National Grid: Using the LEAD Tool Data to Target Energy Affordability Services to Eligible Customers in New York

What is the LEAD Tool?

The U.S. Department of Energy's (DOE's) web-based Low-Income Energy Affordability Data (LEAD) Tool[1] helps stakeholders make data-driven decisions on energy goals and program planning by improving their understanding of low-income and moderate-income household energy characteristics.

The LEAD Tool is an online, interactive platform that allows users to build their own national, state, county, city, or census tract profiles. LEAD provides estimated low-income household energy data based on:

- Income
- Energy expenditures
- Fuel type
- Housing type.

The LEAD Tool is based on 5-year averages from U.S. Census Bureau and DOE's Energy Information Administration data.

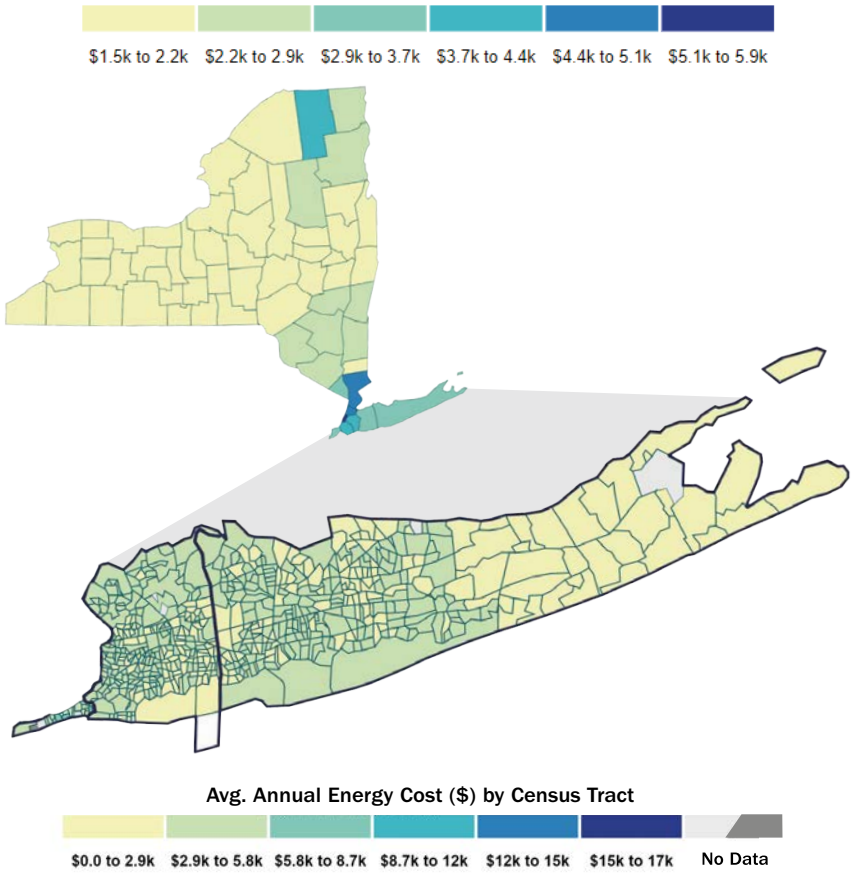

Figure 1. Average annual energy cost ($) for households that meet HEAT program criteria in New York state (by county) and in National Grid's Long Island service territory (by census tract). (Source: 2020 LEAD Tool Data).

Utilities of all types and sizes can use the LEAD Tool to access information about communities they serve. As an example, utilities can identify the number of customers within a service territory likely to meet certain program eligibility criteria as determined by household income level or housing type. Investor-owned utility company National Grid did just that and used LEAD to support the implementation of its Home Energy Affordability Team (HEAT),[2] a weatherization program for income-eligible residential natural gas customers in its service territory on Long Island, New York. The HEAT program is representative of National Grid's efforts to assist residential utility service customers with energy affordability. Using data, graphs, and charts from the LEAD Tool, National Grid was able to determine how many households may be eligible for their program. The company then compared 2020 LEAD Tool data[3] with their internal enrollment data to inform additional marketing efforts for HEAT.

[1] U.S. Department of Energy. n.d. "Low-Income Energy Affordability Data Tool." https://www.energy.gov/scep/slsc/lead-tool.
[2] National Grid. 2017. "Manage your utility bills with our Energy Affordability Program" https://www.nationalgridus.com/media/pdfs/billing-payments/cm6862-energy-affordability_li-282729-28329.pdf.
[3] LEAD Tool data that showcased number and geographic distribution of eligible households in the National Grid's Long Island service territory.

National Grid's Weatherization Program for Income-Qualified Account Holders in Nassau and Suffolk Counties and Far Rockaway in Queens

National Grid provides natural gas and electricity services to customers in New York, as well as Massachusetts and Rhode Island,[4] and offers energy affordability programs that vary by service territory. The HEAT program, launched in April 2017, provides energy efficiency services such as free home energy assessments, health and safety checks, direct install measures, and weatherization upgrades to income-eligible natural gas customers in Nassau and Suffolk counties and the Far Rockaway area of Queens County.[5]

National Grid used the LEAD Tool to identify and compare the average annual energy cost for households in the Long Island service territory that meet the following criteria:

(1) Are owner-occupied.

(2) Earn 60% or less of area median income (AMI).[6]

(3) Reside in buildings with one to four housing units.

(4) Use natural gas for home heating.

This helped National Grid estimate how many households may be eligible for the HEAT program in the service area. The data showed an average annual energy cost of $3,130 for Nassau County, $2,979 for Suffolk County, and $3,124 for New York state. These energy costs are the same or higher relative to other counties nearby (Figure 1). The data also shows that homes occupied by households eligible for the program are older on average than those in the rest of New York state. The combination of high energy costs and older housing stock indicates that a higher proportion of homes in these areas may benefit from the HEAT program's weatherization upgrades such as attic insulation and air sealing.

Using LEAD to Assess How Many Customers Are Eligible for HEAT

One challenge of implementing the HEAT program was identifying customers who meet eligibility requirements. National Grid searched its customer database for households that had previously received assistance with home energy bills through New York state's Home Energy Assistance Program (HEAP)[7] and initially identified over 10,500 potentially eligible customers. Program managers then used the LEAD Tool to compare their internal count of eligible customers with public data, graphs, and maps of the area.

Housing Counts for Nassau County vs Suffolk County vs Far Rockaway in Queens

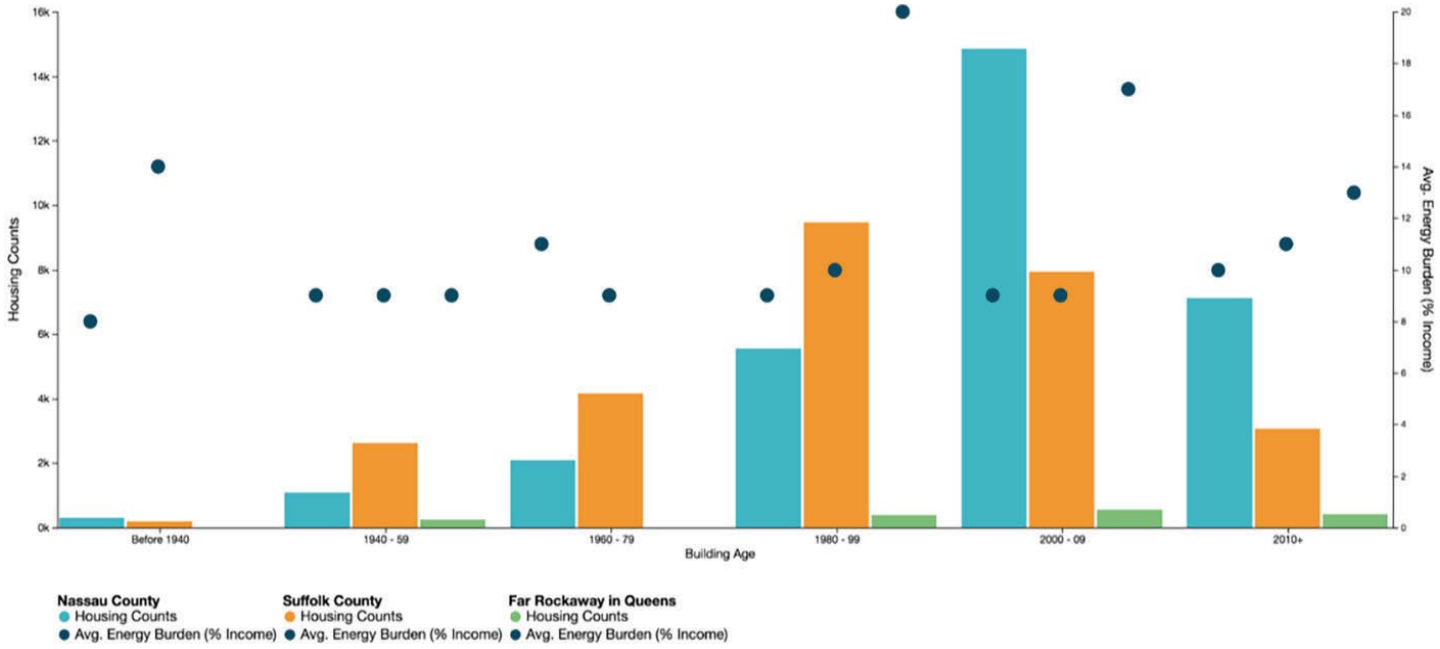

Figure 2. Housing counts and average energy burden (% income) by building age for households that meet HEAT program criteria in National Grid's Long Island service territory. (Source: 2020 LEAD Tool Data)

[4] National Grid. "About National Grid." https://www.nationalgridus.com/Our-Company/.
[5] National Grid refers to this service territory as KEDLI, for KeySpan Energy Delivery Long Island.
[6] State and county-level income limits are updated every fiscal year and are based on the number of people per household. Income limit documentation is available at https://www.huduser.gov/portal/datasets/il.html.
[7] New York state. "Apply for Heating and Cooling Assistance (HEAP)." https://www.ny.gov/services/apply-heating-and-cooling-assistance-heap.

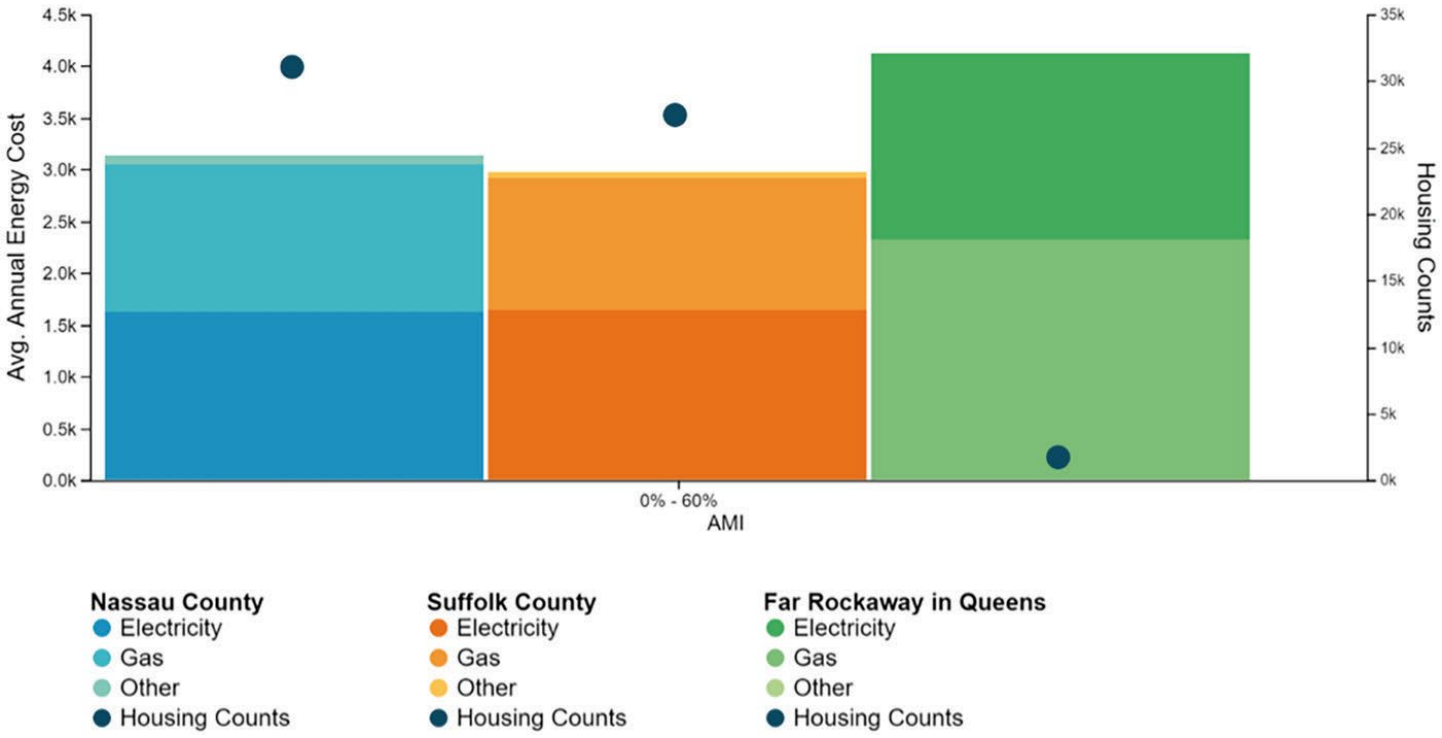

Figure 3. Comparison of average annual energy cost ($) and count of HEAT-eligible households in Nassau and Suffolk counties and Far Rockaway in Queens County, New York. (Source: 2020 LEAD Tool Data)

The LEAD Tool allows users to simultaneously compare household energy characteristics in geographic regions at the national, state, county, city, and census tract levels. National Grid program managers used this comparison feature to view the entire service area in which the HEAT program is offered, with the census tracts of Far Rockaway grouped together for a side-by-side comparison with the two counties, Nassau and Suffolk.

Customizations can be saved in the LEAD Tool using the configuration feature, and it allows users to save and share via a link to the tool with the selected locations and household criteria immediately available. National Grid used the HEAT program's eligibility criteria to create a custom query in the LEAD Tool and downloaded data on eligible households in the geographic area (Table 1). The utility found that more than 60,000 households in the Long Island service territory met their eligibility criteria. Comparing this data with their National Grid Customer Service System records revealed that LEAD had identified an additional 49,500 households in the service territory that may be eligible for the program, a significant increase in identified potential eligible households. This discovery prompted National Grid to consider expanding its efforts to reach those additional customers.

Location Name	Annual Energy Cost (Electricity)	Annual Energy Cost (Gas)	Annual Energy Cost (Other)	Annual Energy Cost (Total)	% of Annual Energy Cost for Gas	Housing Counts
Nassau County	$1,630	$1,414	$86	$3,130	45%	31,021
Suffolk County	$1,646	$1,268	$65	$2,979	43%	27,422
Far Rockaway in Queens	$1,797	$2,323	$6	$4,126	56%	1,755
Region Combined	**$1,642**	**$1,374**	**$74**	**$3,090**	**44%**	**60,198**

Table 1: Average annual energy cost ($) breakdown and housing counts for eligible households in Nassau and Suffolk counties and Far Rockaway in Queens County, New York. (Source: 2020 LEAD Tool Data)

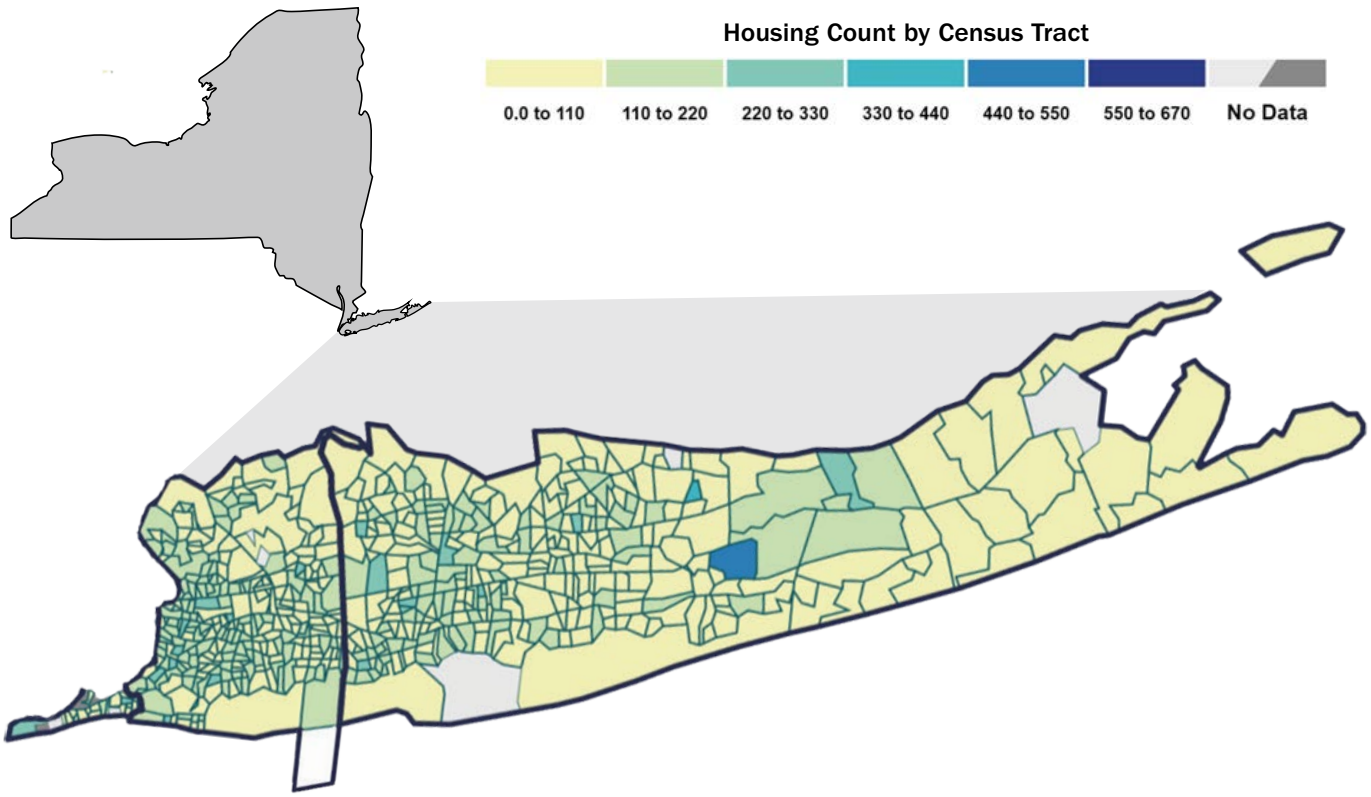

Figure 4. Housing counts by census tract of households eligible for HEAT in National Grid's Long Island service territory. (Source: 2020 LEAD Tool Data)

Other programs could also use the LEAD Tool in a similar manner to National Grid. This could include identifying "missing" eligible participants and developing targeted program outreach.

Conclusion

National Grid used the LEAD Tool to identify opportunities to expand the outreach efforts of HEAT, a program that provides energy efficiency and related weatherization services to income-qualified natural gas customers in the Long Island service territory, by validating its count of eligible customers and identifying where additional outreach was needed. Further, participation in the HEAT program increased annually from its inception in 2017 through 2019. National Grid's program managers see the LEAD Tool's potential for use in designing new offerings. Utilities of all sizes and types in the United States can use the LEAD Tool in similar ways to gain insights, better address customer energy affordability needs, identify "missing" eligible participants, and developing targeted program outreach.

Find additional resources on the LEAD Tool website and SLOPE Platform.

LEAD
LOW-INCOME ENERGY AFFORDABILITY DATA
TOOL
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