



# Reaching the Hard to Reach: Low-Income and Multifamily Energy Efficiency Programs

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American Council for an Energy-Efficient Economy

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The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors.

Our research explores economic impacts, financing options, behavior changes, program design, and utility planning, as well as US national, state, & local policy.

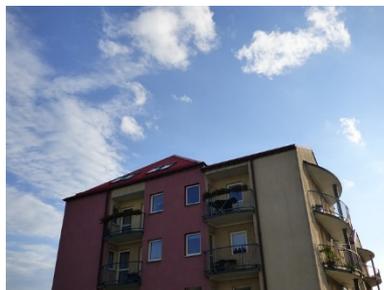
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# Presentation overview

1. Low-income and multifamily program landscape
2. Multifamily specific programs
3. Low-income programs
4. Remaining challenges & opportunities



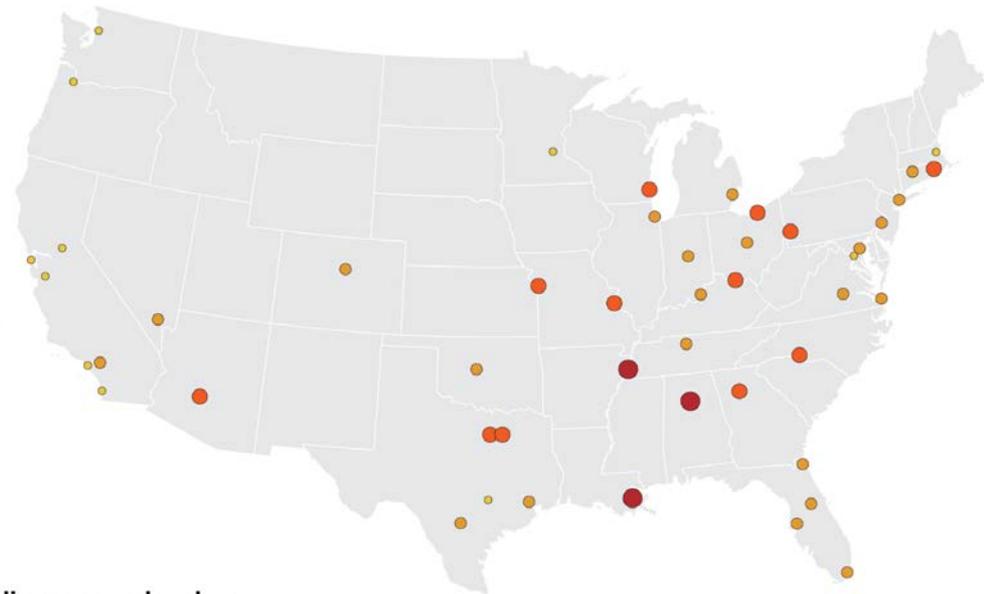
# Why are low-income and multifamily households hard to reach?

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- Older and less efficient appliances, equipment, and homes
- Lack of discretionary capital to invest in energy efficiency measures
- For renters, the “split incentive” problem and lack of authority to make property modifications
- Utility programs have historically overlooked this sector
- Higher energy costs as a share of income than more affluent households

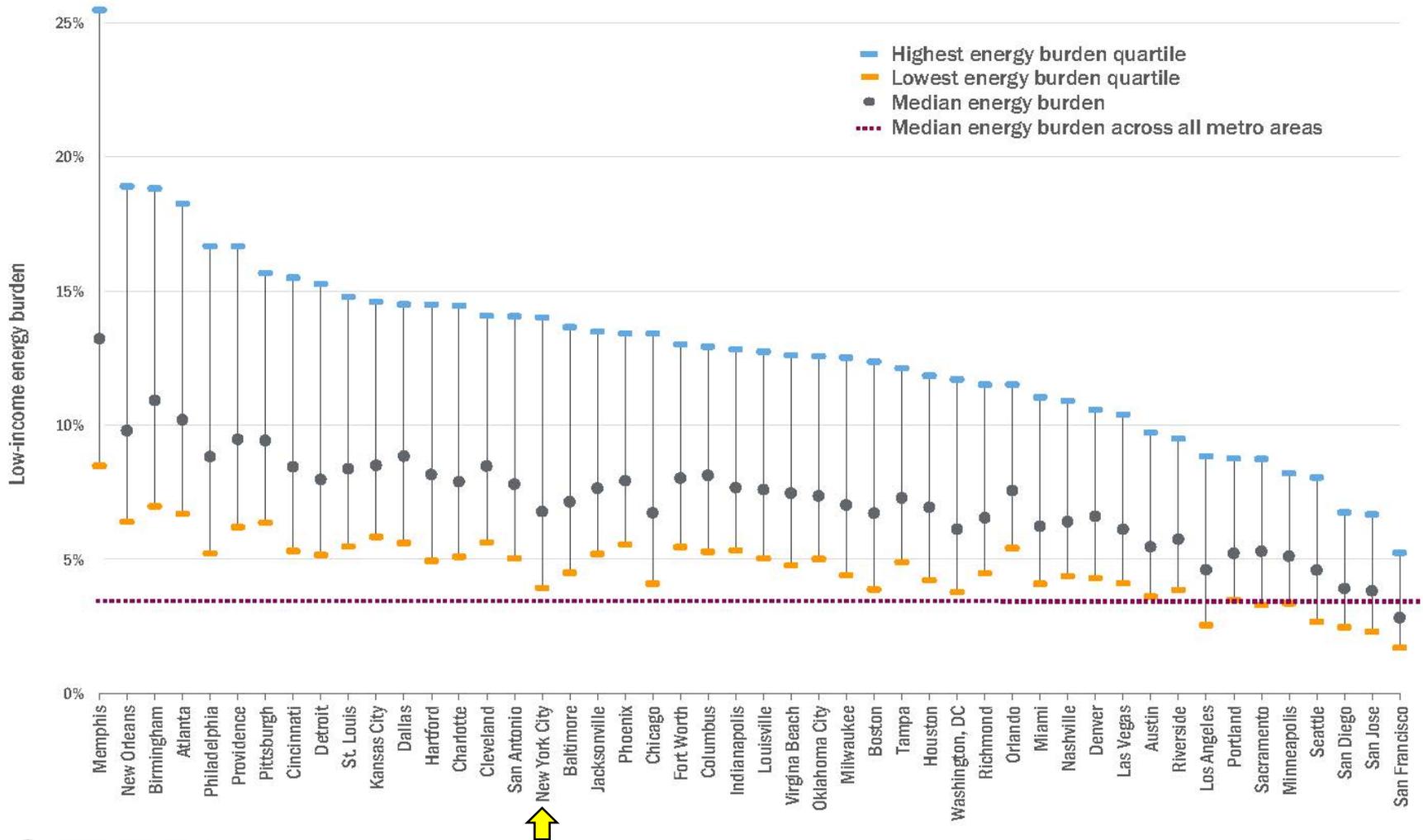
# High energy burdens

- Low-income households pay more per square foot
- Nationally, low-income and multifamily energy burdens are more than three times higher than non-low-income households
- Median NYC energy burdens:
  - Low-income 6.8% (7.2% nationally)
  - Low-income multifamily 5.7% (5.0% nationally)
  - City average 3.7% (3.5% nationally)
- NY PSC's 2016 Energy Affordability Policy of 6% burden across state



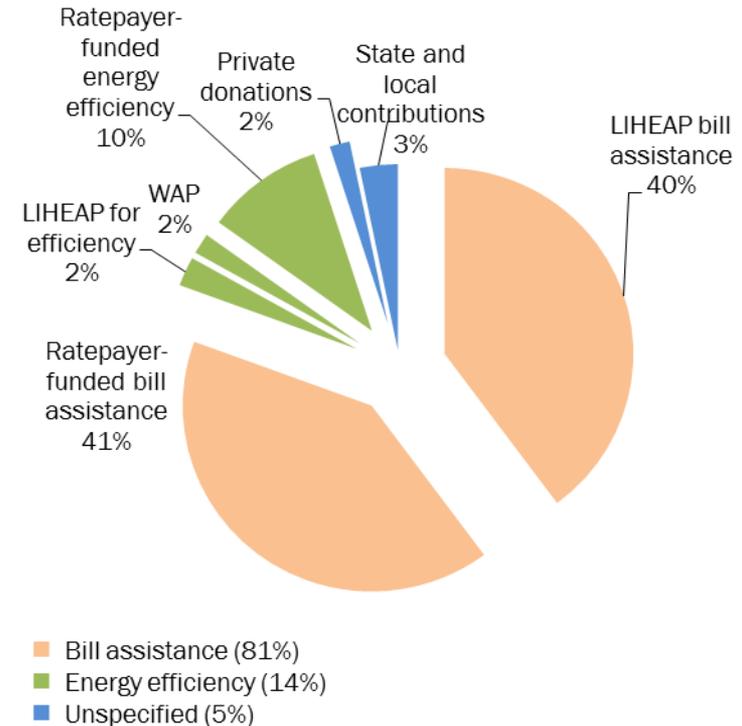
Median energy burden  
● 5+% ● 4-5% ● 3-4% ● 1-3%

# Range of energy burden quartiles for low-income households in the 51 largest MSAs



# Program landscape

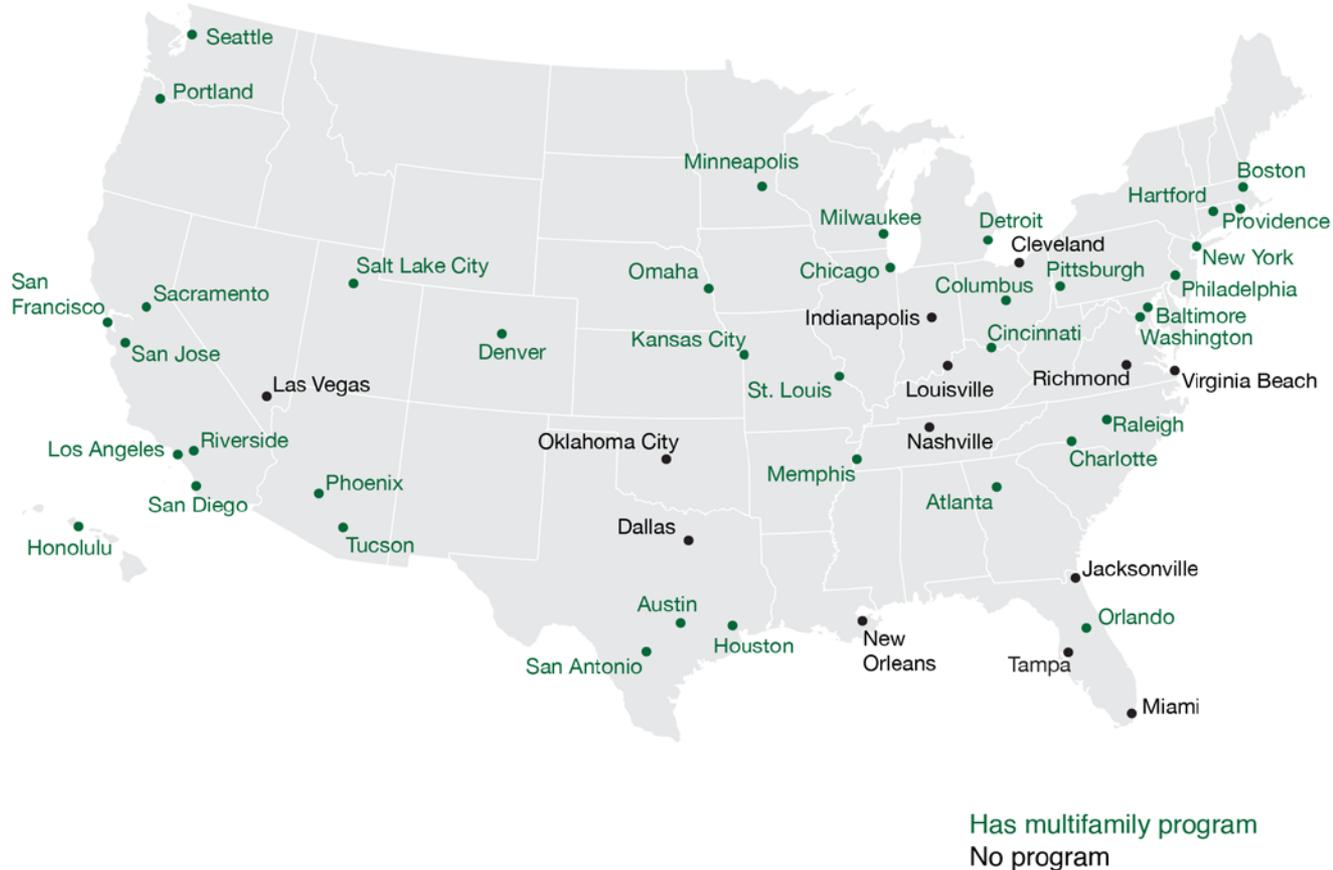
- Funding for low-income efficiency programs:
  - Ratepayer funding
  - Weatherization Assistance Program
  - LIHEAP funding for efficiency
- Low-income and multifamily program customer bases differ
  - Households vs. building owners
- Low-income and multifamily programs not mutually exclusive
  - But most low-income programs overwhelmingly serve single family



# Multifamily Housing Markets Trends

(Data from US Census Bureau American Community Survey 2014 Estimates)

# Research overview



This research updates ACEEE's 2013 assessment of multifamily energy efficiency programs in US metropolitan areas with the most multifamily households. Using recent housing, policy, and utility-sector data we document how these programs have changed in the context of dynamic housing markets and statewide policy environments.

# Housing Market Trends

- Multifamily households occupy roughly a fifth of the national housing market.
  - These households occupy two-fifths of the New York City (NYC) metro area.
- Renters occupy nearly 90% of all multifamily homes
  - Only 17% of multifamily buildings in the NYC metro area are master-metered.
- Multifamily households increased 6.4% between 2011 and 2014 in the NYC metro area.



Image Source: Ben Frederick Realty 2017

# Housing Market Trends

- Most multifamily buildings were built before 2000, with a large number built before 1980.

## Metropolitan areas with the most multifamily units built 1979 or earlier

Metropolitan area	Percentage built 1979 or earlier
New York-Newark-Jersey City	79%
Cleveland-Elyria	73%
Providence-Warwick	72%
Pittsburgh	68%
Chicago-Naperville-Elgin	66%
Urban Honolulu	65%
Boston-Cambridge-Newton	65%
Los Angeles-Long Beach-Anaheim	64%
Hartford-West Hartford-East Hartford	64%
San Francisco-Oakland-Hayward	64%
Philadelphia-Camden-Wilmington	63%



Image Source: A Chicago Sojourn Blog 2014

# Multifamily Program Characteristics

# Comprehensive Multifamily Programs



Comprehensive  
Not comprehensive

# Multifamily Programs

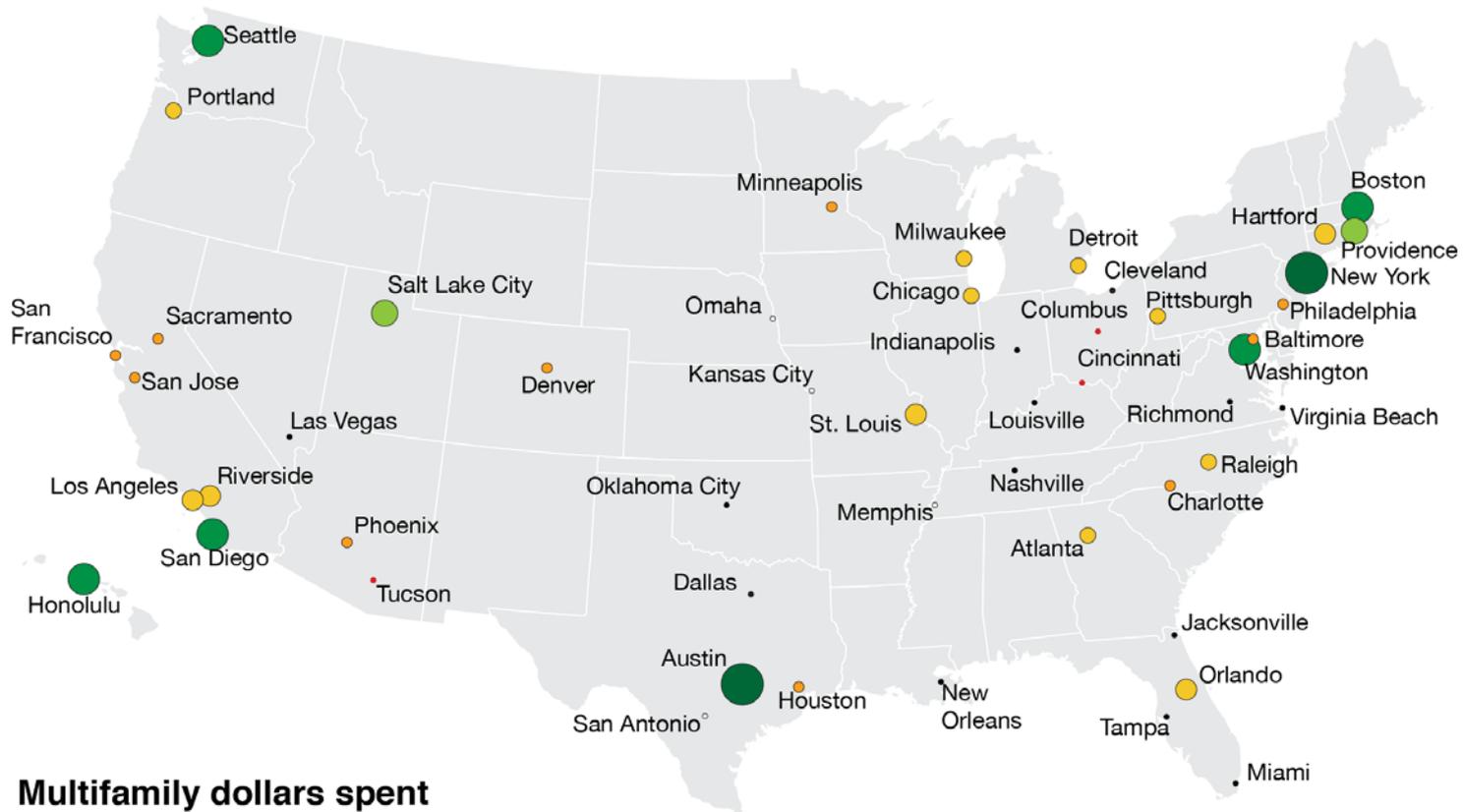
- \$291.1 million spent on multifamily programs in 2015 - nearly tripled from 2011.
- Average multifamily program spending is still no more than 6% of total energy efficiency spending in metro areas.
- Spending on NYC multifamily programs accounted for 23% of all energy efficiency program spending.

Multifamily electricity and natural gas sales by US Census Bureau region

Region	Total multifamily sales (MMBTU)	Multifamily share of all sales
Northeast	434,711,070	27%
Midwest	333,032,970	12%
South	327,772,829	6%
West	227,779,372	10%
All regions	1,323,296,241	11%

Source: EIA 2012, 2016a, 2016b

# Multifamily Program Spending



**Multifamily dollars spent  
as a percentage of  
total energy efficiency spending**



# Low-Income Baseline Assessment

(Data from surveys sent to utilities and utility demand side management reports)



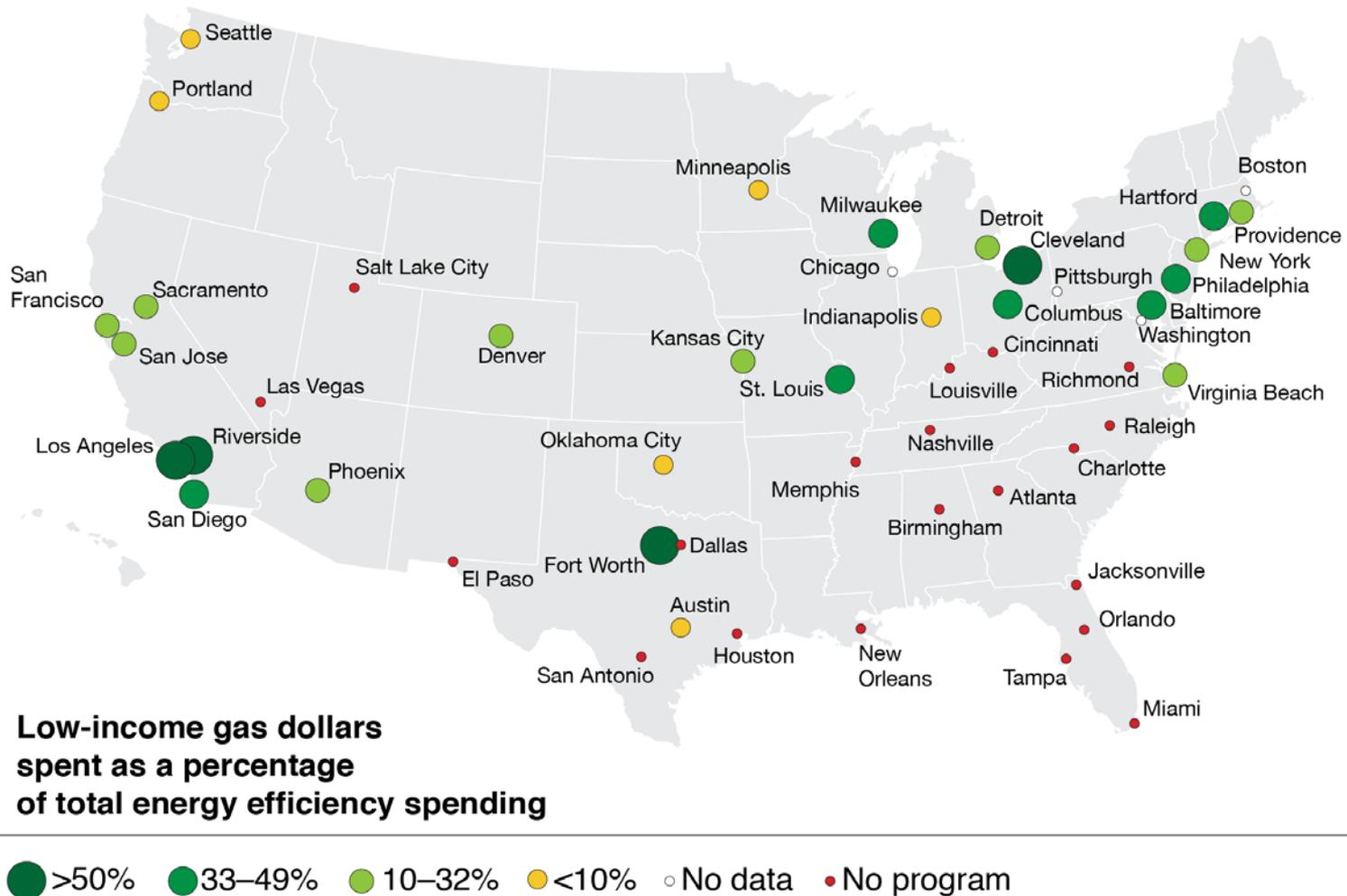
# NYC Low-Income Spending and Savings

For programs serving Con Ed and National Grid customers

Electric Spending	NYSERDA (for Con Ed customers):	\$4,933,450
Natural Gas Spending	NYSERDA (for National Grid customers):	\$7,645,304
	NYSERDA (for Con Ed customers):	\$8,017,028
	Con Ed funding:	\$3,360,000
Electric Savings	NYSERDA (for Con Ed):	7,882.9 MWh
Natural Gas Savings	NYSERDA (for National Grid):	1.07 MMtherms
	NYSERDA (for Con Ed):	1.55 MMtherms
	Con Ed funding:	1.0 MMtherms

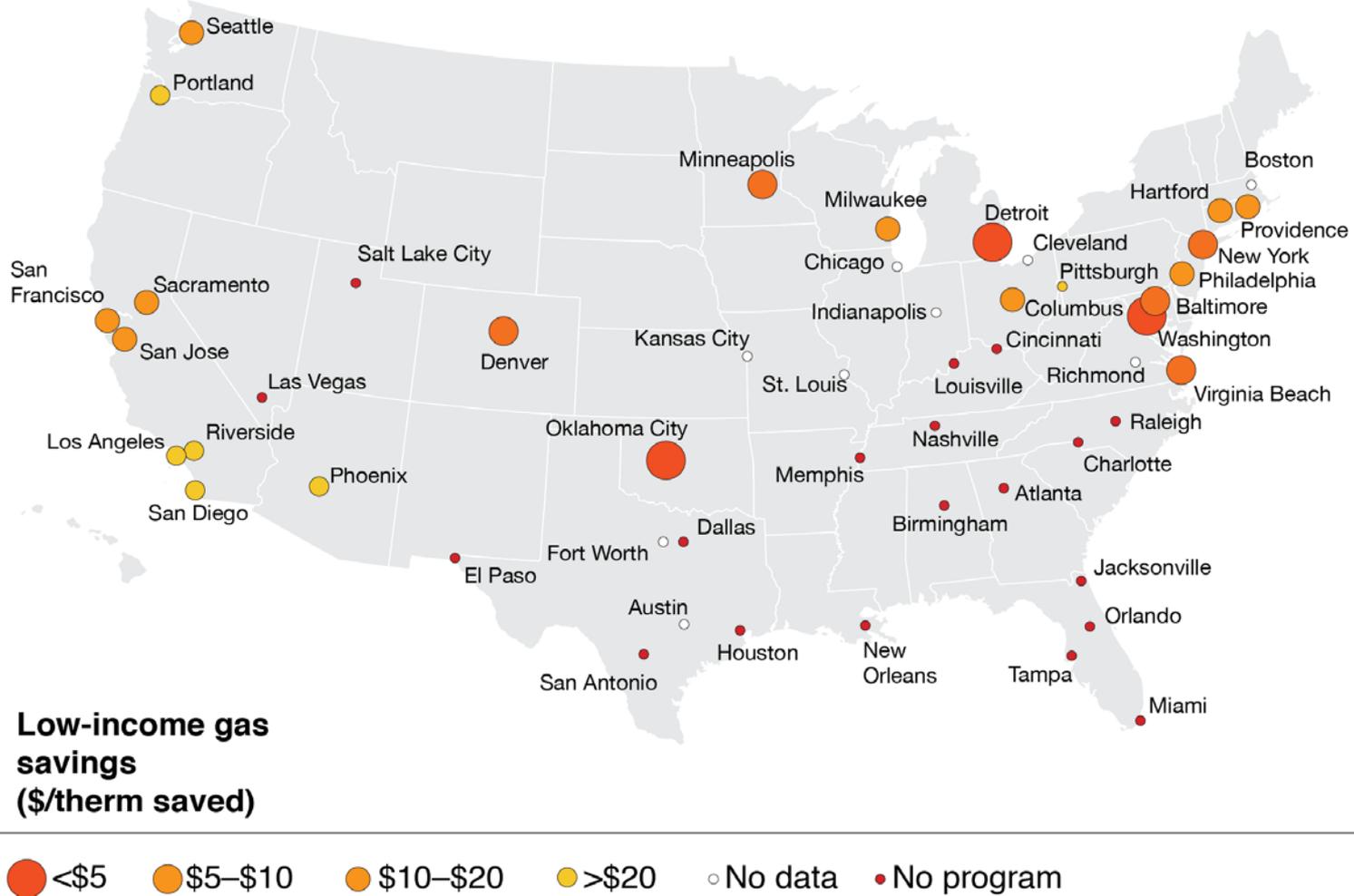


# Natural gas low-income program spending



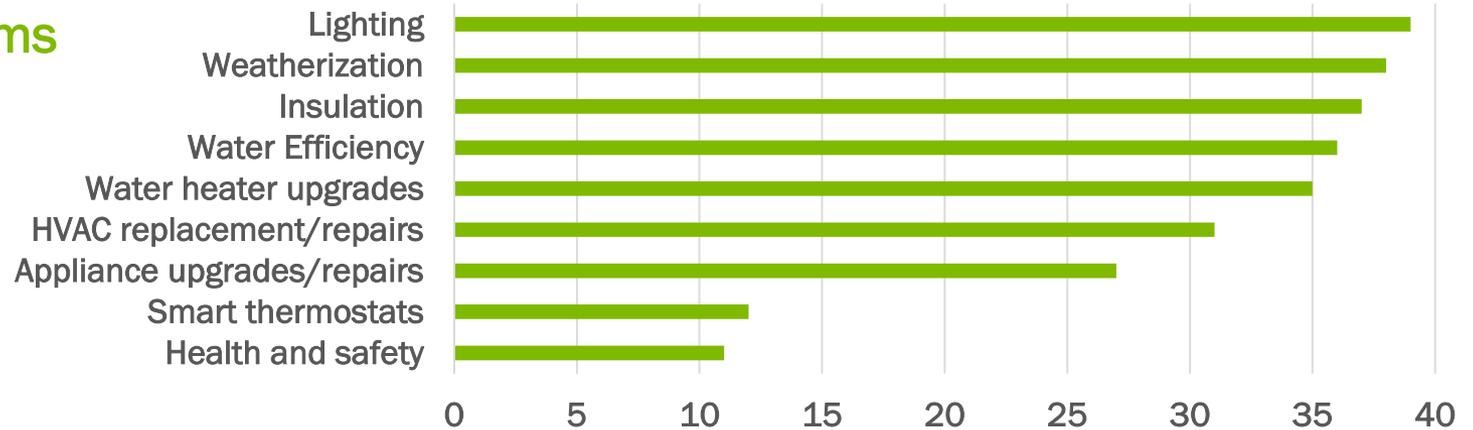


# Natural gas low-income program savings

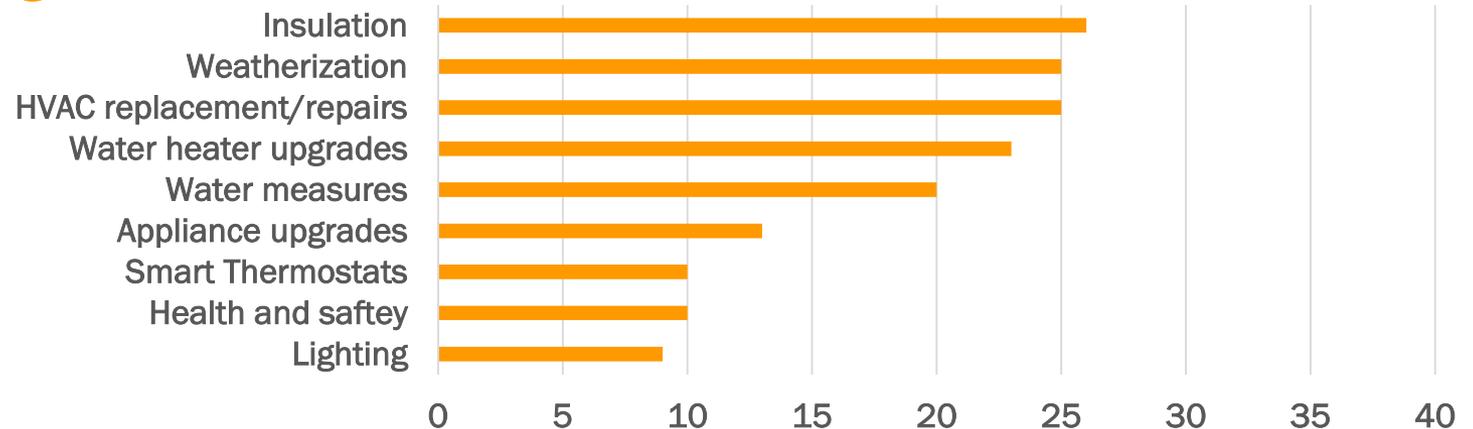


# Low-income program measures by utilities serving 51 largest MSAs

## Electric Programs

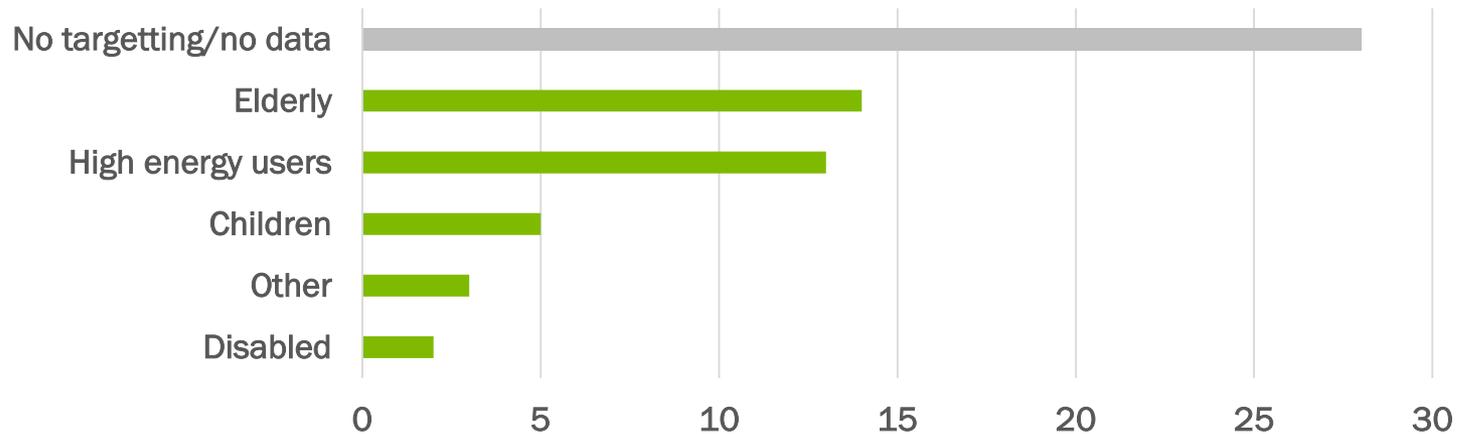


## Natural Gas Programs

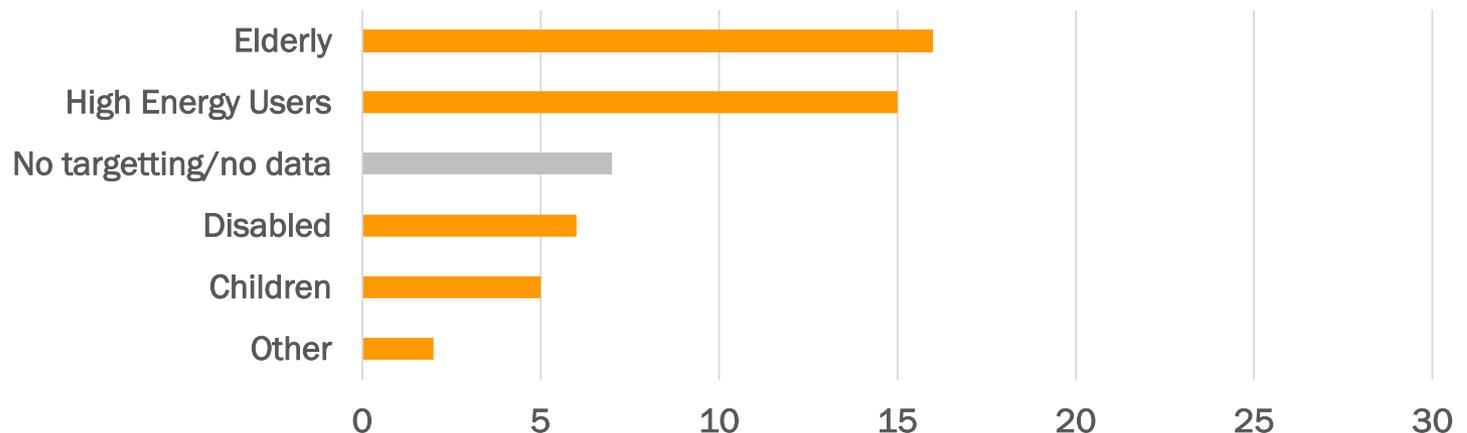


# Low-income program targeting by utilities serving the 51 largest MSAs

## Electric Programs

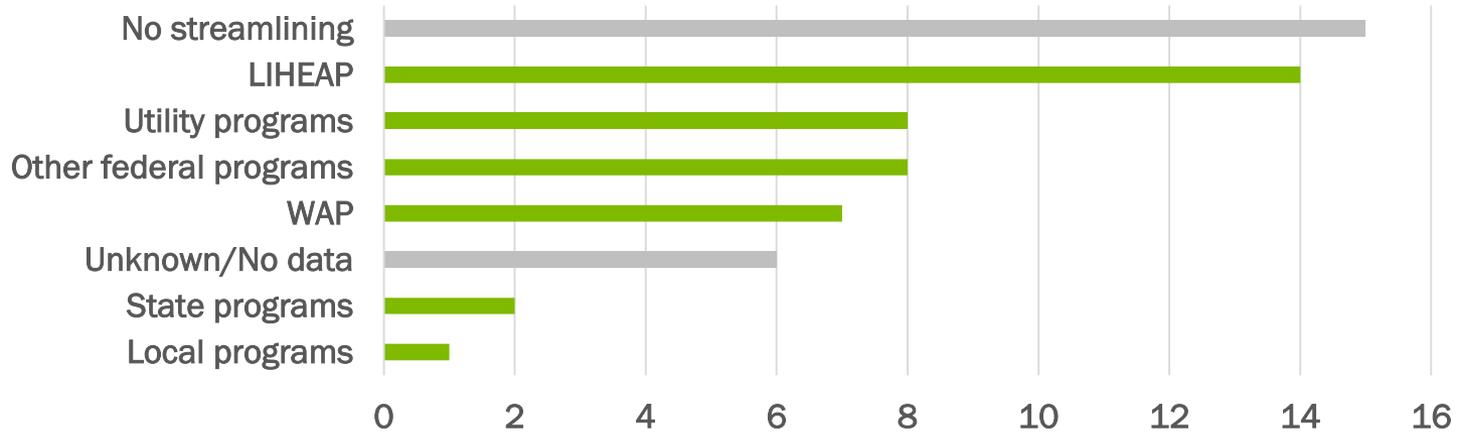


## Natural Gas Programs

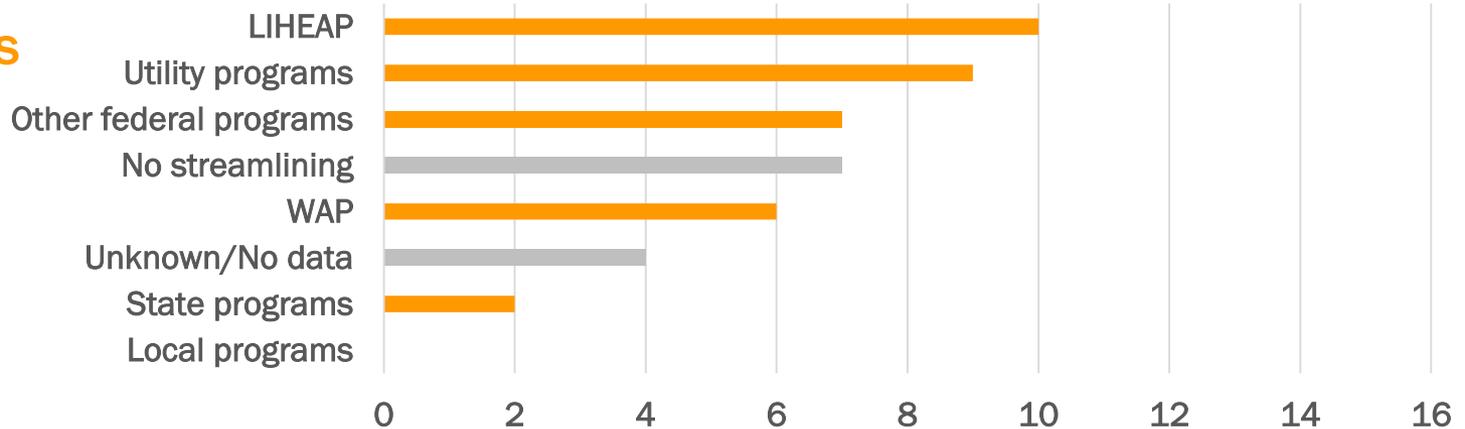


# Low-income program streamlining by utilities serving the 51 largest MSAs

## Electric Programs



## Natural Gas Programs



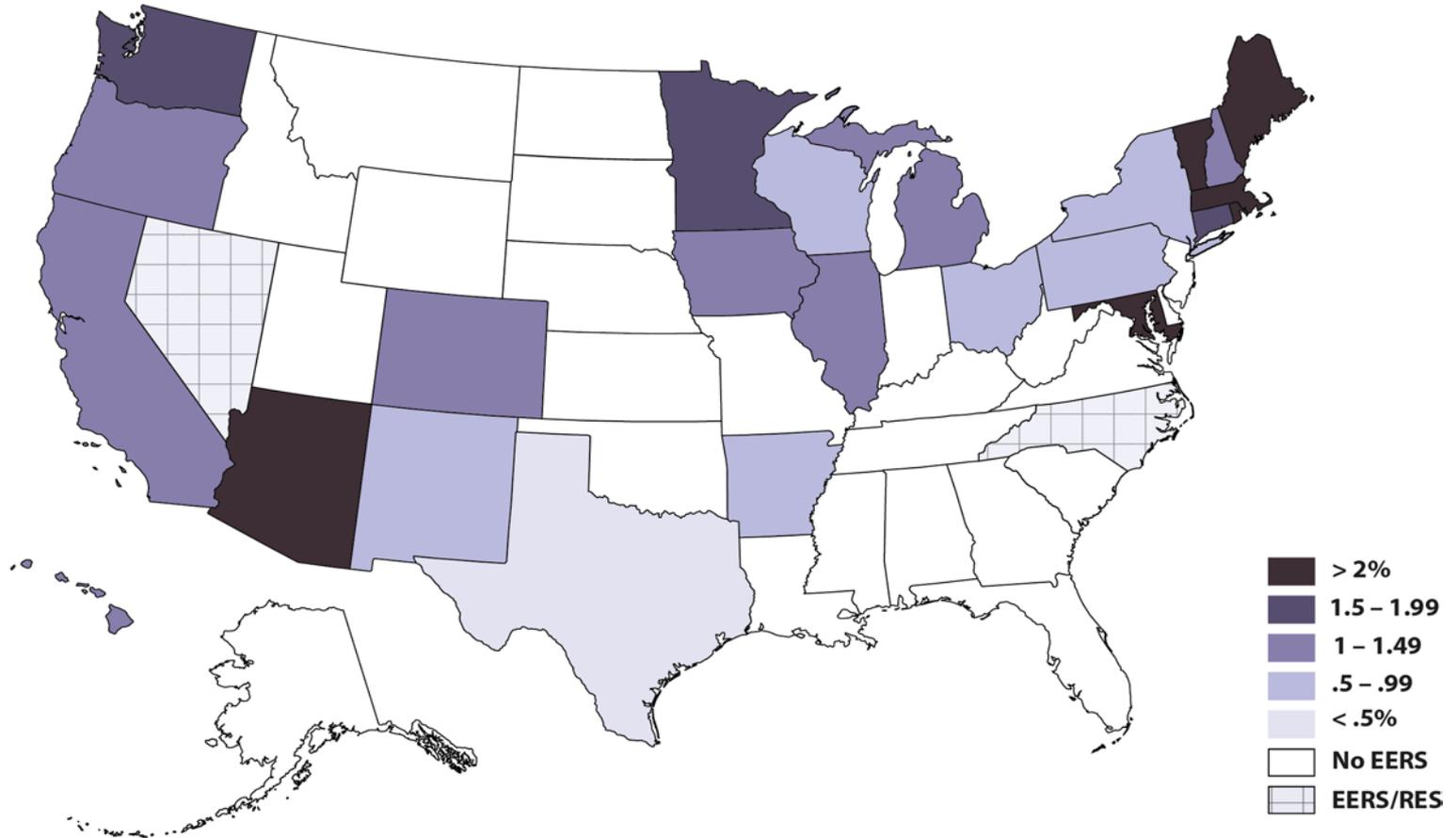
# Remaining Challenges and Opportunities

# Remaining low-income and multifamily challenges & opportunities for NYC

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- While accounting for cost effectiveness, there may be opportunities to increase low-income and multifamily spending.
  - **PUCs can set carve-outs for required spending, savings, or participation from low-income programs or adjust cost-effectiveness standards for low-income programs**
- There are opportunities to increase savings targets over time.

# State EERS Adoption and Savings Targets





# Remaining low-income and multifamily challenges & opportunities

- Incorporating more best practice elements.
- Include multiple benefits of energy efficiency in cost-effectiveness tests.
  - **NY State's TRC does not explicitly address nonenergy benefits, but NY PSC generally recognizes low-income specific benefits for low-income program funding.**
- Collect, track, and report demographic data on program participation.



# Additional multifamily challenges & opportunities

- Unsubsidized low-income multifamily buildings are still largely underserved.
  - **Two-thirds of affordable multifamily units in New York do not receive housing subsidies.**
- Multifamily building owners need better access to financing for efficiency upgrades.
  - **Offer on-bill financing options.**
  - **Partner with local lenders such as community development finance institutions (CDFIs) to provide low-interest loans.**

# ACEEE Resources

## Low-Income Program Resources

- ❖ Low-Income Baseline Assessment, forthcoming
- ❖ Building Better Energy Efficiency Programs for Low-Income Households, 2016: [aceee.org/research-report/a1601](http://aceee.org/research-report/a1601)
- ❖ Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities, 2016: [aceee.org/research-report/u1602](http://aceee.org/research-report/u1602)
- ❖ Low-Income Energy Efficiency Programs: Best Practices and Clean Power Plan Compliance, 2016: <http://aceee.org/white-paper/cpp-low-income>

## Multifamily Program Resources

- ❖ More Savings for More Residents: Progress in Multifamily Housing Energy Efficiency, 2017: <http://aceee.org/research-report/u1702>
- ❖ Reaching More Residents: Opportunities for Increasing Participation in Multifamily Energy Efficiency Programs, 2016: <http://aceee.org/research-report/u1603>
- ❖ Multiple Benefits of Multifamily Energy Efficiency for Cost-Effectiveness Screening, 2015: <http://aceee.org/multiple-benefits-multifamily-energy-efficiency>
- ❖ Apartment Hunters: Programs Searching for Energy Savings in Multifamily Buildings, 2013: <http://aceee.org/research-report/e13n>

## Utility Working Groups

- ❖ Multifamily Utility Working Group
- ❖ Low-Income Utility Working Group

# Questions?

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