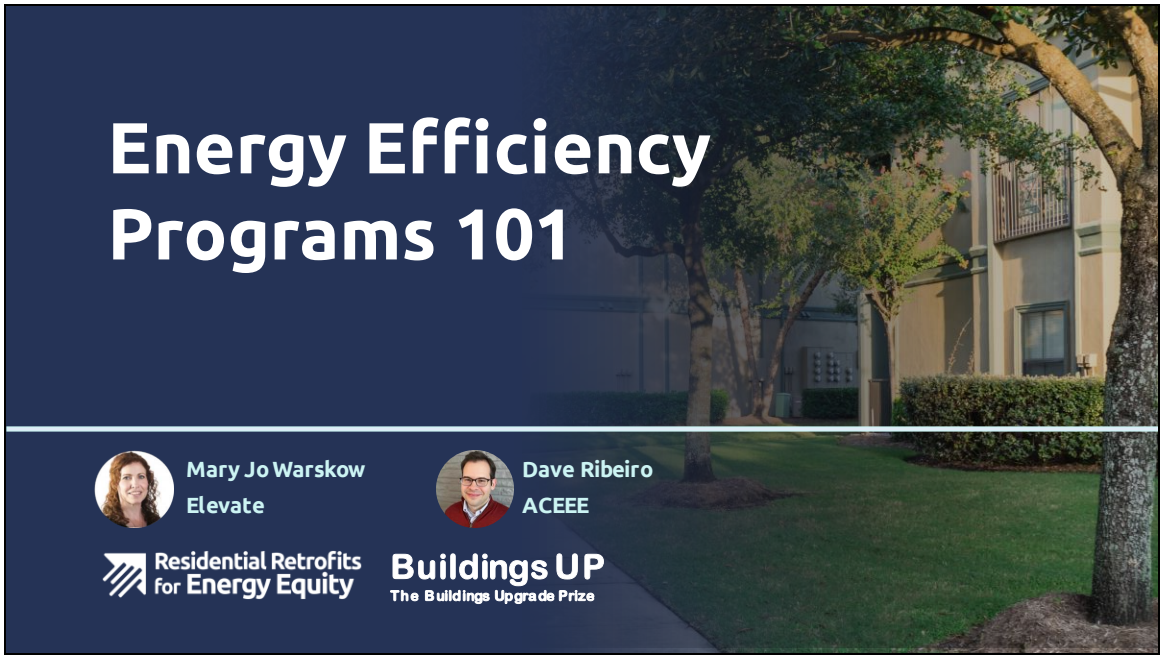
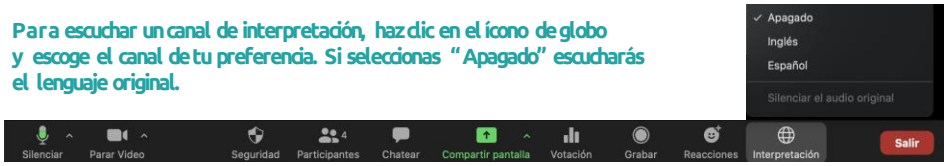


This webinar covers the fundamentals of energy efficiency programs. Attendees learn about the various factors and organizational practices that influence the success of pursuing energy efficiency upgrades in affordable housing and underserved commercial buildings. Speakers present the landscape of programs that teams might consider to advance energy efficiency and clean heating and cooling technologies in their communities, including their benefits and potential negative impacts. Lastly, we take a deep dive into one or two select program models (e.g., one-stop-shops) to understand what it takes to stand up and implement these initiatives.

Interpretation

Para escuchar un canal de interpretación, haz clic en el ícono de globo y escoge el canal de tu preferencia. Si seleccionas "Apagado" escucharás el lenguaje original.



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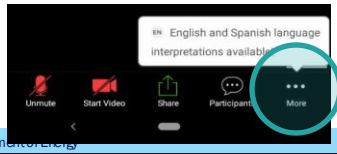
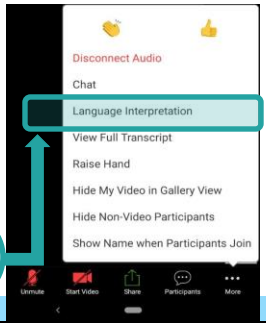
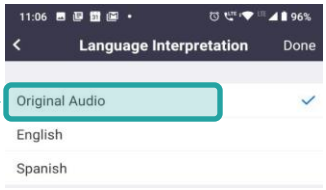






Housekeeping Announcements

- We are recording this webinar and will be making it available to all registrants within a few business days.
- To ask a question during the webinar, please submit it via the Q&A button at the bottom of your screen.
- You can upvote questions in the Q&A box that you would like us to prioritize.
- Use the chat to engage in respectful and productive discussion with other participants.
- Code of conduct: R2E2 will not tolerate behaviors that cause harm or disrupt the learning environment. Please direct message Henry Love if you feel unsafe in this space. Disruptive participants may be removed from the webinar.

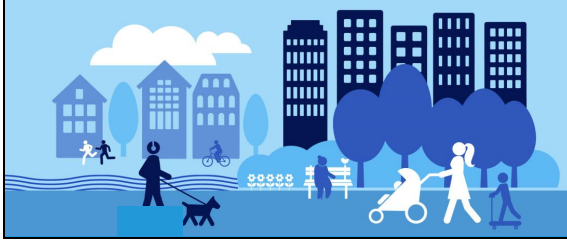
Megan Plog,

U.S. Department of Energy, Building Technologies Office

The Buildings Upgrade Prize (Buildings UP)

Buildings UP is designed to rapidly scale energy efficiency and efficient electrification building upgrades in communities across the country. The prize is envisioned to consist of four phases over approximately five years.

Application support prizes available for new and under-resourced teams.



Phase 1: Concept

- $22M+ in Prizes to Teams + Technical Assistance
- Applications due by July 18, 2023
- Seeking 20–60 teams to join the "coopetition."

www.heroX.com/buildingsUP

Buildings UP | U.S. Department of Energy

Prize Goals

Buildings UP aims to address persistent non-technical barriers to improving building energy efficiency and reducing on-site emissions (e.g., administrative, financial, social, and other barriers).

Buildings UP is a capacity-building prize to support teams with solutions that:

- **Accelerate building upgrades** for efficiency and on-site emissions reductions beyond current best practices in the applicant's identified area of focus
- **Demonstrate scalability and replicability** across building type(s), climate zone(s), and/or, community type(s)
- **Advance holistic and lasting energy efficiency and efficient electrification** initiative development
- **Benefit underserved communities** by ensuring that benefits accrue to equity-eligible buildings*, their occupants, and surrounding communities.

*Equity-eligible buildings include buildings in disadvantaged communities; low- and moderate-income (LMI) households; and underserved commercial, nonprofit, and public buildings.

Phase 1: Pathways & Prizes

Equity-Centered Innovation Pathway

$400,000 in cash prizes for each winning team

- Develop replicable, scalable, innovative building upgrade initiatives **in equity-eligible buildings* (i.e., 80% equity-eligible).**

Open Innovation Pathway

$200,000 in cash prizes for each winning team

- Develop replicable, scalable, innovative building upgrade initiatives. **May include a focus on equity but are not required.**

Access to Technical Assistance is awarded to winning teams in both pathways.

Equity-Eligible Buildings

Geographic Location
(Justice 40 Census Tracts, Tribal Lands, Territories)

Affordable Housing
(Subsidized, Naturally Occurring)

Underserved Commercial
(including Title 1 Schools, Community Services, Non-profits)

Team-Defined

Additional information is in Section 3.5 of the official rules.

Example Projects*

A **rural electric cooperative** partners with a **local CBO** and **the county** to help **LMI single-family home residents** transition from **propane heat** to **efficient electric heat pumps.**

A **K-12 school district** and an **energy services company** partner to **electrify district buildings.**

A CBO in a midsized town in the southeast partners with the **local government** to bring **heat pumps (and air conditioning!)** to affordable housing buildings throughout the community.

A **national residential property owner** teams up with **multiple local governments** and **utilities** on an initiative to **electrify its properties in three major markets.**

A business improvement district in a large city neighborhood partners with **local houses of worship** to bring efficient electric heating and cooling equipment to small businesses.

+Innovations!

*** Minimum technologies and strategies teams must include in their initiatives:**

- Weatherization and envelope improvements (e.g., insulation, air sealing, window improvements) where needed to reduce energy costs
- Efficient electric heating and cooling equipment (e.g., heat pumps and/or heat pump water heaters).

Seeking Innovations to Address Non-Technical Challenges to Widespread Building Upgrades

- **Lack of contractor and occupant familiarity** with technologies
- **High first costs for upgrades**, limited short-term payback
- **Lack of retrofit materials** and equipment
- **Insufficient workforce** to complete upgrades
- **Lack of reach of funding and incentive programs** to historically underserved households and building owners
- **Inconsistent quality of work** and consumer mistrust.

Application Support Prize Overview

The Application Support Prize is available for the first 50 winners.

Award Criteria for Application Support Prize

In addition to the eligibility requirements of Phase 1, applicants must:

- Confirm no organizations on their team have secured funding from DOE's Building Technologies Office in the past 5 years
- Ensure the lead organization represents a community with equity-eligible buildings or its mission is to serve communities with equity-eligible buildings
- Demonstrate that application support would allow them to develop a competitive Phase 1 submission and confirm an intent to apply.
- Confirm concept includes minimum techs and strategies

Application Support Prizes
- $5,000 cash prize
- Up to 10 hours assistance

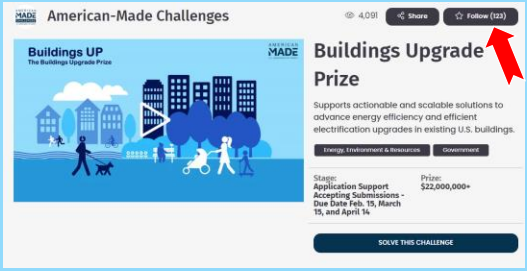
Support Provider
- Elevate
- https://www.elevatenp.org/about/

Rolling submission due dates*
- February 15
- March 15
- April 26

*Later submission due dates may be canceled if prize funds are exhausted in earlier rounds. Cancellations will be posted on HeroX.

Next Steps for Competitors

- **Follow the prize on HeroX.com**, read the rules, and review the FAQs.
- **Register for an Informational Webinar:** May 4, 2023 (or see recording on HeroX.
- **Create an account on HeroX** and click on the "Solve this Challenge" button.
- **Apply for application support** (if eligible) by April 26 at 5 PM ET.
- **Team up and submit a Phase 1 "Concept" application** via HeroX by July 18, 5 PM ET.



Follow: www.HeroX.com/BuildingsUP
Questions?: buildingsUP@nrel.gov

Scan to go to HeroX prize website.

Buildings UP | U.S. Department of Energy

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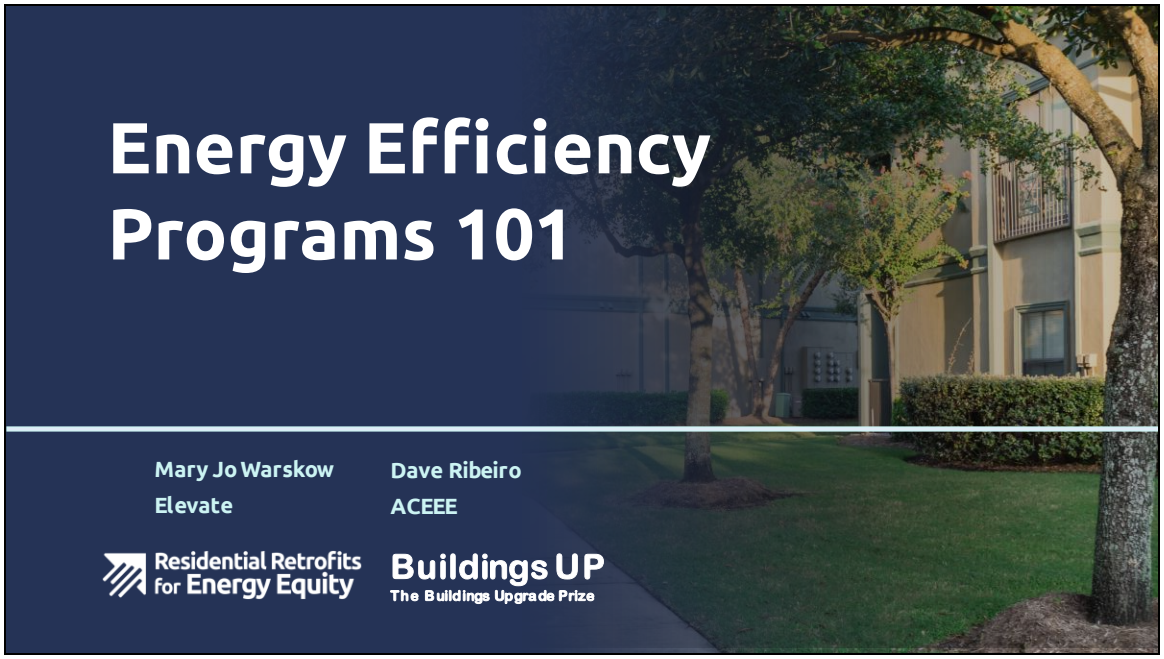

Energy Efficiency Programs 101
Mary Jo Warskow
Elevate
Dave Ribeiro
ACEEE
Residential Retrofits for Energy Equity
Buildings UP
The Buildings Upgrade Prize

Meet Your Presenters

Mary Jo Warskow
Associate Director, Municipal Technical Assistance & Consulting
Elevate

Dave Ribeiro
Director, Local Policy
ACEEE

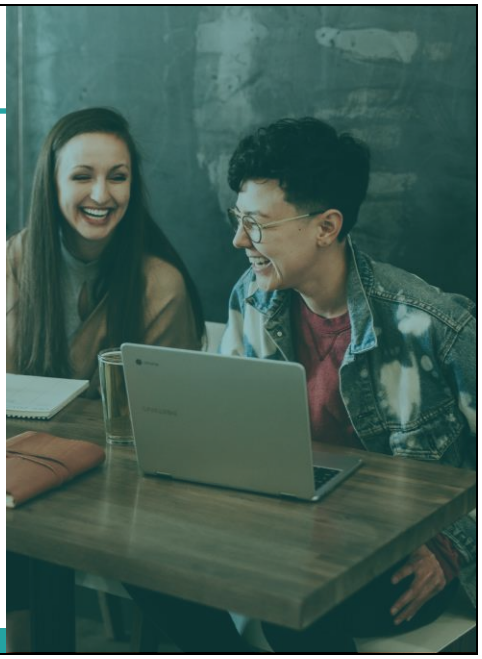
R2E2
Residential Retrofits for Energy Equity

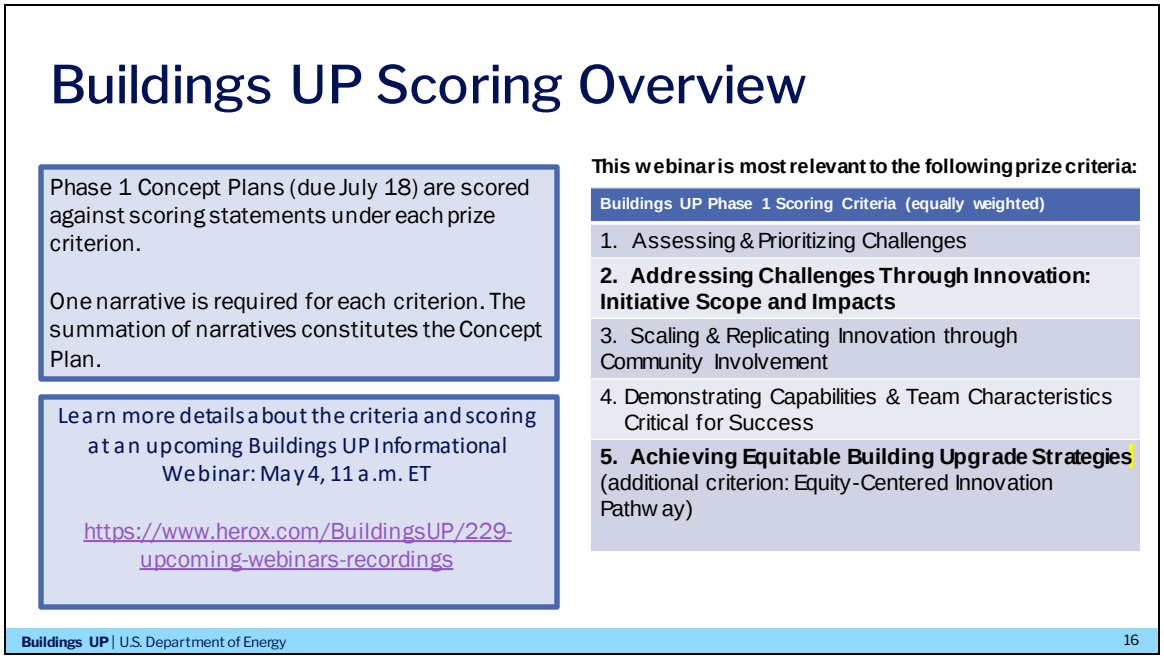
Residential Retrofits for Energy Equity (R2E2) is a new nationwide initiative that provides trainings to state, local, and tribal governments as well as community-based organizations and other partners to jumpstart energy upgrades for affordable housing that will lower utility bills, reduce greenhouse gas emissions, improve residents' health, create good-paying local jobs, and help advance racial equity. R2E2 is supporting the Buildings Upgrade Prize by providing training and technical assistance to applicants and awardees.

R2E2

Learning Objective

Understand the key components of a successful buildings upgrade initiative and how you can apply them in in your Buildings UP concept plan in a way that provides the most benefit for your community.





For the Buildings Upgrade Prize, teams will submit applications composed of narratives about their Concept Plans. Concept Plans are scored based on how strongly reviewers agree with scoring statements.

The relevant scoring statements to this training are criterion two, "Addressing Challenges through Innovation", and criterion 5: "Achieving Equitable Building Upgrade Strategies."

Some examples of specific areas of evaluation under these criteria include:

Criterion 2, Bullet 1: The building upgrade initiative addresses identified challenges with innovations that can deliver significant results, such as:
o Scalable and replicable models that streamline implementation of upgrades

Criterion 2, Bullet 4: The team has identified potential negative impacts to residents/occupants and described preliminary plans to minimize negative impacts.

Agenda

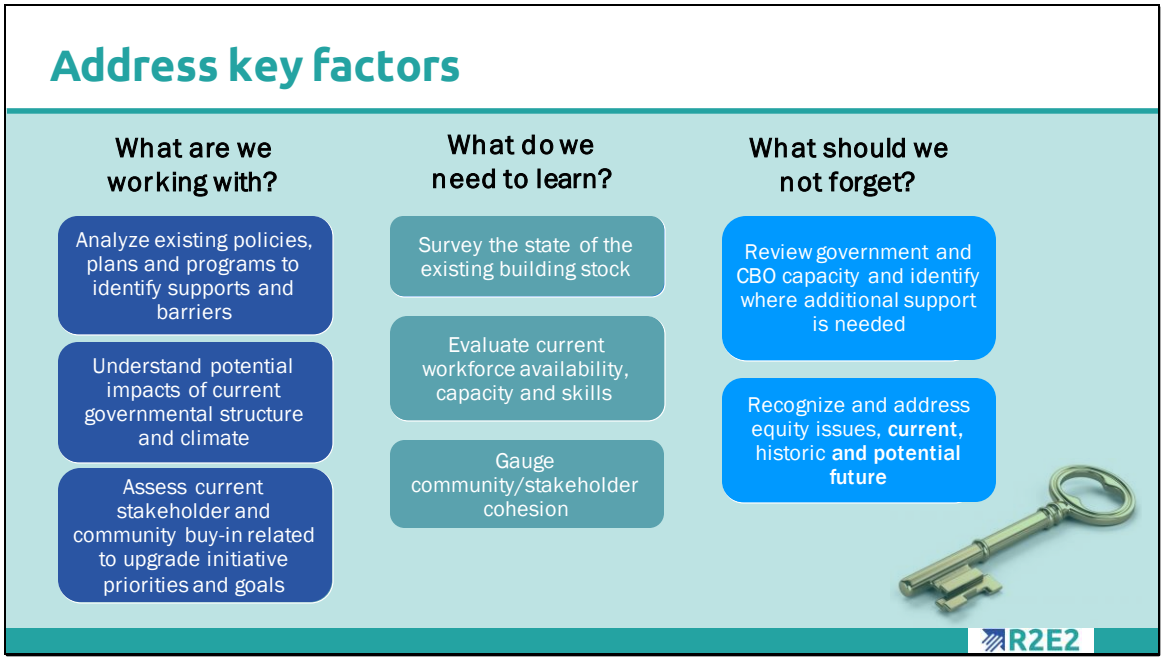
1. Upgrade Initiative Key Factors & Considerations
2. Upgrade Initiative Scope & Structure
3. Example Model: One-Stop Shop
4. Case Studies
5. Q&A

Poll Question

My experience with building upgrade programs is:

a) None
b) Participated in the planning stage
c) Participated in the implementation stage
d) Participated in both the planning and implementation stages

Upgrade Initiative Considerations & Best Practices



The key factors to be considered when designing a building upgrade initiative can be grouped into 3 categories:

What are we working with?

- Identify what policies, plans and programs currently exist regarding building upgrades, energy efficiency and the like and what impact they will have on your upgrade initiative design, either positive or potentially negative.
- Understand how the way the governmental entities you will need to work with are structured and any dynamics that will impact how you work with those entities.
- Think about stakeholders and the communities current attitudes towards building upgrades in general and specifically your initiative's goals.

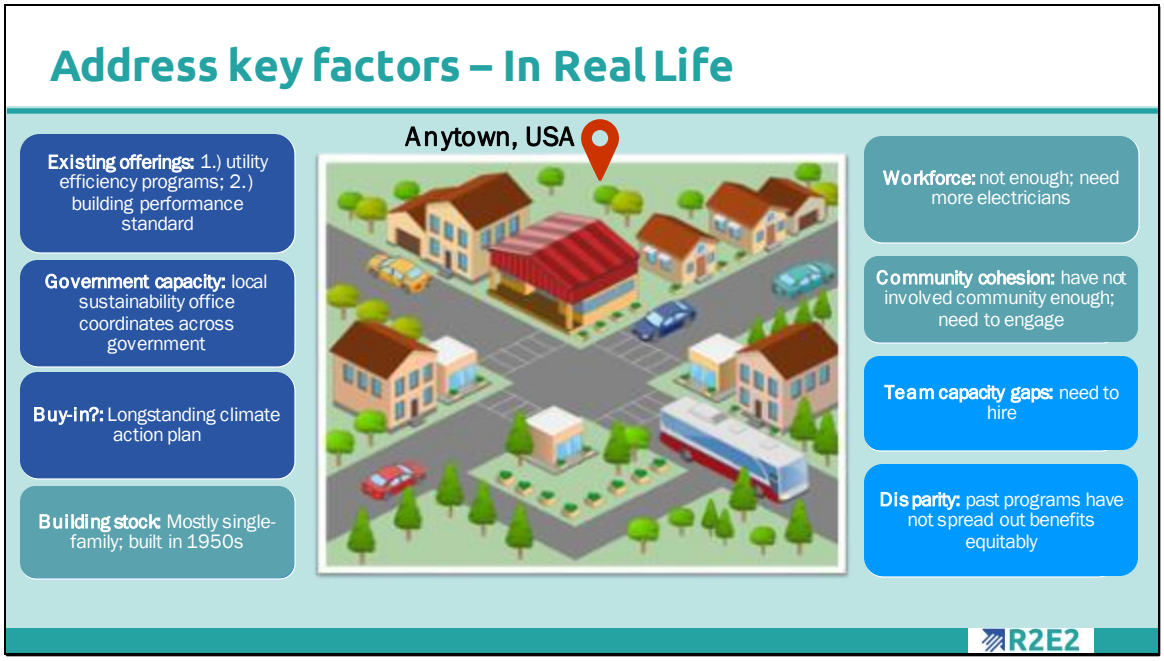
What do we need to learn?

- What types of buildings are in the community, how many of each, how efficient are they currently?
- In terms of contractors who can perform the upgrades you are planning, are there enough, do they have the right skills, do they have the capacity to take on additional projects?

- It is important for your team, stakeholders and the community to make decisions on goals, services, processes together. How well the stakeholders and the communities currently work together will have a big impact on your ability to achieve consensus and design a successful initiative.

What should we not forget?

- Designing, planning, implementing and monitoring an upgrade initiative takes time and effort. So you want to ensure that team members, including the government entities, have the staff and time available to work on the initiative. And if not, you discuss ways to increase capacity.
- Whether you are applying for the equity eligible buildings or the open innovation pathway, your upgrade initiative should be designed and implemented through the lens of equity and inclusion. Therefore, it is important to understand and address any historic, current or potential future equity issues.



The previous slide provides key steps to think through when considering an initiative.

Here, we want to put it into practice.

———————

Example Anytown USA

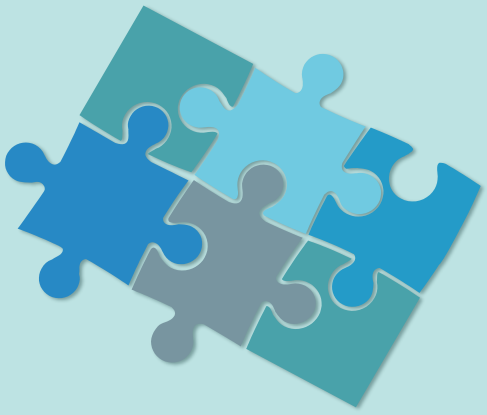
- Do other programs exist that you can take advantage of for resources? And/or do other related programs or policies exist that will limit what services can be offered or who they can be offered to or how they can be offered?
- Are the governmental structures complex and cumbersome which will add time to your planning and implementation? Is there one point of contact who can help gather and focus resources? Is the current government operating smoothly or are there issues that will cause bottlenecks in your planning and implementation?
- Is there resistance to climate change focused initiatives? Is there a big issue, e.g. education, policing, healthcare, that are consuming everyone's attention and time.
- Do you have a lot of small wood-framed townhome style homes or large brick

multistory buildings? What type of fuel is primarily used for heating and is it generally centralized, in-unit or mixed? Are there any unique building types that are a challenge?

- Are there sufficient number of contractors familiar with electric heat pumps and water heaters? If not, what training resources currently exist?
- Is there ill-will between different groups of people? Are certain stakeholders difficult to get to the table to listen to others' input?
- How many people can be dedicated to the initiative full-time? Is there sufficient resources to support the staff member?
- Are there historic practices that have negatively impacted a certain community or population of residents? Are those practices still in place in any way? How can those be addressed?

Best Practices for Developing Your Initiative

- Sustain Rigorous Public Engagement
  - Use Data-Driven Approach
- Target Multiple Benefits
  - Make it Simple & Comprehensive
- Set Goals & Maintain Accountability
  - Build in Flexibility



From ACEEE's *Ready to Go: State and Local Efforts Advancing Energy Efficiency* toolkit

R2E2

The Buildings Upgrade Prize is looking for innovative approaches, however best practices that have been tested and are successful should be employed.

Sustain Rigorous Public Engagement

- **Who?**
  - Occupants/Residents of buildings
  - Stakeholders
  - Community
  - Those who have been historically excluded
- **What?**
  - Assets/Challenges
  - Priorities
  - Offerings
  - Process
- **When?**
  - Start early
  - Continue engagement throughout entire process
- **How?**
  - Multiple formats: in-person, virtual, paper/survey
  - Compensate Community Based Organizations for their time and expertise
  - Be responsive to feedback and incorporate where feasible
  - Vary time of day to accommodate different schedules
  - Provide childcare to enable parents to attend
  - Provide materials and events in multiple languages

From ACEEE's *Ready to Go: State and Local Efforts Advancing Energy Efficiency* toolkit

R2E2

To ensure you are designing an initiative that will be utilized and actually meets the needs of the community, broad and deep public engagement is critical.

Stakeholders are anyone who is impacted by the initiative, whether directly or indirectly, and anyone who has influence over the process or decisions.

Use Data-Driven Approach

Types of Data	Why gather
• Demographic – age, race, marital status, etc. • Socioeconomic – income, employment, home ownership, etc.	To identify populations for targeted engagement
• Building stock – types of buildings, ages of buildings, building structure, common energy equipment	To identify priority buildings
• Workforce – Women/Minority/Disabled owned business rates, training levels, average skillset	To evaluate the need for workforce development

Potential Data Sources:

- DOE Equity Eligible Buildings Mapping Tool (learn more here)
- Federal government – census, Housing and Urban Development housing data, Department of Energy energy data
- State and local government
- Philanthropies/Nonprofits/CBO's

R2E2

The initiative should be appropriate for the population, building stock and current resources. Data analysis should be conducted in order to determine what those are for your community.

Use Data-Driven Approach

Recommendations:

- Don't overlook community sources of data
- Field test/truth quantitative datasets
- Use qualitative as well as quantitative data
- Keep data limitations in mind
- Utilize partner organizations and other governmental agencies
- Compensate for time and work
- Publish to build transparency and trust

- Large, national datasets are not always the best. Smaller, more local datasets can provide better insight.
- Just because a piece of data says something, doesn't necessarily make it true. Do observations and conduct surveys/interviews to ensure the data results are accurate.
- First-hand stories can inform just as well as numbers.
- The data may be specific to just a particular region or climate or technology or the dataset might have been very small. Be sure to understand why the data might not be 100% accurate for your situation.
- Reach out to the people who work with data frequently. They will have good suggestions on what data is available and how to get it.
- Whoever is performing the data analysis should be fairly compensated. Doesn't have to be financial, could be exchange for services, access to certain funding etc.

- Whatever data is used in designing your program, make the data publicly available so stakeholders can feel confident that your assumptions are based on good information.

Target Multiple Benefits

- Lower energy/water/greenhouse gas emissions
- Improved health & safety
- Financial (reduced energy costs)
- Address equity & inclusion in processes and outcomes
- Develop and grow workforce
- Increase community strength and resilience

R2E2

The goal of the Buildings Upgrade Prize is to help address climate change by upgrading existing buildings to efficiently run on clean energy.

In addition to helping achieve that goal, upgrade initiatives can target other related benefits.


How can building upgrades benefit underserved communities?
Increase climate resilience
→ Reduce greenhouse gas emissions and air pollution
→ Lessen reliance on fossil fuel equipment
→ Enable families to maintain safe indoor temperatures during extreme weather
Improve health, comfort, and safety
→ Reduce exposure to mold, moisture, and lead
→ Improve indoor air quality
→ Lower risk of gas leaks or explosions
→ Reduce ER visits and missed days of work and school related to asthma and other respiratory diseases
→ Improve mental health
Increase affordability
→ Reduce energy bills for people with low and moderate incomes
→ Improve long-term housing affordability and stability
→ Free up household budgets for essential needs such as food and medicine
Strengthen the local economy
→ Promote equity via women- and minority-owned business development and inclusive procurement
→ Create local jobs through job training
Promote racial equity
→ Ensure retrofits benefit BIPOC communities that have been excluded from past policies
→ Address frontline community priorities
→ Center community leadership, especially voices from BIPOC, renter, and marginalized communities

Keep in Mind Unintended Consequences

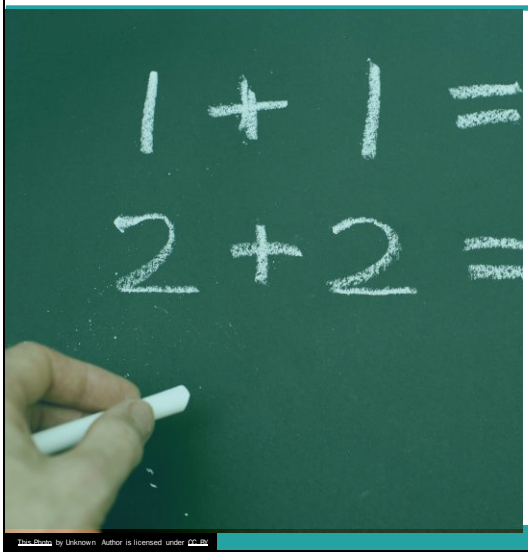
- Gentrification and displacement?
- Burdensome debt?
- Increased energy burden, especially if electrification is not strategic?
- Benefits accrue to building owners rather than tenants?
- Lack of backup power during long outages?
- Challenges for maintenance staff and occupants to use new technology?

R2E2

While no one wishes for negative or unintended consequences as a result of their upgrade initiative, they nonetheless may happen. Therefore it is important to identify potential negative consequences and develop strategies for avoiding or minimizing their effects.

The issues listed on the slide can be very complicated and sensitive. Therefore, as much as we would like to provide a matching list of solutions, the best solution is to discuss these issues with stakeholders and the community and develop strategies that are best suited to your initiative and community.

Make It Simple, Accessible and Comprehensive



- Simplify access to information and application for resources
- Provide resources that are in clear, non-technical language and are easy to understand
- Provide resources and services in multiple languages
- Address health and safety as well as energy
- Include community engagement and education
- Coordinate with similar upgrade initiatives
- Provide free technical assistance for multiple services

R2E2

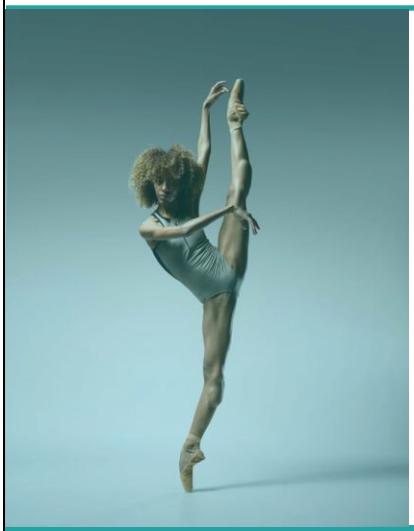
- If it is difficult to find information or to apply for the program then your are inadvertently limiting the reach of your initiative.
- Relate technical concepts to people's everyday lives or more easily understood concepts
- A building that has mold can't be made more air-tight until the underlying moisture issues are rectified
- Spread the word and explain the benefits so everyone can participate and reap the rewards.
- Don't re-invent the wheel. If there is an initiative that is already successfully addressing some of your priorities or goals, partner with that initiative.
- Many technologies require technical assistance to ensure that they operate efficiently, so offer technical assistance to achieve your goals.

Set Goals and Maintain Accountability

- Define objectives with clear and measurable metrics
- Look at every objective through an equity, inclusion and community benefits lens
- Provide transparency on program progress

- Goals should be identified upfront and a process for measuring progress to the goal should be created.
- Be sure that the goals and objectives take equity into account and are addressing the needs of the community.
- Report on progress toward the goals in a publicly accessible way.

Build in Flexibility



- Targets, approaches, technologies should vary to meet different community needs and priorities.
- Be able to make changes in response to:
  - Community input/feedback
  - Issues arising during pilot or early implementation
  - Changes in underlying policy environment

R2E2

- The initiative will need a good structure to be successful, but the structure shouldn't be so rigid that it does not meet the needs of different populations or communities or can't change to address new requirements or challenges.


Guiding questions to design and deploy effective local efficiency initiatives
How can we structure our engagement process to make sure feedback is incorporated?
How will we market our initiative?
What goals do we have for our energy initiative?
How will we regularly evaluate initiative outcomes?
What data can we collect or use to inform our initiative design?
How will we engage with community members to inform initiative design?
In what ways can we build our initiative to allow flexible or customized approaches?
Can our initiative be combined or coordinated with other government utility initiatives?
What metrics will we use to define success?
What data can we collect to help us evaluate initiative effectiveness?

R2E2

Poll Question

Which best practice would you like more information on (select all that apply):

a) Conducting rigorous public engagement
b) Using a data-driven approach
c) Targeting multiple benefits
d) Addressing unintended consequences
e) Designing initiative to be simple, accessible and comprehensive
f) Setting goals and maintaining accountability
g) Building in flexibility

Upgrade Initiative Scope and Structure

Policies vs. Programs

Policy

- Instituted by governmental bodies through legislation or regulation
- Provides standards for retrofits
- Many policies specific to certain aspects of retrofits
- Some policies provide an umbrella for not only retrofits but related aspects (e.g. workforce development)
- Are not required to be funded

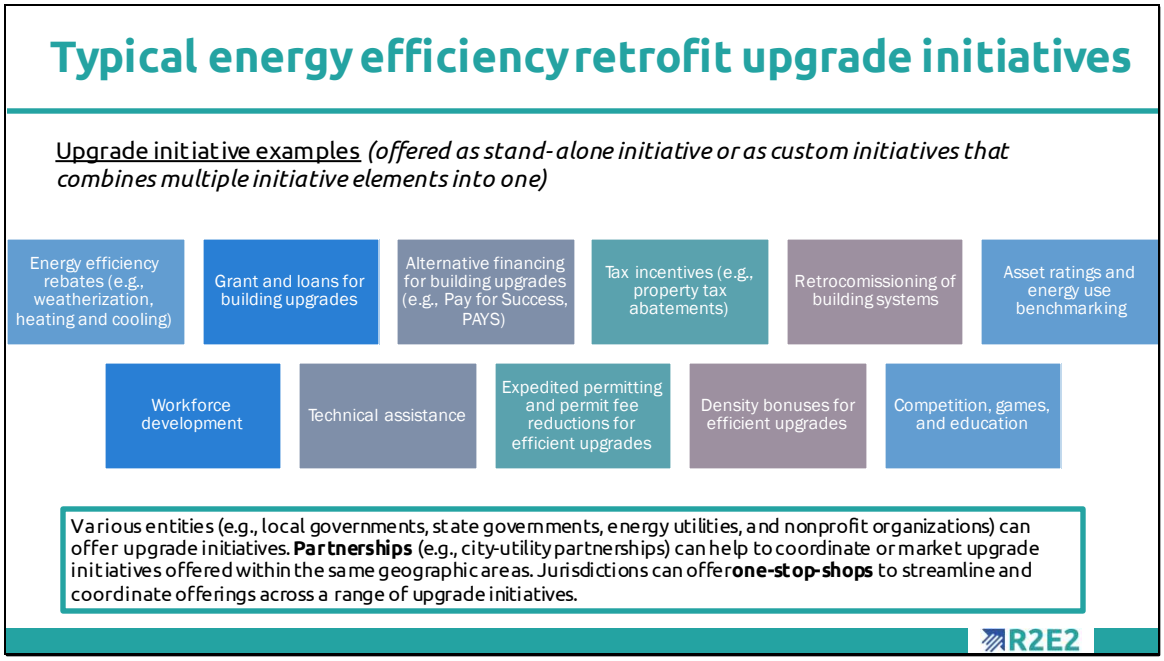
Outside of Buildings UP scope

Program

- Instituted by a variety of entities
- Concerted initiatives to undertake retrofits
- Must work within the standards set by policies
- Must be funded
- Can address specific retrofit areas or entire buildings or even related aspects (e.g. health & safety)

Within Buildings UP scope

R2E2



What does an initiative look like? This slide is a summary of different types of initiatives to advance retrofits. Each box represents a different initiative or an element of a custom initiative that combines multiple programmatic elements.

For example, take the example of energy efficiency rebates, one of the first boxes on the slide. In this case, a utility could offer energy efficiency rebates for heating and cooling equipment. That's a straightforward, simple program.

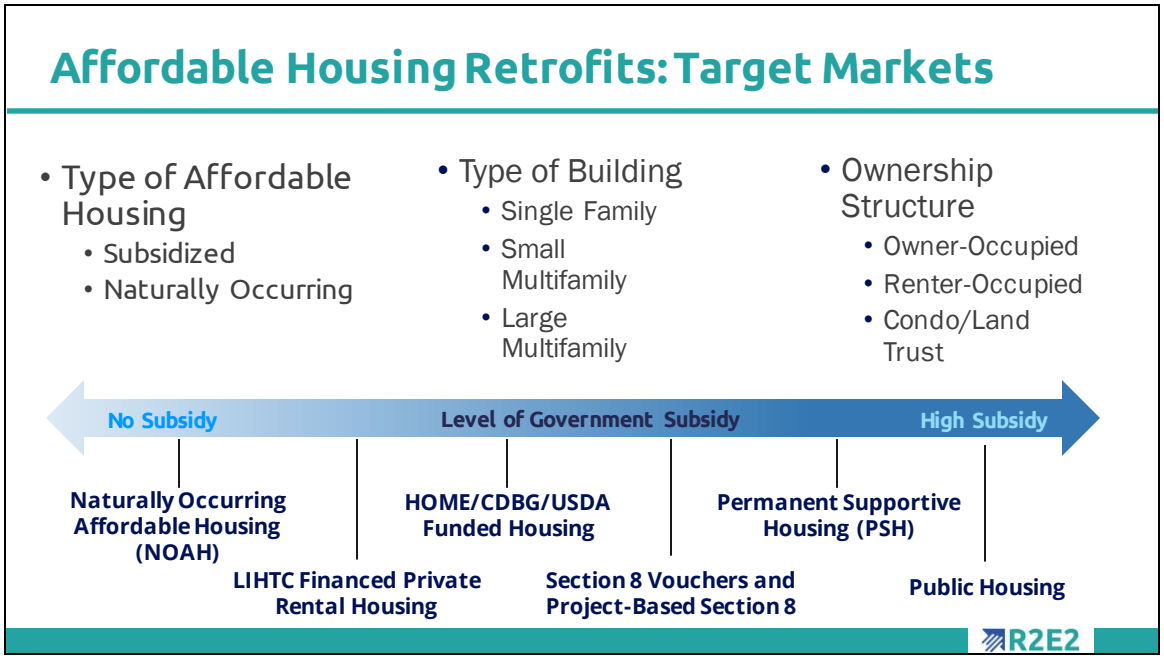
On the other hand, a custom program could combine rebates as an element within a larger program. For example, a city's voluntary benchmarking program could market energy efficiency rebates offered by the utility. In that case, the benchmarking element is combined with rebates. It's still a straightforward design but the combinations seeks to increase impact.

As this slide shows, there's lots of options for initiatives.

One takeaway is that there are lots of different building blocks to consider to advance retrofits. In fact, this list could be helpful to stakeholders in your community to figure out what type of program or combination of programs is best

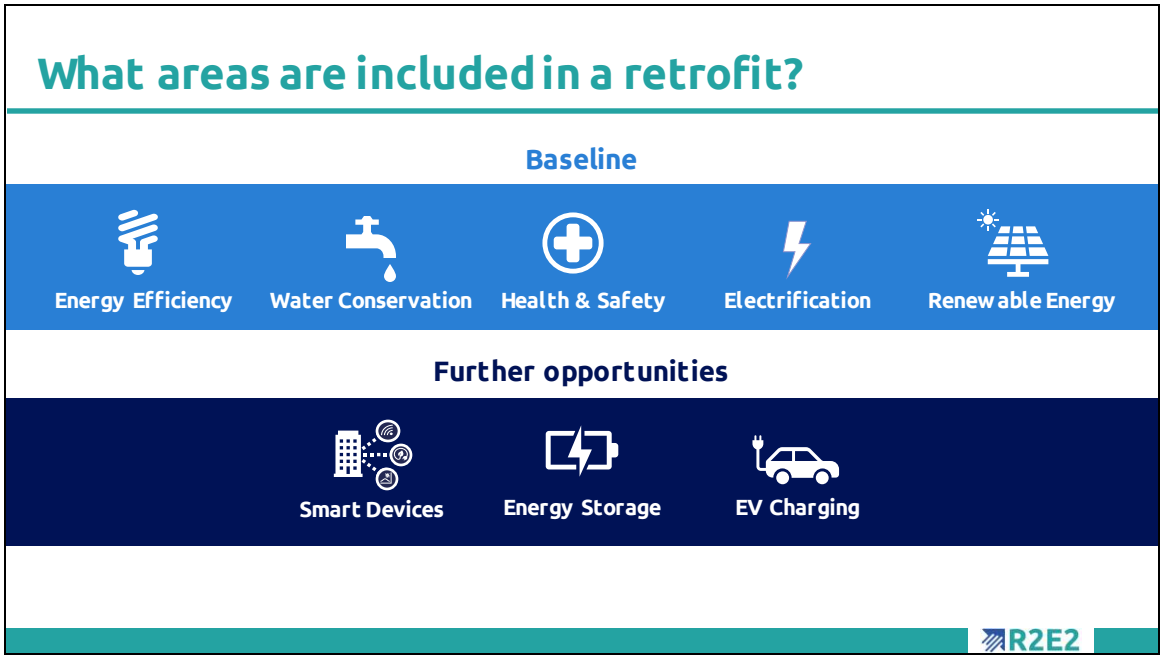
for your Buildings UP concept.

Also, as the bottom of the slide notes, there are different options are who administers these programs. One entity could manage the whole process. Different entities like cities and utilities could partner. And last, models like one-stop-shops can streamline and coordinate offerings from a range of entities.



There are multiple types of affordable housing, building typologies, and ownership structures and each has its nuances in how they can engage in a retrofit program.

When designing your initiative, it's important to understand the need of your community. What building types are in greatest need of retrofit services? What's the ownership structure for them? What type of affordable housing has the greatest need, from naturally occurring to public housing (as the spectrum on the bottom shows). Getting a better handle will help in program design decisions.



Retrofit programs can include many different types of upgrades, depending on the scope and goals of what you are trying to accomplish.

The R2E2 team recommends a baseline retrofit of energy efficiency for example, with further opportunities such as EV charging and energy storage.

Please note though that the buildings UP minimum technologies are weatherization and energy efficiency to reduce costs and electrification of heating and cooling equipment.

What Else to Include in an Upgrade Initiative?

- Access to Capital
  - Grants
  - Incentives
  - Low-Cost Loans
  - Alternative Financing

- Economic Development
  - Workforce Training
  - Contractor Support
  - Wealth Building
  - Community Ownership
  - Innovation

- Resilience
  - Critical Services
  - Mobility
  - Digital Access
  - Financial Literacy
  - Environmental Justice

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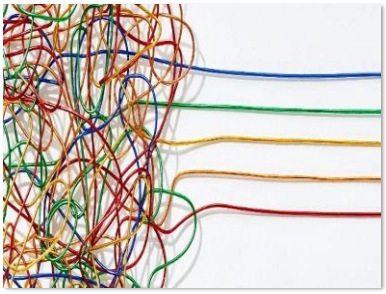
This slide is another way to think about an approach to custom initiatives with multiple programmatic elements. As you saw on the slide a few back, there are simple straightforward initiatives with one programmatic element. However, other than rebates or efforts scoped to specific measures, you can consider ways to have broader impact by providing access to capital, advancing economic development goals (including health building in disinvested communities) and resilience and environmental justice considerations.

Example Upgrade Initiative Model: One-stop Shops

Why a One-Stop Shop Model?

Retrofits can be complicated. Often owners/occupants must navigate many programs with disparate requirements and multiple points of contact. The more comprehensive the retrofit, the more complicated the process.



Gas utility incentives
Electric utility incentives
Health & Safety programs
Program Administrators
Contractors

Multiples of each +

- ← Federal energy programs
- ← State energy programs
- ← Local sustainability initiatives
- ← Federal funding opportunities
- ← State funding opportunities
- ← Private/nonprofit loans and grants

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Barriers to Retrofits

- Many fragmented programs
- Lack of targeted outreach efforts
- Disparate eligibility requirements across programs
- Administrative burden
- Costs not covered by existing energy efficiency programs
- Difficulty gaining access to funding

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One-Stop-Shop: Simplify to Overcome Barriers

All these variables create complexity for building owners. Having a single point of contact helps to help guide and navigate all the available options to optimize for their desired outcomes.

One-Stop-Shop: Key Features

Single Point of Contact

Navigate Resources

Technical Assistance

Financing

Quality Assurance

Resident Benefits

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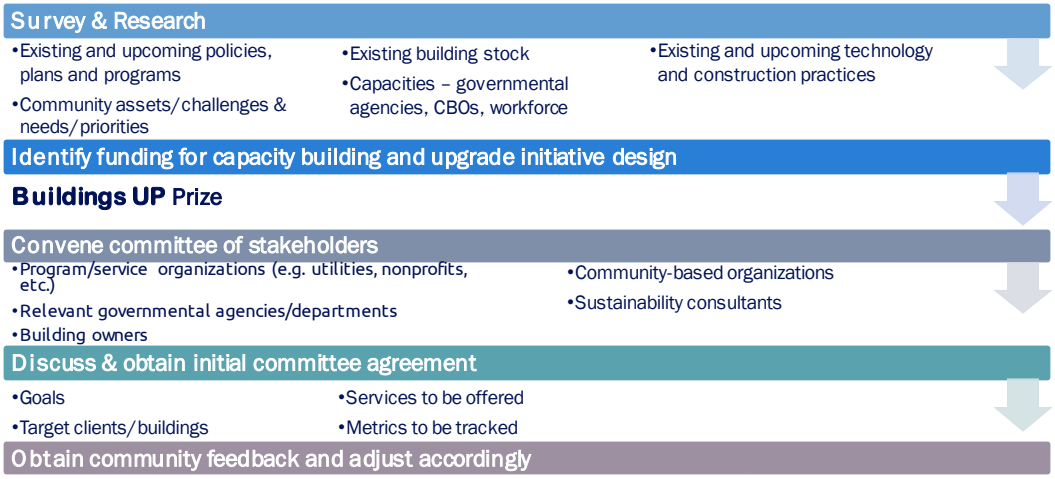
A One-Stop-Shop can look very different based on what it is solving for, but there are consistent key features that characterize what they provide:

- Single Point of Contact – Building owners have an individual who helps them find their way through the retrofit process and maximize the impacts for a positive experience
- Navigate Resources – Connect building owners with all available resources and programs
- Technical Assistance – Provide building assessments, modeling of possible upgrades and consulting on the final retrofit plan
- Financing – Provide or assist in connecting with grants, incentives, and financing options
- Quality Assurance – Oversee retrofit process to ensure desired outcomes from contractor work are achieved
- Resident Benefits – Ensure the retrofit is providing tangible, meaningful benefits to the residents of the building


Guiding questions to design and deploy effective local efficiency initiatives
How can we structure our engagement process to make sure feedback is incorporated?
How will we market our initiative?
What goals do we have for our energy initiative?
How will we regularly evaluate initiative outcomes?
What data can we collect or use to inform our initiative design?
How will we engage with community members to inform initiative design?
In what ways can we build our initiative to allow flexible or customized approaches?
Can our initiative be combined or coordinated with other government utility initiatives?
What metrics will we use to define success?
What data can we collect to help us evaluate initiative effectiveness?

Creating a One-Stop Shop: First Steps



Be Prepared for Potential Challenges

As you form your team, keep the following in potential difficulties in mind.

- Getting everyone to the table
- Agreeing on goals, target clients, services to be offered and metrics
- Clearly defining responsibilities and processes
- Identifying risks and solutions upfront
- Keeping everyone engaged and on track
- Adapting to opportunities and obstacles

There is no one right solution… work together to overcome these challenges in a way that works best for your team.

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Poll question

In five words or less, tell us in the Chat a challenge you foresee in establishing a one-stop shop for your upgrade initiative.

Example Upgrade Initiatives

Wilmington, DE: Climate Smart Homes

A one-stop shop for naturally occurring affordable housing with strong community engagement and goals of electrification and workforce development

With funding from: ENERGIZE DELAWARE EMPOWERMENT GRANT — Funded by the Exelon Merger for Delmarva Power Customers

Partners: Cinnaire Solutions; The Central Baptist Community Development Corporation; New Ecology — Community-Based Sustainable Development; Habitat for Humanity of New Castle County; Woodlawn Trustees

With guidance from: Wilmington Neighborhood Conservancy Land Bank; Seat of the City of Wilmington, Delaware; Delaware State Housing Authority DSHA; R2E2

This is an excellent example of a one-stop shop that conducted extensive community engagement and included electrification and workforce development in their program goals.

Grew from Eastside Initiative

- Collaborative initiative to address housing challenges in the Eastside Neighborhood using ARPA funds
- Partnership of CBOs, city government, affordable housing advocates and service providers
- Work centered around multi-faceted community revitalization plan to address:
  - High poverty rate
  - High rates of rental housing
  - Property abandonment
  - Crime
- Creation of a local land bank to purchase properties contributing to neighborhood blight, work with partners to rebuild/rehabilitate and then sell to support affordable home ownership

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The Climate Smart Homes program grew from an existing initiative with a cohesive group of stakeholders and a clear set of objectives.

Wilmington, DE: Climate Smart Homes

Goals:

- Support community revitalization with high-performance, climate-ready, healthy housing
  - Affordable housing for households <80% of the AMI (homeownership or rentals)
- Deliver all-electric homes to low- to moderate-income owners and renters
- Support workforce development through training and exposure to new materials and approaches
- Transform the residential construction market

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Retrofit Opportunity

Need: Capital constraints of affordable housing development limited efficiency to code compliance with gas-fueled equipment

Opportunity: Increase efficiency and eliminate gas-fueled equipment

Climate Smart Homes offering:

- Air sealing & insulation
- Windows
- Heat pumps
- Ventilation (Energy Recovery Ventilator)
- Heat pump water heater
- Basement Water/Moisture Management
- Meet Energy Star and/or DOE Zero Energy Ready Home standards

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The program was addressing a specific barrier to building upgrades within Wilmington.

One-Stop Shop Model

- Technical Assistance provided by New Ecology from project conception through construction and occupancy
- Individual attention for intake and alignment of owner needs with efficiency measures
- Efficiency assessment and roadmap to help understand efficiency potential
- Contractor coordination and upgrade implementation support
- Incentives and financing coordination
- Tenant engagement at the beginning on goals/priorities and at the end to educate on green practices

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The services and assistance were bundled so that there was one point of contact who was able to provide multiple resources to each building project.

Workforce Development

New Ecology provides workforce development training on high-performance energy efficiency equipment and practices

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To address a shortage of contractors and energy efficiency workers, the program included a workforce development component that gave contractors and workers first-hand experience in the building upgrade process.

Chicago, IL: Energy Savers

CIC community investment corporation

A one-stop shop for affordable multifamily housing with loans for building owners

In partnership with:

ELEVATE
Equity through climate action

In coordination with:

ComEd Energy Efficiency Program
PEOPLES GAS ENERGY EFFICIENCY PROGRAM
NORTH SHORE GAS ENERGY EFFICIENCY PROGRAM

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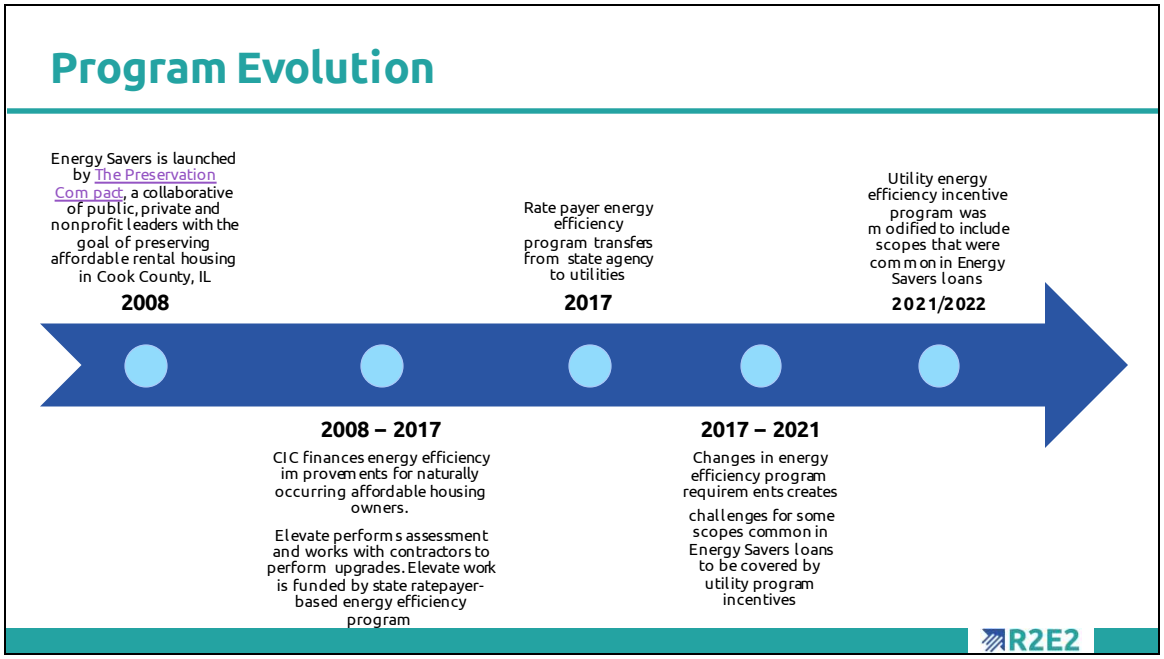
The Energy Savers program in Chicago IL is a good example of a program that utilized a one-stop shop model to provide building upgrades along with funding options for property owners and piggybacked on existing utility energy efficiency programs.



The evolution of the Energy Savers program speaks to the need for program flexibility.

When the administration of the ratepayer energy efficiency incentive programs changes from a state agency to the utilities the program worked with the utilities to adapt program requirements to the meet the scope of a common Energy Savers project.

Community Investment Corporation (CIC)

- Access to building stock and relationships with building owners, managers and investors
- Knowledge of affordable housing – how financing works, what it costs, what the rules are
- Trust in the housing community
- Financing to pay for energy efficiency

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Elevate

- Building science and engineering expertise
- Knowledge of the energy efficiency retrofit process
- Trusting relationships with energy efficiency contractors
- Access to free energy assessments and efficiency programs and incentives

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Utilities

- Community outreach and marketing
- Program administration
- Requirement setting
- Contractor management
- Incentives

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Model

Source: https://www.cicchicago.com/programs/energy-savers/

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Results

- From launch in 2008 to 2017
  - 66,000 units assessed
  - 27,000 units retrofitted
  - 20% to 30% energy savings
  - > $29M in CIC loans and grants

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SMUD – Community Impact Strategy

SMUD®
Sacramento Municipal Utility District

Plan to guide development of multiple programs serving both residential and commercial buildings in under-resourced communities

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The Sacramento Municipal Utility District example demonstrates a thoughtful process that utilized community engagement and a data driven approach.

SMUD - Community Impact Strategy

Who Are Our Under-Resourced Customers?

Residential:

- Low/Median income
  - Low: 0-200% federal poverty level
  - Median: 200-400% federal poverty level
- Additional considerations
  - Renters
  - Underserved populations

Commercial

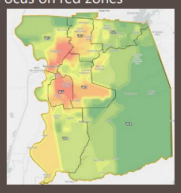
- Small business
- Nonprofits & Community-based organizations

Barriers & Challenges

- Lack of income to afford necessities
- Higher energy burdens
- Poor housing conditions that is likely leading to health impacts
- Cultural/language barriers

- Don't own their building or a fleet
- Unable to afford upgrades
- Poor building conditions
- Impact of City of Sacramento's 2024 all-electric building ordinance

Focus on red zones



- **~69k residential**
  - **18,500 EAPR (Energy Assistance Program Rate)**
- **~11k small businesses**

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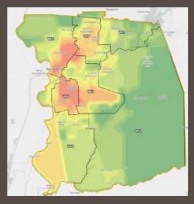
They took the time to gather data from multiple sources to understand who their under-resourced customers are.

SMUD – Community Impact Strategy

They used what they learned from their data gathering and community engagement to design programs and offerings that met the community where it was at.

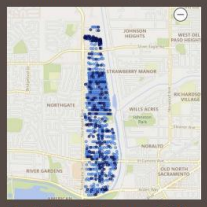
SMUD – Community Impact Strategy

Neighborhood Approach



Potential neighborhoods
- Avondale
- Parkway
- Meadowview
  Fruitridge Manor
- Lawrence Park
- North Highlands
- Gardenland

Select a group of homes in a red zone:
- Age of home
- % Energy Assistance Program Rate
- % inefficient cooling



Gardenland Natomas: <100 homes

- Engage community to create support and recruit homeowners and property owners
- Conduct energy assessment of each home/business
- Assign contractors to perform direct installation of equipment; Measures may include 1 or more:
  - Heat Pump Space Heating
  - Heat Pump Water Heater
  - Induction Stove/ commercial cooking equipment
  - EV ready
  - Solar (<10% of customers)
- Address urban heat through tree planting
- Educate community on climate change impacts, monitoring energy usage, the benefits of electrification;
- In-language and translation support provided as applicable

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SMUD – Community Impact Strategy

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Summary

- Do thorough homework utilizing community input and qualitative/quantitative data resources
- Take time to analyze, understand and incorporate key factors
- Employ program development best practices
- Build on existing community assets, partnerships and programs
- Learn from others, but don't just replicate… innovate!

Upcoming Webinars

- April 26- Training Webinar, 1:30 pm ET
  - Considerations for Underserved Commercial Buildings
- April 28- Training Webinar, 1 pm ET
  - Drivers of Energy Efficiency in Affordable Housing
- May 4- Informational Webinar, 11 am ET
- May 10- Training Webinar, 1:30 pm ET
  - Choosing your Building Upgrade Zone
- May 11- Training Webinar, 12 pm ET
  - Building Upgrades: An Opportunity for Workforce Development and Economic Inclusion

Scan to view additional details and register for training webinars.

Office Hours

- April 20- 1:00 pm ET
  - Topics covered:
    - Engaging Stakeholders Across Sectors
    - Introduction to Comprehensive Retrofits
    - Prize and application questions
- **May 2- 12:30 pm ET**
  - Topics covered:
    - Introduction to Community-Driven Planning
    - Accessing Funding Sources for Building Upgrades
    - **Energy Efficiency Programs 101**
    - Prize and application questions
- May 15- 2:30pm ET
  - Topics covered:
    - Considerations for Underserved Commercial Buildings
    - Drivers of Energy Effiency in Affordable Housing
    - Prize and application questions

Scan to view additional details and register for training webinars.

Resources

Upgrade Initiatives:

- Elevate and New Ecology's Making Naturally Occurring Affordable Housing More Efficient: Outreach to Upgrade paper on Wilmington, DE program
- CIC Energy Savers program
- SMUD's presentation on their Community Impact Strategy

Toolkits:

- ACEEE's *Ready to Go: State and Local Efforts Advancing Energy Efficiency*
- ACEEE's *Energy Equity for Renters*

Papers:

- ACEEE's Building Decarbonization Solutions for the Affordable Housing Sector
- ACEEE's Closing the Gap in Energy Efficiency Programs for Affordable Multifamily Housing
- ACEEE's Meeting the Challenge: A Review of Energy Efficiency Program Offerings for Low-Income Households
- ACEEE's A New Lease on Energy: Guidance for Improving Rental Housing Efficiency at the Local Level
- Energy Efficiency for All's One-Stop Shops for the Multifamily Sector

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Poll Question

What would you be most interested in exploring more of at an office hours session on this topic?

a. Key factors to consider for your upgrade initiative
b. Building upgrade initiative design best practices
c. One-stop shop model
d. Case studies
e. Potential next steps and action items for planning upgrade initiatives

Buildings UP

The Buildings Upgrade Prize

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Thank You – Q&A

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