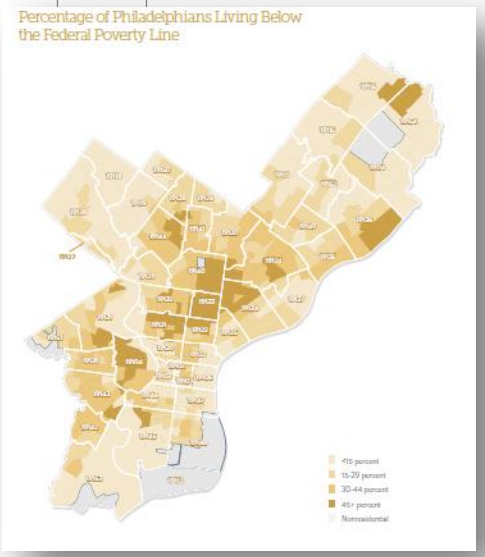
Alon Abramson, *Program Director*
aabramson@philaenergy.org · O: 215-686-4483 · C: 267-324-9948

# Philadelphia: America's Poorest Big City

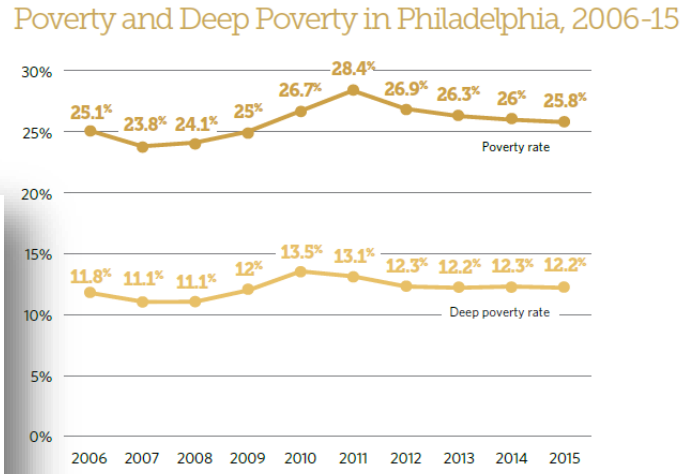
- **Highest poverty rate of 10 largest US cities**







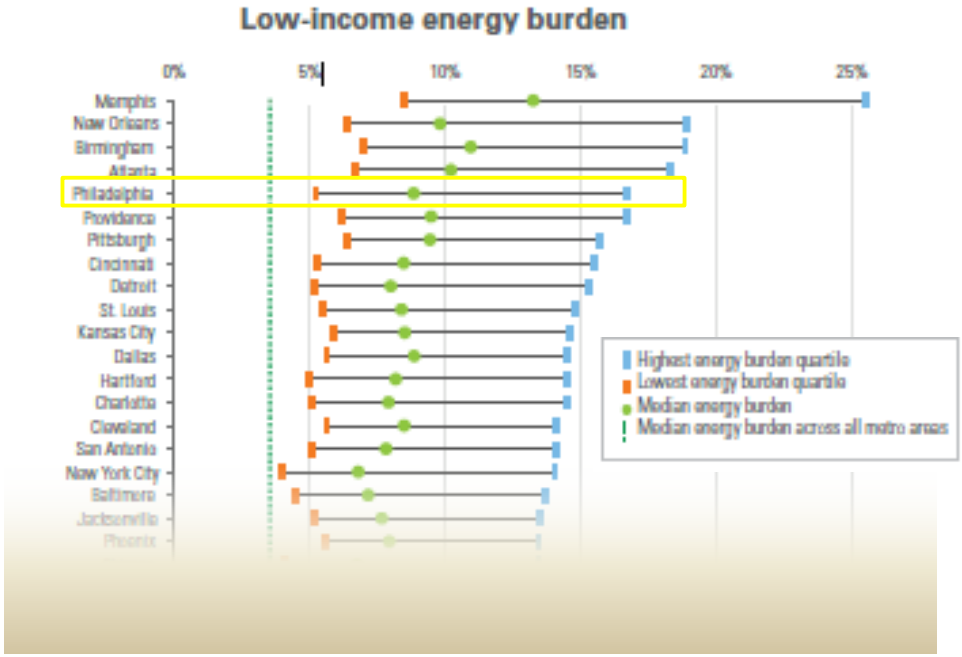






**** In 2016, a family of four was living in poverty if its income was $24,300 or less and in deep poverty at $12,150 or less***

# Urban Poverty ⇔ Energy Burden

- Access to affordable energy is directly impacted by two factors:
  - energy utility prices and household incomes
- Energy burden is highest for low-income households due to:
  - % of spending on energy and poor quality housing stock

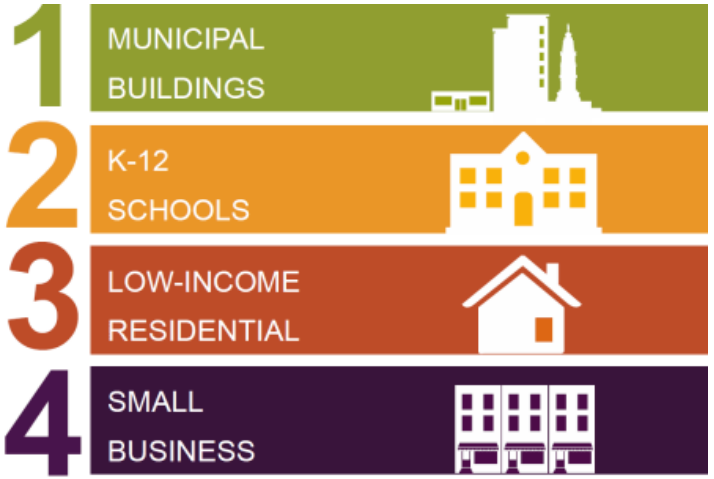


# Energy as a Vehicle

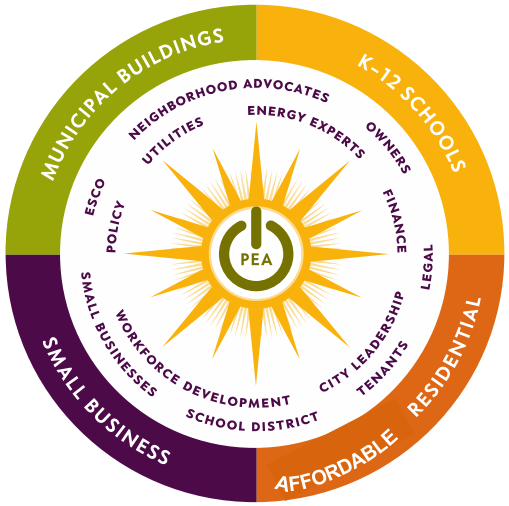

1. Poverty Reduction
   a. CNT Report: 25% reduction possible in Philadelphia expense reduction + job creation opportunity-agenda)
   b. Preserving affordable housing stock
2. Neighborhood-Driven Economic Development
   a. Driving local and diversity hiring
   b. Food Trust Corner Stores project: higher utilities than rent
3. Improving customers' ability to pay
4. Bringing in Outside Investor Groups
   a. Energy lenders and Climate Change investors nationwide, looking for projects to address carbon reduction
5. Healthy Buildings, Cost Reduction for City and Schools
6. Helping us meet our City sustainability goals

# Philadelphia Energy Campaign Overview

- **$1 billion investment over 10 years** in energy efficiency and clean energy projects, leveraging public and private dollars
- Will create **10,000 jobs, r**educe 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**

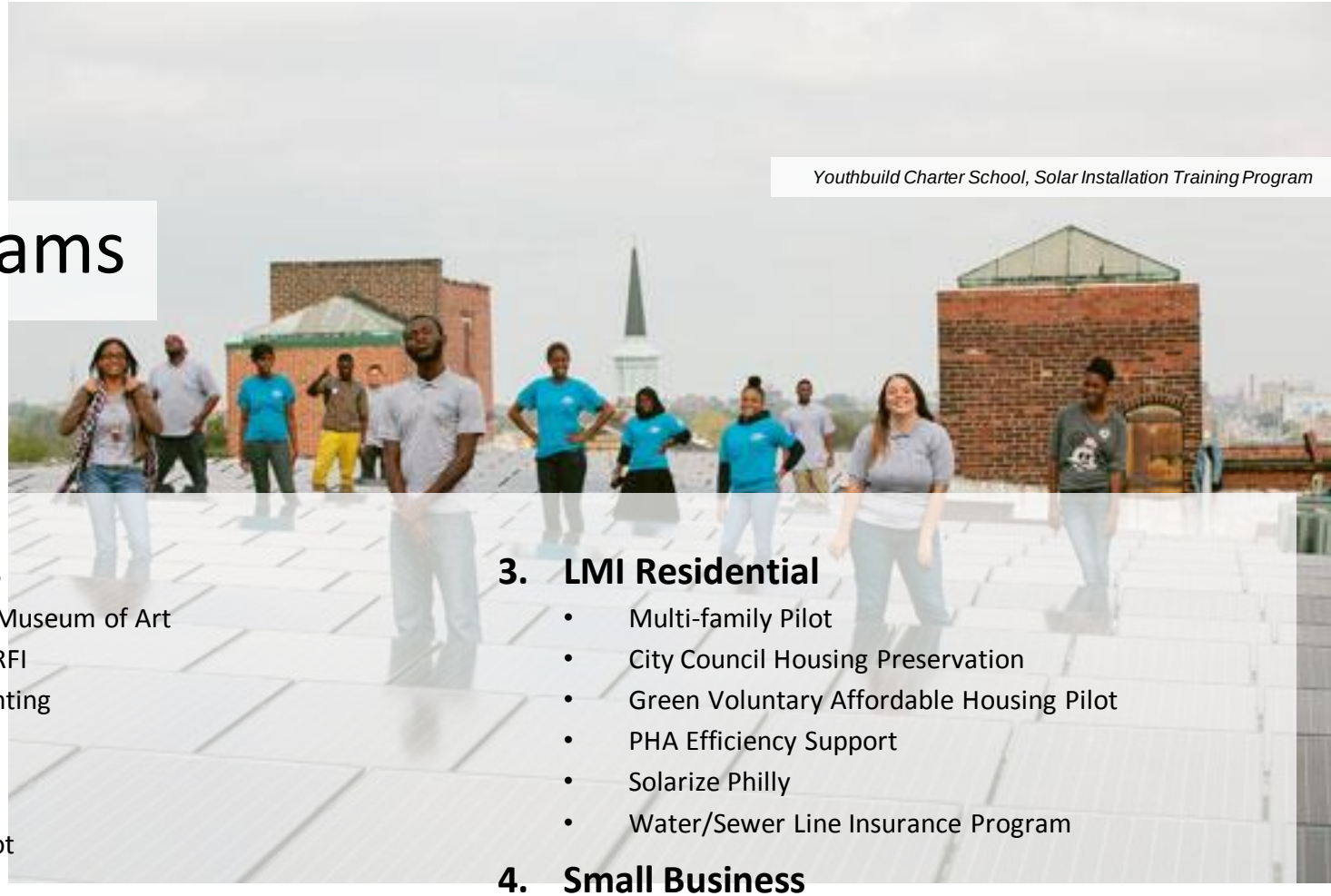


# Campaign Overview – Process




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 (**<u>will scale up to half of total job creation over the next 5 years</u>**) and 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**
     - **Administration** energy projects (rec centers, libraries, police & fire stations, Art Museum and more)
3. **Scale up pilots in each sector (through 2026)**

# Key Programs



*Youthbuild Charter School, Solar Installation Training Program*

1. **City Buildings**
   - Philadelphia Museum of Art
   - Renewables RFI
   - LED Streetlighting
   - Prisons
2. **Schools**
   - Efficiency Pilot
   - Solar Pilot
   - Capital Energy Planning
   - SDP Solar Training (CAC)
3. **LMI Residential**
   - Multi-family Pilot
   - City Council Housing Preservation
   - Green Voluntary Affordable Housing Pilot
   - PHA Efficiency Support
   - Solarize Philly
   - Water/Sewer Line Insurance Program
4. **Small Business**
   - Corner Store Efficiency Pilot (Phase I + Evaluation)
   - Developing next phase and pilot for non-profit

# Thank you!

Alon Abramson
Program Manager
Philadelphia Energy Authority
aabramson@philaenergy.org
215-686-4483

www.philaenergy.org

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# Panelists

School of Sustainability
Arizona State University



**Kartikeya Singh**
KSingh@csis.org

**Joy Clancy**
j.s.clancy@utwente.nl

**Alon Abramson**
aabramson@philaenergy.org

**Clark Miller**
Clark.Miller@asu.edu

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