

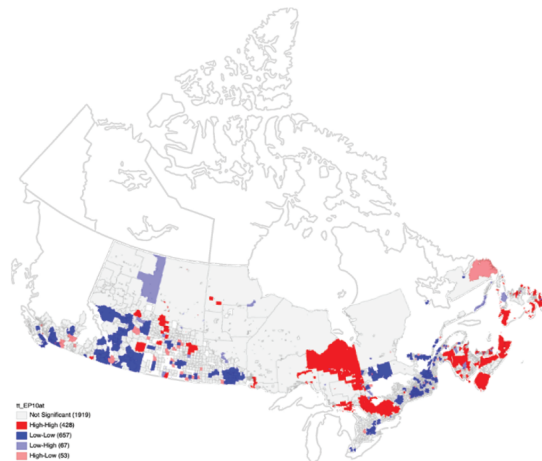
Exploring the Spatial Distribution of Energy Poverty in Canada

by Ellen Grubbs

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Energy poverty occurs when a household experiences a lack of sufficient energy services in the home (such as cooking, heating, etc.) and is estimated to occur in 6 to 19 percent of households in Canada (Riva et. al., 2021). Despite growing interest in energy poverty research, there has been no exploration of the geographic condition of energy poverty in Canada to date. A spatial understanding of energy poverty is essential for alleviating its negative externalities and to construct appropriate public policy. By employing both (i) exploratory spatial data analysis (ESDA) techniques -- including global and local cluster—and (ii) confirmatory methods such as logistic regression, this study explores the geographic variation of energy poverty in Canada using data from the 2016 Canadian Census. This analysis employs both the 10%, where a household is classified as energy poor when 10% of its income after-tax is dedicated to energy expenses; and 2M indicators, where the household spends twice the national median share of its income on energy expenses. The analysis reveals that there is a positive spatial clustering of energy poverty at the census subdivision level in both expenditure-based measurements (the 10% and 2M). The odds of belonging to a high-high (HH) cluster of energy poverty are significantly higher for CSDs marked by high percentage people who are 65 years or older and households that classify as in need of major repair. High-high clusters are mostly found in Atlantic Canada and in rural areas, and low-low clusters are mostly in Quebec and in urban areas.

LISA Cluster Map of Energy Poverty prevalence measured using the 10% after-tax indicator by census subdivision, 2016.



Source: Author's own. With data from Statistics Canada, 2016 (Census);
Generated in GeoDa with a K-5 Nearest Neighbor spatial weight.

