

# **US federal resource allocations are inconsistent with concentrations of energy poverty**

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## **Abstract-**

Recent data from the US Energy Information Administration reveals that nearly one in three households in the United States report experiencing energy poverty, and this number is only expected to rise. Federal assistance programs exist, but allocations across states have been nearly static since 1984, while the distribution of energy poverty is dynamic in location and time. We implement a LASSO-based machine learning approach using sociodemographic and geographical information to estimate energy burden in each US census tract for 2015 and 2020. We then compare the allocation to states from the Low Income Home Energy Assistance Program to an optimized allocation. We allocate funds to the most burdened households, providing them with enough assistance to reduce their energy expenditures so that their household energy burden is equal to a new maximum allowable energy burden. This markedly shifts funds from the northern cold-weather states to the southern warm-weather states.

## **Index Terms-**

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