

# Newmarket Energy Efficiency Retrofit (NEER) Initiative Summary

The Community Energy Plan (CEP) was approved by Newmarket Council in May 2016 and provides a framework for achieving a community-wide reduction in annual energy usage as well as greenhouse gas (GHG) emissions production by 50% per capita by 2041. To address challenges in the residential sector, it was recommended that the Town investigate the creation of an organization that will deliver high-quality, standardized residential energy efficiency retrofit packages to homeowners.

The Business Case has found that the current energy efficiency retrofit market across the country is unattractive for homeowners and contractors. As a contractor, the cost of preparing customized retrofit proposals is high and project uptake is low. Low project uptake and the fact that every project is specific to each household means that material costs are expensive and performance guarantees are risky and difficult to validate. From the perspective of homeowners, gathering understandable bids from contractors is burdensome. As well, homeowners are typically responsible for finding their own sources of upfront financing. Finally, low project uptake results in retrofit costs that normally exceed the value of energy saving.

The NEER initiative looks to solve this market challenge by offering standardized energy retrofits to homeowners at high volumes. Contractors would benefit from increased project predictability, improved margins and higher project volumes. Homeowners would benefit from a more streamlined retrofit process, guaranteed pricing, lower-cost retrofits and a simple payment mechanism. Homeowners also benefit instantly with a more energy-efficient household, greater resilience against rising energy costs, enhanced comfort/thermal control and increased durability from fluctuating weather changes.

The standardized retrofit packages would be designed to deliver annual energy savings between 30 to 50%, and 20% water saving to homeowners. Modelling for the NEER Business Case confirms that these savings could be achieved with existing technologies. The package cost would be priced at a fixed cost per square footage of the home (e.g: \$/m<sup>2</sup>) and be dependent on home size, age & type. This minimizes transaction costs and complexity. The benefit of this approach is that the retrofit will be easy to buy and easy to sell. Additionally, this will avoid the cost and inconvenience of site evaluation, energy auditing, and other activities before pricing and concluding the sale. The package would include most if not more of the following retrofits:

- **Windows**
  - Replace windows to target efficiency level
- **Weatherization**
  - Weather-strip all doors, windows and other openings
- **Attic insulation**
  - Upgrade to target R-Value with “batts” or “snow”
- **Other insulation wherever feasible**
  - Allocation for high-impact measures
- **HVAC upgrades**
  - Replace AC / Furnace / Water Heater to target efficiency levels
  - Limited pipe and duct insulation
- **Lighting / Other Electricity**
  - 100% LED re-lamping
  - Allocation for Smart Strips

- Occupancy sensors
- **Water / Hot Water**
  - Low-Flow faucet regulators & shower heads
  - Toilet flow regulators
- **Comfort Controls**
  - Install Smart Thermostat assuming utility rebate

Although the business case currently only assumes the installation of these standardized retrofits, the Entity could include additional energy-related add-ons. Initially, these will include solar power, solar thermal, and vehicle charging stations. Future options could include air/ground source heat pumps, energy management services and more.

The delivery of standardized retrofits at high volume is the focus of the Business Case and has been designed to drive market transformation. This is achieved through efficiencies in:

- Reduced selling costs of the retrofit package through standardized offerings and pricing.
- Reduction of contractors' costs to promote and prepare customized proposals.
- Increased contractor labour productivity.
- Volume pricing for key material categories.
- Lower cost financing through consolidation.

To finance NEER, the Business Case suggests that the Town pass a Local Improvement Charge (LICs) By-law to include energy efficiency retrofitting. LICs are a fixed annual charge applied to a property, which amortizes the cost of projects over an agreed period of time. Historically, LICs were used to finance projects such as water/waste infrastructure, street light repairs, roadwork, etc. However, in 2012, the provincial government amended its regulation allowing property owners to leverage LICs for financing energy-efficiency retrofit projects. The benefits of LICs are that:

1. Homeowners pay little to no upfront costs.
2. Homeowners have access to low-interest rates that are typically only available to municipalities, and;
3. The LIC charge remains with the property and will not follow homeowners if they move.

To conclude, the business case confirms the feasibility of establishing a high-functioning, professional Entity that challenges traditional retrofit market methods. The program will be transformational and could deliver excellent economic, environmental, and other benefits to the Town and its residents.