

# Planetary Health Evaluations - Retrofits



Stay tuned for the up-to-date version of this resource!

This document is undergoing fact checks and updates... you will be able to access the new version in September 2025.

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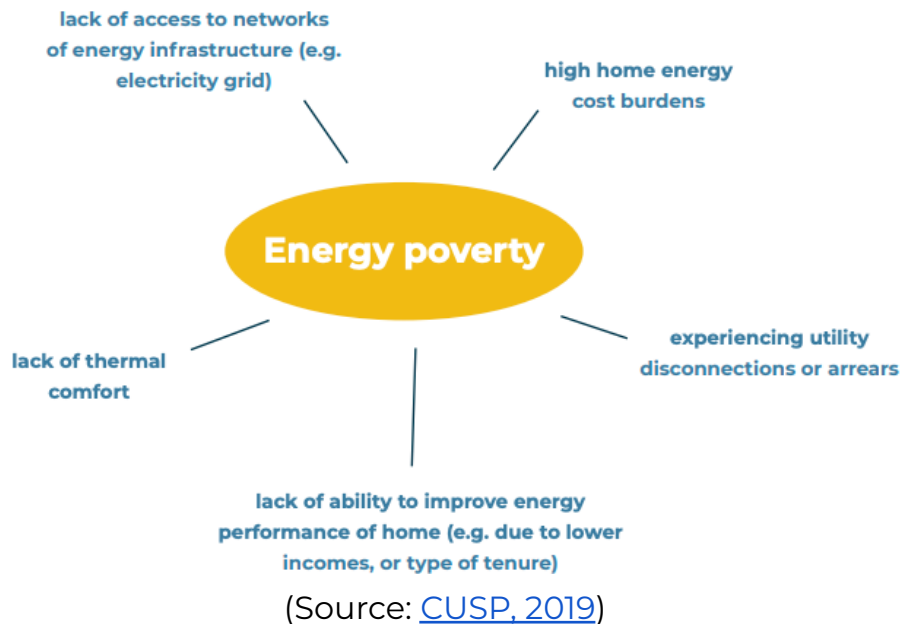
### **[Environmental and Societal Benefits](#)**

[Learn about the planetary health evaluations specific to Heat Pumps here.](#)

## **Social Equity and Wellbeing Impacts**

### **Issue: Social Inequity and Energy Poverty**

- Communities of colour, immigrant communities, and indigenous communities have historically faced limited access to resources and a disproportionate share of environmental and economic burdens, including income and electrical divides.
- The differing abilities to participate in energy programs could disadvantage certain communities from program participation. Those experiencing energy poverty are also in greater need of these programs. Still, program design and requirements not considering this target audience's specific needs and abilities can result in their inability to participate in such programs.



### Action:

- Reversing both income and electrical divides will require local governments and their partners to examine the intersections of class and race within their contexts and acknowledge and address structural and institutional racism and other barriers. Those developing energy actions and programs need to take these limitations into program design considerations to ensure that all community residents can participate in these programs.
- Target socially disadvantaged groups through financing programs.

### Examples:

- [HomeWarming Program](#), (NS)
  - no-charge energy assessment and potential upgrades to income-qualified homeowners (NS)

### Resources:

- [Design an equitable clean energy program](#)
- [Financial Options when designing for equity](#) (p. 8)
- [Equity Implications of Energy Poverty in Canada](#) (and recommendations for Councillors)
- [Canadian Urban Sustainable Practitioners Energy Poverty and Application of an Equity Lens into Municipal Energy and Climate Action Plans](#)
- [Renewable Regina Putting Equity Into Action](#)
- [Affordable Housing Renewal: Retrofits at Scale](#)

**Issue: Energy costs continue to increase for most social housing providers**

- Many social housing buildings meet poor energy efficiency standards. There are significant energy cost savings available to social housing providers by undertaking energy efficiency retrofits.
- In many cases, the property managers (either municipality or non-profit housing provider) pays for the energy costs. As such, energy efficiency investments have pay back and far outlast the initial upfront costs of energy improvements.
- Even if the tenants pay the energy costs, there is a significant opportunity to address energy poverty and building improvements by incorporating energy into asset management decision-making.
- Many social housing providers address several facility operations and improvements and have a number of priorities beyond energy management (such as accessibility improvements, mould remediation, more affordable housing units, etc.). They often lack the expertise required to undertake energy efficiency improvements. There is significant value in the municipality playing a convening/support role to enable social housing providers to benefit from their energy efficiency opportunities.
- Social housing properties also provide an opportunity to aggregate demand for sizable energy efficiency retrofits and, as such, provides an opportunity to build market capacity and reduce retrofit costs.

### Action:

- Introduce a motion to require that for any social housing investments using municipal funds, there are requirements that:
  - the building takes a life cycle costing approach to any new builds as well as existing building improvements.
  - The building meets specified energy efficiency/embodied carbon standards, e.g. reduce greenhouse gas emissions by 30 per cent and utility costs by 20 per cent.
- [Implement a Home Energy Disclosure and Labelling Program](#).
  - In a study by Canada Green Building, **certification is expected to be more widely used in low-rise residential projects** than in mid-to high-rise residential projects. This suggests that the greening of residential projects in Canada is not likely to be focused mainly on urban luxury units, as is a typical pattern in the US. (Source: Canada Green Building, 2014)

### Examples and Programs:

- [Hamilton Community Housing Passive House Standard](#), ON
- [Toronto Community Housing TowerWise Retrofit Project](#), ON
- [FCM Sustainable Affordable Housing - \\$300 million fund to support energy efficiency retrofits in social housing](#)
- Dutch [Energiesprong](#) program has retrofitted over 2,000 dwellings to net-zero standards, with an additional 10K of units also slated for retrofits. Installation times have been reduced from weeks to days, and costs have been reduced by over 50%. towards net-zero emission buildings using asset management and life cycle costing processes
- [Social Housing Retrofit Support Program](#), BC
- [Save on Energy Retrofit program](#), ON
- [Enbridge's Affordable Multi-Family House Program](#)

- [Affordable Housing Renewal: Retrofits at Scale](#)

## Issue: Tenant and property owner split incentive

- When making decisions related to energy efficiency upgrades, building owners are responsible for bearing the cost of all the capital upgrades. However, the energy costs and routine operating expenses are paid by the tenants.
- Therefore, only the tenants would reap the benefits of the energy efficiency upgrades, including the utility costs and increased comfort.

### Action:

- Introduce repayment mechanisms, such as LICs, utility on-bill financing (pay-as-you-save or PAYS), and equipment leases tied to the property rather than the owner. Repayment mechanisms encourage longer-term financing and increase loan security by tying financing to the property, utility bill, or operational budgets.
- Introduce an Energy Use Disclosure Program to require landlords to disclose operating costs related to energy to potential tenants so tenants can know how much energy will cost them. This will also raise energy literacy on the part of renters and incentivize landlords to reduce energy use.

### Examples:

- [City of Dartmouth's Affordable Multifamily Housing pilot program](#) (NS)
  - [Enbridge's Affordable Multi-Family House Program](#)

## Environmental Drawbacks

### Issue: Deconstruction, Material Waste, and Disposal

- Construction and demolition waste make up about  $\frac{1}{3}$  of municipal solid waste, much of which could be reused or recycled ([Yeheyis et al., 2013](#)).
- Retrofit generates waste as fabric and technology are replaced and upgraded.
- Although sometimes minor, construction materials and products are used in all retrofit work. The impact of materials can be measured by resource depletion, energy use, air pollution, water pollution, waste, and water consumption.

### Action:

- Enact a strong deconstruction policy with targets by material and measures to verify where the materials go.
- Set up a construction/ deconstruction waste hub.
- Ensure policies are in place to minimize the release of and exposure to toxic materials.
  - [See more information in our Zero Waste/ Circular Economy Handbook](#)

### Examples:

- [Retrofit Program Equipment Disposal and Decommissioning Guidelines](#) (ON)

- Metro Vancouver [demolition bylaw](#) (BC)

## Environmental and Societal Benefits

- Renovating an existing structure is more environmentally beneficial because it takes between 10 and 80 years for the benefits of a new energy-efficient building to compensate for the carbon emissions incurred during its construction (Source: Preservation Green Lab, 2016).
- In a study, **82%** of building owners/ developers report decreased energy consumption compared to similar buildings. As well, **68%** of owners/ developers report decreases in water consumption (Source: Canada Green Building, 2014).
- Improved indoor air quality is a benefit significant for Canada as the colder climate increases the time that people spend indoors (Source: Canada Green Building, 2014).
- Historic rehabilitations have created 2 million jobs in the US over the past 32 years and have generated \$90 billion of private-sector investment (Source: [Preservation Green Lab, 2016](#)).
- Added features can improve resilience in the face of climate change through [nature-based solutions](#) such as green roofs, pollinator gardens, etc.