

Household Energy Billing Through an Equity and Fairness Lens: A Winnipeg Perspective

CITY 7020- CAPSTONE PROJECT
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Introduction

Energy bills play a vital part in housing and rent affordability. High energy bills have the ability to increase the housing cost for renters and homeowners beyond the acceptable expenditure threshold for housing affordability. Therefore, successfully negotiating the energy billing curve will create a positive effect on housing affordability.

The purpose of this project is to analyze the uptake of Manitoba Hydro's energy efficiency programmes and the issues that continue to impact high energy consumption in Winnipeg, especially among low-income households.

The interviews, spatial data analysis and rental scan revealed that the current nature of affordable energy initiatives does not yield universal benefits to neighbourhoods in Winnipeg.

Research Questions

- How have energy initiatives been implemented and applied to utility costs for low income households in Winnipeg?
- Do the energy initiatives provide equal opportunities and benefits to renters and homeowners especially in low-income neighbourhoods?
- Are there existing and potential conflicts between encouraging reduced energy consumption and equity for low-income households and in what ways can these conflicts be mitigated?

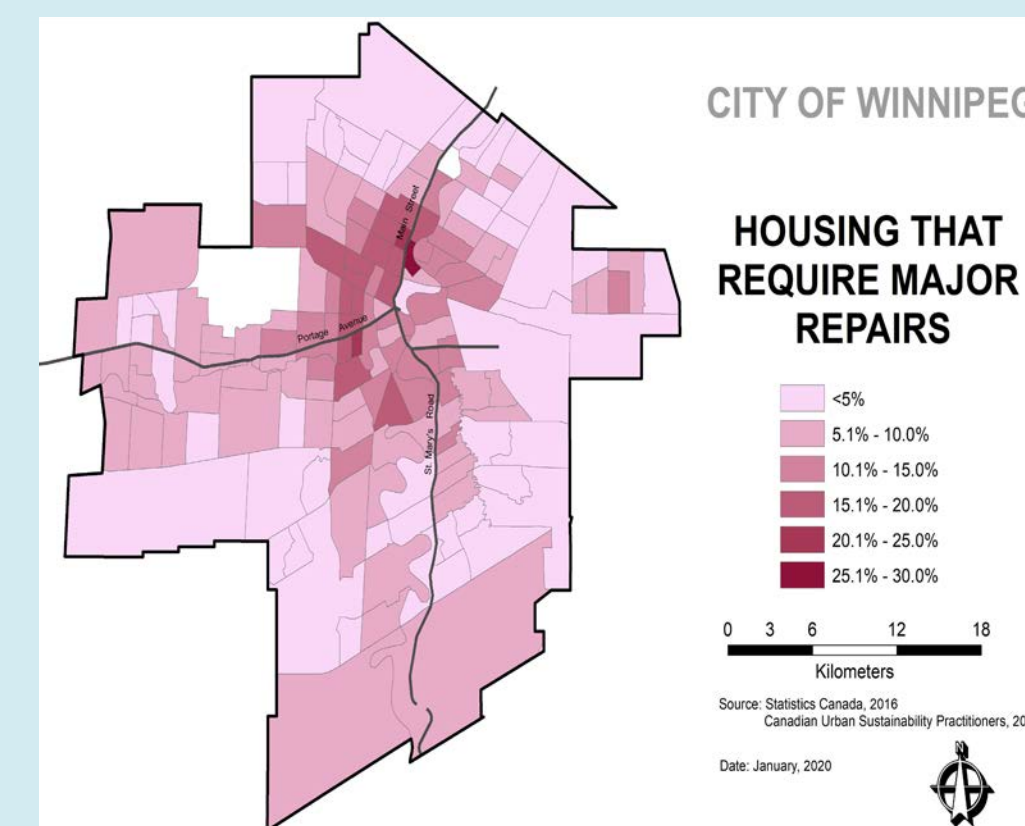
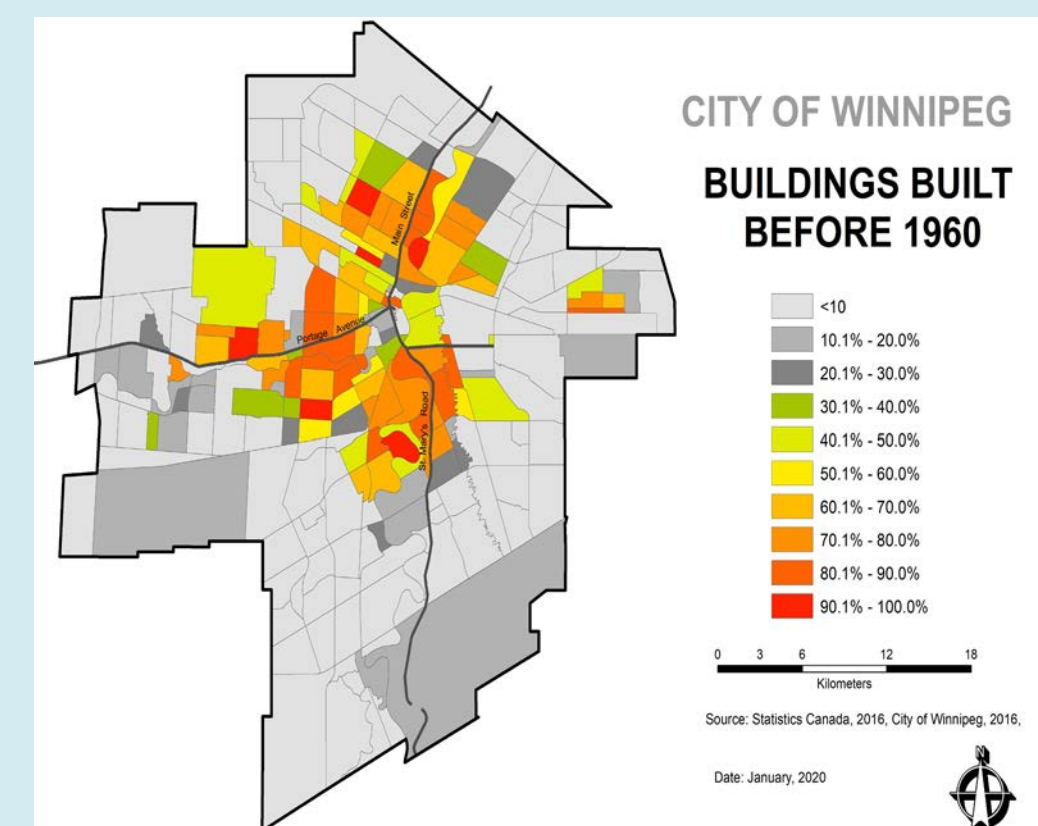
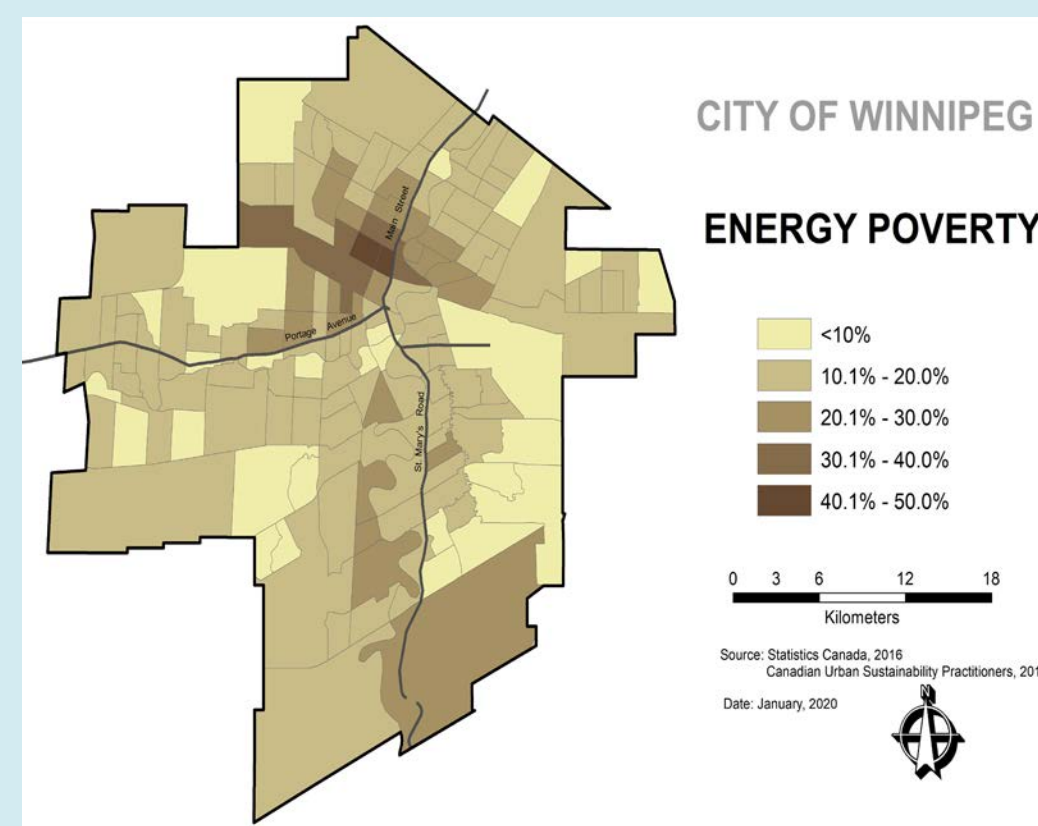
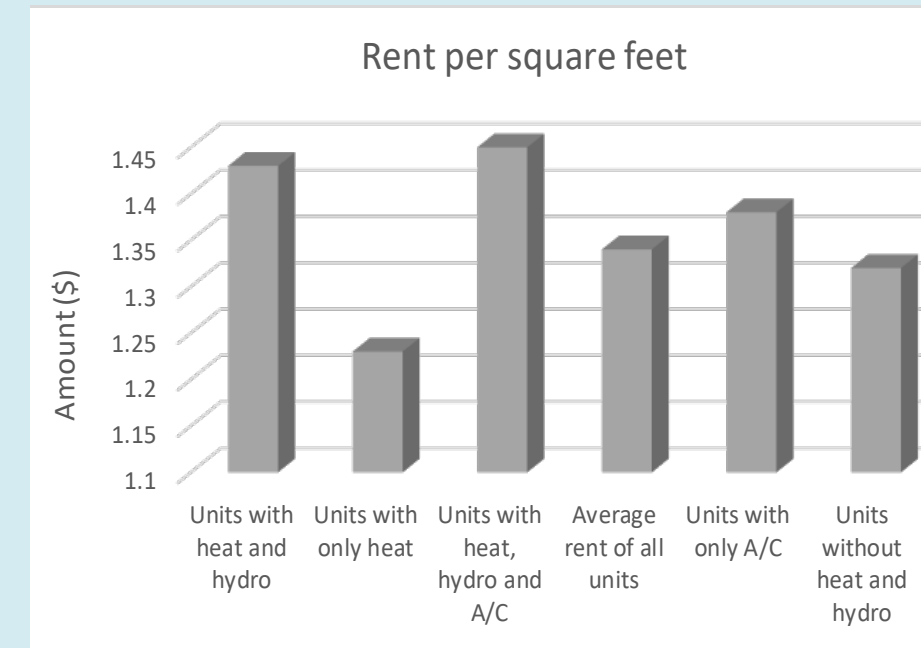
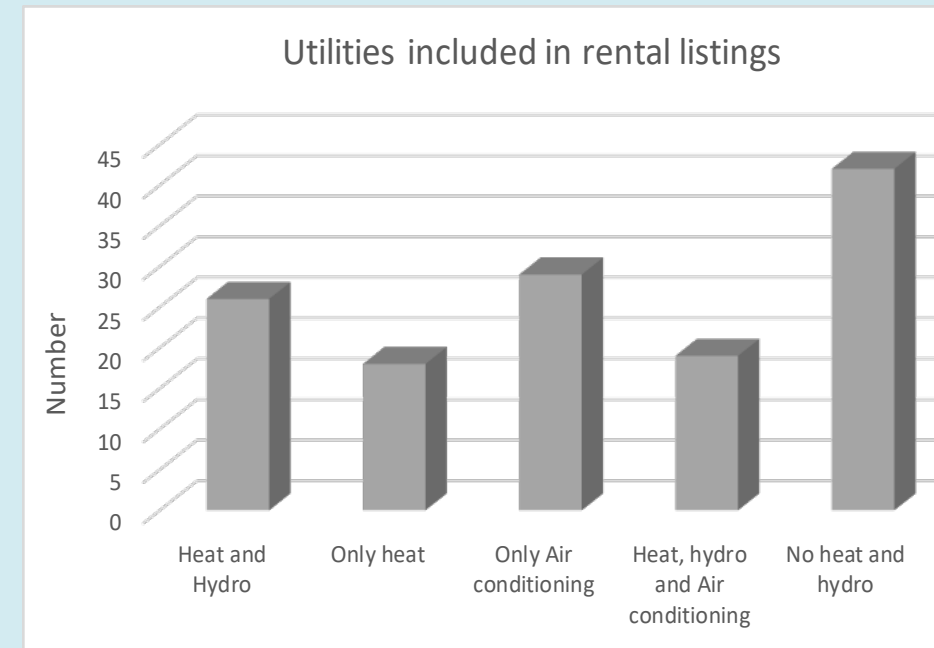
Research Methodology

- Semi-structured Interviews.** Interviews with staff from 4 neighbourhood associations and a staff from Manitoba Hydro provided primary data for this project. The data gathered were transcribed and coded to generate themes for the findings which were later analyzed and discussed.
- Rental scan.** Data on rental listings from four Winnipeg neighbourhoods (Wolseley, West Broadway, St. Vital and St. Boniface) were taken between December 2019 and January 2020. Data collected was inputted into an excel sheet and analyzed. The purpose of this data collection was twofold: First, to allow a comparison of rents based on rent composition and, Second, to enable an analysis of who bears the responsibility of ensuring rental units are and remain energy efficient.
- GIS Analysis.** Spatial data on energy poverty in Winnipeg was accessed from multiple sources and analyzed to give a pictorial view of how each neighbourhood in Winnipeg fares in terms of energy poverty and its influencing factors.

Findings

The rental data collected showed that more listings excluded heat and hydro cost from the rent which indicated that the responsibility of paying energy bills in rental housing within the study neighbourhoods is higher among renters. Another realization from the data is that it is not uncommon for rental listings to include one or more utilities in the rent. In such situations, renters still shared in the responsibility of energy bill payment.

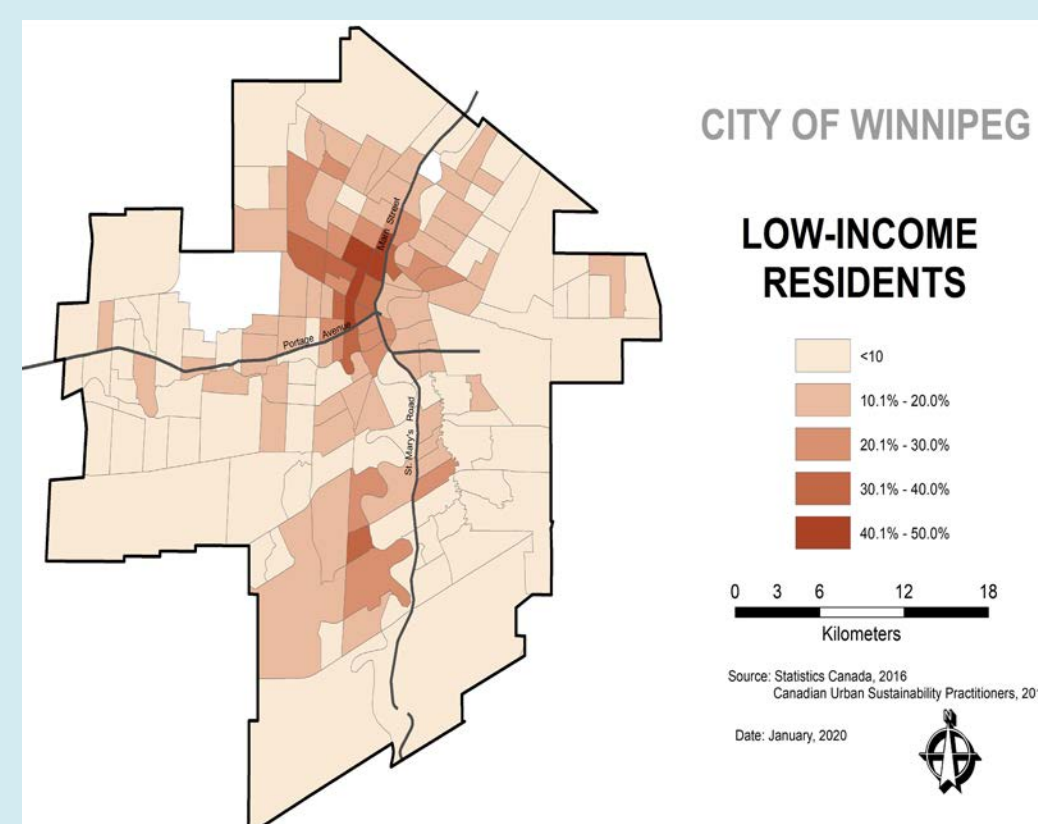
As expected, the average rent of units with energy bill inclusive was 9% higher than units without energy bills as part of their rent.



The proportion of energy poverty in Winnipeg is highest in the areas north of Portage Avenue and within the mature communities' cluster. The highest proportion is at 46% of residents within the Dufferin, Dufferin industrial and William Whyte neighbourhoods. Energy poverty is calculated as household expenditure of 6% and above of a household's pre-tax income.

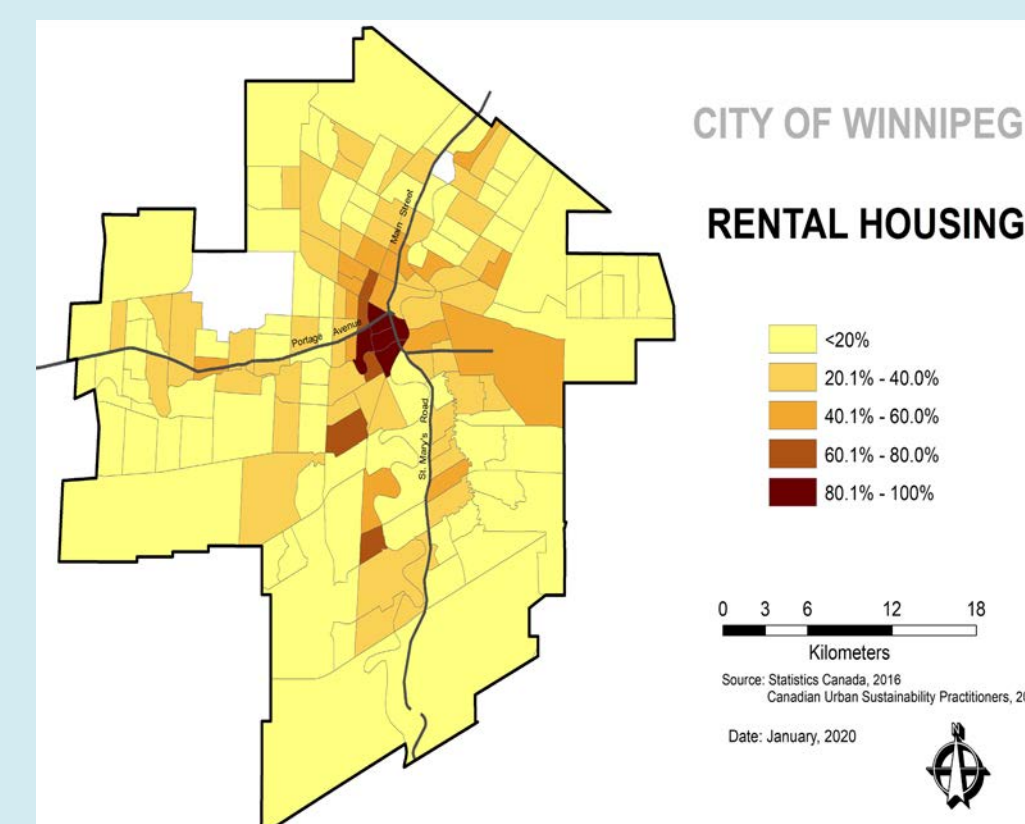
A building's age influences its efficiency in energy consumption. Buildings before 1960 had no required energy efficiency installations and as such have higher probability of inefficient energy consumption. The inner-city neighbourhoods of Winnipeg have the highest proportion of older buildings (built before 1960). These buildings possess a high energy saving potential such that upgrades to the structure and appliances results in a high net decrease in energy consumption.

The proportion of buildings requiring major repairs follow a similar pattern as that of older buildings. The highest proportion of buildings requiring major repairs is in the North Point Douglas neighbourhood at 27% of the existing housing stock. North Point Douglas represents one of the mature neighbourhoods of Winnipeg and also part of the inner-city neighbourhoods.



Low-income proportions are high in the inner-city neighbourhoods and the proportions reduce moving outwards of the core areas of the city. Towards the edge of the city where new neighbourhoods are located, there is a significant drop in the proportion of low-income residents.

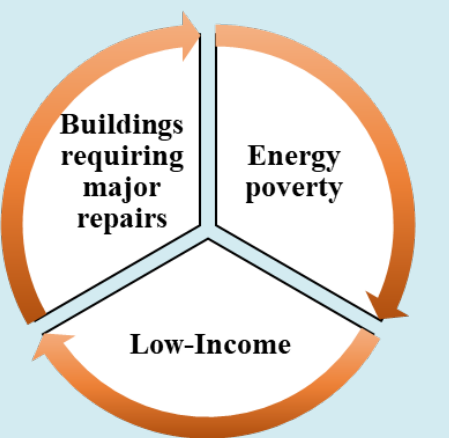
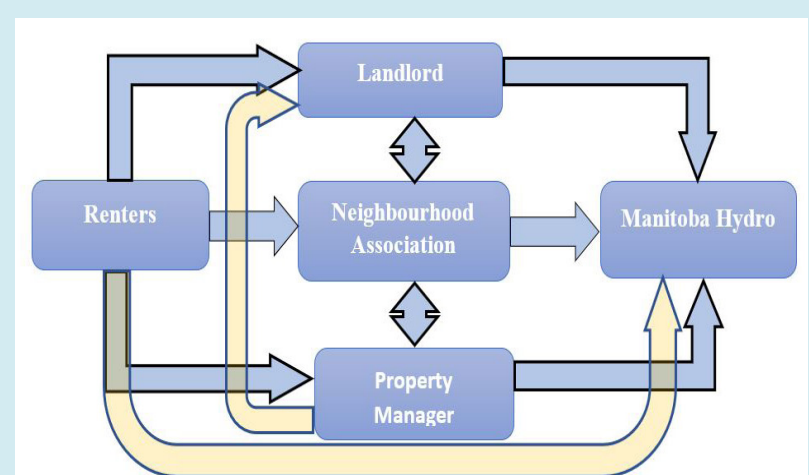
The southern neighbourhoods surrounding the intersection of Portage Avenue and Main street had the highest proportion of renter households in the city. Again, the proportion of renter households reduces towards the edge of the city indicating the dominance of home ownership.



- Programme awareness continue to be a challenge to the uptake of energy efficiency programmes in Winnipeg.
- Planning tools and techniques such as building codes and zoning can increase the rate of energy efficiency, but are not yet fully utilized.
- The "split incentive", a situation where tenant and landlord interests are at opposing sides of pursuing energy efficiency is another issue that contributes to inefficient energy consumption in the studied areas.
- The problem of energy poverty and the inefficient energy consumption is not an issue in isolation but is interconnected with the social and community-specific issues and so require efforts from multiple fronts to create the desired results.

Analysis

- The existing programmes are more generalized and do not necessarily consider the core issues in specific neighbourhoods.
- In most cases, renters are disadvantaged as they do not have direct access to home energy efficiency programmes.
- The equal payment plan which is generally available to renters provides a curative solution instead of a preventative solution or a permanent solution to the billing situation.
- low-income residents are usually the occupants of buildings that require major repairs and have inefficient energy consumption, leading back to energy poverty.
- While most energy efficiency initiatives are homeowner friendly, there isn't any programme that specifically targets renters.
- Conventional furnaces consume more energy, produce low to moderate heat and result in high energy bills, creating a cycle of energy poverty and bill arrears. This leads to low-income households who run such furnaces to receive proportionally low amount of energy per dollar paid on energy bills.



Recommendations

- Amending the Residential Tenancies Act to mandate landlords to collect and disclose energy consumption data to renters. New York City is an example where the disclosure of energy use of buildings and energy star scores of appliances in buildings led to a 14 percent reduction in building energy use in a space of four years (Schwartz et al., 2018, p.22).
- Develop low-income energy efficiency programmes for renters and landlords. The dynamics that come into play between renters and homeowners should be recognized in the creation of any such programme designing such that the potential conflicts between the two would be addressed
- Designing programmes that fit specific neighbourhoods based on the neighbourhood's peculiar needs is another approach to increase energy efficiency