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Whole-building Energy Data Access in Calgary

Commercial, Multi-unit Residential, and Industrial Properties

Reporting and managing whole-building energy performance is becoming increasingly important for building owners that are seeking to effectively allocate capital investments, implement building performance upgrades, and lower energy costs and GHG emissions. To do this, they need to measure and track how much energy their buildings are using, and what the resulting greenhouse gas (GHG) emissions are from that energy use. This process allows for a benchmark to be made for each building, which is then used to prioritize buildings across a portfolio for decarbonization projects such as energy efficiency and renewable energy generation projects. However, it is not a trivial task to collect all this building energy data. Often, building owners and operators do not have visibility on energy being used at their building because much of the data belongs to their tenants.

This short paper intends to describe three processes building owners and operators can use to collect their whole-building energy use data for their buildings in Calgary. It also highlights an opportunity to modernize, standardize, and expedite data sharing between utility distribution companies and building owners and operators, further enabling greenhouse gas emissions reduction activities.

Why is whole-building energy use data needed?

The process of collecting and analyzing whole-building energy use data is known as building energy benchmarking, and it is a standardized process for measuring, tracking, and disclosing building energy use and emissions annually. Quite often, benchmarking data is a prerequisite to be eligible for building retrofit funding and financing programs, because it the benchmark acts as a building performance reference point that allows the funder to validate the efficacy of a project after it has been completed. Without whole-building energy use data, many building owners and operators are missing opportunities to access retrofit funding and financing programs. Without a clear picture on whole-building energy performance, decision-makers cannot confidently flow capital towards energy efficiency improvements and renewable energy projects, thereby limiting their ability to properly mitigate the environmental impacts of their operations.

Additionally, more and more municipalities are establishing local building energy and emission reporting requirements across North America, for which access to whole-building energy use data is necessary.

- City of Vancouver Annual Greenhouse Gas and Energy Limits By-law
- City of Toronto Energy and Water Reporting By-law
- City of Montreal By-law concerning GHG emission disclosures and ratings of large buildings
- New York City Local Law 33 of 2018
- Seattle Energy Benchmarking Law

The City of Calgary has a voluntary reporting program in place, BenchmarkYYC, which supports building owners and operators through the process of collecting and disclosing their whole-building energy use data. BenchmarkYYC is a key action within the Calgary Climate Strategy: Pathways to 2050.

Scenario #1
Obtaining whole-building energy use data for buildings with less than 10 tenants

In the circumstance where a building owner pays some, or none, of the total energy bill because the tenant suites are metered independently, the building owner (or property manager) must obtain signed authorization from each tenant to access their historical electricity and natural gas use data. The authorization letter should be presented on each tenant's letterhead and include the following information:

- Suite Address
- ENMAX Site ID and Meter ID (this can be found on Utilitynet)
- ATCO Site ID and Meter ID (this can be found on Utilitynet)
- Date range of data collection (Start Date/End Date)
- Interval Type – Monthly cumulative or Interval (15 min/hourly).
- Confirmation of data access authorization for the building owner (or property manager)

When all authorization letters have been obtained, the building owner can send a historical energy data request to ENMAX Power and ATCO Gas. The building owner can then carry out the data retrieval process with the utilities; no other information needs to be provided by the tenants. The following forms must be sent to the respective utility distribution companies with all tenant authorization letters attached:

- ENMAX Power Non-Retailer Authorization Site Specific Historical Usage Information
- ATCO Gas Authorization and Release Form Consent to a One-Time Release of Information

Upon receipt and approval of the signed authorization forms and letters, the utility distribution company will begin collecting and organizing all tenant energy use data for the specified period. Once complete, each tenant-specific dataset is released directly to the building owner. It can take anywhere from a few days to several weeks for the data request process to be completed.

Scenario #2
Obtaining whole-building energy use data for buildings with 10 or more tenants

In the circumstance where a building owner pays some, or none, of the total energy bill because the tenant suites are metered independently, but there are 10 or more tenants leasing space within the building, signed authorization forms from the tenants are **not required**. Instead, the building owner can make a direct email request to the utility distribution companies to access the aggregated, whole-building electricity and natural gas use data. This request must contain the following information:

- all Site IDs and Meter IDs for each site and meter located within the building (once again, found using Utilitynet);
- Date range of data collection (Start Date/End Date); and
- Interval Type – Monthly cumulative or Interval (15 min/hourly).

The data requests should be sent to the following contacts:

- ENMAX Power: trac@enmax.com
- ATCO Gas: gasprocessing@atco.com

The utility distribution companies will aggregate all meter data into a single "virtual meter" that represents all energy consumed at the building. For building energy benchmarking, the data is typically provided in monthly intervals. This "aggregated data request" allows building owners and operators to collect monthly, whole-building energy use data without gaining access to tenant-specific energy use data, thereby maintaining privacy between the building owner and the tenant. Aggregated data requests are typically submitted once per year by the building owner.

Both ENMAX Power and ATCO Gas charge fees for data aggregation services. In Calgary, up to $2,250 of these fees can be recovered through the Building Energy Data Rebate as an incentive granted to registered participants of BenchmarkYYC.

Scenario #3
Combining buildings to overcome the meter quantity threshold for data aggregation

In some cases, there may be multiple buildings on a property that have less than 10 tenants in each building. If the building owner requires whole-building energy use data for *each building*, they will need to follow the process described in Scenario #1. However, if the building owner does not need that level of granularity, they can combine multiple buildings into a single, aggregated data request to avoid having to collect signed authorization letters from each tenant at the property. The combination of buildings must collectively contain 10 or more tenant meters.

The process for requesting aggregated data in Scenario 3 is the same as Scenario 2, but the building owner must ensure to clearly request that data from multiple buildings should be combined. In Scenario 3, the building owner is collecting *whole-property* energy use data instead of whole-building energy use data.

Summary of scenarios

	BUILDINGS AND TENANTS	STRATEGY
SCENARIO 1	A single building with less than 10 tenants	Building owner must collect letters of authorization from each tenant to support their data request to the utility distribution companies
SCENARIO 2	A single building with 10 or more tenants	Building owner can directly request aggregated data from the utility distribution companies
SCENARIO 3	Two or more buildings on a property with a combined 10 or more tenants	Building owner can combine multiple buildings into a direct aggregated data request to the utility distribution companies

Depending on the utility distribution company, the threshold for meter aggregation can vary. For additional information on retrieving whole-building energy use data, please contact ENMAX Power or ATCO Gas.

Proposed process improvements for whole-building energy data access

Currently, there is uncertainty around the rules and regulations that govern data sharing between utility distribution companies and building owners, so existing rules and regulations around data sharing between utility distribution companies, energy retailers, and customers are contorted to fit the

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circumstance. This results in building owners, who often own and operate in multiple locations across Alberta, being subject to non-standardized, resource-intensive processes to obtain whole-building energy use data for their portfolios. One potential solution to resolve this uncertainty is to alter an existing rule, or create a new rule, that clearly defines how building owners and operators must make historical energy data requests, and how utility distribution companies collect, aggregate, format, and share whole-building energy data with building owners.

Across Canada and the United States, utility companies have deployed automated data sharing services by automating their back-end data aggregation processes and integrating with software platforms such as ENERGY STAR® Portfolio Manager®. It is recommended that all Albertan utility distribution companies, with direction from the Alberta Utilities Commission, undertake a similar endeavour to modernize and streamline how they share data with building owners and operators. For more information on this, Natural Resources Canada provides Guidance for Utilities on Providing Whole-Building Energy Data to Enable Benchmarking in ENERGY STAR® Portfolio Manager®.

BenchmarkYYC helps building owners and operators measure, track, and disclose the year-over-year energy and emissions performance of their buildings. Find out more at www.calgary.ca/benchmarkyyc or send an email to energybenchmarking@calgary.ca.