

## Terms of Reference:

# Community Energy Plan & Energy Strategies

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### Description:

The purpose of the Community Energy Plans (CEP) or Energy Strategy (ES) is to provide direction to integrate local energy solutions that are efficient, low carbon and resilient. The findings will also help inform updates to studies including Brampton's Community Energy and Emissions Reduction Plan (CEERP).

### When Required:

The Community Energy Plan and Energy Strategy applies to new development including residential, non-residential and/or mixed use and may apply to industrial development for the following:

- **New Community Areas, and undeveloped Employment Areas or**
- **Within an Energy Planning District approved by Council**

In association with the following application types within Strategic Growth Areas; lands designated as New Community Areas, and undeveloped Employment Areas the CEP and Energy Strategy will apply to:

- **Secondary Plan Area** requiring as appropriate a Community Energy Plan
- **Precinct Plan** requiring a Community Energy Plan
- **Development Concept Plan** requiring an Energy Strategy
- **Plan of Subdivision** requiring an Energy Strategy
- **Site Plan** requiring an Energy Strategy

### Prepared By:

A CEP or Energy Strategy Report should be prepared and signed by an expert with experience in developing Municipal and Community Energy Plans, Energy Modelling and Climate Action Plans, unless stated otherwise.

### Rationale:

The Community Energy Plan and/or Energy Strategy are intended to ensure new development achieve the goals and targets outlined in the CEERP, including an 80% reduction in greenhouse gas (GHG) emissions by 2050. The CEP and Energy Strategy are also a requirement within *Brampton Plan*.

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## Content:

This section presents **minimum requirements** for completion of the Community Energy Plan or Energy Strategy and is not exhaustive. The applicant is encouraged to discuss the required content with Environmental Planning staff prior to initiating the strategy.

### 1. Towards Zero Emissions Development

Calculate energy and emissions for the proposed development using the following scenarios<sup>3</sup>:

- **Baseline** – where buildings consume energy at a “typical rate”
- **Higher Performance** – Sustainability Metrics IB-12 - Great
- **Near Zero Emissions** – Sustainability Metrics IB-12 – Excellent or Exceptional

The scenarios should include opportunities for super-efficient building envelopes and building-scale renewables, as well as opportunities for shared energy services (i.e. low- carbon thermal energy networks).

\*Please note, applications within the Heritage Heights Secondary Plan must meet at minimum the Higher Performance scenario, as outlined in the Heritage Heights Community Energy Plan.

#### a. Energy Conservation & Demand Reduction

Identify and evaluate opportunities to achieve **very low energy use intensities (EUIs)** and **reduced energy demands**, through:

- Building orientation and solar controls; thermal effectiveness of the building envelope; daylighting design strategies; and
- High efficiency mechanical systems (e.g. efficient HVAC systems, heat recovery, lighting solutions).

#### b. Low-Carbon Solutions

Identify and evaluate opportunities for low-carbon energy solutions **on-site** (i.e. within the proposed development site), and **off-site** through connection to nearby existing or planned buildings and infrastructure. This can include, but is not limited to:

- Renewables, such as rooftop solar PV, geo-exchange in a nearby park, and heat recovery from sewer lines;

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- High efficiency combined heat and power (CHP);
- Connection to an existing thermal network;
- Rough-in for a future connection to nearby existing/in-development thermal energy networks (i.e. "district energy-ready"); and
- A new thermal network connecting several planned developments in an area.

For **multi-building** (i.e. campus-type) proposals, identify and evaluate opportunities for shared energy solutions that include, but are not limited to:

- Thermal energy distribution networks (i.e. piping) to connect buildings;
- District Energy Systems
- Shared mechanical room(s) for heating and cooling equipment;
- Large-scale renewables such as lake water cooling, biomass, sewer heat and other means of waste heat recovery;
- High efficiency CHP;
- Thermal energy storage;
- Shared backup power system(s) for multiple buildings; and
- Micro-grid(s) with the ability to island from the electrical grid.

## 2. Energy Resilience

Identify and evaluate opportunities for **backup power systems** that will improve the resilience of buildings to area-wide power outages, especially for multi-unit residential buildings. This includes meeting all emergency power (life safety) requirements, as well as providing for 72 hours (at a minimum):

- Domestic water (hot and cold);
- Elevator service; and
- Space heating, lighting and receptacle power to the central common area/amenity space/lobby, where applicable.

## 3. Summary of Engagement

If external stakeholder engagement is considered through the development of the CEP or ES, provide information on the stakeholders engaged through the process.

## 4. Analysis, Conservation Strategies, and Recommendations

Based on the completed analysis, state the preferred scenario and conclude with recommendations and next steps to facilitate implementation. Establish the overall value proposition(s).

## 5. Monitoring and Verification

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It is expected that post-construction monitoring, certification, and/or verification will not be the responsibility of the landowners or builders. Final monitoring of building performance is achieved through utility bills.

In the case of arriving at an estimate of per capita GHG emissions, including transportation GHG emissions, the City will undertake this effort based on fuel types and floor space estimates and assumptions within the Municipal Energy Plan.

## Format of the Report

- i. Executive summary
- ii. Energy calculations, including data and assumptions, for existing buildings and new development (soft copy spreadsheet – Microsoft Excel format)
- iii. Graphs of expected energy performance (Microsoft Excel format)
- iv. Conclusions / Recommendations
- v. Appendices: supporting documentation, references, etc.

## Additional Resources:

[Brampton Official Plan \(2024\)](#)

[Community Energy and Emissions Reduction Plan \(2021\)](#)

[Sustainable New Communities Program \(2022\)](#)