

**Calgary**



# Commercial and Institutional Building Energy Benchmarking Program

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The City of Calgary





# Commercial and Institutional Building Energy Benchmarking

## Program Intent

- Demonstrate leadership – Climate Resiliency Strategy 2050
  - reduce energy consumption
  - reduce GHG emissions by 80% of 2005 levels
- Create an open platform for energy performance data sharing
- Encourages commercial and institutional building owners to participate in energy benchmarking.
- Encourages building owners to employ energy efficiency measures
- Prepares industry for a future with mandatory benchmarking and energy performance standards



## Program Design

- Building energy performance map
  - Rankings and comparison at a local level
- Energy Advisor
  - Program promotion
  - Virtual assistance with benchmarking process
- Workshops and Networking Opportunities
- Awards and Recognition



## Eligibility Requirements

- Participation is voluntary
- Any commercial or institutional building (no minimum GFA requirement)
- Existing buildings and new developments
- Must have whole-building data
  - Gross floor area
  - 12 months of data from C/Y 2019

Recommending the use of ENERGY STAR Portfolio Manager as benchmarking tool

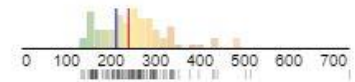


## Program Process Flow

1. Participant Registration and Disclosure Form
2. Create ESPM account and input building data
3. Share data with City of Calgary via ESPM
4. Data verification and upload to Interactive Mapping Tool
5. Performance results and scorecard
6. Energy efficiency recommendations and participation recognition

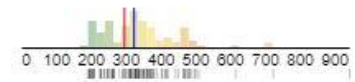
Site EUI 51st of 110

**241.7**  
kWh/m<sup>2</sup>/yr



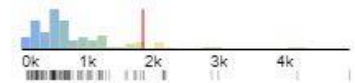
Source EUI 34th of 98

**297.2**  
kWh/m<sup>2</sup>/yr



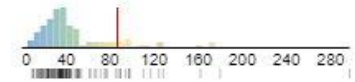
Total GHG Emissions 101st of 110

**1,855**  
tCO<sub>2</sub>e/yr



GHG Emissions Intensity 97th of 110

**87.4**  
tCO<sub>2</sub>e/m<sup>2</sup>/yr





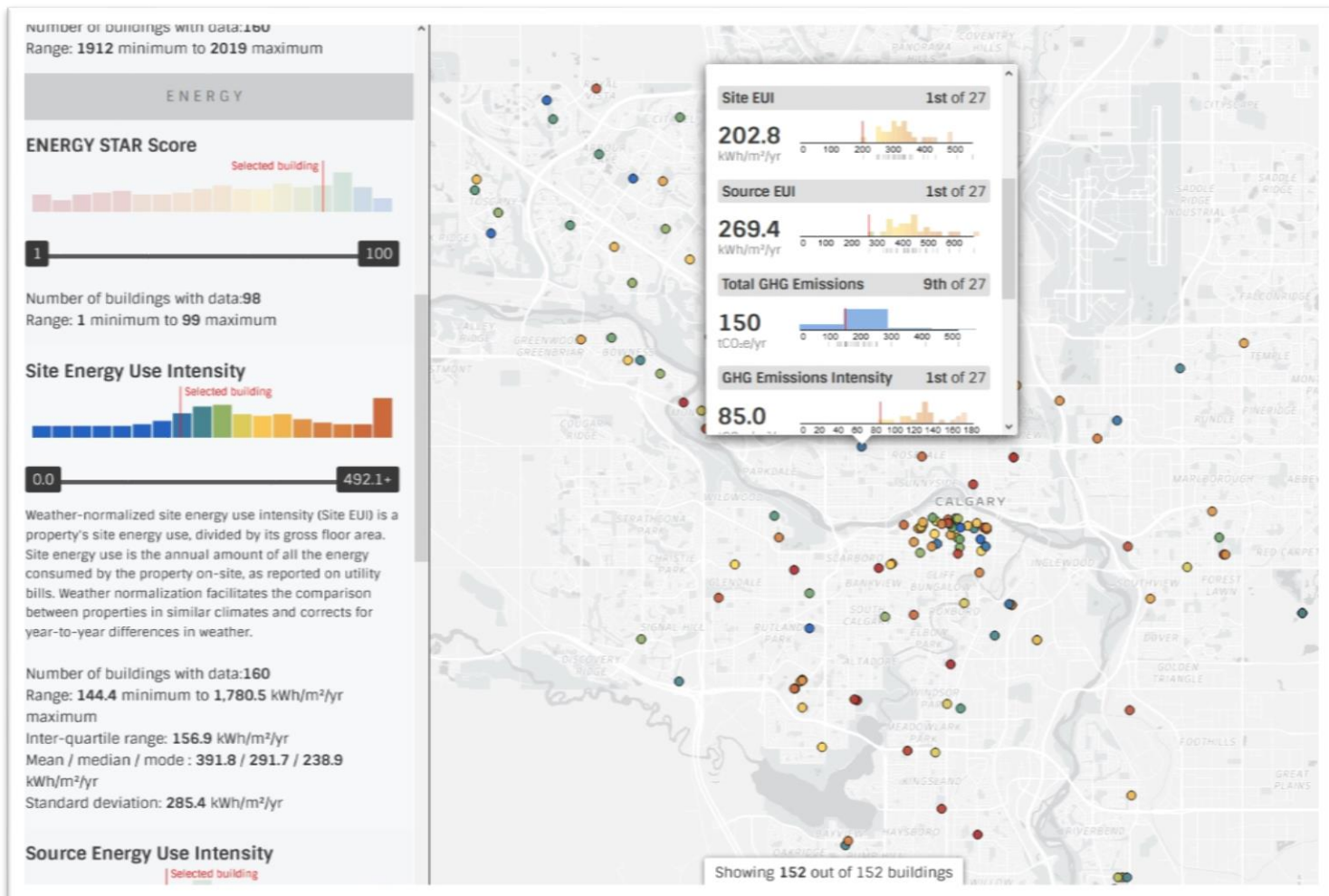
# Commercial and Institutional Building Energy Benchmarking

## Scorecard Display

- Company Name
- Address
- Building Type
- Gross Floor Area (m<sup>2</sup>)
- Construction Date (Year)
- ENERGY Star Score (1-100)
- Site EUI (GJ/m<sup>2</sup>)
- Source EUI (GJ/m<sup>2</sup>)
- Total GHG Emissions (kg CO<sub>2</sub>e)
- GHG Emissions Intensity (kg CO<sub>2</sub>e/m<sup>2</sup>)



# Energy Performance Map



[www.calgary.ca/energybenchmark](http://www.calgary.ca/energybenchmark)



# Commercial and Institutional Building Energy Benchmarking

## Incentives

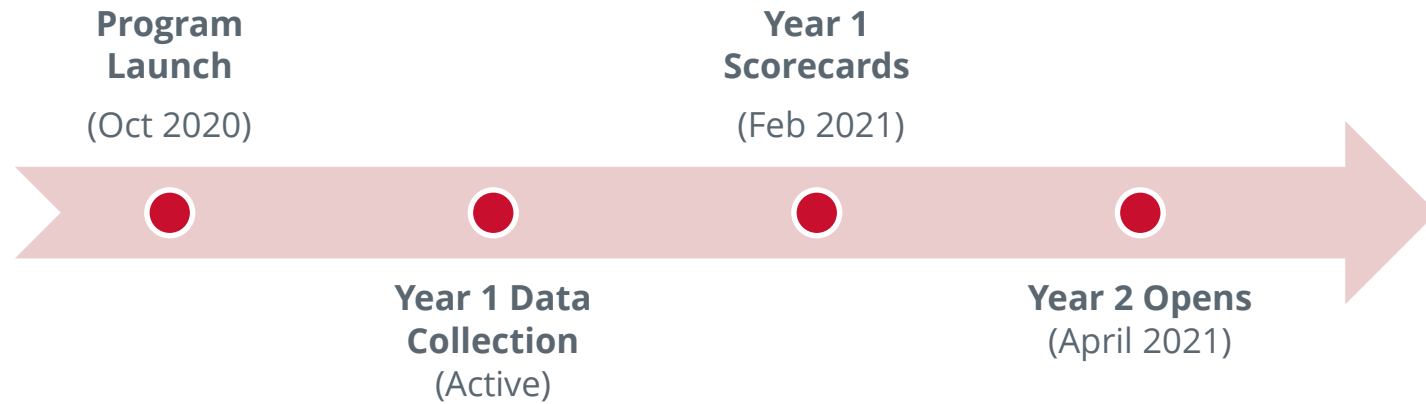
- No direct financial incentives are available at this time
  - Design study application submitted for energy retrofit on-bill financing
- Access to Energy Advisor for assistance with benchmarking process and ENERGY STAR Portfolio Manager
- Awards and Recognition
  - Scorecards, Placards for Building Foyer/Lobbies/Offices, Mayor's Urban Design Awards





# Commercial and Institutional Building Energy Benchmarking

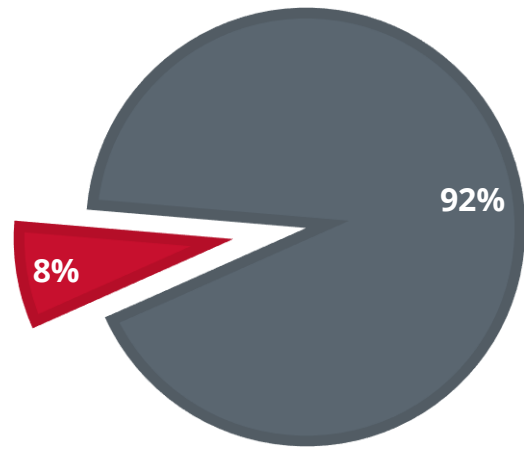
## Program Timeline



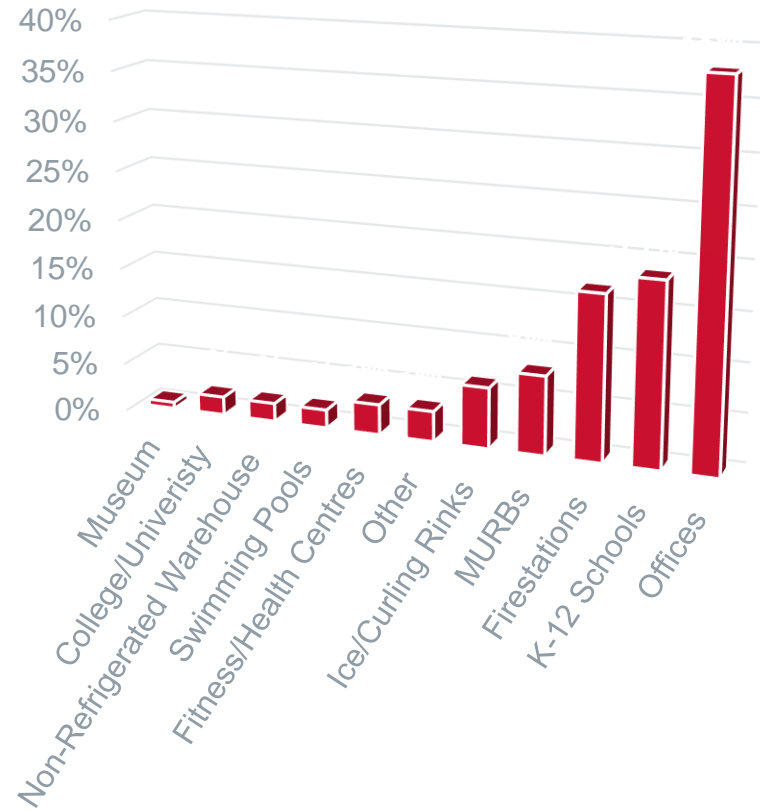


# Commercial and Institutional Building Energy Benchmarking

## Outreach



- Year 1 Buildings (160)
- Total Buildings (Comm, Retail, Instit., City ~2,100)





# Commercial and Institutional Building Energy Benchmarking

## Statistics

Total Gross Floor Area	2,733,460 m <sup>2</sup>
Site Energy Use Weather normalized	2,870,982 GJ/year
Direct GHG Emissions	83,568 tCO <sub>2</sub> e/year
Source Energy Use Weather normalized	4,038,910 GJ/year
Total GHG Emissions	356,755 tCO <sub>2</sub> e/year



## Promotional Strategy

- Targeted email campaign directed at large REITS and institutions
  - Director of Operations, Ops Manager, Energy or Sustainability Managers
  - Spoken with ~60 groups so far, 11 have registered
- E-Newsletter Pieces
  - City of Edmonton, BOMA Calgary, AISCA, AEE (AB)
- Energy Benchmarking Website
  - [www.calgary.ca/energybenchmark](http://www.calgary.ca/energybenchmark)



# Commercial and Institutional Building Energy Benchmarking

## Barriers to Participation

<b>Outreach</b>	How do we engage B&C Class Buildings?
<b>Capacity for Energy Data Management</b>	How can we help reduce time requirements?
<b>Lack of Incentives</b>	What non-financial incentives can we offer or highlight?
<b>Utility Data Access</b>	How can we engage utilities on access transformation?
<b>Disclosure Concerns</b>	Can performance transparency help improve your operations?
<b>No Regulations</b>	What are the effects of mandatory benchmarking on the C&I community?

## Contact

[www.calgary.ca/energybenchmark](http://www.calgary.ca/energybenchmark)  
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