

EDMONTON'S YEAR 4 BUILDING ENERGY BENCHMARKING REPORT. □

Publication Date: May 2021

**CHANGE
BUILDINGS
FOR CLIMATE**

Edmonton

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Business support in Edmonton's energy transition is vital to accelerate the market transformation

For Year 4, Edmonton's Building Energy Benchmarking (BEB) program has seen a growth of 37 percent with over 89 percent of buildings returning from the program's third year. This year over 400 Edmonton buildings have participated in the (BEB) program . The phenomenal program growth is indicative of Edmonton's business community's leadership to fight climate change. The fourth program year also marks the first successful year of the BEB program after the conclusion of the BEB program's pilot last year .

Commercial and institutional buildings still account for over 20 percent of Edmonton's emissions and hence, business support in Edmonton's energy transition is vital to accelerate the market transformation that our city requires to become carbon neutral in its energy use by 2050. The leadership shown by Edmonton's businesses and their climate actions to reduce their own Greenhouse Gas (GHG) footprint, set an example for others to emulate and follow.

Edmonton's City Council recently, overwhelmingly reaffirmed its commitment to energy transition by approving the City's revised Energy Transition Strategy and Action Plan. The strategy commits Edmonton to reduce its community based Greenhouse Gas (GHG)

emissions by 50 percent (below its 2005 level) by 2030. Reducing GHG emissions through energy efficient building is one way to reduce our community's GHG footprint. Edmonton hopes to achieve this through accelerated and expanded building retrofit programs; and introducing emission neutral building standards for City of Edmonton buildings . Edmonton's commercial programs such as Building Energy Benchmarking (BEB) programs will remain critical in this transition for building owners to understand, manage and reduce their building's energy footprint .

As we embark on the new year of the BEB program, we are introducing changes to the program that will further grow the program's reach by attracting smaller businesses in our Business Improvement Areas (BIA) and strip malls to participate and leverage the City's commercial energy transition programs . We will also look to include waste diversion and water conservation as other mechanisms for local buildings to reduce their footprint.

On behalf of the City of Edmonton's leadership team, I thank you for your participation in Edmonton's energy transition!

Stephanie McCabe
Deputy City Manager,
Urban Form and Corporate Strategic Development



Building Owners and Managers Association (BOMA) Edmonton is a proud founding partner in the City of Edmonton's Building Energy Benchmarking (BEB) Program. We commend everyone involved in the program for making this important pilot project successful these past four years. We welcome this year's report and are encouraged by the continued results that hundreds of participating buildings are achieving year after year to reduce their energy consumption and GHG emissions.

Energy management is a competitive advantage for companies and for our city. Benchmarking is a smart organizational practice that helps companies identify opportunities for energy performance improvements and consider efficiency projects and solutions. Benchmarking complements BOMA BEST Sustainable Buildings certification, as well. BOMA BEST is North America's most widely used environment assessment and certification program. Several of the buildings that are involved in the BEB Program are in fact BOMA BEST certified or could be BOMA BEST certified to achieve excellence in energy and environmental management performance in the commercial real estate industry.

According to BOMA Canada, which administers BOMA BEST in partnership with eleven local associations such as BOMA Edmonton, BOMA BEST certified buildings in 2019/2020 saw a 25% reduction in annual energy use intensity, 36% reduction in annual water use intensity, and 1 in 4 buildings achieved diversion rates of 70% or higher. Furthermore, there was an 84% reduction in annual GHG emissions, which is the equivalent of taking 8,300 cars off of the road. More details about these results can be found in BOMA Canada's "Building on Sustainability: 2021 National Green Building Report" at www.bomacanada.ca.

The City of Edmonton has BOMA BEST certified buildings and is increasing its portfolio. This move is good for operations, good for the environment and good for the city's image to citizens and investors. Evidence of the financial benefits of energy efficient buildings has grown substantially, with direct savings through reduced energy bills and operational costs as well as indirect benefits such as increased market value for leasing and sales. It is also clear that investor and citizen priorities are shifting, and so too must our offerings and approach. The City of Edmonton's BEB Program dashboard is another resource for those interested in learning more: edmonton.ca/energybenchmarkingdashboard.

BOMA Edmonton has been a leading voice and resource for the commercial real estate industry in the Edmonton region and the north for more than 50 years. We have more than 350 corporate members that own, operate and maintain all commercial building types. Our vision is for a vibrant, inclusive and responsible commercial real estate industry that is prosperous and positively impacts economies, businesses, communities and lives. Being a partner in the BEB Program helps us to realize that vision.

Sincerely,

A handwritten signature in black ink that reads "Lisa Baroldi". The signature is fluid and cursive.

Lisa Baroldi
President & CEO
BOMA Edmonton

A low-angle photograph of the Edmonton City Centre Tower, a tall glass skyscraper. The building's facade is composed of a grid of windows, many of which are illuminated from within, creating a pattern of light and dark rectangles. At the top of the tower, the word "Edmonton" is displayed in a large, white, sans-serif font. The sky is a clear, pale blue. A large, dark blue, semi-transparent arrow-shaped graphic points from the left towards the right, partially overlapping the building's facade.

Edmonton

PROGRAM OVERVIEW

PROGRAM OVERVIEW

BUILDING ENERGY BENCHMARKING IN EDMONTON YEAR 4

In 2017, the City of Edmonton launched a voluntary building energy benchmarking program to help lay the foundation for Edmonton's transition to a low-carbon, sustainable energy future by making building energy performance information accessible to interested stakeholders. Now, we are in the fourth year of the program, with 424 participating buildings and are poised to take the program to the next level. It should be noted that the Year 4 buildings have been benchmarked on their annual (January 1 to December 31) energy use for the year 2019.

As a part of Edmonton's Community Energy Transition Strategy, the program compiles and compares annual whole building energy consumption across Edmonton's large building stock and uses this information to benchmark building energy performance, facilitate energy efficiency improvements and greenhouse gas (GHG) reductions.

WHAT IS BUILDING ENERGY BENCHMARKING?

The process of comparing a building's energy and emissions performance to similar buildings, and to itself over time.

PROGRAM DEVELOPMENT & PROCESS

The City of Edmonton's Building Energy Benchmarking Program was developed to collect information on a building's energy use patterns relative to similar building types. The program generates valuable data on Edmonton's building energy performance and energy saving opportunities.

Over the past several years, commercial building energy consumption has emerged as an opportunity and target for potential energy savings and GHG emission reductions. The insights that building owners learn from benchmarking their buildings has brought building energy performance more clearly into focus and is critical to understanding where opportunities to reduce energy use will be most effective in their commercial building stock. The benchmarking program aims to be a catalyst for change as we implement plans to reduce energy use.

BENEFITS

For Building owners/managers: Benchmarking allows participants to track their energy performance over time and to identify opportunities to save both energy and money. Through benchmarking, participants can see where their building is performing efficiently and where the implementation of energy efficiency measures can save them money. It can also allow them to meet market demands for clients that demand better energy efficiency.

For Governments: Benchmarking allows a municipality to understand its own energy use trends and develop policies, programs and regulations that can have the most impact with respect to GHG reductions. Tracking quantitative measures also allows for a more robust evaluation of the success of certain policies or programs.

For Industry: Benchmarking provides information on where investments can be strategically made to make buildings more efficient. This data can signal where opportunities for market transformation exist so investment can match demand.

MOVING FORWARD

In April of 2021, Edmonton's City Council approved [Edmonton's Community Energy Transition Strategy and Action Plan](#). The update of Edmonton's Community Energy Transition is an opportunity to re-imagine our city and the energy markets we will lead. The energy transition represents a once in a life-time opportunity to create a new era of economic growth in the region. This will require transformational change at an unprecedented rate.

Energy transition pathways such as renewable and resilient energy transition; low carbon city and transportation; emission neutral buildings; and carbon capture and nature based solutions require a smart and agile implementation approach.

By 2030, as Edmonton aims to reduce its Greenhouse Gas (GHG) emissions to 50 percent below its 2005 levels, the need to reduce our community carbon footprint remains a key goal of the City. In order to achieve our goal of reducing energy use and limiting GHG emissions, more energy efficient commercial buildings will need to emerge. This will require participation across the spectrum of commercial buildings to reduce their energy use and that begins with benchmarking.



PARTICIPANT OVERVIEW

PARTICIPANT OVERVIEW

HIGHLIGHTS

Year 4 of the Building Energy Benchmarking (BEB) Program was a success by various measures:

- **Number of Properties/Buildings:** Once again, the BEB program saw a significant increase in participation over previous years. The Year 4 dataset includes 328 properties (representing 424 individual buildings), an increase of 37% from Year 3 (240 properties representing 278 buildings)
- **Diversity of Properties:** Year 4 properties represented 40 different end-uses such as offices, multifamily residential, libraries, retail stores and many more, which were then grouped into 15 unique property categories for comparison.
- **Sample Size of Categories:** As participation continues to grow, the peer comparison groups for each property category become more robust. The Office sample size increased from 51 properties in Year 3 to 64 properties in Year 4. Similarly, the Multifamily Residential category increased from 31 properties in Year 3 to 45 properties in Year 4.
- **Retention:** In the program, 80% of properties that participated in Year 1 continued to participate in Year 4, while 89% of Year 3 properties returned to participate in Year 4.

Participation Summary: Years 1 to 4 (2016 to 2019)

	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Properties	83	159	249	328
Buildings	99	184	278	424
Primary Property Uses	20	30	37	40
Floor Area (sq m)	2,017,000	2,763,000	3,451,000	4,750,000
Organizations	21	30	36	56



Boardwalk's Redwood Court

Program retention has remained very high, with 89% of Year 3 buildings also participating in Year 4.

PARTICIPANTS

- Year 4 included 328 properties (representing 424 individual buildings) and 15 unique comparison categories.
- The largest category was Office buildings (64 properties), representing 1.2 million square metre of gross floor area.
- The Other category, made up of properties that could not be placed under other specific building types, was the second largest category with 50 properties.
- Multifamily residential buildings were the third largest category. This category also grew substantially – from 31 properties in Year 3 to 45 in Year 4.
- Year 4 properties represent a combined gross floor area of almost 5 million square metre.



Superior Lumber

Participating Properties by Category

Categories	# of Properties	# of Buildings	Sum of Gross Floor Area (m ²)
Arena	15	15	52,210
College / University	26	26	654,910
Fire Station	15	15	22,170
Garages, Service Yards, Warehouses	39	42	395,140
Library	13	14	90,240
Light Industrial	8	8	84,410
Multiplex	13	13	179,690
MURB	45	81	567,430
Office	64	70	1,200,000
Police Station	8	8	83,730
Pool	3	3	3,690
Retail	10	24	323,910
Transport Station	6	6	24,110
Vocational / Adult Education	13	28	302,860
Other	50	71	769,460
Grand Total	328	424	4,750,000

PARTICIPANT OVERVIEW

ENERGY USE

ENERGY USE INTENSITY (EUI) AND EMISSIONS:

- For properties that participated in both Year 3 and Year 4, the average change in their EUI from the previous year was -2.3%. That means that the average building improved their year-over-year energy efficiency.
- The average weather normalized source EUI of all Year 4 properties was 1.67 GJ/m². Multifamily residential buildings, offices and libraries have the lowest energy use per building.

MEDIAN ENERGY USE INTENSITY

Median EUI reflects the mid-point of the EUI performance, where exactly 50% of the properties perform better and the remaining 50% perform worse.

- Multifamily residential buildings, retail and library categories have the lowest median source EUIs at 1.24, 1.34 and 1.54 GJ/m² respectively.
- The average greenhouse gas (GHG) emissions intensity of the Year 4 properties was 166 kg of CO₂e per m². The lower the emissions intensity, the better the environmental performance.
- Multifamily residential buildings, light industrial facilities and vocational/adult education properties have the lowest emissions intensity among the Year 4 buildings at 91.2, 121.0 and 133.2 kgCO₂e/m².

YEAR-OVER-YEAR IMPROVEMENTS

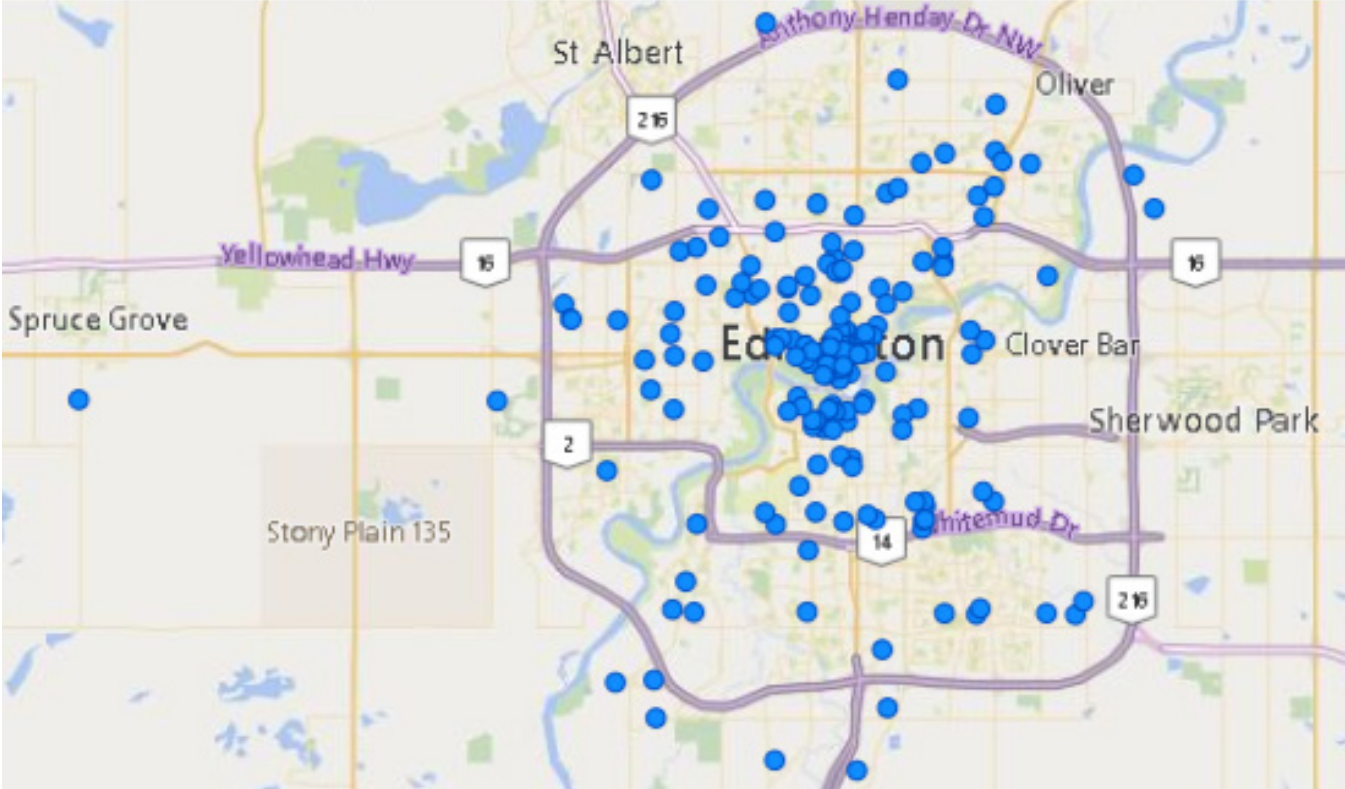
Year-over-year performance compares the most recent year's EUI of a building with its EUI from the previous years.

- As stated above, the average year-over-year change in weather-normalized source EUI for buildings that participated in Year 3 and Year 4 was -2.3%, and the median change was -3.2.
- 31 properties reduced their EUI by 5%. 27 properties reduced their EUI by 10%.
- There are several properties that have participated in the BEB program in all four years of its existence. For buildings for which source EUI information is available for all four years, the average Year 1 to Year 4 change in EUI is -9.3%.

EUI	Y3 to Y4 Change	Y2 to Y4 Change	Y1 to Y4 Change
Average	-2.3%	-3.6%	-9.3%
Median	-3.2%	-2.7%	-12.4%

Reductions in energy use cannot be directly attributable to benchmarking, and are instead a result of specific operational improvements or equipment upgrades. However, the year-over-year results presented here suggest that benchmarking is a key organizational best practice that can help identify opportunities for energy performance improvements and motivate building owners and operators and implement efficiency projects.

LOCATION OF PROPERTIES PARTICIPATING IN YEAR 4



This map shows how organizations and buildings across the city are participating in the Building Energy Benchmarking Program.

PARTICIPANT OVERVIEW

CITY OF EDMONTON

The City of Edmonton continues to be a leader in benchmarking its own buildings and has submitted 120 buildings to this year's program. We aim to grow this number each year as more data becomes available.

Category	# of Properties
Arena	15
Fire Station	15
Garages, Service Yards, Warehouses	31
Library	11
Multiplex	12
Office	6
Police Station	8
Transport Station	5
Vocational / Adult Education	1
Other	16
Total	120



Animal Care & Control Centre



Kennedale Eco Station



NORQUEST COLLEGE
SINGHMAR CENTRE
FOR LEARNING

ENERGY PERFORMANCE RESULTS

ENERGY PERFORMANCE RESULTS

YEAR 4 ONLINE DASHBOARD

Last year we introduced an online dashboard as an interactive tool to share building benchmarking data for all the buildings in the program. It offered an easy way to look at the data, understand some trends and find category and building-specific detail. This year, we have built upon the success of the online dashboard and included additional analysis that is accessible to all participants and allows users to easily explore energy performance data and compare it to their own buildings.

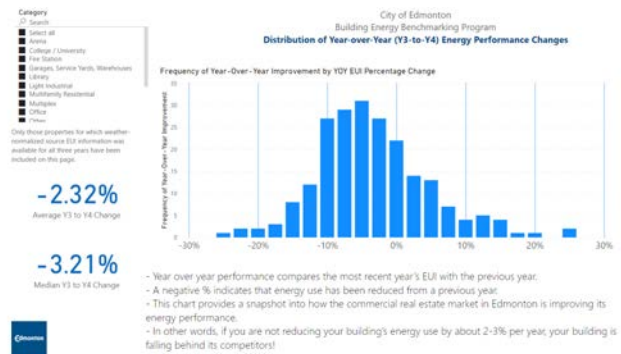
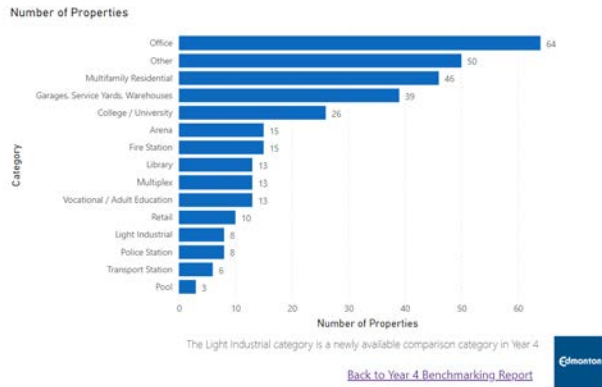
We encourage you to [explore this tool](#) to see your building energy performance in comparison to other similar buildings. We have also sent out building-specific scorecards to all participating buildings to provide some insight and detail about each one with potential recommendations to improve energy performance.

For the most current year's dashboard, visit: edmonton.ca/energybenchmarkingdashboard

City of Edmonton
Building Energy Benchmarking Program
Year 4 Program Overview



- The "Other" fuels category refers to buildings that use district steam, hot water or chilled water
- The Average Annual Site Energy Use Intensity (EUI) is the sum of the average electricity, gas, and 'other' fuel use intensity





BUILDING SHOWCASES

MACEWAN UNIVERSITY

MacEwan University has 4 buildings participating in the Benchmarking Program this year. They have participated in the program for the past three years and currently benchmark 139,757 m² of space comprising offices, learning spaces and student residences. The Robbins Health Learning Centre is the runner-up in the College/University category this year with an EUI of 1.44 GJ/m².

MacEwan has made a commitment to sustainability and energy efficiency in their buildings and operations. MacEwan was the first ISO 50001 post-secondary in Canada, which is a globally recognized standard to help continually improve environmental impacts through best standards, practices and principles for managing energy systems. ISO 50001 ensures that MacEwan University improves energy efficiency and resource conservation, while minimizing operation costs, battling climate change and thinking about continuous improvements for the campus's future through policy development, setting targets, using data, measuring results and monitoring a greenhouse gas inventory.

WHAT MOTIVATED MACEWAN TO PARTICIPATE IN THE BENCHMARKING PROGRAM?

As Edmonton's downtown university, it is important to actively contribute to achieving community targets and supporting one another in this energy journey. Additionally, it is important that our students have an immersive, participatory experience where they learn both inside and outside the classroom. Implementing, communicating and showcasing our energy efficiency provides our students an enriched learning experience through utilizing our campus as a living lab

WHAT RETROFITS/MEASURES HAS MACEWAN DONE OR INTENDS TO DO TO IMPROVE ENERGY EFFICIENCY?

MacEwan has undertaken campus-wide upgrades to improve its energy efficiency and is about to embark on the next round of long-term planning to chart an energy reduction path forward.

MacEwan is actively safeguarding its future by:

1. Establishing an energy management committee
2. Conducting a large-scale lighting retrofit
3. Upgrading campus equipment and boilers to be more energy efficient
4. Piloting a solar array that is operational for over a year

WHAT IS MACEWAN'S COMMITMENT TO SUSTAINABILITY?

Sustainability is a pillar of MacEwan University. Starting with its namesake who believed in leaving the vineyard better than one found it, MacEwan University strives to integrate sustainability across academics, operations, engagement and campus leadership.



Robbins Health Learning Centre

LAFARGE

Lafarge is Canada's largest supplier of sustainable construction materials and is committed to building a world that works for people and the planet. They have participated in the Year 4 Benchmarking program with three buildings housing their operations, with plans to expand to more locations and operations over time.

As part of their commitment to sustainability, Lafarge is aligned with the United Nations Sustainable Development goals. In September 2020, Lafarge's parent company, LafargeHolcim, signed the Net Zero Pledge with the Science Based Targets Institute, with ambitious 2030 climate targets, CO₂ intensity reduction measures and supporting the development of the first climate targets for a 1.5°C future in the cement sector. Senior management support of sustainability is key in continual and ongoing improvement.

WHY DID LAFARGE CHOOSE TO PARTICIPATE IN THE BENCHMARKING PROGRAM?

Benchmarking is at the heart of tracking progress to improve environmental performance. Lafarge needed to establish a starting point from an energy and natural resource consumption standpoint (electricity, natural gas, water, fuel, etc.) to identify where improvements can potentially be made and from which it can track ongoing improvements/performance against that baseline. An entire facility can be tracked for improvement, but in some cases, individual measures can also be analysed (through sub metering or engineering calculations).

WHAT RETROFITS/MEASURES HAS LAFARGE COMPLETED? WHAT ARE SOME PLANNED ENERGY EFFICIENCY IMPROVEMENTS?

Lafarge has implemented a broad variety of measures at their facilities. Education and involvement of its employees has been a major component of the continuous improvement, and employees are heavily involved in the process. Lafarge's first step is always to look at no cost/ low cost measures—things that can be accomplished with little to no investment. The ingenuity and creativity of the company's employees has helped reduce greenhouse gases, with changes in operational habits and with the workforce bringing forth ideas and suggestions.

No cost / low cost measures Lafarge has introduced include: lowering temperatures, turning off lights and equipment when not in use, repairing holes and air leaks in facilities, lowering set points on air compressors, sending internal newsletters/communications with energy saving suggestions, carrying out preventative maintenance programs on heating and ventilation system, tracking and showing operations/managers their energy consumption so that they can understand energy use and performance over time and recognizing excellence through internal Environmental Awards where operations and individuals are recognized for efforts to reduce energy use.

These no cost / low cost measures alone have yielded staggering energy reductions of 8 to 25%—one facility reduced natural gas use by 25% through small changes in daily operations and without a significant capital investment.

Lafarge has since initiated a series of lighting audits and made the business case for any changes or retrofits. The company has completed four wholesale facility light fixture retrofits in the past year and is currently undergoing the process to examine a number of other facilities for increased use of Variable Frequency Drives (VFDs), high efficiency compressors/compressed air and high efficiency boilers and steam generators.

WHAT IS LAFARGE'S COMMITMENT TO SUSTAINABILITY?

At Lafarge, many of its employees wear many hats in their jobs and many lack specific training in strategic energy management. Therefore, the alliances with and utilization of outside resources and expertise has been key to reducing the company's GHG emissions. Lafarge participates in the City of Edmonton Corporate Climate Leaders Program (CCLP) and has been working with Green Economy Canada, Climate Smart, Energy Reduction Alberta, various engineers, contractors and suppliers among others to investigate and expand measures. The training, suggestions and networking with outside resources have been instrumental in accelerating Lafarge's GHG reductions and in providing perspectives/ideas that the company might not have otherwise derived on its own.

TERRA LOSA RETAIL COMPLEX – BENTALLGREENOAK

BentallGreenOak is a global real estate investment management advisor and provider of real estate services. The firm manages and operates buildings across Canada and has an established presence in Edmonton. They have participated in the Building Energy Benchmarking program since it began with a number of different buildings. They have been consistently high performers with some of the lowest EUIs in the Office building category and have now included the Terra Losa retail complex in the Retail category. This is 24,108 m² of retail space that has achieved an EUI of 1.07 GJ/m², while the median EUI for retail spaces in the program was 2.3 GJ/m².

WHAT MOTIVATED BENTALLGREENOAK'S TERRA LOSA RETAIL COMPLEX TO PARTICIPATE IN THE BENCHMARKING PROGRAM?

Terra Losa participated in the City of Edmonton benchmarking program this year to better understand how the site's energy impact compares to other similar properties in Edmonton. The benchmarking program also offers an opportunity to have a snapshot of the current energy use to better understand the impact of new energy saving measures.

WHAT RETROFITS/MEASURES HAS BENTALLGREENOAK'S TERRA LOSA RETAIL COMPLEX DONE OR INTENDS TO DO TO IMPROVE ITS ENERGY EFFICIENCY?

Since 2015, Terra Losa has been undertaking a substantial lighting retrofit to convert all exterior and parking lighting to energy efficient LED lighting. These retrofits have both reduced the energy impact of the site, and increased the lighting quality for tenants and retail customers alike.



Terra Losa Centre

WHAT IS BENTALLGREENOAK'S COMMITMENT TO SUSTAINABILITY?

BentallGreenOak (BGO) is guided by its purpose as a fiduciary to create sustainable spaces that deliver long-term value for the clients, tenants and communities we serve. Empowered by this sustainability mindset, BGO is committed to realizing sustainability and ESG (Environmental, Social and Governance) goals that enhance asset value, ensure compliance, promote industry-leading management practices and drive superior performance.

BGO has been awarded the ENERGY STAR Partner of the Year – Sustained Excellence for 11 consecutive years, in recognition of its leadership in energy performance and commitment to energy efficiency. To successfully respond to material ESG issues and continue to be at the forefront of environmental and social change, BGO incorporates ESG considerations throughout an asset's entire lifecycle. Through this approach, BGO is building a portfolio of the future that recognizes the relationship that we all have to our buildings, and our desire for safer, healthier and more inclusive cities.

ADDITIONAL COMMENTS ABOUT BENTALLGREENOAK GOALS, VALUES THAT MAKE BENCHMARKING IMPORTANT?

BGO believes that improved operational efficiency lowers costs and reduces environmental impact while enhancing the long-term value of its assets. Through robust data management, efficiency measures and stakeholder engagement, the firm continuously drives its performance to reduce energy and water consumption, waste and greenhouse gas emissions. Benchmarking BGO's buildings against its regional peers helps provide insight into performance to support continuous improvement.

EDMONTON FEDERATION OF COMMUNITY LEAGUES

The Edmonton Federation of Community Leagues (EFCL) is an umbrella group that has been supporting the City of Edmonton's Community Leagues since 1921. Their mission is to "engage, develop and connect Edmonton Community Leagues in building healthy neighbourhoods. This is the first year they have participated in the Benchmarking program and have had the opportunity to get an energy audit done on some of their buildings to get a better sense of opportunities for energy improvements.

WHAT MOTIVATED THE EFCL TO PARTICIPATE IN THE BENCHMARKING PROGRAM?

Before joining the BEB program, the EFCL already had an organizational commitment to addressing climate change through emissions reduction and on-site generation. In 2012, EFCL had a small 1.25 kW solar system installed on the roof of its offices. In 2017, the EFCL hired its first Energy Transition Officer to support and run the Green Leagues program, and support Community Leagues in pursuing solar energy and lowering the emissions of their halls and facilities.

The EFCL joined the Building Energy Benchmarking Program in 2018 as a way to show its own commitment to the values the organization espouses to its Leagues. This provided the opportunity to pursue energy reduction for the EFCL in its own organization while learning new ways to help support Community League volunteers in their own energy transition journeys.

WHAT RETROFITS/MEASURES HAS THE EFCL DONE OR INTEND TO DO TO IMPROVE ENERGY EFFICIENCY?

Because the EFCL does not own or operate its own building, the amount of direct work that the organization has been able to do on its offices has been minimal. As the primary source of GHG emissions, office buildings remain a major opportunity for the EFCL to reduce its emissions. Over the past year and a half, the EFCL has installed low-flow faucet aerators, a plug timer for its water heater/cooler, caulking around windows and motion sensors on the lighting in communal spaces, including both board rooms. A "normal" year after the pandemic will help the EFCL evaluate the results of the changes.

The EFCL also ran a contest for staff to illustrate the viability of low-carbon transit to and from work. Staff were challenged to find alternative methods of commuting for several days over a two-week period. The contest was held in the middle of January, so it wasn't easy on people, but it was well-received and participation was high. Additionally, the EFCL offers transit tickets for staff if they wish to use public transit for transportation to and from meetings.

Lastly, the EFCL has been discussing the possibility of remote work or a hybrid work model for staff when the pandemic ends. The majority of its staff have been working remotely since the start of the pandemic, and that has gone very well. A large part of our emissions come from heating and office staff use electric heaters to stay warm in cooler months. This is an inefficient and expensive way to heat our space, as well as increases emissions. Therefore, the EFCL hopes that many staff will remain remote or choose to work through a hybrid model after the pandemic ends.

The COVID-19 pandemic has also illustrated the viability of remote meetings, which the EFCL suspect will remain highly used coming out of the pandemic. Some meetings will return to an in-person setting, but many will continue to be done remotely, lowering transportation emissions.



Cloverdale Community Hall

SHOWCASES

WHAT IS THE EFCL'S COMMITMENT TO SUSTAINABILITY?

As mentioned above, the EFCL has a strong commitment to sustainability. Through its Green Leagues program, it supports 163 Community Leagues throughout the city in their energy transition and sustainability goals. This support ranges from helping with solar projects and energy retrofits, to support with community gardening and other sustainability planning at the League level. Since 2012, the EFCL has been involved in the energy transition among its Leagues, and continues that support today. Two more solar systems went up in 2020, with at least one currently planned for 2021. The EFCL continues to work together with the City of Edmonton to move Edmonton's energy transition goals forward.

ANY OTHER COMMENTS ABOUT THE EFCL'S GOALS, VALUES THAT MAKE BENCHMARKING IMPORTANT.

For any company, even non-profits, fiscal responsibility is important. Utility costs are significant for any business, and tracking, benchmarking and target-setting are key to lowering those costs. A significant portion of any non-profit's income including the EFCL comes from government grants, and hence, the EFCL strives to be responsible in how it uses that money. By lowering its emissions and focusing on energy efficiency and sustainability, the EFCL not only does its part to fight climate change and improve the environment but also, lowers costs.



Rio Terrace Community Hall



A photograph of a modern, multi-story building with a prominent glass facade. A large, semi-transparent blue graphic overlay is positioned in the foreground, featuring the word "AWARDS" in bold, white, uppercase letters. The building's exterior is a mix of grey panels and large glass windows. A sign above the entrance reads "8580 Roper Road". There are also blue accessibility signs near the entrance. The sky is bright blue with scattered white clouds. The foreground shows a paved parking lot with yellow and blue markings.

AWARDS

AWARDS

The City of Edmonton would like to recognize and acknowledge all Year 4 participants. The annual recognition of participants through our awards is intended to demonstrate top performers in various categories and acknowledge improved and sustained building energy performance. The program aims to highlight leadership in not only energy performance, but in understanding that the first step to decreasing energy use, is to create awareness. The creation of a peer group with similar sustainability goals is a valuable networking tool for shared learning. We will share the findings of the data analysis as well as performance and leadership awards in a virtual environment in the following categories:

HIGHEST PERFORMING OFFICE CATEGORY

Winner: Commerce South Industrial Park 2 (BentallGreenOak)

Runner-up: Commerce South Office Park - Bldg B (BentallGreenOak)

HIGHEST PERFORMING MULTI-UNIT RESIDENTIAL BUILDING CATEGORY

Winner: Homestead (Oneka Land Co.)

Runner-up: The Place at Lakeside (Vara Management)

HIGHEST PERFORMING COLLEGE / UNIVERSITY CATEGORY

Winner: NorQuest College Main Campus (NorQuest College)

Runner Up: Robbins Health Learning Centre (MacEwan/Energy Profiles Ltd)

HIGHEST PERFORMING VOCATIONAL / ADULT EDUCATION CATEGORY (NEW)

Winner: Muriel Stanley Venne Provincial Centre (Alberta Infrastructure)

Runner-up: Winnifred Stewart School (Alberta Infrastructure)

HIGHEST PERFORMING RETAIL CATEGORY (NEW)

Winner: Superior Lumber (Superior Lumber Ltd)

Runner-up: Terra Losa Shopping Centre (BentallGreenOak/Energy Profiles Ltd)

HIGHEST PERFORMING LIGHT INDUSTRIAL CATEGORY (NEW)

Winner: Edmonton Fabrication Center (GPF Lighting)

HIGHEST PERFORMING GARAGES, SERVICE YARDS, WAREHOUSES CATEGORY (NEW)

Winner: Foundation Building Materials (FBM)

Runner-up: Materials Management (University of Alberta)

BEST OVERALL ENERGY PERFORMANCE

Winner: Edmonton Fabrication Center (GPF Lighting) – EUI: 0.49 GJ/m²

BEST YEAR-OVER-YEAR (YEAR 3 TO YEAR 4)

Winner: Imperial Tower (Boardwalk Rental Communities) – 22% improvement

Runner-up: Peace Hills Tower Trust (Trioest Realty Advisors) – 20.9% improvement

BEST MULTI-YEAR IMPROVEMENT (YEAR 2 TO YEAR 4)

Winner: Redwood Court (Boardwalk) – 57.8% improvement

LEADERSHIP IN TRANSPARENCY AWARD

Winner: University of Alberta (35 buildings)

Runner-up: Boardwalk Rental Communities (25 buildings)

WHAT'S NEXT

WHAT'S NEXT

PLANS FOR YEAR 5 AND BEYOND

YEAR 5 RECRUITMENT

The City of Edmonton is looking to continue our community's strong engagement and participation in the Benchmarking program for Year 5 and beyond. By signing up for the Building Energy Benchmarking Program, participants will join a group of industry leaders that are working to understand the energy and greenhouse gas impacts and performance of their buildings and incorporate this into decision making.

The online registration link for Year 5 was activated in January 2021 to enable applicants for Edmonton's [Building Energy Retrofit Accelerator](#) (BERA) program and new BEB participants to register for Edmonton's Benchmarking program. Below are a few date reminders:

Year 5 Official Launch	May 20, 2021
Year 5 Registrations Close	October 1, 2021
Year 5 Data Submission (in EnergyStar Portfolio Manager)	November 1, 2021
Year 5 Building Energy Benchmarking Audit Rebate Submission deadline	November 20, 2021

The City of Edmonton will organize additional one-hour information sessions as a part of Year 5 Official Launch. The session dates and registration will be made available on the BEB program website.

JOIN YOUR PEERS ALREADY PARTICIPATING

If you are interested in participating in Year 5 of the benchmarking program, please visit the Building Energy Benchmarking Program website (edmonton.ca/energybenchmarking). Here you will find program updates, details on benchmarking support services, timelines and the registration form. If you have any questions, please email energystar@edmonton.ca.

NEXT STEPS IN BUILDING ENERGY BENCHMARKING

The Building Energy Benchmarking program has completed Year 4 and participation continues to grow. The value of the program is clear, and we want to continue to grow and offer participants more opportunities to realize and measure energy efficiency within their buildings. The City of Edmonton is looking at the following program changes in Year 5 and beyond:

- **Reduced Building Size Requirement (> 5,000 sq feet):** To encourage higher participation from Edmonton's small businesses, the benchmarking program will allow buildings over 5,000 square feet to participate in Year 5 of the program.
- **Building Water Use Benchmarking Pilot:** The City of Edmonton will launch a pilot to benchmark commercial, institutional and multi-use residential buildings water use. This pilot will be offered to any participating building that is interested in benchmarking their water use. Interested building owners will have to submit their water use information from January 1st to December 31st, 2020 through ENERGY STAR Portfolio Manager.
- **Waste Management Knowledge Sharing:** The City of Edmonton recently launched a Three-stream Waste Sorting Program for residential waste in Edmonton. The program is an action to help divert 90 percent of residential and non-residential waste away from landfills in alignment with Edmonton City Council approved 25 Year Waste Strategy. Over the next year, the City of Edmonton expects to further enhance its ability to quantify and qualify its own waste diversion and reduction. The BEB program would work with participating property owners to recognize the businesses who have taken steps early to separate the waste generated by their facility. The program will use the learnings from these properties to develop benchmarking indicators that can be included in the future expansion of the BEB program.

- **Better Participant Experience:** As the Building Energy Benchmarking (BEB) program grows in Year 5, the City of Edmonton will explore ways to improve participant journey through improvements to BEB program process. We are looking at ways to enable program upgrades such as automatic upload of utility data to ENERGY STAR Portfolio Manager, joint application portal for Edmonton's commercial energy transition programs, etc.
- **Regional Collaboration on Energy Benchmarking:** The City of Edmonton is currently in communication with other regional municipalities that are close to launching a municipal benchmarking program. The ability to jointly analyze, review and benchmark regional building energy use will help realize collaborative regional efforts that assist with the Edmonton region's energy transition.

OTHER COMPLEMENTARY INCENTIVE PROGRAMS

Below is a list of other rebate programs that BEB program participants can explore further to meet their buildings energy retrofit needs:

BUILDING ENERGY RETROFIT ACCELERATOR PROGRAM

Edmonton's Building Energy Retrofit Accelerator is a rebate program that provides financial incentives for energy efficiency upgrades to commercial and institutional buildings. Eligible retrofits can include building lighting fixtures and controls, HVAC equipment used for heating and cooling buildings, hot water equipment, building controls, building envelope and green building certifications. The program offers a minimum rebate of \$1,000 to a maximum of \$150,000 per company per program year. Find more information on the program eligibility and rebates at edmonton.ca/energybenchmarking.

ENERGY SAVINGS FOR BUSINESS PROGRAM

Offered through Emission Reduction Alberta, the one-time program helps eligible Alberta businesses reduce emissions, decrease operating costs, grow their operations and become more competitive, while creating skilled jobs and boosting economic recovery. A wide range of cost-effective high efficiency products and onsite energy generation technologies are eligible for incentives through this program. The program offers a rebate of up to \$250,000 for an eligible project. The program is stackable with Edmonton's Building Energy Retrofit Accelerator to further incentivize deep green energy retrofits for Edmonton businesses. Find more information on the program eligibility and rebates at eralberta.ca/energy-savings-for-business.

GREEN AND INCLUSIVE COMMUNITY BUILDINGS PROGRAM

The Green and Inclusive Community Buildings (GICB) program aims to build more community buildings and improve existing ones – in particular in areas with populations experiencing higher needs – while also making the buildings more energy efficient, lower carbon, more resilient and higher performing. This five-year \$1.5 billion program will support green and accessible retrofits, repairs or upgrades of existing public community buildings and the construction of new publicly-accessible community buildings that serve high-needs, underserved communities across Canada. Applicants with small and medium retrofit projects to existing community buildings ranging in total eligible cost from \$100,000 to \$3 million will be accepted on a continuous basis and funded on a rolling intake basis. Find more information on the program eligibility and rebates at infrastructure.gc.ca/gicb-bcvi/index-eng.html#1.

APPENDIX

boardwalk
Lifestyle

park place
tower

BENCHMARKING WASTE

HOW CAN BUILDINGS MANAGE WASTE?

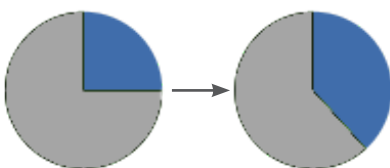
For buildings waste management can include waste diversion and waste reduction.

Waste diversion demonstrates the responsible management of waste that has been generated. Waste diversion includes activities such as recycling and composting.

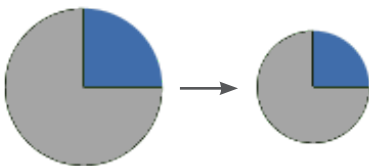
Waste reduction refers to actions that prevent waste from being generated in the first place. Waste reduction includes:

- **Rethinking and redesigning** products and systems to minimize waste
- **Reducing** waste at the source by changing purchasing habits.
- **Reusing** means using an item for the duration of its life, which can include donating or selling a product back into the market for its original intended use.

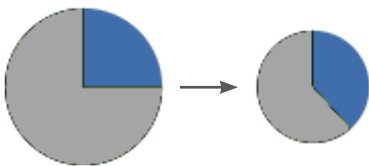
Increasing waste diversion



Waste reduction



Waste reduction & increased diversion



WASTE SERVICES AT THE CITY OF EDMONTON

The City of Edmonton is leading by example by implementing sustainable waste management practices in City-owned and operated facilities and major outdoor attractions. A three-stream waste sorting program (recycling, food scraps and garbage) will be in place in 240 facilities by the end of 2021. This supports the implementation of the Council-approved 25 Year Waste Strategy (2019), which establishes a zero waste framework and sets a target of 90% diversion across residential and non-residential sectors.

Collection of building- or site-specific waste data monitoring and measurement is a best practice to support ongoing waste reduction and waste diversion efforts. Monitoring and measurement can be quantitative (e.g. waste weight or volume by stream) and qualitative (e.g. contamination levels). Sustainability leaders implement comprehensive monitoring to achieve 3rd party certified sustainable building ratings and participate in public benchmarking programs.

In 2021, the City will explore options (including smart technology) to improve data collection about waste generation and sorting in City facilities to:

- Measure progress in waste reduction and diversion, and facilitate waste generation benchmarking;
- Support more effective, efficient and targeted waste education programming; and
- Better align with existing corporate utility management best practices.

In addition to leading by example by implementing 3-stream sorting at corporate facilities, Waste Services developed a 'Waste Reduction Roadmap'. The Waste Reduction Roadmap describes programs and activities that will help reduce the amount of waste that is generated in Edmonton. The City recognizes that reducing waste will require reaching beyond our own municipal waste system, across sectors and working in partnership with many actors. The City's focus is on creating change by:

- Supporting Edmontonians in making the behavioral and operational shifts necessary to reduce waste;
- Removing barriers to zero waste innovation and circular economy initiatives, and
- Increasing awareness of and participation in waste reduction programs.

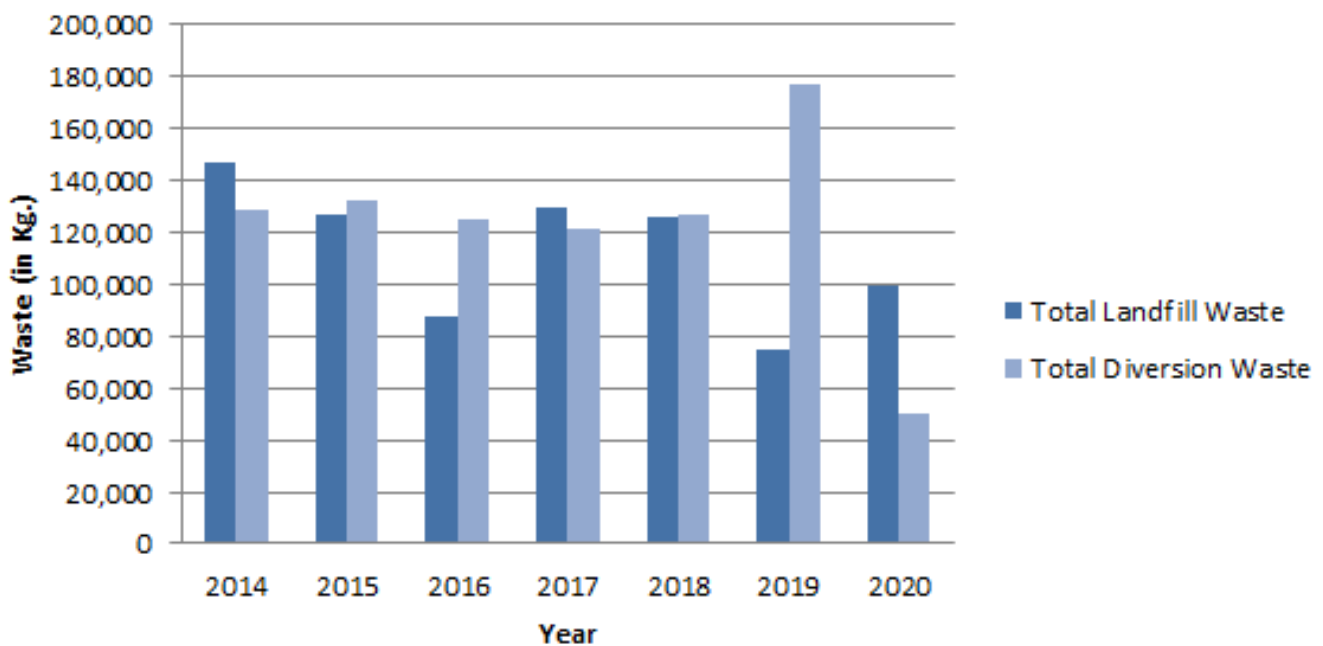
EXTRA CREDIT: EDMONTON CONVENTION CENTRE

BEB program participant, the Edmonton Convention Centre, has taken charge of the waste generated by the facility and the major events from which it hosts. Since 2014, the facility has shown diversion rates ranging between 30 to 70 percent through various waste reduction and diversion actions to manage its waste. The visual below shows the total waste diverted and sent to landfill between 2014 to 2020 by Edmonton Convention Centre.

Implementing strategic actions through waste diversion initiatives have helped the Edmonton Convention Centre achieve a waste diversion rate of 71 per cent, which was the highest diversion rate the venue has recorded to date. This included: the donation of 2,306 kg (4,243 meals) to Edmonton Food Bank's *Second Helping Program*; the donation of 4,220 kg of reusable materials; and the recycling of 8,586 kg of bottles.

TOTAL LANDFILL WASTE VS. TOTAL DIVERSION WASTE

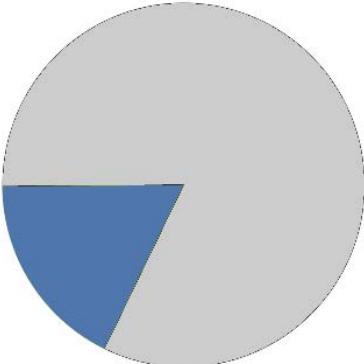
Edmonton Convention Centre's waste management program includes compost, recycle, paper and waste bins located in both front and back-of-house areas with highly visual signage that allows visitors of all ages and nationalities to easily sort their waste into the correct streams. Additionally, the facility also offers waste audits at no additional cost to clients interested in minimizing the waste generated at their events.



NEXT STEP: WASTE MANAGEMENT KNOWLEDGE SHARING

As a part of Edmonton's BEB program, property owners may be contacted to participate in the voluntary disclosure of commercial waste diversion . The insights gained will help formulate future commercial waste diversion benchmarks that can be included in an expanded BEB program.

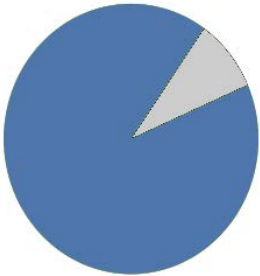
What are we actually trying to do?

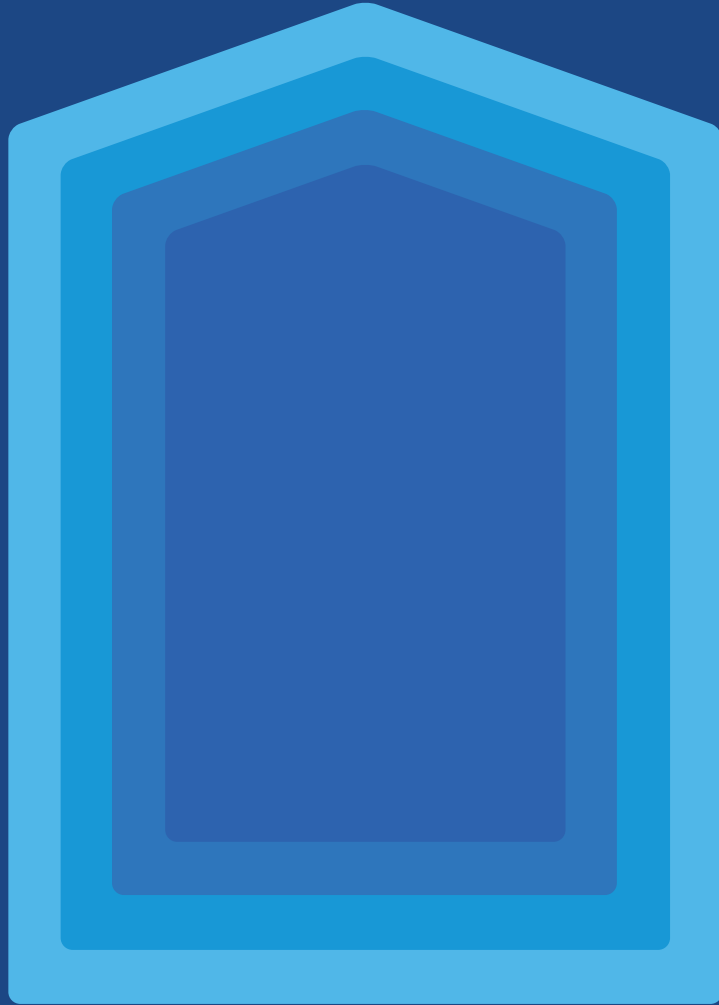


Reduce Waste
(shrink the pie)

and

Increase
Diversion
(shrink the slice
that goes to
landfill)





Building Energy Benchmarking Program is a City of Edmonton initiative to support building owners and operators to reduce energy consumption.

For more information about this program, please visit: edmonton.ca/energybenchmarking

For more information, contact 311 or email energystar@edmonton.ca

**CHANGE
BUILDINGS
FOR CLIMATE**

