



**Edmonton's Building Energy  
Benchmarking Program**

# Program Summary

March 2018

## INTRODUCTION

The City of Edmonton (“City”) is establishing a voluntary, three-year, Building Energy Benchmarking Pilot Program. The program is designed to encourage market transformation where energy efficiency is appropriately valued and seeks to engage Edmonton’s large buildings in benchmarking their energy performance and sharing the results with the City. In addition to offering technical support to help buildings accurately benchmark their performance, the City will encourage participants to turn this information into action by:

1. Offering incentives to buildings to perform energy audits to identify cost-effective ways to reduce their energy consumption;
2. Providing technical support and education on program participation, tenant energy literacy and energy management and Provincial efficiency incentive programs, and;
3. Creating a recognition program to highlight buildings that leverage the benchmarking results to identify and implement energy saving measures, and lower their GHG emissions.

In addition, the City will establish a Lead-by-Example component whereby a target of 120 City-owned and City-operated facilities will benchmark their performance over the 3-year Pilot period. This will demonstrate the City’s commitment to long term energy and GHG reductions, as well as generate valuable experience that can be shared with the program participants.

Beyond simply encouraging energy reductions in participating buildings, the Pilot will create valuable data on Edmonton building energy performance and energy saving opportunities. It will also be a chance to benchmark a broad range of buildings, spreading successful tracking and management practices beyond just the efficiency champions, to multi-unit residential buildings (MURBs), retail facilities, light industrial buildings and other segments that are less engaged in energy benchmarking. These data streams and practices will prove value beyond the Pilot period, offering the City data by which to design effective programs to support the Community Energy Transition Strategy (CETS) goals.

The pilot program is designed to test systems and approaches for successful energy benchmarking and reporting. Participants will benchmark their buildings using Natural Resources Canada’s ENERGY STAR Portfolio Manager tool. Through this tool, participants will report their building’s energy performance to the City, and be encouraged to also share the results through the City’s public disclosure report. Publicly sharing building performance data can lay the groundwork for longer-term market transformation impacts, wherein energy efficiency becomes valued by owners, managers and tenants.

Finally, the Pilot will lay the groundwork to prepare Edmonton’s building owners for any energy reporting requirements that are expected to be established at the Provincial level, potentially in response to the Federal Government’s policy objective for mandatory large building reporting requirements as outlined in the Pan Canadian Framework (PCF) on Clean Growth and Climate Change, released in December 2016<sup>1</sup>. This Pilot may also provide the tools and justification for the City to establish a mandatory reporting requirement, if no requirement is established through the Pan Canadian Framework.

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<sup>1</sup> Government of Canada. 2016. The Pan Canadian Framework on Clean Growth and Climate Change: Canada’s Plan to Address Climate Change and Grow the Economy. <https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html>

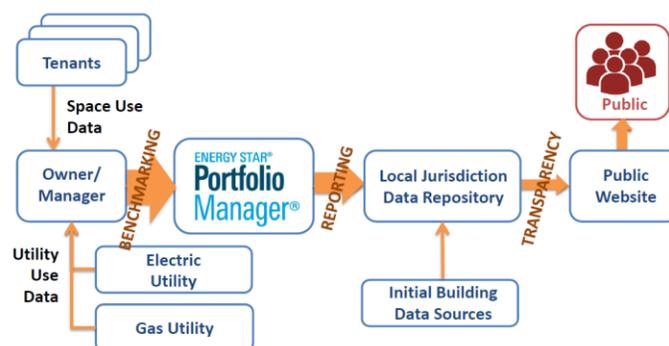
## THE CURRENT CHALLENGE

The challenge municipalities face in addressing energy use and associated GHG emissions from buildings is summarized in the following three points:

1. **Buildings account for significant energy and GHG emissions** – Addressing energy and GHGs in buildings is essential to meeting long term energy and climate goals as buildings represent a significant portion of municipal GHG emissions.
  - 42% of Edmonton’s community energy use is in buildings, 23% of which is from commercial buildings alone
  - 18% of Edmonton’s community GHG emissions are a result of commercial and institutional buildings
1. **Energy efficiency is generally not valued in the marketplace** – Limited access to information on building energy performance is one of the largest barriers to valuing energy efficiency in the market. Without consistent, accurate information on energy use performance across the market, it is very difficult to factor energy efficiency into everyday decision-making. As a result, consistent valuation of energy efficiency in the market is limited. This represents a market failure.
2. **Full market participation is needed to make meaningful citywide reductions in building GHG emissions** – While buildings collectively represent a significant proportion of municipal GHG emissions, buildings typically emit modest GHG emissions on an individual basis. The key to unlocking the energy efficiency and GHG reduction potential across an entire building stock is therefore dependent on scaling GHG mitigation measures across the building stock. The need for scale requires participation in almost **all** buildings to achieve Edmonton’s climate goals. Therefore, the challenge in significantly reducing GHG emissions across the City’s building stock is to engage the whole market in energy efficiency.

## A PROVEN APPROACH

In recent years, numerous municipal governments in the US have adopted similar programs as an initiative to contribute to achieving municipal GHG targets. This figure demonstrates the benchmarking process<sup>2</sup>.



As of January 2017, 24 U.S. cities have adopted mandatory building energy reporting and disclosure policies. These programs cover 10.7 billion ft<sup>2</sup> of building area in major US real estate markets. In Canada, the Province of Ontario introduced a province wide energy reporting and benchmarking regulation for large commercial buildings effective July 1<sup>st</sup>, 2017<sup>3</sup>.

<sup>2</sup> Pacific Coast Collaborative.

<sup>3</sup> Province of Ontario. Energy and Water Reporting and Benchmarking for Large Buildings. Retrieved at: <http://www.energy.gov.on.ca/en/ontarios-ewrb/>

The City of Vancouver and Province of B.C. are also in the research and planning process for a Province-wide building energy reporting and disclosure program. The rapid emergence of these policies and programs is establishing a strong precedent that these programs are effective contributors to municipal GHG reduction efforts.

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## PILOT GOALS

1. **Strengthen the relationship between the City and building owners and associations**, including: BOMA Edmonton, RealPAC, Large Building Portfolio Owners/Managers, Post-Secondary Campuses, Energy Distribution Utilities, and more.
2. **Establish a lead-by example model** whereby City buildings are benchmarked, disclosed and demonstrate improved energy performance.
3. **Demonstrate the benefits of disclosing benchmarking results** and address potential reluctance among some building owners to share information about their building's energy performance.
4. **Assist participants to ensure that benchmarking is accurate and relevant** using the recognized ENERGY STAR Portfolio Manager tool, maintained and delivered by Natural Resources Canada.
5. **Benchmark a significant portion of Edmonton's large buildings from all sectors** with Gross Floor Areas (GFA) of over 1,858 m<sup>2</sup> (20,000 ft<sup>2</sup>).
6. **Create a strong foundation for future Community Energy Transition Strategy initiatives** that address energy use in large buildings.
7. **Encourage large building owners/managers to make energy saving improvements** and participate in programs and incentives hosted by all three levels of Government.
8. **Engage Edmonton building owners to be prepared for eventual provincial regulation**, provide Alberta-based evidence of program benefits and be positioned to influence future Provincial or National regulation.

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## STAKEHOLDER ENGAGEMENT

A comprehensive stakeholder mapping process and public involvement plan were created and implemented to ensure diverse and effective stakeholder involvement throughout the program design process. Engagement activities included a series of targeted internal and external conversations in addition to:

- Organizing the **Lead by Example: Sustainable City Buildings Forum** (January 2017) that engaged with City staff to gather advice on the program design and generate support for the Lead by Example component. (50 participants)
- A series of **six external stakeholder consultation workshops** (February 2017) were organized for the City to understand opportunities and challenges large building stakeholder associated with this program. (70 participants)
- Two **pilot program feedback workshops** (April 2017) were held with both internal and external

audiences to gather feedback on the City's draft pilot program design. (70 participants)

Participants represented diverse stakeholder groups in the Edmonton's large building sector, including: commercial property owners, commercial property managers, building industry organizations (BOMA Edmonton), commercial real estate agents, academic institutions, government institutions, energy service organizations, green building advocates, and more.

Stakeholder workshops explained the rationale behind the City's proposed Building Energy Benchmarking initiative and discussed the potential challenges that building owners and managers face in assessing their buildings' energy performance and identifying cost-effective opportunities to reduce energy consumption. A few key messages emerged from these consultations and the pilot program has been designed to respond to stakeholder needs and perspectives:

1. There is **significant interest and support for a voluntary benchmarking program among building owners**. However, the benefits of benchmarking will have to be more deeply communicated to generate support for a mandatory energy reporting and disclosure requirement.
2. The City's **Lead-by-Example involvement was seen as critical to program success**. The City needs to show its leadership in benchmarking and disclosure of its own facilities, setting reduction targets and communicating their progress. This will also form a valuable basis for the City to develop a deeper understanding of the program-related tools and processes such that it can assist private facilities to participate.
3. **Education, training and support are essential to program success**. Many building owners and managers will need assistance to access utility data and ensure that they are entering data accurately. Further assistance to identify cost-effective savings opportunities and engage in efficiency retrofits will help building owners achieve the savings needed to improve the benchmarking results.
4. There is some **concern over the potential negative impacts of benchmarking on poor performing buildings**, and that it may pose a barrier to renting vacant commercial spaces. To combat this, the program will ensure that fair and accurate benchmarking tools are used and that buildings are compared to their appropriate peer groups. Moreover, considerations will be made for buildings with special uses such as industrial buildings, campuses, special purpose and laboratories.
5. **Alignment among various initiatives is considered essential** to the long-term value of energy reporting and disclosure programs. In particular, Edmonton's benchmarking program should apply the same tools and approaches as would be used in an Albertan or Canadian benchmarking requirement, such as the nationally recognized ENERGY STAR Portfolio Manager tool. Moreover, the benchmarking program will align with the City's initiatives, energy retrofit incentives and leverage Energy Efficiency Alberta's programs and incentives.

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## PROGRAM DELIVERY

The Pilot is designed for a three-year duration, launching June 2017, with activities continuing through to

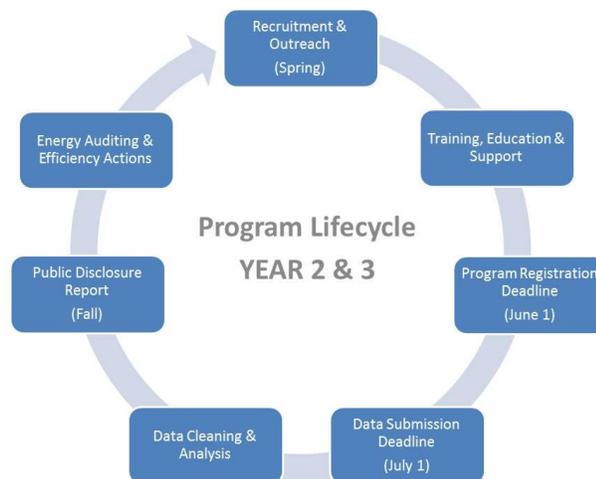
into 2020. It will encourage and support building owners and managers to benchmark their energy performance over three calendar years: 2016, 2017 and 2018.

In keeping with the Pilot's focus on developing and implementing effective reporting and disclosure processes and tools, the Pilot's specific objectives in each year will evolve as follows:

- Year 1:** Establish benchmarking processes and recruit champions
- Year 2:** Promote broader recruitment
- Year 3:** Encourage efficiency improvements and assess impacts

It is expected that new participants will join the Pilot each year, and they will benchmark their building every year following their registration. If possible, they will also be encouraged to benchmark previous years, for which they have energy data.

Following the three-year pilot, the City will evaluate the impacts of the pilot. At that time, the City will consider ways to maintain and expand benchmarking and disclosure through a continued voluntary program, and assess the potential need for establishing a mandatory building energy reporting and disclosure requirement to support its market transformation objectives in the commercial building sector. A detailed Pilot evaluation framework has been designed and will be initiated after year 1 is complete.



## RECRUITMENT AND MARKETING

The City has developed a comprehensive marketing and communications plan that targets potential participants and raises awareness of the pilot program. Multiple touchpoints will be deployed to target customers, including word of mouth, online, print, newsletters, e-mails blasts, and engagement with key industry actors and associations such as BOMA Edmonton.

The marketing will focus primarily on the benefits of participation in the Pilot, directly offering tools and services to improve their building energy management and competitiveness, and indirectly by helping them identify cost-effective energy saving opportunities and thereby lowering net operating costs and increasing the value of their property. As a secondary focus, the marketing can communicate how the Pilot contributes to City priorities, and how the City is itself stepping up to demonstrate the value of benchmarking and disclosure in its own buildings.

## CITY ASSISTANCE TO PARTICIPANTS

A major aspect of the Pilot is to establish successful benchmarking practices among the participants. To

achieve this and encourage participation in the Pilot across a wide range of property types, the City will offer help to participants to submit their data. This will also improve data quality by ensuring that the ENERGY STAR Portfolio Manager files are established accurately.



Benchmarking support services will aim to increase the number of buildings in the pilot program with ENERGY STAR Scores, a 1-100 rating that compares a building's energy performance to other comparable building types across the country, making it a very effective benchmarking metric. City support will include six key elements:

- 1. Direct Support for Energy Benchmarking:** All participants will be offered data submission support during their first year of participation to help ensure that the Portfolio Manager files are properly set up and the building characteristics entered accurately. Through this the City will actively engage early adopters in building sectors that have been less involved in energy benchmarking historically, but have expressed interest in the program.
- 2. Tenant Education Campaigns & Workshops:** All participants will be eligible to receive a City of Edmonton led “lunch and learn” workshop targeted at tenants. This engaging and educational session will seek to improve tenant energy literacy, inspire improved energy efficiency and highlight the many benefits of energy-saving behaviours.
- 3. Benchmarking and Energy Management Workshops:** In addition to providing assistance to participants to submit their building data, the City will offer a series of energy management workshops (one per quarter) starting in year 2. These 2-hour sessions will be marketed to participants, as well as potential participants.
- 4. Whole Building Data:** Whole building data is necessary for the accurate building level benchmarking in Portfolio Manager. Where whole building data is not centrally aggregated by the participant for each building, the Participants will be responsible for collecting and aggregating energy bill data. The City will lead an effort to develop and implement a standardized process for collecting whole building data and establish a dialogue with local transmission and distribution energy utilities to assist the process.
- 5. Financial incentives to support energy audits:** The City will provide a one-time incentive of up to \$5,000 per building (three maximum per building portfolio ownership group) or to help cover the cost of an energy audit in participating buildings. There is a maximum of 25 incentives available per calendar year, and they will be distributed on a first come, first served basis.
- 6. Inform participants about Provincial Incentives:** The Government of Alberta recently announced the Business, Non-Profit and Institutional Energy Savings Program that offers incentives to encourage businesses of all sizes to choose high-efficiency products.<sup>4</sup> As the details of this program emerge, the participant will receive regular updates on the Provincial incentives available.

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<sup>4</sup>Energy Efficiency Alberta. 2017. Business, Non-Profit, and Institutional Energy Savings Program. Retrieved from: <https://www.energycanada.ca/business-non-profit-and-institutional/>

## PILOT ADMINISTRATION

The Pilot will be led by the City of Edmonton's Energy Transition Unit. An Energy Transition Project Manager will be the project lead for the City and will work as necessary with other City staff to deliver the Pilot. A key component of the Pilot will be to deepen relationships and work closely with key influential partners including but not limited to:

- **Building Energy Benchmarking Industry Advisory Group:** During the first year of the Pilot, the City will establish an industry group of 15-20 interested stakeholders in the Edmonton building industry to provide input, advice, and guidance to the City on the development of the Pilot program and benchmarking processes. The committee will remain active throughout the Pilot duration, and will provide its final feedback after reviewing the pilot program evaluation final report.

Ideal participation in the group will include representatives from various different building types and sectors and include both experienced individuals and those newer to benchmarking to provide a comprehensive understanding of the issues, benefits, and challenges of benchmarking across building sectors.

- **BOMA Edmonton:** BOMA Edmonton has already played a key role as a supporter and contributor to the Pilot program design process. The City has regularly engaged with BOMA Edmonton staff and board members, collaborating on the planning, implementation and evaluation of the Pilot program. Moving forward, their involvement with recruitment activities, benchmarking workshops and the awards ceremony will be important.

## RECOGNITION PROGRAM

The City will establish a recognition component to acknowledge, congratulate, and thank the building owners, managers, and other stakeholders involved in the program for their commitment to energy management and their contribution toward the City of Edmonton's energy efficiency and climate change targets under the CETS. An annual recognition ceremony will be held at the conclusion of each year of the pilot. The ceremony will serve as an opportunity to bring all program participants together to celebrate the achievements of the pilot program and its participants.

## CONTACT INFORMATION

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