SCEP
STATE & COMMUNITY ENERGY PROGRAMS

Low-Income Energy Affordability Data (LEAD) Tool

The Low-Income Energy Affordability Data (LEAD) Tool helps states, local governments, utilities, nonprofits, and other stakeholders make data-driven decisions on energy goals and program planning by improving their understanding of low-income and moderate-income household energy characteristics.

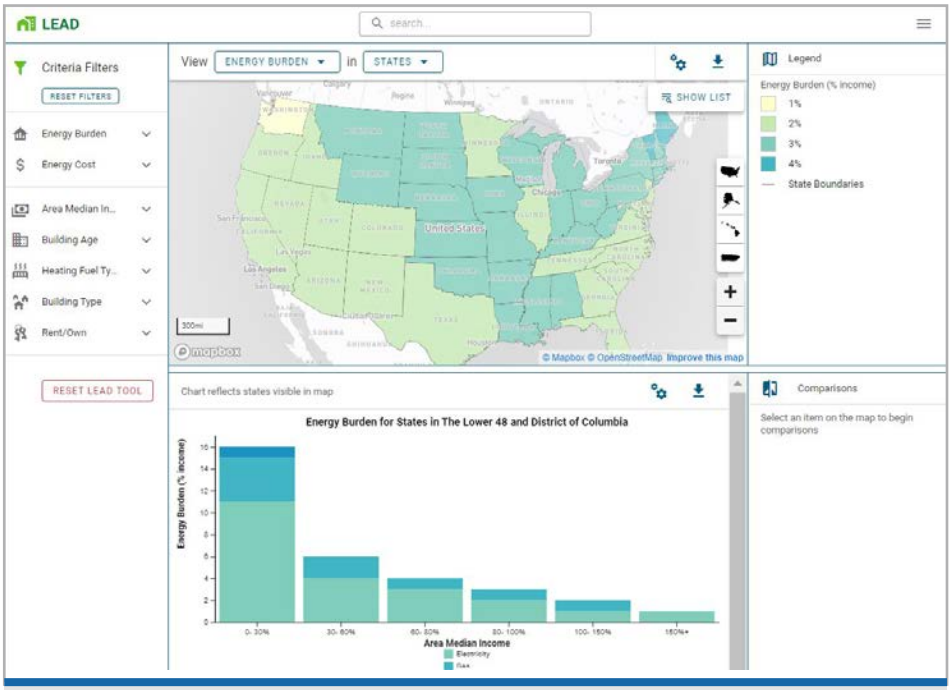

Illustration of LEAD Tool map for average energy burden (energy cost as a percentage of income) in the United States

What is the LEAD Tool?

The LEAD Tool is an online, interactive platform that allows users to explore and compare various national, state, city, or county profiles with estimated, locally specific low-to-moderate income household energy characteristics. The tool allows users to download interactive maps, charts, and data for housing unit counts; average monthly housing electricity, gas, and other fuel expenditures; and average energy burden tabulated by the following categories:

Geographic levels:

- Fifty states plus D.C. and Puerto Rico
- Census tract
- Census tract with disadvantaged community identifier
- City
- County
- National.

Demographic data:

- Race
- Education attainment.

Cost of energy:

- Average annual energy expenditures
- Average energy burden as a percentage of income spent on energy.

Number of occupied housing units and energy expenditures by:

- Tenure (homeowners or renters)
- Building year of first construction
- Building type (number of units in the building)
- Housing unit primary heating fuel type.

Household characteristics:

- Area Median Income: 0–30%, 30–60%, 60–80%, 80–100%, 100–150%, 150%+
- Federal Poverty Level (FPL): 0–100%, 100–150%, 150–200%, 200–400%, 400%+
- State Median Income: 0–30%, 30–60%, 60–80%, 80–100%, 100%+
- Average annual household income
- Number of households.

LEAD
LOW-INCOME ENERGY AFFORDABILITY DATA
TOOL
U.S. DEPARTMENT OF ENERGY

Explore the LEAD Tool here:

https://www.energy.gov/scep/slsc/lead-tool

What is Energy Burden?

Energy burden is defined as the percentage of gross household income spent on energy costs. Based on LEAD Tool data, the national average energy burden for low-income households is 6.7%. A low-income household is a household that makes less than 80% of the Area Median Income.

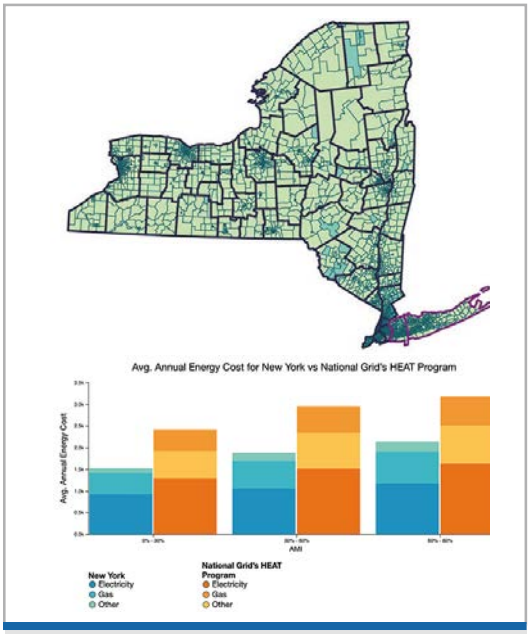

Illustration of LEAD Tool "combination" feature for National Grid's HEAT program in New York using 2020 LEAD tool data. See National Grid Case Study.

Where does the data come from?

LEAD Tool data comes primarily from the U.S. Census Bureau's American Community Survey 2022 Public Use Microdata Samples (Five-Year Average, 2018–2022) and is calibrated to the U.S. Energy Information Administration's electric utility (Survey Form-861) and natural gas utility (Survey Form-176) data from 2022.

How have communities used the LEAD Tool?

The LEAD Tool has been used by stakeholders to improve understanding of low-income and moderate-income characteristics in their locality, identify target areas, start new low-income programs, and use the information for outreach or educational purposes. The tool can also be used to inform strategic planning or to support independent research.

LEAD is not meant to be used as a substitute for program or policy evaluations, or to track the impact of a program or policy. It should not be used as a program management tool, and it will not provide information on year-to-year changes because it is based on five-year running averages.

Case Studies

- National Grid: Used the LEAD Tool to target energy affordability services to eligible customers in New York state.
- State of Kentucky: Used LEAD Tool data to fund energy efficiency programs for the state of Kentucky.
- Carrboro, North Carolina: Supported Carrboro in achieving building efficiencies for low-income households.
- New Haven, Connecticut: Assisted New Haven to target low-income household energy savings.
- Rochester, New York: Assisted Rochester in reducing energy costs for low-income households.

Share your questions, comments, and use cases with us: LEAD.Tool@hq.doe.gov.

Next Step Resources

- State and Local Planning for Energy Platform (SLOPE): Explore energy and environmental justice data layers such as low-to-moderate income electricity bill savings potential and rooftop solar potential.
- Better Building's CELICA Toolkit: This toolkit provides materials to help program administrators reduce energy burden for low-income communities.
- The U.S. Department of Energy's (DOE's) Weatherization Assistance Program (WAP) Resource Hub: Provides weatherization services to approximately 35,000 homes every year using DOE funds.
- DOE's Home Energy Rebates Program: Rebates can help households save money on select home improvement projects that can lower energy bills.
- ENERGY STAR's Information on Federal Tax Credits for Energy Efficiency: Through 2032, federal income tax credits are available to homeowners that will allow up to $3,200 annually to lower the cost of energy efficient home upgrades by up to 30%.
- State & Local Solution Center Resources: Searchable resources to enable strategic investments in energy efficiency and renewable energy technologies.

For more information, visit: https://www.energy.gov/scep/slsc/lead-tool

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