



Civil Engineering
UNIVERSITY OF TORONTO

February 27, 2014

Parks and Environment Committee
Toronto City Hall
100 Queen St. W.
Toronto, ON, M5H 2N2

Chair Mammoliti,

We are members of the Canadian Centre for Building Excellence in the Department of Civil Engineering at the University of Toronto. We fully support the recommendations in the February 14th 2014 letter to the Committee entitled “Energy Reporting Requirement for Large Commercial and Multi-residential Buildings.” Accordingly, we believe that City Council should strongly consider the implementation of this type of program.

There are a number of compelling reasons why an energy reporting requirement would be of great benefit to Toronto. Mandatory energy reporting would:

1. Improve access to valuable energy data for consultants, researchers, and policy makers;
2. Provide an efficient means of characterizing the energy-use and greenhouse gas emissions of our current building stock.
3. Enable the market to reward the best energy performers.
4. Further our City’s reputation as a leader in building energy-efficiency.

Access to this building energy use data on a broad scale is critical for making decisions about building energy use policy. After all, you cannot manage what you do not measure. Currently, there are a number of voluntary reporting programs that capture energy use data from a small fraction of the existing buildings in our city. While these programs are a great start, the data collected are not necessarily directly comparable or easily available for analysis. To make more informed decisions about incentive programs or by-laws, gathering such data is critically important.

Approximately 80% of a building’s impact on the environment is due to operational energy. A recent research project conducted by our group revealed the vital importance of energy retrofitting existing buildings in order to temper their adverse impact on the environment. In this project, which sought to establish correlations between building energy use and building characteristics in order to identify the worst performing buildings in the City, energy use data for over 100 buildings were collected. This process of data collection was difficult and very labour

intensive. Given the limited data, the energy use trends identified were rather weak. Required energy use reporting would make finding trends more reliable. By significantly expanding the meagre energy-use database, policy development would be based on a majority of buildings, rather than on a small sample of buildings. With access to these data, resources for reducing the energy intensity of our building stock can be more readily targeted to the worst energy performers first.

If the City were to proceed beyond energy-use reporting to energy-use disclosure, the market would begin to reward energy-efficient buildings. The economic case for building energy retrofits would advance beyond energy cost savings alone. If the market values energy-efficient buildings, local jobs are created as the demand for energy retrofits grows. As the energy performance of buildings improve, the risk to building owners of volatile energy prices also decreases.

Toronto is a leader in building energy efficiency through the initial adoption and recent advancement of the Toronto Green Standard. This standard is helping to ensure that newly constructed buildings are energy-efficient. However, the rate of building stock renewal is low - a few percent each year. Therefore, we need to take steps to improve the energy performance of our existing buildings. An energy reporting requirement is a logical first step. Many cities in North America have already undertaken mandatory energy-use reporting programs and proven the worth of this exercise. A wealth of data is now available to these cities to characterize their building energy use and to inform energy use policy and programs. An energy reporting requirement could also improve further versions of the Toronto Green Standard by tracking newly constructed buildings and ensuring that their energy performance standards are met over the long term.

The time for Toronto to adopt required energy reporting is now. Other cities are already leading the way. Lessons learned from programs in other cities should be used to customize a program that best suits the needs of Toronto. As an early adopter, Toronto could serve as a beacon of hope for other municipalities, in Ontario and across Canada as well.

Should you wish further comment, or should have any questions, please do not hesitate to contact us.

Sincerely,



K.D. Pressnail
Associate Professor
Department of Civil Engineering
University of Toronto
35 St. George St
Toronto, ON, M5S1A4



M.F. Touchie
Ph.D. Candidate
Department of Civil Engineering
University of Toronto
35 St. George St
Toronto, ON, M5S1A4