



SAVE TODAY. SAVE TOMORROW.  
SAVE FOR GOOD.

# **Inclusive Utility Investment Programs: Advancing Debt-Free Home Upgrades**





# ENERGY STAR Home Upgrade Elements



HEATING & COOLING

- Heat pump HVAC
  - \$10,000+ depending on house size; could be \$20,000



WATER HEATER

- Heat pump water heaters
  - \$2,000-\$3,000



SMART THERMOSTAT

- Smart thermostats
  - \$150



ATTIC INSULATION

- Attic insulation and air sealing
  - \$1.50/sf. Air sealing varies widely: \$0.30/sf to \$2.00/sf



WINDOWS

- Storm windows
  - \$150 per window



ELECTRIC READY

- Electric ready
  - \$1000-\$10,000

At \$10-50k/home,  
\$5 trillion needed to  
upgrade the  
remaining 120 million  
US homes

Average cost at least  
\$250/m<sup>2</sup> (\$23/ft<sup>2</sup> ) or  
\$40-\$50,000 per home





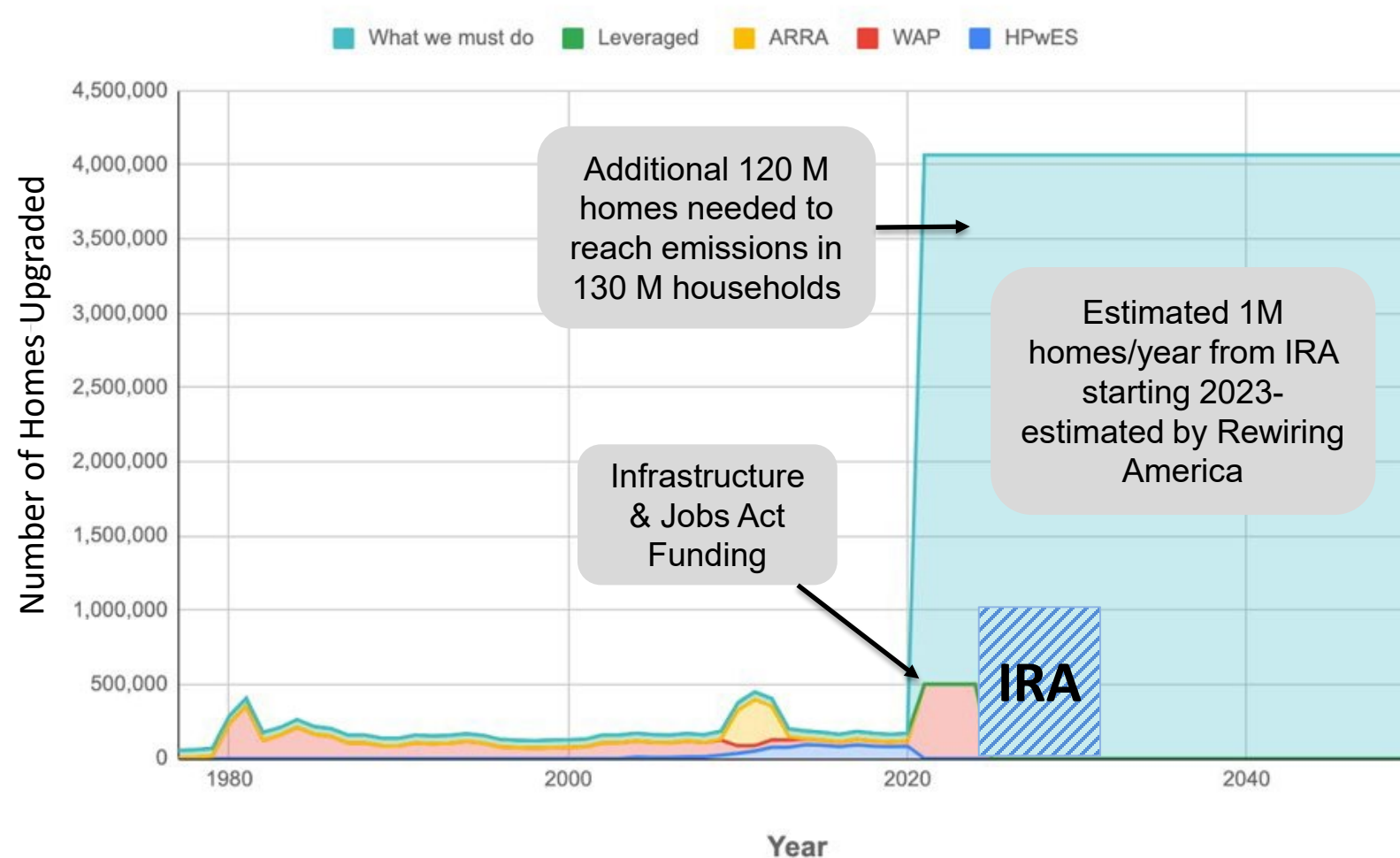
## Most funding and financing policies for efficiency upgrades in the United States fall into one of three categories

- **Taxpayer** funded government home upgrade programs for low-income households
- **Ratepayer** funded low-income programs and income-agnostic utility rebates and incentive programs
- **Debt-based** consumer financing for homeowners who qualify for credit

**With over 120 million homes in need of efficiency upgrades, none of the current deployment methods (including recent legislation) come close to meeting the need.**

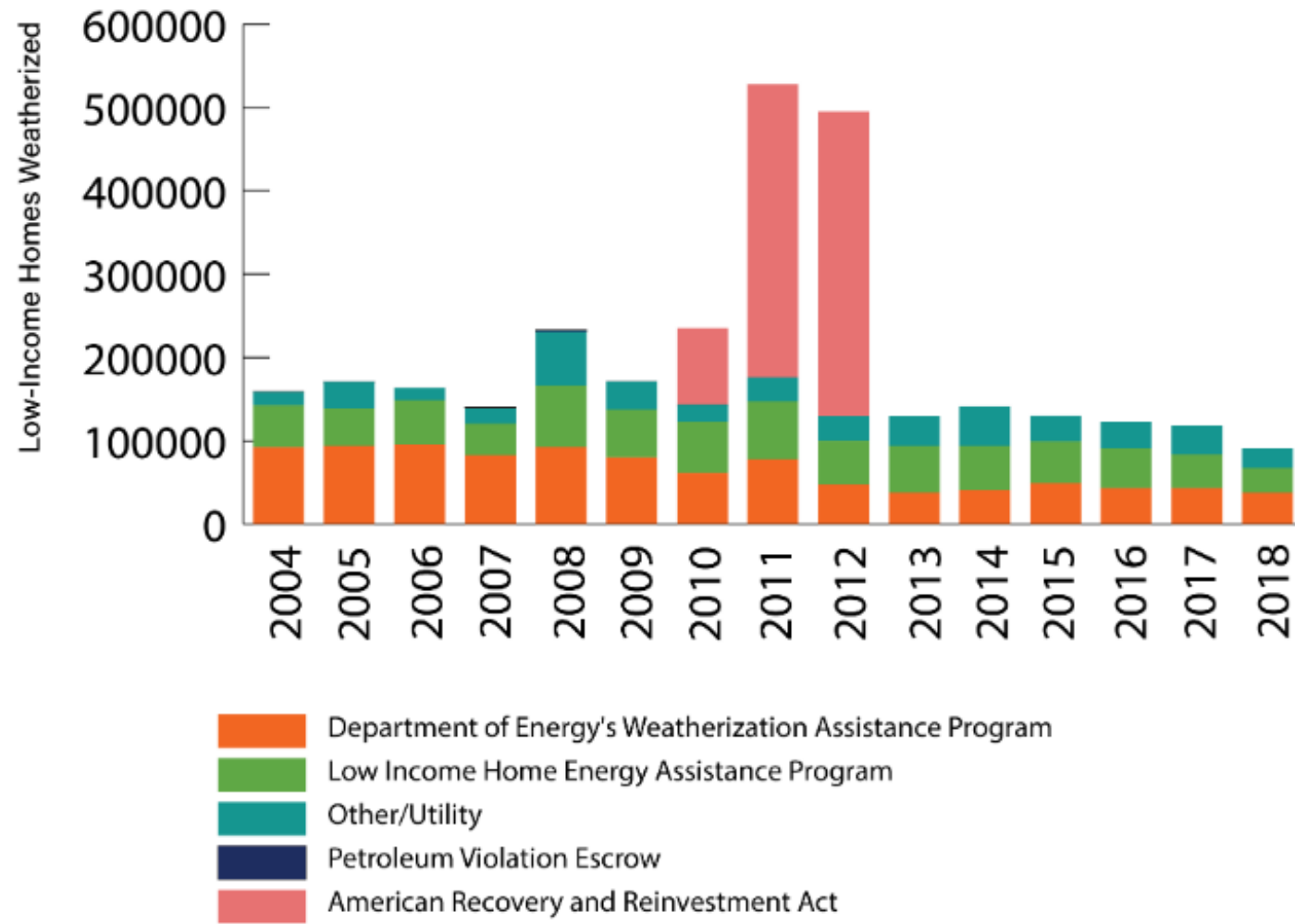
**More radical and scalable solutions are needed**

Upgrades are expensive and no methods have scaled





## Only 0.2% of income-eligible households receive free weatherization services each year.



Current leveraging to address this need falls short.

About 30% of U.S. households, or **36.8 million households**, are eligible for weatherization.

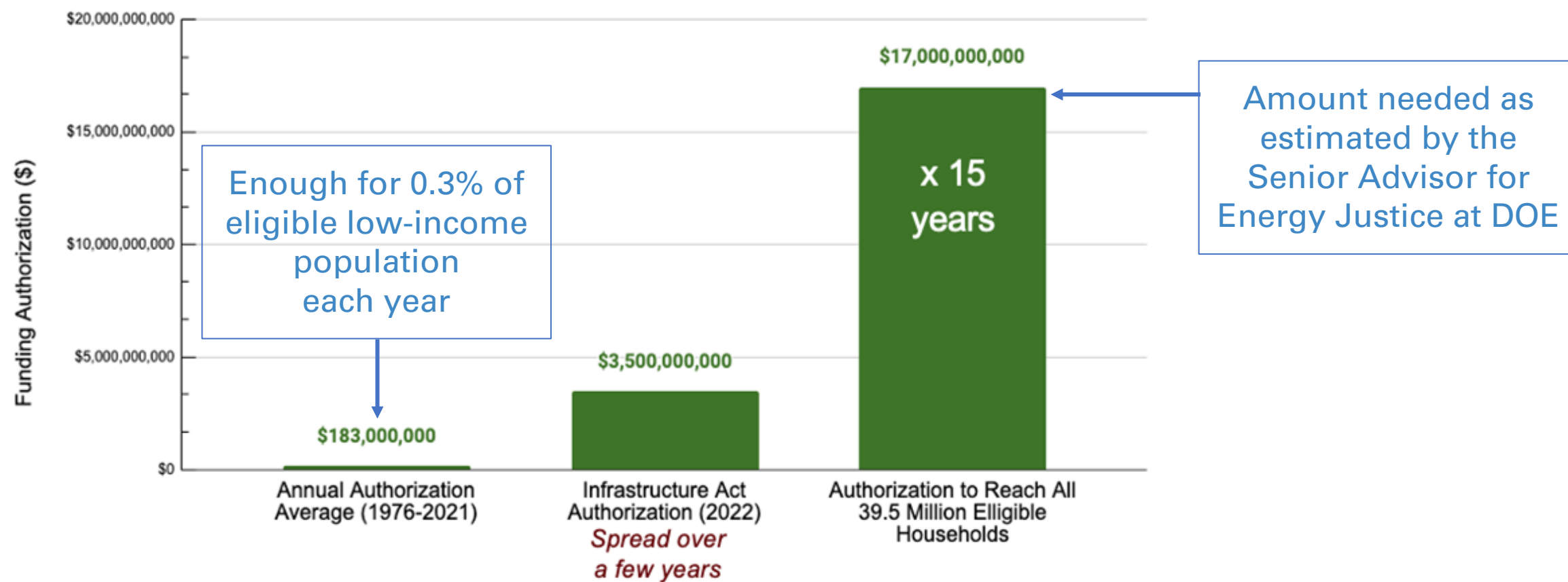
Source: NASCSP (2004-2018), WAP Annual Funding Surveys



# Taxpayer-funded programs for income-eligible households have been 100X smaller than what's needed, despite funding rates being at an all-time high.

Taxpayer \$ can't meet the need

Department of Energy Weatherization Assistance Program Funding Authorization: Historical Annual Average Contrasted with Infrastructure Bill and Responsive Scenario



Carley, Konisky, Reames. Section 2.1.1. of Policy Options to Enable an Equitable Energy Transition. 2021. Raimi, D (ed). Resources For the Future.



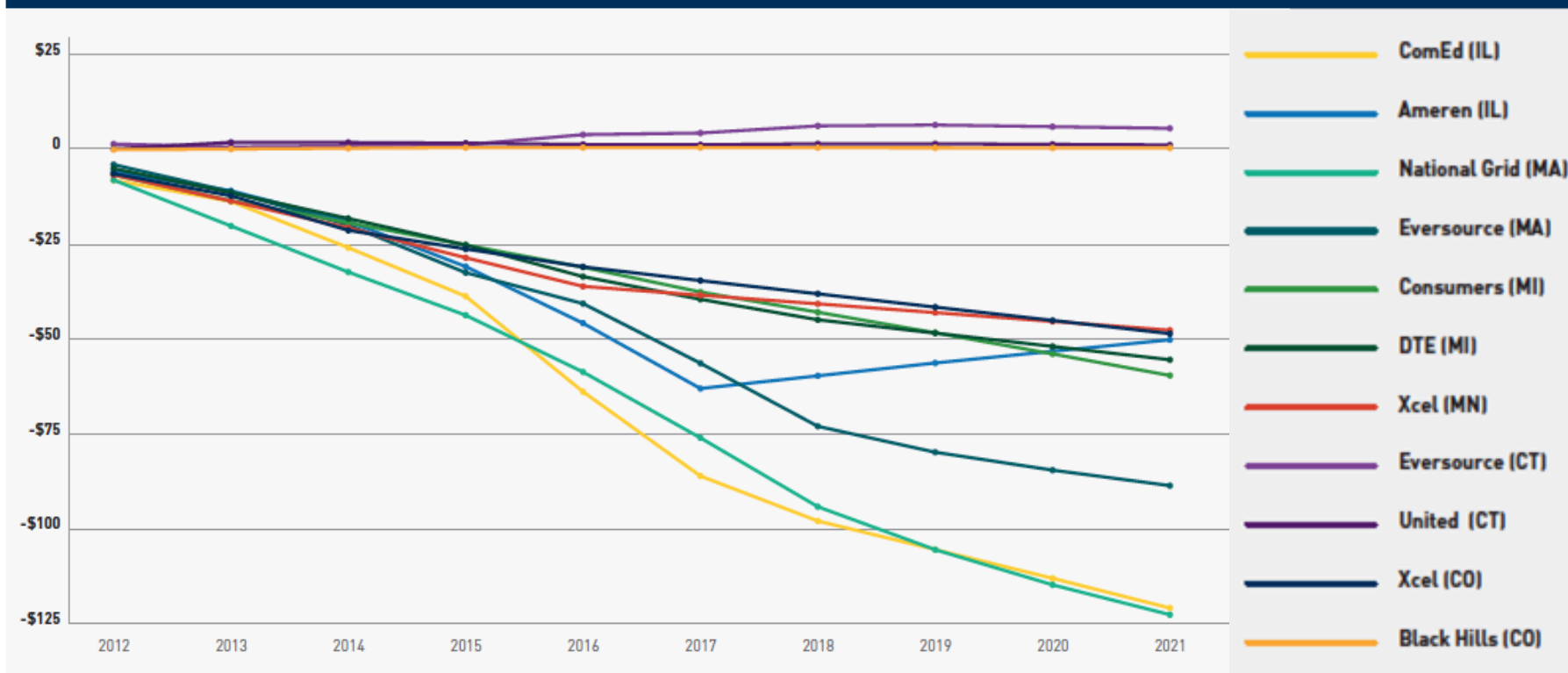


# Utility ratepayer funded rebates and incentives are also not at the scale needed, and are not equitably distributed – though they are improving

Ratepayer funded programs face resistance due to upward pressure on rates, and many have disproportionately benefited higher income households.

Traditional utility programs have not met the need

FIGURE 8: CUMULATIVE LOW-INCOME PROGRAM INVESTMENT TRENDS, INCLUDING E3B DEFICIT (\$), FOR EACH UTILITY RESIDENTIAL PORTFOLIO



A study of energy efficiency spending with ratepayer funds over the past decade by 11 large U.S. utilities shows the distribution is increasingly inequitable.







## Debt-based Consumer Energy Efficiency Loans

- Uptake of energy efficiency loans has been historically low.
- Taking out a loan is not a favorable approach but sometimes the only option when an emergency occurs.
- Better alternatives are needed, especially for low-income Americans.

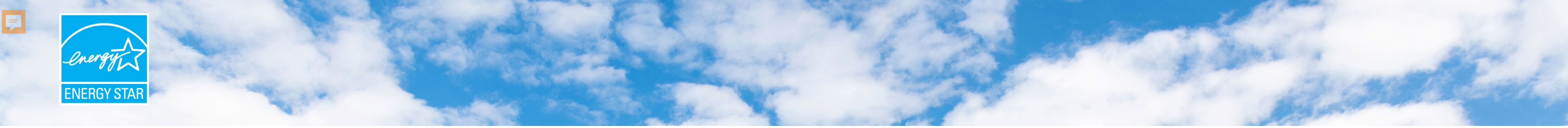
40% of the US  
is not "credit  
worthy"





Better alternatives for all incomes are needed, **especially for the most energy-burdened Americans.**

**Historically high investments** (Inflation Reduction Act Rebates) **on top of current leveraging** (Utility Income Eligibility Programs, Weatherization Programs) are **still not enough to ensure equitable access to efficient home upgrades.**



# Tailored solutions based on housing stock & residents' financial status



Housing Preservation Funds

Inclusive Utility Investment

No-Cost Grant-Based Programs and Funding

Personal savings, credit, or loans

IUI programs can coordinate available incentives and leverage **utility rebates, philanthropic grants, and free offerings like DOE's Weatherization Assistance Program** to lower costs and eliminate co-pays.





# Advancing Debt-Free options like Inclusive Utility Investment

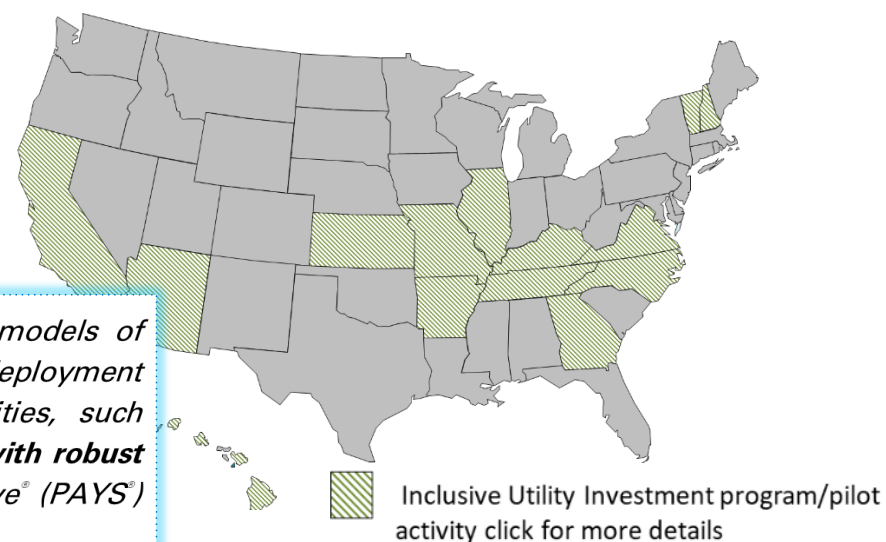
## May 2021

- ❖ EPA Administrator Michael Regan's announcement at the White House Roundtable on Accelerating Building Decarbonization with Government and Industry



*"We are working on accelerating emerging models of success at expanding the scale of efficiency deployment in underserved and overburdened communities, such as... **inclusive utility investment approaches with robust consumer protections** like the Pay As You Save® (PAYS®) model."*

Inclusive Utility Investment Program Activity in the United States (last updated May 2023)



## April 2022

- ❖ EPA launched a new hub for best practices to position "[Inclusive Utility Investment](#)" officially to distinguish this method from debt based or propriety methods.

### Inclusive Utility Investment

What is Inclusive Utility Investment? ▶

What Key Barriers Does Inclusive Utility Investment Address? ▶

Target Sectors & Measures: Who Can This Model Serve & Which Upgrades Are Best Suited to the Model? ▶

What Important Consumer Protections Should Be Included in an Inclusive Utility Investment Program? ▶

Sources of Program Capital: Where Does the Money Come from to Fund these Programs? ▶

Stakeholder Engagement ▶

### RESOURCES

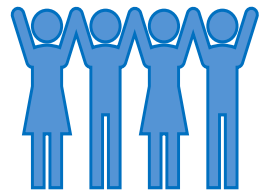
- Watch a video by Appalachian Voices: "How your electric utility can improve your home's energy efficiency"
- Resource Library
  - **New Content!** Case Study: Making Energy Efficiency Upgrades More Accessible
  - **New Content!** ENERGY STAR® Resources for State and Tribal High-Efficiency Electric Home Rebate Programs
- Current Programs
- ENERGY STAR Home Upgrade
- EPA Press Release





## Inclusive Utility Investment, rather than Tariff On-Bill

EPA is reframing the Tariff On-Bill mechanism with a comprehensive term based on best practices with strong consumer protections that is [not tied to a trademark system](#), like Pay As You Save<sup>®</sup>.



**Inclusive** = accessible to all independent of creditworthiness



**Utility** = an approved utility tariff; recovery tied to premise/site/meter vs. an individual



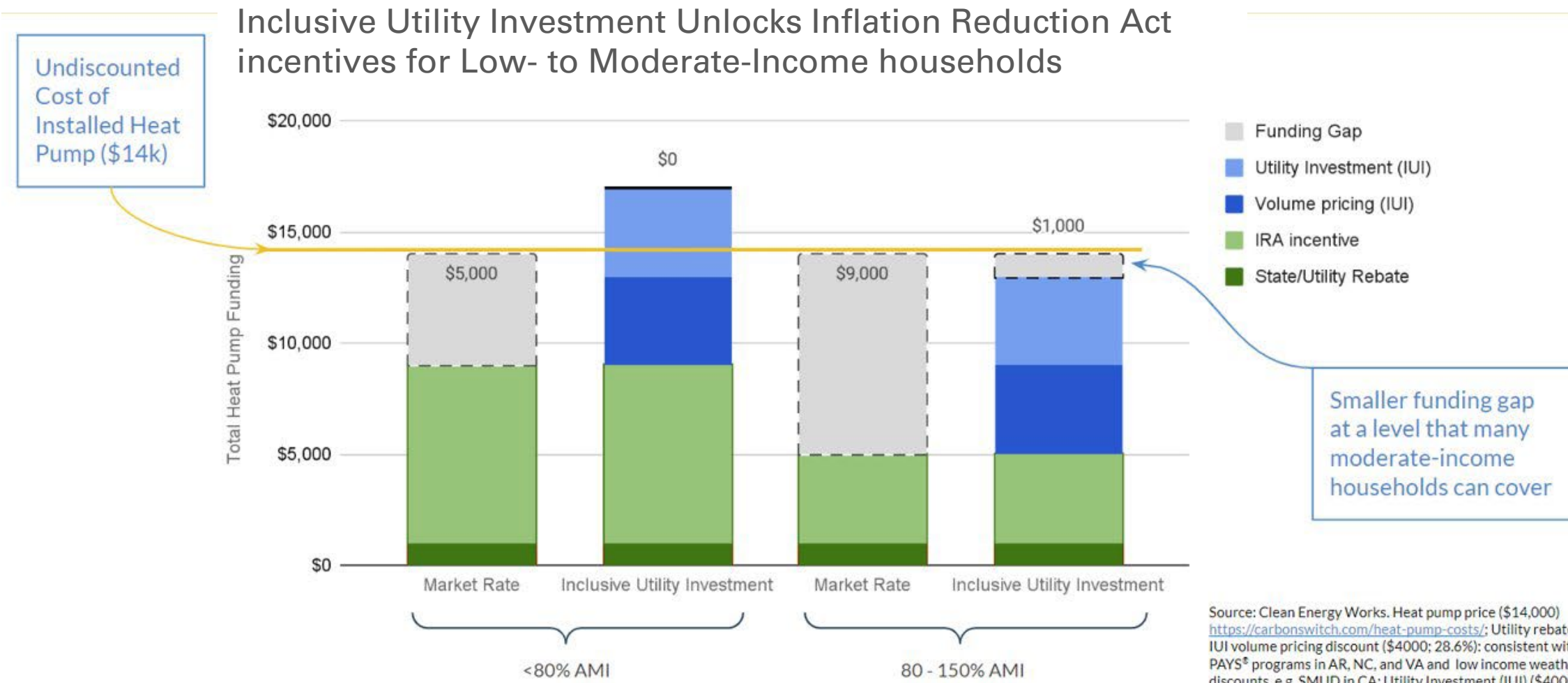
**Investment** = treated as an investment like supply side; utilities earn a rate of return/return on equity



## Inclusive Utility Investment vs Consumer Loans

Inclusive Utility Investments	Consumer Loans
Evaluates <b>savings opportunity of the building</b> , considering structure and usage history - without regard to customer's income, credit score or renter status	Evaluates the <b>customer's credit, income, assets</b>
Tied to the <b>meter</b>	Tied to the <b>property owner</b>
Available to <b>property owners and renters</b>	Available only to <b>property owners</b>
<b>Automatically applies to successor</b> customers with notice	Typically <b>not transferable</b>
Payment is subcharge of utility bill, treated the same as essential utility services, unless explicitly specified otherwise.	Debt collections typically not accepted as essential utility service, so opportunity is <b>limited to credit-approved counterparties</b>

# Inclusive Utility Investments can help low-income customers access Inflation Reduction Act rebates by combining a new source of funds and volume discounts to fully eliminate upfront costs



Source: Clean Energy Works. Heat pump price (\$14,000) <https://carbonswitch.com/heat-pump-costs/>; Utility rebate (\$1000): Assumed; IUI volume pricing discount (\$4000; 28.6%): consistent with EEtillity managed PAYS<sup>®</sup> programs in AR, NC, and VA and low income weatherization program discounts, e.g. SMUD in CA; Utility Investment (IUI) (\$4000) conservative estimate, for five programs studied by LBL average program investments ranged from \$6200-\$8200; Evergy reported average





# Using Inflation Reduction Act rebates for Inclusive Utility Investments

## Question:

Are On-Bill Tariff models considered “financing” for the purpose of the consumer protection plan (see p.39 of [the Program Requirements & Application Instructions](#))?

## Answer:

On-Bill Tariff models are not considered “financing” for the purpose of complying with the requirements in Sections 3.2.5 (Home Efficiency Rebate Program) and 4.2.5 (Home Electrification and Appliance Rebates Program).  
*Updated Oct. 4, 2023*

See p.39 of the [Program Requirements & Application Instructions](#)



# EPA Advancing Debt-Free Program Innovations

## ❖ Case Studies

- Midwest Energy's [How\\$mart Program](#)
- Philadelphia Energy Authority's [Built to Last](#)

## ❖ Summary page of existing and forthcoming Energy Efficiency Home Upgrade Assistance for Low- to Moderate-Income Households

### Case Study: Making Efficient Electrification Upgrades More Accessible



#### Leveraging Inclusive Utility Investments with the Kansas Weatherization Assistance Program

**How\$mart** is an Inclusive Utility Investment program of Midwest Energy - a customer-owned electric and gas cooperative in western Kansas. The program successfully collaborates with the Kansas Weatherization Assistance Program (WAP) to make efficiency upgrades accessible to more of its members. The collaboration came about through weatherization program staff and Midwest's auditors attending the same trainings and certification programs. The natural synergy between the programs led to a partnership that assists members who are eligible for WAP to obtain more comprehensive energy efficiency upgrades that WAP funds would not cover. They found that the WAP program could fund and implement air sealing, insulation, and duct sealing upgrades, and How\$mart could fund installations of heating and cooling systems. Over the past twelve years, How\$mart has successfully referred hundreds of members to the Kansas WAP program and 90 members have been referred by the Kansas WAP to Midwest Energy.

In Hays, Kansas, Frida Smith's<sup>1</sup> home was drafty, with a few bills forced her to cut back on other necessities. There were no home improvements. Fortunately, she was able to request cost through the Department of Energy's WAP run through WAP auditor recommended installing attic insulation, air sealed, and a certified air conditioner. Based on the savings and cost of the attic insulation, air sealing, and furnace could be funded by the relationship between the WAP and Midwest Energy audit fund the installation of a new air conditioner at no upfront cost, recovered by the utility through a tariff of about \$20/month she decide to move. The combined upgrades are saving \$100/month and a successful collaboration resulted in a safer, more comfortable and lower cost heating and cooling that frees up almost \$400/month.

Midwest Energy is a customer-owned electric and natural gas cooperative in western Kansas. Their How\$mart program allows for cost recovery over equipment. Unlike most Inclusive Utility Investment programs using the Payoff the Tariff Early, though 80% of members to date have not opted to pay off the tariff early, though 80% of members to date have not opted to pay off the tariff early.

For more information on Inclusive Utility Investment visit [www.energystar.gov](http://www.energystar.gov). Learn about the ENERGY STAR Home Upgrade at [www.energystar.gov/homeupgrade](http://www.energystar.gov/homeupgrade).

<sup>1</sup> Note: the name in the case study has been changed to protect the member's privacy.



### Case Study: Making Efficient Electrification Upgrades More Accessible



#### A Holistic "One-Stop Shop" Home Repair & Efficient Electrification Program

**Built to Last (BTL)** is a "one stop shop" whole home repair program created to serve homeowners who are living in neighborhoods with high poverty rates across the City of Philadelphia. The program was created by the Philadelphia Energy Authority (PEA) and brings the city's home repair, energy conservation, and healthy homes programs into a coordinated service package. BTL allows programs to layer and streamline their services to address common pain points for serving overburdened households. Existing programs' current funding, when layered strategically, can provide 60-70% of the funds needed to fundamentally restore homes. BTL finds external funding to fill in the gaps to avoid deferrals and get the projects completed.

Homeowners in Philadelphia apply through a single application that screens eligibility for all benefits and allows for inter-agency data sharing while protecting personal information. Eligible benefits are identified, and homeowners are screened for government, nonprofit, and utility housing services: Weatherization Assistance Program (WAP), Lead and Healthy Homes, Basic Systems Repair Program funded by Community Development Block Grants, aging in place and adaptive modification programs, utility energy and water conservation programs, Low Income Usage Reduction Program, and programs run by Habitat for Humanity Philadelphia. Required home improvements are matched with applicable funding sources and construction is managed and streamlined across multiple programs.

BTL concluded its first pilot in 2022 and served 50 homes. The results were clear and positive:

- 100% reported feeling safer in their homes,
- 50% reported improvements to their chronic illness,
- 50% reported lower utility costs.



Photo caption: Senator Casey, Secretary Granholm, and Nancy with her new heat pump and rooftop solar system.



<sup>1</sup> Source: Policy Options to Enable an Equitable Energy Transition (PDF, 3.01 MB) [EXIT](#)



# Example – 26% Savings, Low- to Moderate Income



### Current Status

- Baseboard heat
- Insufficient insulation
- Drafty
- 2,167 kWh monthly avg usage

### Intervention

- Mini-splits
- Attic insulation
- Air sealing

### Energy Savings

- 564 kWh est. monthly savings (26%)

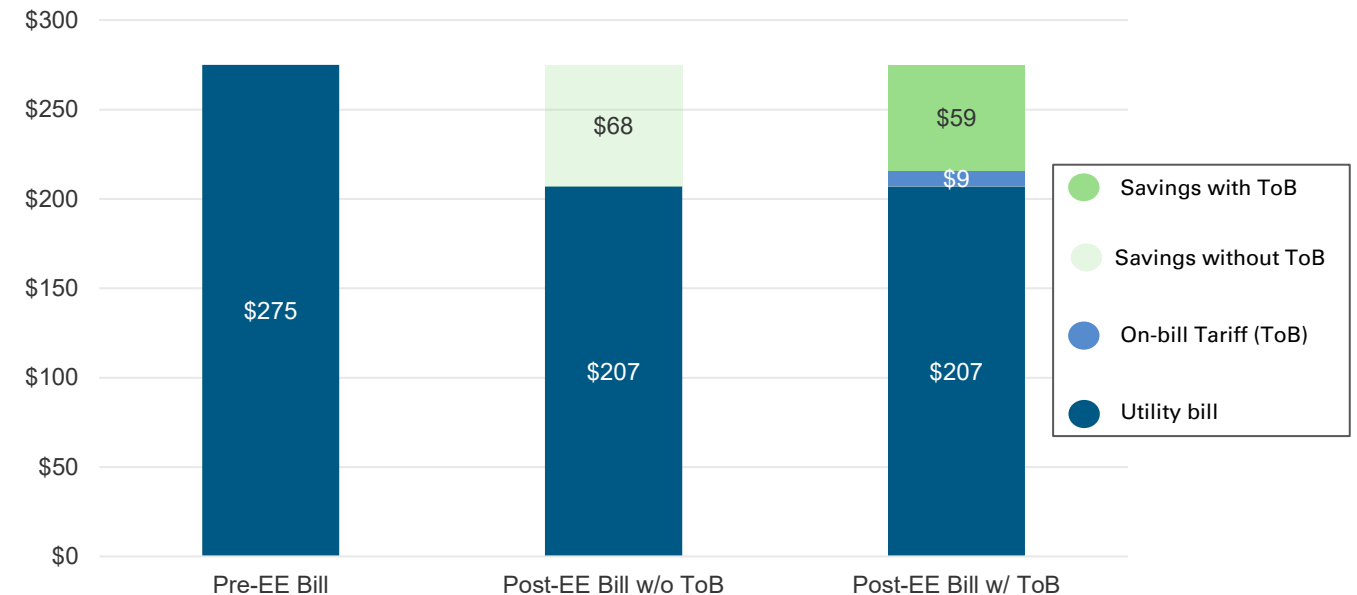
## 5-Year Customer Value Proposition

ToB?	No	Yes
<b>Upfront Cost</b>	\$736	\$0
<b>Bill Savings</b>	\$4,080	\$3,540
<b>Net Savings</b>	\$3,344*	\$3,540*

\*Does not account for the added value to the house

Total Cost	<b>\$15,000</b>
<b>HEEH Rebate</b>	<b>-\$9,600</b>
Smart \$aver ER&R	<b>-\$4,664</b>
<hr/>	
Remaining Cost	<b>\$736</b>
ToB or Upfront Cost	<b>-\$736</b>
<hr/>	
<b>Remaining Upfront Cost</b>	<b>\$0</b>




Est. Monthly Average Bill





Inclusive Utility Investment (IUI) should **not be viewed as a substitute for zero-cost energy efficiency and bill-payment assistance programs**. It's not a solution for everyone.

IUI typically cannot serve households with:

-  ➤ Curtailed energy use
-  ➤ Structural or health and safety issues
-  ➤ Prohibited fuel-switching

Coordinating (i.e. braiding, layering, leveraging or stacking) available incentives and services can be particularly valuable to serving overburdened sectors. Programs leverage **utility rebates, philanthropic grants, and free offerings like Weatherization Assistance Program** to lower costs and eliminate co-pays.