

SUSTAINABILITY

2022 ANNUAL REPORT



Table of Contents:

- 1** Territory Acknowledgement
- 2** COVID-19 Impacts
- 3** Background
- 5** Introduction
- 6** Six Focus Areas
- 7** Sustainability
- 11** Energy
- 15** Air
- 18** Land
- 22** Water
- 24** Waste
- 26** Looking Forward: Sustainability Team
- 27** Acknowledgements
- 28** For More Information

Appendix A - List of Acronyms

Appendix B - MDP Policies

TERRITORY ACKNOWLEDGEMENT

For many generations, the place we now call Lethbridge had another name given to it by the Siksikaitsitapi, the Blackfoot Peoples. This name, Sikóóhkotok, is a reference to the black rocks found in the area.

The City of Lethbridge acknowledges that we are gathered on the lands of the Blackfoot people of the Canadian Plains and pays respect to the Blackfoot people past, present and future while recognizing and respecting their cultural heritage, beliefs and relationship to the land. The City of Lethbridge is also home to the Metis Nation of Alberta, Region III.

As we look forward to a thriving, sustainable future, we must empower and support Indigenous knowledge and ways-of-knowing. Indigenous knowledge is intrinsically and spiritually tied to the natural environment, therefore, Indigenous knowledge is crucial to build a resilient community.



COVID-19 IMPACTS

As the reality of the Coronavirus (COVID-19) pandemic hit Lethbridge in 2020, the manner in which the City of Lethbridge operated and provided its internal services shifted significantly.

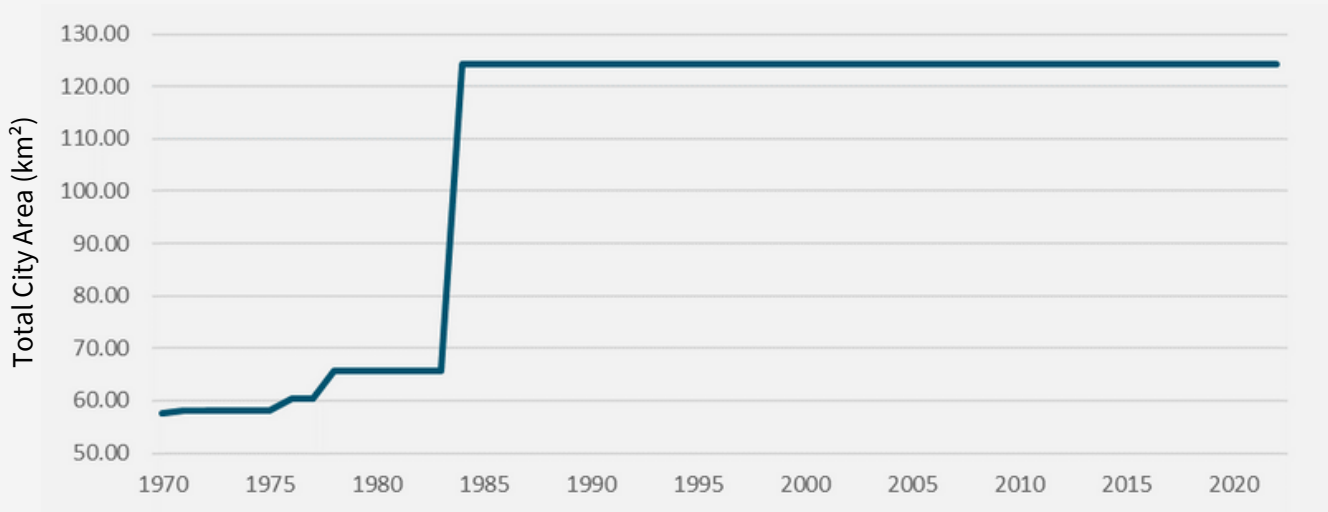
The City of Lethbridge experienced impacts from the COVID-19 pandemic, including but not limited to:

- The temporary closure of select indoor and outdoor facilities to the public;
- Changes to municipal services in accordance with mandates and in support of local public health responses;
- Select services were moved to an online platform;
- The implementation of work from home requirements for certain municipal employees; and
- Work force reductions.

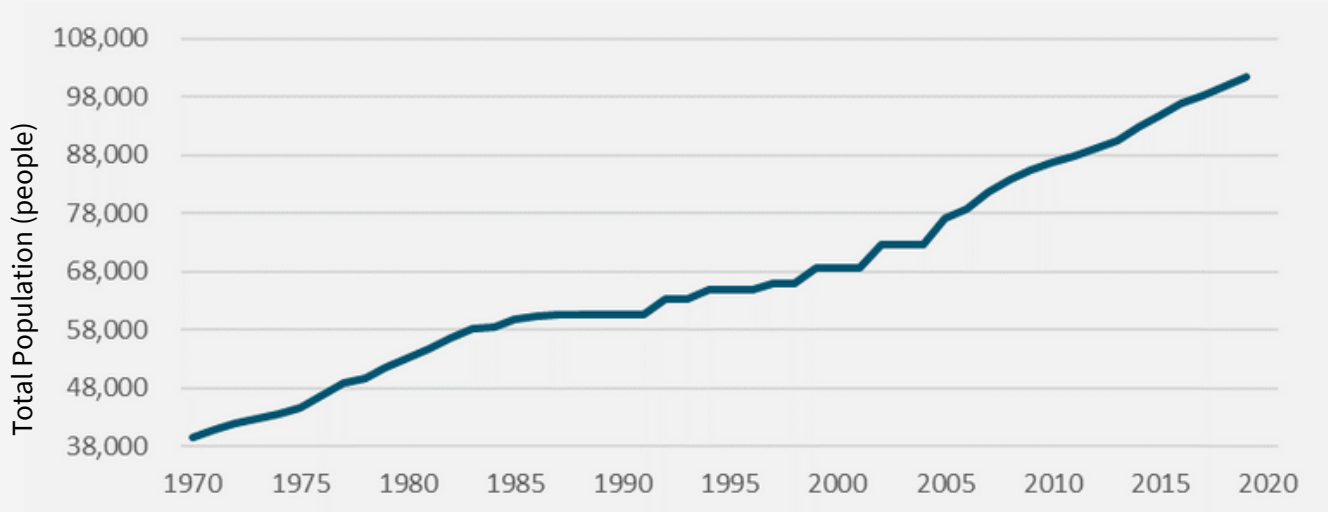
The COVID-19 pandemic directly affected City energy, water, and fuel consumption, which is illustrated in the report data from 2020 to 2021. The impacts of the COVID-19 pandemic may also have an impact on future municipal operations. The full extent of these impacts is unknown due to the evolving nature of the pandemic.

In March of 2022, the City of Lethbridge resumed typical operations including the permanent re-opening of facilities and lifting the remote work mandate. The 2022 results in this report are reflective of City operations returning to the pre-pandemic “norm”.

BACKGROUND

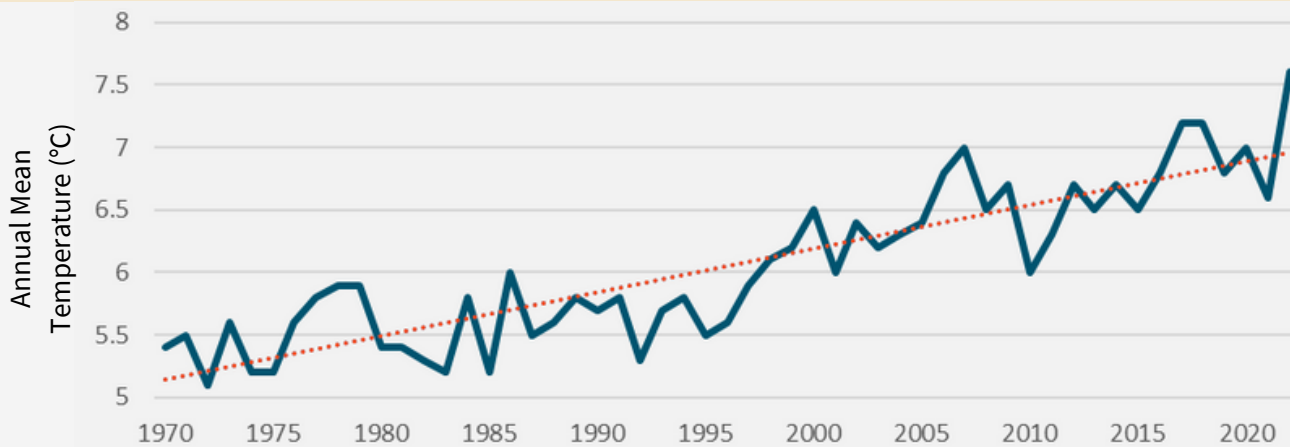


Area of City of Lethbridge (km²)

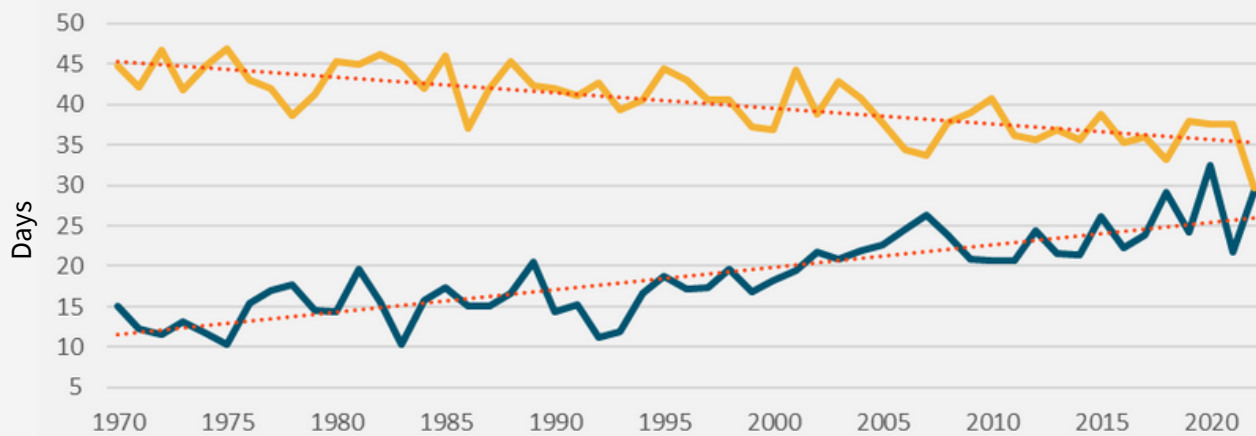


City of Lethbridge Population

BACKGROUND

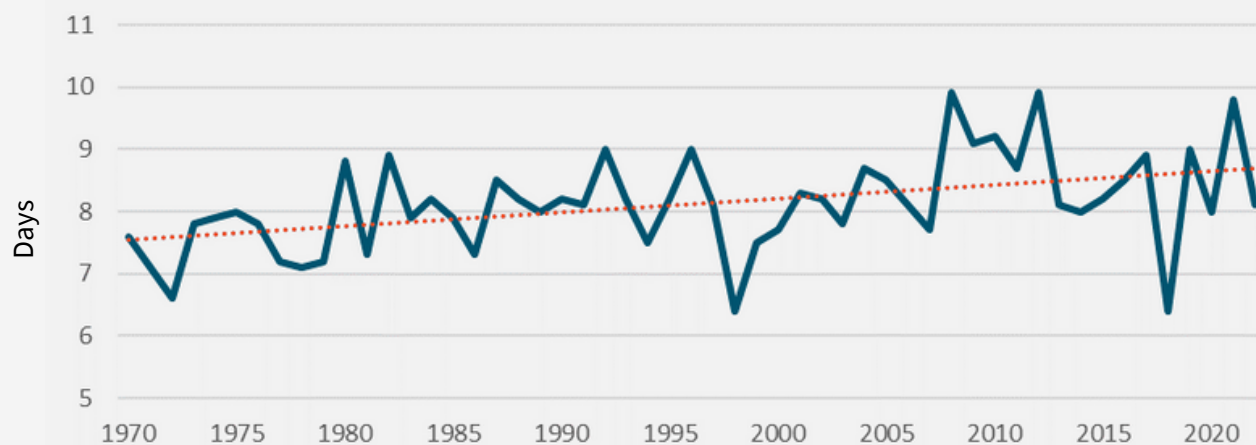


Annual Mean Temperature in Lethbridge (°C)



Very Hot Days and Winter Days in Lethbridge

— Very Hot Days (+30°C) — Winter Days (-15°C)



Heavy Precipitation Days (10mm) in Lethbridge

Source: <https://climateatlas.ca/>

INTRODUCTION

The Sustainability Team is a functional group within the Waste and Recycling Utility that is focused on environmental sustainability for the City of Lethbridge (the City). The team is driven by the EMPOWER acronym:

- E** - Economic, Social, and Environmental Impacts
- M** - Meeting and Exceeding Environmental Regulations
- P** - Partnerships
- O** - One City
- W** - Walk the Talk
- E** - Everyday Best Practices
- R** - Resiliency

The Sustainability Team collaborates with City departments and external groups to progress and amplify environmental stewardship.



Monitoring progress and reporting on results is a key component to the City’s internal commitment to environmental sustainability. This report addresses how the City is tracking its environmental impact reduction efforts, using key metrics associated with Sustainability’s six focus areas. Goals and metrics defined in this document are focused on the City as a corporation, and may not encompass the extent of environmental sustainability achievements at a community level. To the extent possible, data contained in this report covers January 1, 2022 to December 31, 2022 with reference to historical data between 2018-2021.

Metrics in this report offer a snapshot of the work being done by the City to address the realities of environmental impact. The report highlights environmental achievements by multiple City departments.

Sustainability at the City is divided into six focus areas, as described on the next page.

SIX FOCUS AREAS



SUSTAINABILITY

Projects and programs within this focus area address multiple environmental sustainability aspects and thus are not specific to one focus area.



ENERGY

Energy projects and programs focus on energy conservation, fuel efficiency, and alternative energy technologies.



AIR

Projects and programs within this focus area cover air quality and greenhouse gas (GHG) emissions.



LAND

Projects and programs within this area cover biodiversity, land stewardship, and contaminated sites.



WATER

Water projects focus on how the City uses its water resources efficiently and protects the local watershed.



WASTE

Waste projects and programs focus on corporate waste diversion and the City's adherence to its own Business Waste Diversion Strategy.



Corporate Alignment

The City is committed to being a leader in advancing sustainability and climate action within the organization and the community. Environmental policies, strategies, and plans act as a framework to reduce the City's environmental impact and adapt to the changing climate. To become a more resilient City, there must be a focus on anticipating, preparing for, and responding to climate impacts.

The Sustainability focus area aligns with the following:

The Environment Policy

Lethbridge City Council has a broad mandate to provide good government, develop and maintain a safe and viable community, and to supply desirable and/or necessary services to the community. The purpose of this policy is to minimize Lethbridge's ecological footprint. The City is committed to taking a responsible leadership role in the efficient use of natural resources.

The Municipal Development Plan

"An Environmentally Responsible City" Outcome

An environmentally responsible community strives to enhance and sustain the natural environment by:

- Recognising the importance of the land, ecosystems, and the natural environment as the foundation for human life and culture.
- Adapting development practices to reflect local climate change realities.
- Enhancing and sustaining local biodiversity.
- Protecting and conserving natural spaces and resources while embracing renewable energy technologies and providing opportunities to reduce and divert waste.

MDP Policies

151

to

175

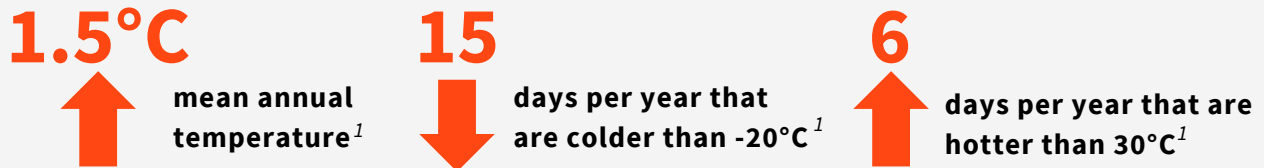
Detailed policy descriptions can be found in Appendix B.





Climate Change in Lethbridge

Climate data indicates that Lethbridge is experiencing an increase in mean annual temperature, fewer very cold days, and more very hot days per annum than in the past. Since 1951 Lethbridge has seen,



These trends will continue into the future; for example, the number of days hotter than 30°C is estimated to increase by 16 days by 2050.²

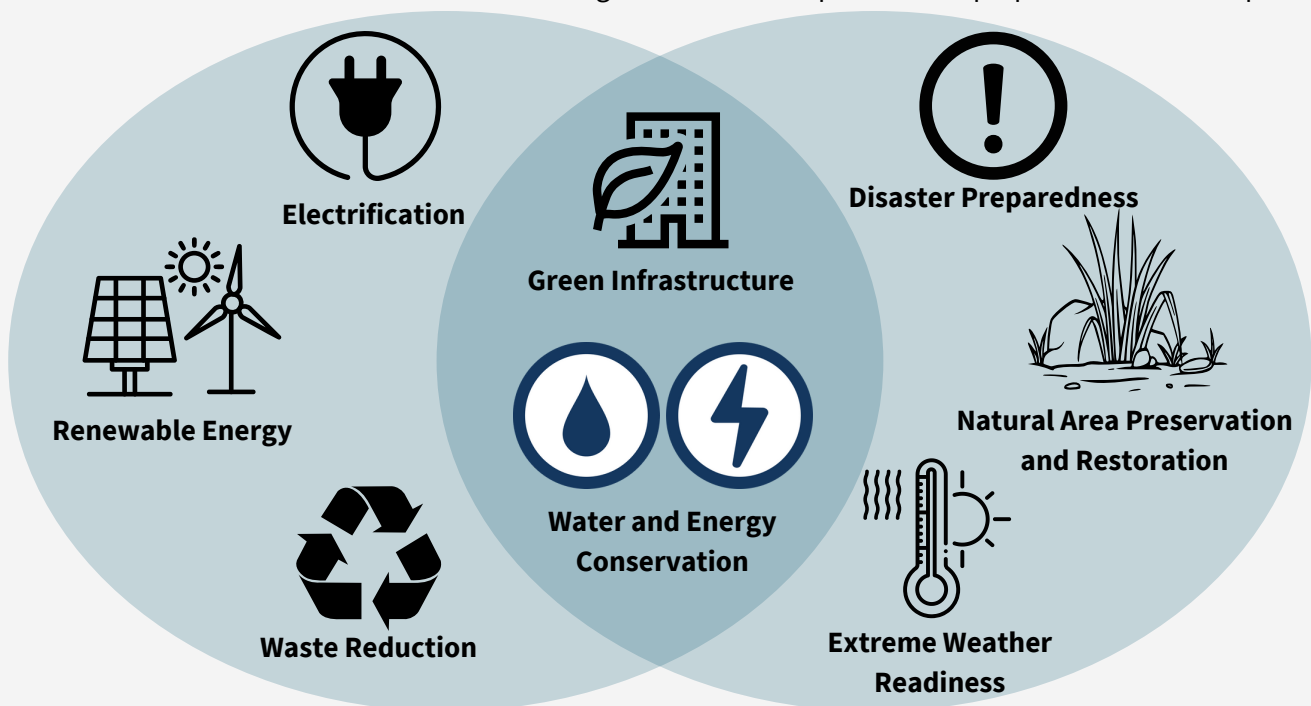
The impacts of climate change are becoming increasingly evident in our community. Climate change is a risk multiplier, so it increases the intensity of extreme weather events including precipitation, high winds, and very hot days. These extreme weather events can increase fire risks, increase property and infrastructure damage, and intensify public health challenges. The Sustainability group has a focus on climate mitigation, climate adaptation, and climate resilience, as illustrated below:

MITIGATION

Address and minimize the cause of climate change

ADAPTATION AND RESILIENCE

Respond to and prepare for climate impacts



¹ <https://albertaclimaterecords.com/#>

² [City of Lethbridge Climate Change Vulnerability and Risk Assessment](#)



Programs, Projects, and Initiatives



\$415,840
environmental grants
awarded

Competitive grant funding from federal and provincial governments and other sources supports an assortment of corporate projects and programs. These projects and programs support environmental sustainability goals by way of education, energy reduction, wildfire prevention, and zero-emission technology adoption efforts.

A number of different City departments - the Waste and Recycling Utility, Sustainability, Fire and Emergency Services, Fleet Services, the Galt Museum & Archives, and the Helen Schuler Nature Centre - were awarded competitive grants in 2022 to further environmental initiatives throughout the organization.



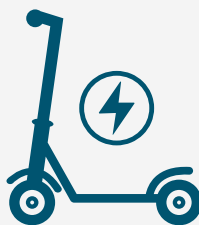
10
departments with
climate adaptation
plans

Climate Adaptation Plans are completed for the Airport; Helen Schuler Nature Centre; Parks and Cemeteries; Electric Utility; Community and Corporate Facilities and Opportunity Lethbridge; Transportation; Transit; Fleet Services; Water, Wastewater, and Stormwater Services; and the Waste and Recycling Utility.

Additionally, the City of Lethbridge Vulnerability and Risk Assessment (2020) and Climate Projection have been completed. 



42%
of municipal utility bills are
distributed electronically




430,000
kilometers travelled by
Neuron riders



4,120
kilometers travelled by City
employees to and from work
between June and August



Environment Lethbridge

For more information about Environment Lethbridge, please refer to their strategic plan. 

The mission of Environment Lethbridge is to "inspire and equip people to create widespread community action and engagement towards sustainability." Environment Lethbridge is a key partner for the City; in 2022, Environment Lethbridge provided community expertise for eight City programs, committees, and policy initiatives including, but not limited to, the Clean Energy Improvement Program, the Youth Advisory Council, and the Transportation Master Plan. Additional accomplishments by Environment Lethbridge are highlighted below.



348

households participated in the Reuse Rendezvous



GREEN GIFT GUIDE

sustainable and local gift suggestions

LIVING CITIES PROJECT

green infrastructure initiative



WASTELESS

waste reduction: food and textiles



563

people engaged with community programs

Did You Know?

Bike to Work Day

National Bike to Work Day occurred on May 20, 2022. On the one-day event...

13 EMPLOYEES

from

9 DEPARTMENTS


travelled a total of

94.2 KILOMETERS

Feedback from City employees was so great that the event was extended all summer long! Thank you to everyone who chose green transportation options in 2022!

Sustain-o-topia

The Helen Schuler Nature Centre's main exhibit gallery "Sustain-o-topia - Thriving in Our Changing Climate" explores how we can design our city today to ensure a thriving future.

More information can be found on the Helen Schuler Nature Centre webpage. 



ENERGY

Reduce corporate fuel and energy consumption and increase renewable energy generation.



Corporate Alignment

The City is committed to improving energy efficiency for corporate assets and operations in accordance with the Energy Conservation Master Plan and Strategy, which was approved by City Council on April 20, 2021. Implementing projects from the Energy Conservation Master Plan and Strategy has been a focus of the Sustainability department over the past year.

The full Energy Conservation Initiatives 2022 update report is linked for reference. [Link](#)

The Energy focus area aligns with the following:

The Energy Conservation Master Plan and Strategy [Link](#)

The Energy Conservation Master Plan and Strategy (2021) provides a framework, direction, and goals to improve energy efficiency for corporate assets and operations. The Energy Conservation Master Plan and Strategy considers energy efficiency initiatives that provide the same level-of-service for facilities, fleet, and equipment as it relates to water services, electricity, waste management, and fuel use (electricity, natural gas, gasoline, and diesel).

The Municipal Development Plan [Link](#)

The Municipal Development Plan includes policies with the objective to "improve energy efficiency and support opportunities for renewable and alternative energy projects" which aligns with the "An Environmentally Responsible City" outcome. Energy efficiency policies reinforce the City's commitment to taking a responsible leadership role in the efficient use of energy and alternative energy sources.



MDP Policies

28

151

152

153

169

174

Detailed policy descriptions can be found in Appendix B.



Corporate Energy Use

For corporate facilities and assets only.



There has been an increase in natural gas and electricity consumption by corporate facilities and assets from the 2018 baseline. These increases can be attributed to many factors including extreme weather events, an increased number of City-owned facilities, and the return to "status quo" operations since the COVID-19 pandemic. In particular, January, November, and December in 2022 were much colder than average. The average monthly low in January 2022 was -10.7°C compared to -7.6°C in 2018, the average monthly low in November 2022 was -12.4°C compared to -5.4°C in 2018, and the average monthly low in December 2022 was -17°C compared to -8.2°C in 2018. These colder monthly temperatures will increase the natural gas consumption for corporate facilities and assets. Similarly, the monthly average high in March and September of 2022 was much higher than the average temperature since 2018. The monthly average high in March was 7.2°C higher and the monthly average high in September was 6.8°C higher than the respective 2018 values. These hot days will contribute to an increase in electricity consumption due to air conditioning.

The 2022 values also include a number of additional City-owned facilities compared to 2018. A few notable examples include the Lethbridge Airport, the Material Recovery Facility, Fire Hall #5, and the Nikka Yuko Bunka Centre. The 2022 values also reflect the increased consumption at the Crossings Leisure Complex - Phase II since becoming an operational facility in mid-2019. These new facilities have contributed to the increase in natural gas and electricity consumption by the organization.

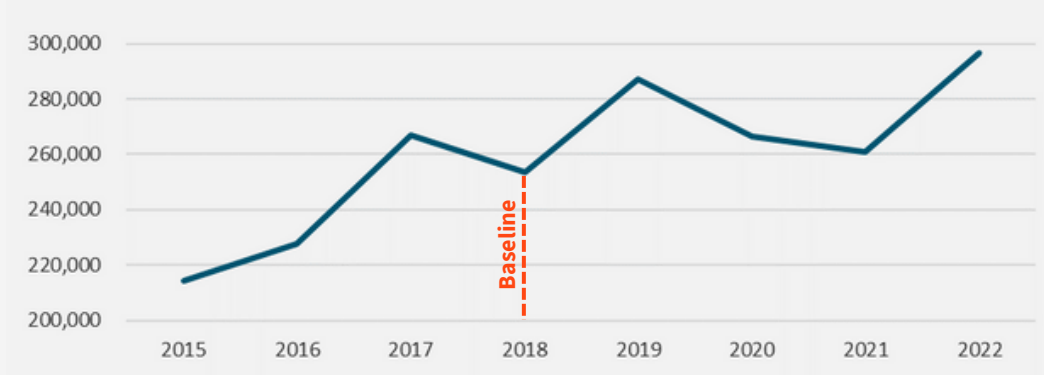
There has been a significant decrease in fuel consumption since 2018, which may be the result of new, fuel-efficient vehicles replacing older units, improvements to the preventative maintenance program, idling reductions, and the removal of school busses from the transit fleet in March, 2021.

ENERGY

Reduce corporate fuel and energy consumption and increase renewable energy generation.

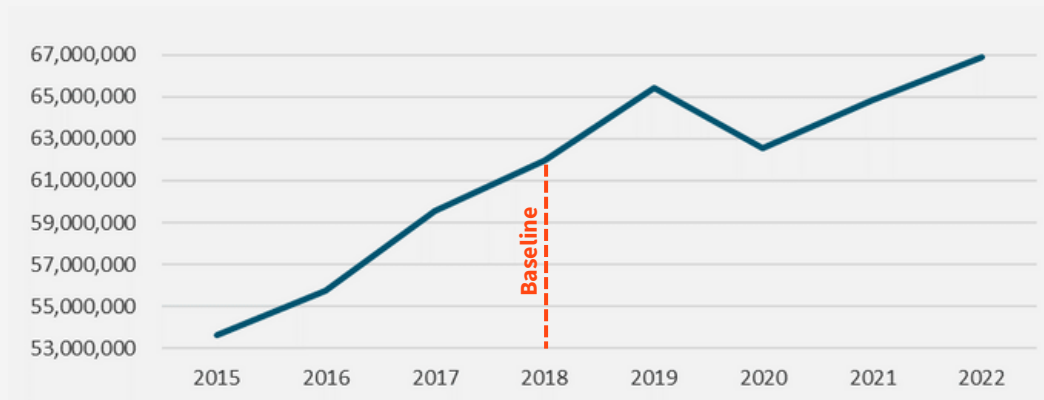


Corporate Energy Use



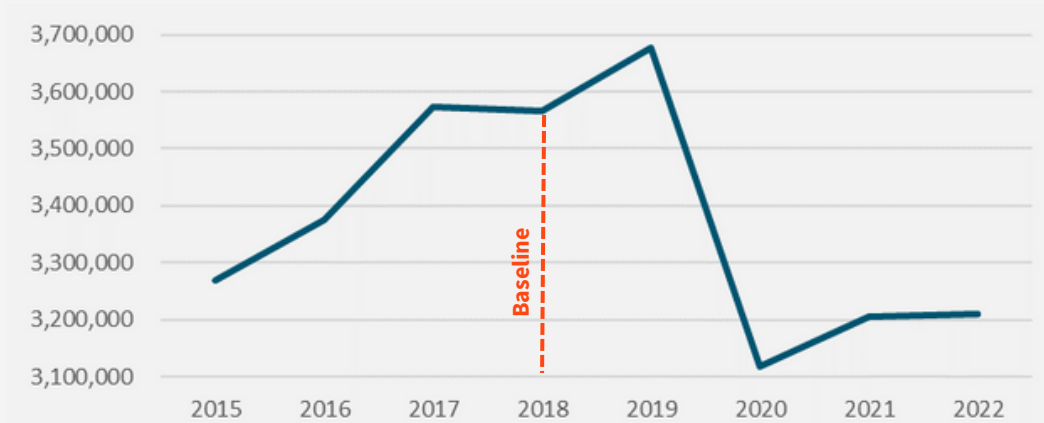
Natural Gas Consumption (GJ)

Excludes Police HQ due to natural gas metering issue.



Electricity Consumption (kWh)

Excludes Labour Club Ice Centre due to metering issue.



Fuel Consumption (L)



Audited Facilities

In 2019, energy audits were completed for 17 City facilities. The objective of the energy audits was to evaluate and propose energy conservation measures that could reduce energy consumption and the overall greenhouse gas emissions produced by the facilities. The energy audits assessed systems improvements at each of the facilities including lighting retrofits & redesign, mechanical and HVAC systems, domestic hot water, building envelope, and renewable energy. In addition to the energy audits completed in 2019, major operating facilities including the Material Recovery Facility, Waste Transfer Station, Water Treatment Plant, and Wastewater Treatment Plant are being evaluated for energy improvements. The Material Recovery Facility at the Waste and Recycling Centre underwent an energy audit in 2022 and the Water Treatment Plant and Wastewater Treatment Plant are currently being audited.

Several energy efficiency projects have been completed since 2020 based on the recommendations of the energy audits, and as part of regular life cycle planning including:

Lighting retrofit projects: Henderson Ice Centre, Fleet Services Building, Police HQ

Building envelope improvements: Public Operations Building, Nicholas Sheran Ice Centre, Henderson Ice Centre, Lethbridge Public Library

Additional insulation was added during the roof replacements: Public Operations Building, Fire Station #2, Nicholas Sheran Pool

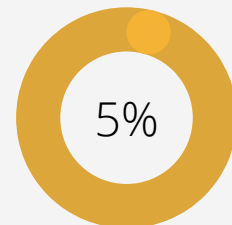
Additional building retrofit projects are slated for the near future including lighting replacements at the ENMAX Centre and City Hall.

17 Audited Facilities

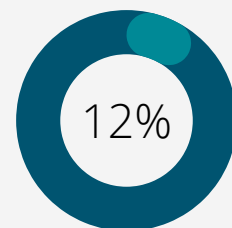
The 17 audited City facilities have reduced their total energy and water usage over the past 5 years. This decline in energy and water consumption must however be weighed against the impacts of weather, COVID-19 shutdowns, and service adjustments. For example, the pandemic has resulted in many employees working from home, which in turn reduces water and energy consumption in City offices. It is expected that the 2023 consumption values will be more indicative of "normal" operating conditions.

Beyond COVID-19 impacts, regular life cycling of building components and energy efficiency projects will continue to modernize the operation of many facilities, leading to increased efficiency.

³ Excludes Police HQ due to natural gas metering issue.



**Energy Reduction
Since 2018 (ekWh/m²)³**



**Water Reduction
Since 2018 (m³/year)**



Corporate Alignment

The City has participated in the Partners for Climate Protection (PCP) program since 2007 with the objective of reducing corporate greenhouse gas emissions. The City is currently developing a local climate action plan in accordance with Milestone #3 of the PCP program to meet the goal of reducing greenhouse gas emissions by 40% by 2030. The full PCP 2022 update report is linked for reference. [🔗](#)

The Air focus area aligns with the following:

Green Fleet Policy [🔗](#)

It is the policy of the City of Lethbridge that vehicle and equipment will be purchased, operated, and maintained in a manner that minimizes environmental impacts while maintaining functional utility. This policy is to establish a Green Fleet within the City of Lethbridge that will;

- a) reduce greenhouse gas emissions (reduction targets approved by City Council),
- b) reduce the use of non-renewable resources,
- c) mitigate climate change,
- d) improve fuel efficiency, and
- e) reduce operating costs

The Municipal Development Plan [🔗](#)

The Municipal Development Plan includes policies with the objective to “safeguard clean air for Lethbridge citizens by playing a more active role in air quality conversations”, which aligns with the "An Environmentally Responsible City" outcome.

MDP Policies

161

169

170

171

174

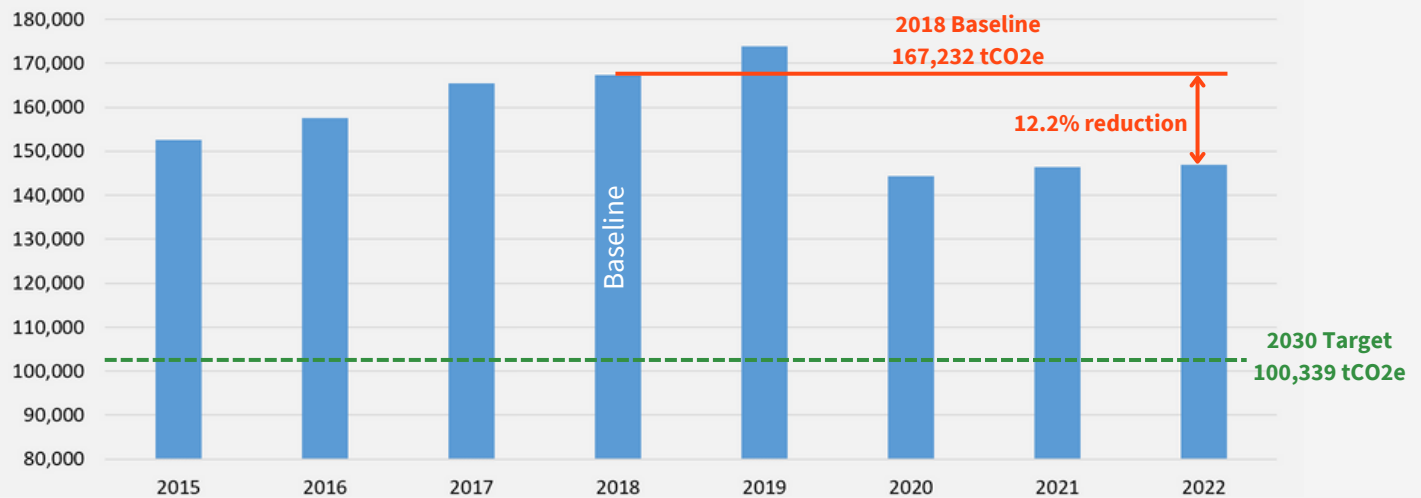


Landfill Gas Flare

Detailed policy descriptions can be found in Appendix B.



Programs, Projects, and Initiatives



Corporate Greenhouse Gas Emissions (tCO₂e)

Using the Partners for Climate Protection (PCP) methodology

There has been a 12.2% reduction in corporate greenhouse gas emissions since the 2018 baseline. This value is comparable to the reduction seen in 2020, however, the impacts of COVID-19 must be taken into consideration. The 9 month lockdown in 2020 and the 4.5 month lockdown in 2021 had a significant impact on greenhouse gas emissions due to reduced City operations and the remote work mandate. The pandemic restrictions were lifted in March of 2022 and operations are returning to normal. Because of these impacts, it is expected that the 2023 emission values will be indicative of "status quo" operations and will demonstrate a more realistic reduction in emissions from the baseline.

Landfill Gas

The landfill gas flaring system located at the Waste and Recycling Centre is fully operational and has made a positive environmental impact on our landfill site. The system operates by flaring methane, a highly flammable and potent greenhouse gas, which is generated from decomposing organic material in the landfill. By capturing and destroying landfill gas, we can reduce the methane content being released to the environment.

More information about the landfill gas project can be found in the 2022 Waste and Recycling Annual Report.



5,255 tCO₂e

estimated reduction of GHG emissions from the landfill gas plant in 2022

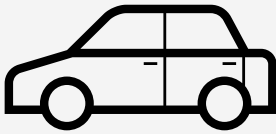
AIR

Reduce corporate greenhouse gas emissions by 40% from 2018 baseline levels.



Green Fleet

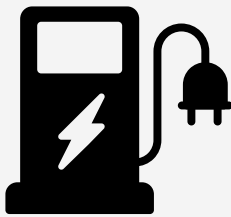
City green fleet and electric services



7

**electric and hybrid vehicles
in the City's fleet**

The number of hybrid and electric vehicles in the City's fleet is growing! There are four hybrid vehicles in the police fleet and an electric cargo van that is currently in service at the Galt Museum. An electric car for the waste and recycling centre and an electric ice resurfacer have been ordered and are expected to be delivered in 2023.



5

**electric vehicle charging
stations**

The City currently owns electric vehicle charging stations at the Crossing Leisure Complex and the Helen Schuler Nature Centre. There are plans to expand the electric vehicle charging stations to City Hall, the Park and Ride, Nikka Yuko Japanese Garden, and the Enmax Centre in 2023.



8,300

**tCO₂e vehicle emissions from
corporate fleet**



15%

decrease from 2018 baseline


LAND

Increase biodiversity and environmental stewardship while sustaining, restoring, and enhancing the natural ecosystem.



Corporate Alignment

Protecting, enhancing, and sustaining the natural environment is a priority of the City. The South Saskatchewan Regional Plan (SSRP), adopted in September 2014, is a guiding document for the development of municipal plans, bylaws, and regulations in the City; the SSRP includes two outcome areas related to land:

- Biodiversity & ecosystems: sustain biodiversity and ecosystem function 
- Efficient use of land: use land as efficiently as possible

The City’s Parks Master Plan, Urban Forest Management Plan, and River Valley Parks Master Plan describe effective management of Lethbridge’s public trees and the long-term visions for how the river valley is used and preserved.

The Land focus area aligns with the following:

The Municipal Development Plan

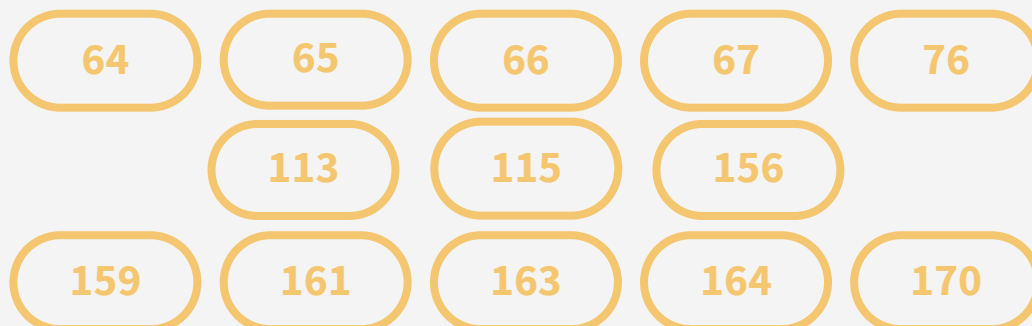
There are many policies within the Municipal Development Plan that emphasize the importance of preserving our natural environment and enhancing biodiversity in the ecosystem. In particular, the following policies align with sustainable land use commitments:

LAND USE, CONSERVATION, AND PRESERVATION: The objective of these policies is to guarantee the conservation and protection of natural and culturally-significant lands, efficient and responsible engagement with the land, and protection of the local watershed.

ECOSYSTEMS AND BIODIVERSITY: The objective of these policies is to promote biodiversity and ecosystem conservation.

DESIGN AND BUILT FORM: The objective of these policies is to design and build Lethbridge in a sustainable manner.

MDP Policies



Detailed policy descriptions can be found in Appendix B.

LAND

Increase biodiversity and environmental stewardship while sustaining, restoring, and enhancing the natural ecosystem.

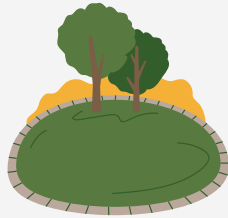


Programs, Projects, and Initiatives



3

ECO Plans submitted on 15 construction projects



25%

of City area are parks and green space (including river valley)



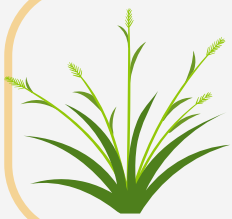
175

hectres of parkland grazed by approximately 200 goats



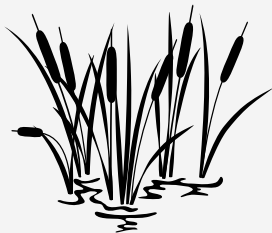
67

pollinator cafes

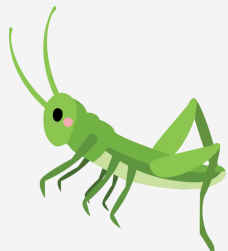


11,250 square meters of naturalized park spaces

Three naturalized park spaces were installed in 2021 to trial converting irrigated park space to naturalized grass. The naturalized grass in all locations saw significant maturity in 2022. One additional naturalized park was developed in Southbrook in partnership with the developer in 2022.



The latest floating wetland island was installed in Ridge Park in 2020. The site was chosen due to poor water circulation causing increased nutrients to accumulate in the pond, as well as excessive algae blooms in 2018-19. After installation of the islands, algae blooms were nonexistent in 2021 and only occurred moderately in the extremely hot summer weeks of 2022 (which is to be expected in all ponds).



Over several years, warm, dry summer weather resulted in increased survival, growth, and reproduction of the two-striped grasshopper. The two-striped species is the primary grasshopper pest on the Canadian Prairies. A grasshopper integrated pest management plan was developed in partnership with Lethbridge County and the Entomological Society of Alberta to reduce the risk of grasshopper damage and reduce the use of pesticides and insecticides. For more information, check out the City of Lethbridge Pest Management website! [🔗](#)

LAND

Increase biodiversity and environmental stewardship while sustaining, restoring, and enhancing the natural ecosystem.



Santamour's Rule

Santamour's Rule is often referred to as the 10-20-30 rule or the 10% rule in the urban forestry vernacular. Santamour's rule is a guideline to diversify the urban tree population to reduce the risk of substantial tree loss due to disease or pests. Namely, the tree population should include no more than 10% of any one species, 20% of any one genus, or 30% of any family.

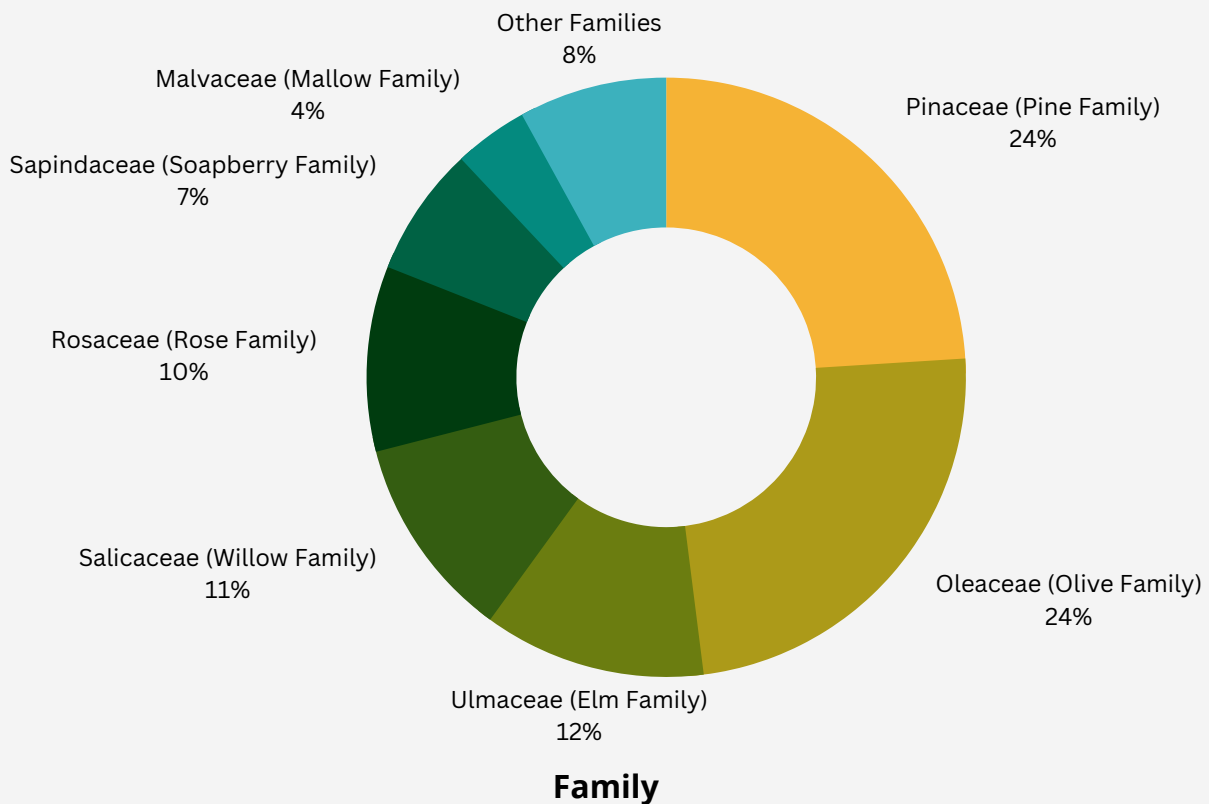
The tree composition ratios for 2022 are illustrated below. Since 2018, there have been positive steps toward urban forest diversity.



470 trees planted in 2022

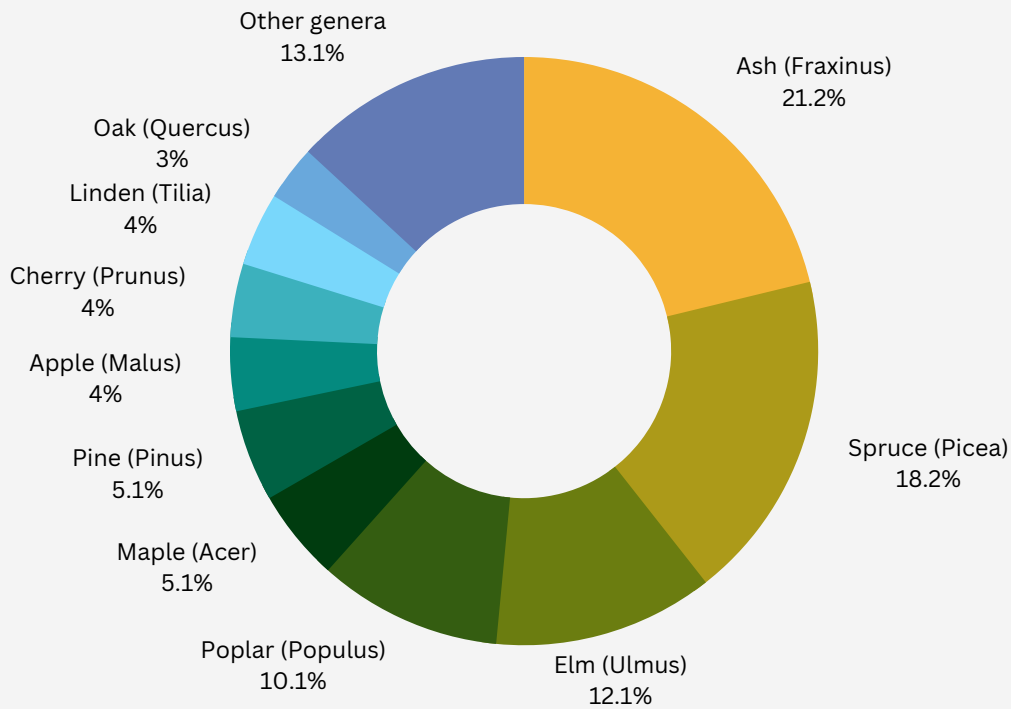
5,700+ Dutch Elm Disease inspections

~3.5 tCO₂e removed by public-managed trees every year

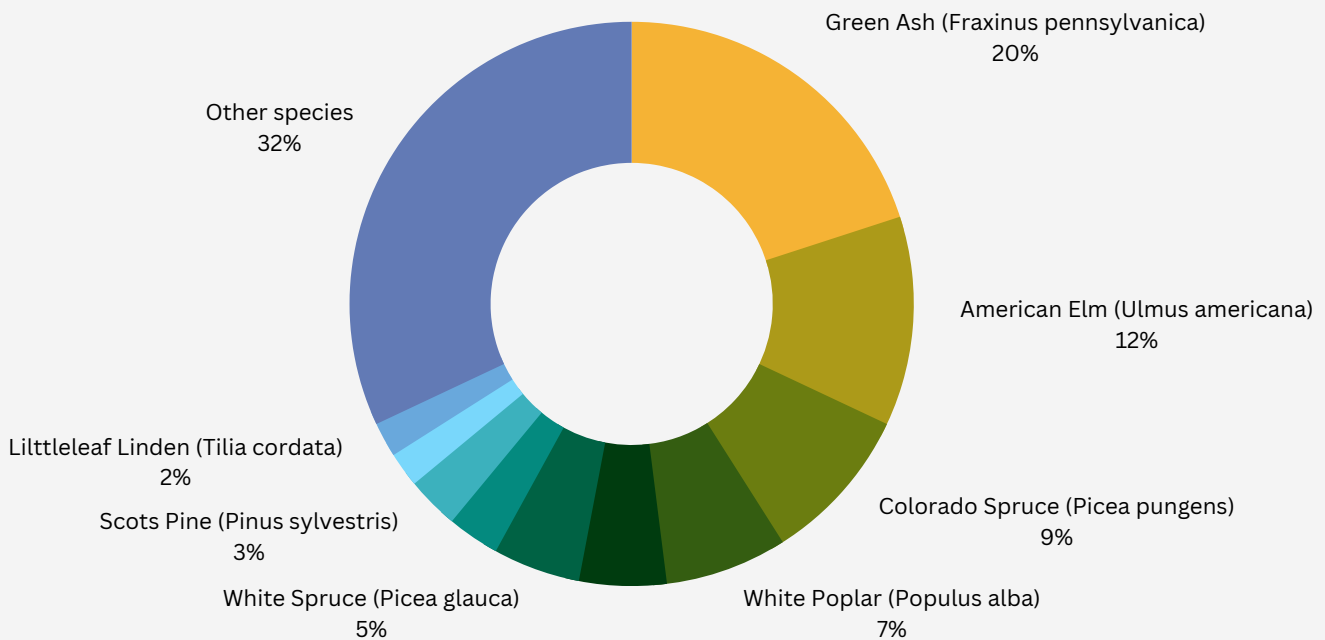


LAND

Increase biodiversity and environmental stewardship while sustaining, restoring, and enhancing the natural ecosystem.



Genus



Species



Corporate Alignment

As stated in the Municipal Development Plan, water quality and quantity are critical issues for a city that is located in an arid environment. In the South Saskatchewan Region, water is a crucial factor for the future sustainability of population and economy. As the region continues to evolve, matching water demand with water supply will continue to be a key issue. Climate change will alter the water cycle in the region, leading to greater uncertainty as to the timing and extent of precipitation events. With increased water insecurity, greater planning is needed to anticipate likely impacts and to put the needed infrastructure (both green and hard) and resources in place.



The Water focus area aligns with the following:

The Municipal Development Plan

Water and resource conservation policies aim to further corporate and community-wide water and resource conservation and guide the delivery of a safe, reliable, responsible, and efficient water utility while protecting the watershed.

MDP Policies



Detailed policy descriptions can be found in Appendix B.

WATER

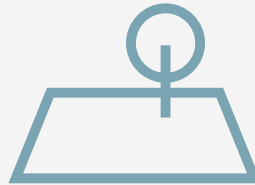
Reduce corporate water consumption and protect the local watershed.



Programs, Projects, and Initiatives



28
parks utilizing non-potable water



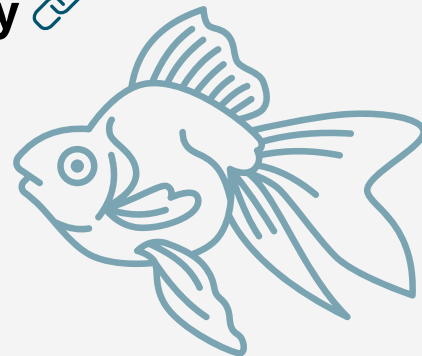
172
hectares of parks utilizing non-potable water



101
parks with central controllers

Goldfish Derby

Two goldfish derby days were held in Firelight Park in 2022. The purpose of the events were to create awareness surrounding the issue of goldfish in our storm ponds. Goldfish are non-native to Canada and create many issues for native species. More information can be found in the linked webpage.



88,000
goldfish were removed from the pond

12"
length of the largest goldfish measured, weighing 3.2 pounds!



Looking for More?

Additional information around annual water consumption can be found in the 2022 MDP Annual Report.

WASTE

Reduce waste generation and increase waste diversion.



Corporate Alignment

The City's Waste Diversion Policy set a waste reduction target of 50% from 2013 baseline levels by 2030. To achieve this goal, the City is dedicated to reducing waste generation and increasing waste diversion within the organization and the community. The 2022 Waste and Recycling Annual Report provides additional detail around waste collection, processing, reduction, and diversion projects and programs.

The Waste focus area aligns with the following:

Waste Diversion Policy

It is the policy of the City of Lethbridge to:

- Protect and conserve resources
- Utilize resources efficiently to their fullest extent
- Maximize diversion and reduce per capita waste disposal
- Mitigate the long term liability of landfill sites
- Increase public awareness of environmental issues and resource conservation
- Citizen engagement and meeting customer expectations in the design & delivery of programs

Business Waste Diversion Strategy

The Business Waste Diversion Strategy was approved by City Council to reduce commercial and industrial waste in Lethbridge by 45% by 2030.

The Municipal Development Plan

The objective of the Waste and Recycling Services policies is to guide the delivery of safe, reliable, responsible, and efficient waste and recycling services. These policies aim to promote waste reduction efforts within the City.



MDP Policies

150

168

167

172

Detailed policy descriptions can be found in Appendix B.

WASTE

Reduce waste generation and increase waste diversion.



Programs, Projects, and Initiatives

Corporate Recycling and Organics Program

In compliance with Bylaw 6146 (The Waste Bylaw) and the re-launch of mandatory recycling and organics for the industrial, commercial, and institutional sector, the City has implemented a 3-stream waste collection system in various City facilities. The corporate organics and recycling program helps divert waste from the landfill and contributes to the City's waste reduction targets.

45

City facilities with recycling and organics programs



40

more facilities compared to 2021



Love Food Hate Waste

The City has partnered with the Recycling Council of Alberta, the National Zero Waste Council, and communities and businesses across Canada to help people prevent household food waste through the Love Food Hate Waste campaign. Additional information around the campaign can be found on the City of Lethbridge Love Food Hate Waste website.

A number of outreach events were conducted to promote the campaign since City inception in June, 2022:

11

engagement events



150+

community members engaged

LOOKING FORWARD: SUSTAINABILITY TEAM

Now

- Energy Efficiency Policy
- Energy Conservation Master Plan Implementation
- Solar Carport
- Electric Vehicle Charging Stations
- Zero Emission Buses Planning
- Toxic Round Up
- Circular Cities
- Love Food Hate Waste
- Carbon Offset Projects



Next

- Climate Adaptation Plan / Action Plan
- Partners for Climate Protection Milestone 3 - Implementation Plan
- Partners for Climate Protection Community Target (Milestone 2)
- Sustainability Baseline Recommendations
- ECO Plan Framework
- Energy Strategy
- Recover Heat from Exhaust



Later

- Energy Demand Management
- Ecosystem Services
- Environment Master Plan



ACKNOWLEDGEMENTS

Report Authors:

Raene Barber, Sustainability Engineer

Mandi Parker, Sustainability Manager

The following individuals contributed in the preparation of this report:

Joel Sanchez, Director of Infrastructure Services

Steve Rozee, Waste & Recycling General Manager

Adam Cimolai, Parks & Cemeteries Technologist

Adam St. Amant, Transportation Engineer

Allyson Racz, Waste & Recycling Technologist

Andrew Sommerville, Parks Infrastructure Coordinator

Blair Richter, General Manager - Parks

Brandon Nguyen, Sustainability Engineer-In-Training

Chelsea King, Planning & Design GIS Technologist

Chris Witkowski, Parks Planning Manager

Cole Runge, Parks Asset Technician

David Foder, Utility Analyst

Erin McIlwraith, Pest Management Foreperson

Felipe Pereira de Albuquerque, Jr. Waste Diversion Engineer

Genesis Hevia Orio, Planner II

Kathleen Sheppard, Environment Lethbridge

Kurt Fisher, Community Planner I

Meghan Grills, Waste and Recycling Outreach and Education Technician

Paige Rosner, Helen Schuler Nature Centre Environmental Education Program Coordinator

Robert Ulrich, General Manager - Fleet Services

Ross Kilgour, Senior Community Planner

Sam Conard, Facilities Planning and Projects Manager

Sierra Dakin Kuiper, Corporate Grants Administrator

Stacey Petite, Psychological Safety Administrator

Stephanie Vehnon, Water & Wastewater Communications & Outreach Specialist

Stewart Purkis, Projects Engineer



FOR MORE INFORMATION

Websites:

- [Sustainability](#)
- [Waste and Recycling Centre](#)

Phone: 311 or **403-320-3111** (if outside Lethbridge)

Policies and Bylaws:

- [Environment Policy CC51](#)
- [Waste Diversion Policy CC54](#)
- [Green Fleet Policy E2](#)
- [Waste Bylaw \(#6146\)](#)

Plans & Reports:

- [Municipal Development Plan](#)
- [South Saskatchewan Regional Plan](#)
- [Capital Improvement Program \(CIP\) 2022-2031](#)
- [Energy Conservation Master Plan and Strategy](#)
- [Urban Forest Management Plan 2021-2041](#)
- [River Valley Parks Master Plan \(2017\)](#)
- [Parks Master Plan \(2007\)](#)
- [Business Waste Diversion Strategy](#)
- [Partners for Climate Protection Update Report \(2022\)](#)
- [Climate Vulnerability and Risk Assessment \(2020\)](#)
- [City of Lethbridge Climate Projection](#)
- [Water Rationing Action Plan](#)



APPENDIX A

List of Acronyms

ACRONYMS

ekWh - equivalent kilowatt hours

GHG - greenhouse gasses

GJ - gigajoules

ICI - industrial, commercial, and institutional

kWh - kilowatt hours

MDP - Municipal Development Plan

PCP - Partners for Climate Protection

tCO₂e - tonnes of carbon dioxide equivalent

APPENDIX B

MDP Policies



Policy Descriptions

151

Ensure a reduction in corporate energy consumption by:

- Implementing a Corporate Energy Efficiency Master Plan that considers electric services, fleet, waste management, and facilities' design, construction, and operation.
- Implementing a Corporate Energy Strategy that reduces reliance on carbon-based energy resources and explores alternative energy opportunities including solar, wind, and geothermal.

152

Support new renewable/alternative energy projects community-wide by:

- Exploring opportunities for the design of the built environment to optimize energy conservation and alternative energy sources.
- Exploring opportunities for the installation of solar farms as interim uses on sites before long-term development or as permanent uses on sites with development constraints.

153

Support opportunities for households to enhance household energy efficiency and to reduce energy costs by considering creative strategies to work with private sector and government partners.

154

Ensure a holistic approach is taken to discussions around the environment by developing a framework for evaluating the environmental impacts of City initiatives and projects that recognizes the importance of well-functioning ecosystems.

155

Ensure the community is well positioned to be resilient to the challenges of climate change by creating and implementing a City of Lethbridge Climate Adaptation Plan (or similar).

156

Ensure biodiversity and ecosystem functions are sustained with shared stewardship by requiring the development of a Biodiversity Strategy that includes support for biodiversity within parks, streets, and other City-owned lands and support the protection and enhancement of biodiversity during development.

157

Ensure the biological diversity of the river valley and the riparian areas within it is recognised by safeguarding these lands.

158

Ensure the City's position on oil and gas activity within City of Lethbridge boundaries is recognised by the responsible regulatory authority (currently, the Alberta Energy Regulator), by providing a response to any notification related to these activities.



Policy Descriptions

159

Ensure environmental remediation is addressed in infill development by establishing a framework for the redevelopment of brownfield sites.

160

Ensure appropriate wildfire mitigation strategies are incorporated into planning and park maintenance decisions, by requiring the review and revision of all applicable City of Lethbridge policies, bylaws, and planning documents.

161

Ensure environmentally responsible engagement with the land by reviewing alternative options before expanding the City's landfill.

162

Promote opportunities to invest in biocultural restoration by encouraging the use of Reserve designations to recognise and protect ecologically sensitive and culturally significant lands.

163

Support wetland conservation and restoration by exploring options to enhance the City's role in protecting and enhancing wetlands, including acting as a wetland delivery agency (as described by Alberta Environment & Parks) or as an advocate.

164

Support wetland conservation by exploring approaches to further protecting ephemeral water bodies.

165

Ensure preservation and protection of natural and culturally significant lands, including natural grasslands and wetlands and lands traditionally or culturally important to the Blackfoot peoples, is considered in future urban development by:

- Requiring the development of a Hierarchy of Disturbance framework to guide decision-making in land use planning, in the development of parks, and in the development of transportation, wastewater, stormwater, water, and energy infrastructure.
- Requiring a Wetland Assessment be completed when Area Structure Plans are prepared.
- Requiring a Rangeland Health Assessment be completed when Area Structure Plans are prepared.
- Requiring a Traditional Knowledge and Land Use Study.



Policy Descriptions

166

Ensure corporate and community-wide water conservation, by updating the City of Lethbridge Water Rationing Action Plan.

167

Ensure corporate and community-wide water and resource conservation by:

- Committing to water and resource conservation actions identified in the City of Lethbridge's corporate policies and programs.
- Delivering water and resource conservation focused programs and initiatives to community members.

168

Ensure resource conservation by:

- Committing to the re-use of materials collected at the City of Lethbridge Waste and Recycling Centre, for which markets have been demonstrated in other comparable jurisdictions.
- Committing to construction and demolition waste management programs.

169

Ensure a reduction in the City's corporate emissions of greenhouse gases and air pollutants, by:

- Reducing corporate energy consumption related to electric services, fleet, facilities management of City-occupied buildings, and waste management.
- Reducing corporate reliance on carbon-based energy resources and exploring renewable energy opportunities including solar, wind, and geothermal.

170

Ensure improved air quality by:

- Safeguarding Lethbridge's urban forest.
- Establishing a process to minimize the introduction of invasive plants and retention of existing non-invasive plants on City-owned land and throughout the city.
- Reviewing the City of Lethbridge Field Services Guidelines to further encourage a reduction in airborne particles that result from erosion due to high winds during construction.

171

Support improved air quality by participating in regional discussion on the topic.



Policy Descriptions

172

Ensure community-wide action on water conservation and waste reduction by

- Providing public educational programs, practices, and engagement opportunities related to all components of the water cycle and waste hierarchy: water use, conservation, and reuse; water quality; wastewater; stormwater; wetlands; waste generation avoidance and reduction; reusing and recycling waste; and promotion of a circular economy.
- Committing to the exploration of methods to reduce waste generation by reusing or recycling products that are seen as waste.
- Maintaining the City's role as a community leader through the implementation of waste reduction initiatives in City-owned facilities that are open to the general public.

173

Promote a broader understanding of environment issues by:

- Encouraging the identification of issues and facilitation of stewardship in collaboration with existing partners and forums at local and regional levels.
- Encouraging the incorporation of Indigenous knowledge and ways-of-knowing to help co-steward environmental areas and traditionally and culturally important places.
- Encouraging and, where appropriate, facilitating and sponsoring community-focused environmental stewardship activities.

174

Ensure greater collaboration around environmental outcomes, both locally and regionally, by establishing and maintaining relationships with key partners related to:

- Air quality
- Watershed and land protection
- Biodiversity conservation
- Waste management
- Energy conservation
- The economic risks and opportunities related to climate change and climate resiliency

175

Promote enhanced access to data related to key indicators of environmental health, by

- Facilitating opportunities for data sharing with partners and the public.
- Continuing to report regularly on community and corporate environment-related outcomes.



Policy Descriptions

28

Support the growth in renewable energy generation by:

- Exploring the establishment of interim, small to medium sized solar energy farms on vacant or underutilized land that will not be developed for a number of years (where feasible to do so, and where located near the necessary power transmission infrastructure).
- Considering the installation of solar panels on rooftops and sites that primarily service the individual energy needs of that parcel (subject to the requirements of the Alberta Building Code and the Land Use Bylaw).

151

Ensure a reduction in corporate energy consumption by:

- Implementing a Corporate Energy Efficiency Master Plan that considers electric services, fleet, waste management, and facilities' design, construction, and operation.
- Implementing a Corporate Energy Strategy that reduces reliance on carbon-based energy resources and explores alternative energy opportunities including solar, wind, and geothermal.

152

Support new renewable/alternative energy projects community-wide by:

- Exploring opportunities for the design of the built environment to optimize energy conservation and alternative energy sources.
- Exploring opportunities for the installation of solar farms as interim uses on sites before long-term development or as permanent uses on sites with development constraints.

153

Support opportunities for households to enhance household energy efficiency and to reduce energy costs by considering creative strategies to work with private sector and government partners.

ENERGY

Reduce corporate fuel and energy consumption and increase renewable energy generation.



Policy Descriptions

169

Ensure a reduction in the City's corporate emissions of greenhouse gases and air pollutants, by:

- Reducing corporate energy consumption related to electric services, fleet, facilities management of City-occupied buildings, and waste management.
- Reducing corporate reliance on carbon-based energy resources and exploring renewable energy opportunities including solar, wind, and geothermal.

174

Ensure greater collaboration around environmental outcomes, both locally and regionally, by establishing and maintaining relationships with key partners related to:

- Air quality
- Watershed and land protection
- Biodiversity conservation
- Waste management
- Energy conservation
- The economic risks and opportunities related to climate change and climate resiliency



Policy Descriptions

161

Ensure environmentally responsible engagement with the land by reviewing alternative options before expanding the City's landfill.

169

Ensure a reduction in the City's corporate emissions of greenhouse gases and air pollutants, by:

- Reducing corporate energy consumption related to electric services, fleet, facilities management of City-occupied buildings, and waste management.
- Reducing corporate reliance on carbon-based energy resources and exploring renewable energy opportunities including solar, wind, and geothermal.

170

Ensure improved air quality by:

- Safeguarding Lethbridge's urban forest.
- Establishing a process to minimize the introduction of invasive plants and retention of existing non-invasive plants on City-owned land and throughout the city.
- Reviewing the City of Lethbridge Field Services Guidelines to further encourage a reduction in airborne particles that result from erosion due to high winds during construction.

171

Support improved air quality by participating in regional discussion on the topic.

174

Ensure greater collaboration around environmental outcomes, both locally and regionally, by establishing and maintaining relationships with key partners related to:

- Air quality
- Watershed and land protection
- Biodiversity conservation
- Waste management
- Energy conservation
- The economic risks and opportunities related to climate change and climate resiliency



Policy Descriptions

64

Ensure new neighbourhoods make efficient use of land, by:

- Requiring all Outline Plans adopted after the adoption of this MDP to achieve a minimum density of 27.5 dwelling units per net residential hectare (du/nrha) across the Plan Area.
- Disallowing amendments to Outline Plans which lower the net residential density across the Plan Area.

65

Ensure residential densities are increased in existing areas in a manner that respects built form and character, by preparing Area Redevelopment Plans which take into account the following criteria:

- Age and classification of the neighbourhood (core, mature, established)
- Street layout type (grid, modified grid, curvilinear)
- Location in relation to other land uses and transportation links
- Neighbourhood population demographics, such as age distribution
- Neighbourhood design and character
- Existing and planned infrastructure capacity
- Heritage preservation

66

Promote increasing residential densities in existing areas in a manner that respects built form and character by:

- Encouraging increased densities in areas where ancillary neighbourhood facilities are currently available or can be efficiently provided (e.g. employment, shopping, schools, parks, transit routes).
- Encouraging residential development at and near to the University and College.
- Encouraging residential development in the downtown.
- Encouraging the development of increased residential density in and around existing or planned commercial areas and corridors.
- Encouraging support for additional units in parcels that have not reached their maximum allowable density.
- Encouraging beautification of commercial corridors to increase livability.
- Discouraging “downzoning” (i.e. Land Use Bylaw amendments from higher to lower density residential districts), except where required in order to comply with other policies in the MDP.



Policy Descriptions

67

Ensure a range of types and sizes of residential development in the downtown are enabled and encouraged, by reviewing the regulatory and statutory environment to:

- Ensure minimum parking requirements are not an obstacle to residential development or adaptive reuse of existing buildings in the downtown.
- Enable and encourage a range of housing types and sizes.
- Encourage active commercial frontages at ground floor level, while considering ground floor residential uses in appropriate forms and locations.

76

Promote protection of natural habitat, increased biodiversity and opportunities for public enjoyment of nature, by facilitating and strengthening the restoration and enhancement of natural spaces in the city, particularly within and adjacent to the Oldman River Valley.

113

Promote a sustainable development pattern which makes efficient use of land, minimises the need for motorised travel and facilitates social cohesion, by encouraging:

- The design of live, work, shop and play land uses in proximity to one another.
- Mixed-use development and a mix of land uses in existing and future commercial areas.
- The design of the built environment to facilitate walkability and rollability by providing complete networks of accessible sidewalks and crossings throughout the city.
- The design of neighbourhoods to minimise driving distances and reduce automobile trip generation, through the use of grid or modified grid street layouts (where topography and storm water management solutions allow) and a mix of land uses which aims to allow residents to meet their daily needs within a 750 m. walk of their homes.
- A diverse range of housing forms and price points to be incorporated in all new neighbourhoods.
- Mixed-use development in residential neighbourhoods, in locations which maximise commercial viability and ease of access for nearby residents.
- The creation of city and neighbourhood focal points that provide opportunities for community gathering, and that encourage interaction between all age groups and abilities.
- Neighbourhood design and public spaces to mitigate the impact of climatic extremes (temperature, wind, drifting snow).
- Throughout the city, architecture and streetscaping which contribute to a sense of place and civic pride.



Policy Descriptions

115

Ensure Lethbridge continues to receive the many benefits of trees, such as summer shade and cleaner air, by maintaining and growing the urban forest.

156

Ensure biodiversity and ecosystem functions are sustained with shared stewardship by requiring the development of a Biodiversity Strategy that includes support for biodiversity within parks, streets, and other City-owned lands and support the protection and enhancement of biodiversity during development.

159

Ensure environmental remediation is addressed in infill development by establishing a framework for the redevelopment of brownfield sites.

161

Ensure environmentally responsible engagement with the land by reviewing alternative options before expanding the City's landfill.

163

Support wetland conservation and restoration by exploring options to enhance the City's role in protecting and enhancing wetlands, including acting as a wetland delivery agency (as described by Alberta Environment & Parks) or as an advocate.

164

Support wetland conservation by exploring approaches to further protecting ephemeral water bodies.

170

Ensure improved air quality by:

- Safeguarding Lethbridge's urban forest.
- Establishing a process to minimize the introduction of invasive plants and retention of existing non-invasive plants on City-owned land and throughout the city.
- Reviewing the City of Lethbridge Field Services Guidelines to further encourage a reduction in airborne particles that result from erosion due to high winds during construction.



Policy Descriptions

85

Ensure potable water needs are minimised by requiring the open space system to be planned and designed to efficiently manage water.

146

Promote improved water quality in wet pond stormwater management facilities by encouraging future facilities' design to further consider reuse potential and aesthetics (including elements such as water clarity, colour and odour prevention).

147

Support the use of low impact development techniques to reduce stormwater run-off by considering opportunities to incorporate these principles in neighbourhood and building design.

148

Support discussions around the use of artificial wetlands in the treatment of stormwater by exploring long-term maintenance practices that support their continued effectiveness.

149

Support reductions in the household use of treated (potable) water by exploring opportunities for the domestic use of reclaimed wastewater, as supported by provincial regulations.

164

Support wetland conservation by exploring approaches to further protecting ephemeral water bodies.

166

Ensure corporate and community-wide water conservation, by updating the City of Lethbridge Water Rationing Action Plan.

167

Ensure corporate and community-wide water and resource conservation by:

- Committing to water and resource conservation actions identified in the City of Lethbridge's corporate policies and programs.
- Delivering water and resource conservation focused programs and initiatives to community members.



Policy Descriptions

172

Ensure community-wide action on water conservation and waste reduction by

- Providing public educational programs, practices, and engagement opportunities related to all components of the water cycle and waste hierarchy: water use, conservation, and reuse; water quality; wastewater; stormwater; wetlands; waste generation avoidance and reduction; reusing and recycling waste; and promotion of a circular economy.
- Committing to the exploration of methods to reduce waste generation by reusing or recycling products that are seen as waste.
- Maintaining the City's role as a community leader through the implementation of waste reduction initiatives in City-owned facilities that are open to the general public.



Policy Descriptions

150

Ensure safe, reliable, environmentally responsible, and efficient service delivery, by:

- Requiring waste reduction programs that meet business and resident needs.
- Requiring the City's Waste Diversion Policy be followed and its associated targets be met.
- Requiring implementation of the Business Waste Diversion Strategy.

167

Ensure corporate and community-wide water and resource conservation by:

- Committing to water and resource conservation actions identified in the City of Lethbridge's corporate policies and programs.
- Delivering water and resource conservation focused programs and initiatives to community members.

168

Ensure resource conservation by:

- Committing to the re-use of materials collected at the City of Lethbridge Waste and Recycling Centre, for which markets have been demonstrated in other comparable jurisdictions.
- Committing to construction and demolition waste management programs.

172

Ensure community-wide action on water conservation and waste reduction by

- Providing public educational programs, practices, and engagement opportunities related to all components of the water cycle and waste hierarchy: water use, conservation, and reuse; water quality; wastewater; stormwater; wetlands; waste generation avoidance and reduction; reusing and recycling waste; and promotion of a circular economy.
- Committing to the exploration of methods to reduce waste generation by reusing or recycling products that are seen as waste.
- Maintaining the City's role as a community leader through the implementation of waste reduction initiatives in City-owned facilities that are open to the general public.