High-Performance Buildings

As of 2017, residential and commercial buildings in Bedford generated 50% of greenhouse gas emissions. These emissions come from non-renewable electricity sources as well as fossil fuel use and energy inefficiency. If all buildings situated in Bedford were to become high performing, zero carbon structures, the community would be three-fourths of the way to reaching its 80% by 2030 GHG reduction goal.

The elimination of greenhouse gas emissions from buildings will come through:

- renewable energy supply;
- electrification of heating/cooling systems;
- electrification of hot water heating; and
- high performance energy efficiency upgrades.

Adoption of policies and mandates will likely be required to support these initiatives and achieve our goals.

2030 OBJECTIVE

- **Reduce Residential, Commercial and Municipal Building Greenhouse Gas Emissions by 80%**

PROGRESS HIGHLIGHTS

Community

- More than 1000 residences have completed home energy assessments of their energy performance
- More than 200 residences have completed Home Performance with Energy Star energy efficiency retrofits
- More than 30 residences have converted to electric air source heat/cooling pumps

Municipal

- Completed Energy Assessments for most larger Town buildings
- Implemented Municipal Energy Efficiency purchasing policy
- Implemented Energy Efficiency/ Energy Star appliance replacement policy
- Adopted Bedford residential building energy code
- Enabled Energize NY PACE Financing for commercial and not-for-profit buildings

NEW STRATEGIES

Community

- Expand and promote adoption of electric air source and geothermal (ground source) heat pumps and cooling as well as battery storage for residential and commercial buildings
- Expand and promote energy efficiency improvements for all existing residential and commercial buildings
- Create, market and support programs to make energy/lighting retrofits and conversion to heat pumps affordable for Low to Moderate Income (LMI) homeowners, renters (new programs or access to existing NYS programs)
- Work with municipality to create programs, legislation and mandates (as appropriate) to:
  - measure GHG emissions and other pollutants and/or energy performance for all existing buildings
  - establish limits on greenhouse gas emissions and/or fuel use in all buildings
  - promote use of Energy Star appliances and LED lighting for commercial and residential buildings
  - modify and expand high-performance building standards for new construction and renovations
  - phase out fossil fuel based heating, cooling, water heating and cooking

- Create “Home Energy Solutions” program to help community members explore/adopt personal energy solutions (CCA, EE, Air Source Heat/cooling Pumps, Geothermal, Community Solar, Battery Storage, LED lighting, Energy Star Appliances)
- Support pilot programs for deep energy retrofits, Passive House standards and Net Zero for residential and commercial buildings
- Consider system to buy environmentally friendly building materials at negotiated, scale prices
- Collaborate with utilities and others to promote replacement of gas powered generators with electric, battery systems.
- Educate community members on proper disposal of refrigerants from air conditioning systems.

Municipal

- Complete energy audits for remaining municipal facilities
- Continue to improve the energy efficiency of municipal buildings
  - HVAC, insulation, air sealing, windows, fixtures
  - Complete implementation of lighting upgrades to LED lighting for municipal buildings
  - Implement lighting sensors, smart appliances and smart controls for municipal buildings
  - Improve air sealing and insulation of all buildings to improve energy efficiency
- Replace fossil fuel systems with electric air source and geothermal (ground source) heat pumps and cooling as well as battery storage for municipal buildings.
- Consider adopting policy to adhere to Net Zero and/or Passive House building standards for all new or substantially renovated municipal buildings.
- Create programs/policies to measure GHG emissions and/or energy performance for all existing homes and commercial buildings in Bedford, for example:
  - Annual energy use reporting
  - Energy scorecards
  - HERs or HES ratings
  - Time of sale requirements
  - Energy scorecard for renters
- Reduce emissions from water treatment facility by refining municipal water rate structure to encourage community water conservation
- Consider adopting residential and commercial building codes to improve energy efficiency and reduce GHG emissions and other pollutants from new and existing buildings. Consider municipal services and/or municipal, county or state incentives to support the same.
- Consider adoption of high performance new building codes (e.g.: Passive House, Net Zero, *NYSERDA Stretch Code)*
- Explore opportunities to simplify and expedite permitting and other services for new construction of Passive House and/or Net Zero buildings.
- Explore incentives (at municipal, county and/or state level) including low interest rates, property tax credits, offsets, special project financing for high-performance building improvements.
- Work with county and/or state to mandate and provide information/ resources for proper disposal of refrigerant systems.