

Environmental Management

Led by: Environmental & Safety Management

Description:

Environmental Management provides corporate-wide leadership and support to City of Calgary services to manage environmental issues, risks, opportunities and trends associated with the delivery of public services. Climate resilience aims to address climate change risks including: impacts from severe weather on infrastructure, people and nature, greenhouse gas (GHG) reductions and energy management. We provide strategic leadership and programs to The City, citizens, and Industrial, Commercial, and Institutional (ICI) sectors. We also provide expertise to The City on identifying, assessing and managing contaminated lands to ensure the safety of citizens and workers.

Customers:

Our service supports citizens and ICI organizations through climate resilience and environmental education. Within the organization, we support corporate management, other City services and employees. We collaborate with executive leadership to ensure we meet evolving legislative requirements.

What is delivered to customers:

We provide customers expertise, strategic advice and products to manage risks through our environmental management system and associated policies and programs. We assess risks using science-based analysis and develop cost-effective solutions to manage energy, reduce climate risks and GHGs. We manage contamination risks of City-owned land.



Partners:

We are strategic partners providing environmental protection and efficiency through: corporate governance, legal counsel, risk management and advocacy. As trusted advisors, we lead and partner with business units in policy, strategy, advice, support and programs to reduce environmental risks in services and operations, as well as in the community.

Service need (value proposition):

Citizens rely on The City to ensure that Calgary is resilient to adverse environmental impacts, risks and vulnerabilities. We deliver on this expectation by assessing environmental risks in Calgary's infrastructure, people and the natural environment. We provide guidance to City service leaders on how to mitigate and adapt to these impacts. We also support The City in adhering to environmental legislation and in managing the risks associated with City-owned contaminated land. These efforts enable The City to continue to deliver services to citizens, while protecting environmental well-being. We support The City, citizens and the ICI sector with guidance and expertise to: reduce GHG emissions, manage energy more efficiently, and plan to mitigate and adapt to a changing climate. We provide programs and support services that facilitate continued environmental awareness.

Current state service value

<p>94% Citizens satisfied with the environment</p> <p>69% Citizens support City climate leadership</p>	<p>91% Citizens satisfied with City programs</p> <p>4,250 Participants in Mayor's Environment Expo</p>	<p>2018 Budgeted Gross Operating Expenditures Funding Breakdown (\$ Millions)*</p>  <p>\$6.20 Annual operating cost per resident</p> <p>* Gross operating budget and the service cost ratio may include internal recoveries that are also included in other services gross operating budget.</p>
<p>Connections to Citizen Priorities</p> 		<p>What the service includes (\$000s) Climate Resilience Mitigation and Adaptation (\$1,552), Contaminated Land Risk Management (\$4,445), Corporate Environmental Programs (\$1,834)</p> <p>Key Capital Investments We invest in energy, GHGs and adaptation pilot projects and technology to mitigate environmental risks, including: climate resilience, contaminated land and substance releases. We also invest in continuous improvement of corporate management systems.</p>



What we've heard and service outlook

What we heard: Research & Engagement Results

Protecting public and environmental well-being consistently rates as one of the highest priorities for citizens. Citizen focus groups told us that climate change is impacting their city and that it may lead to future impacts. Leaders within The City expect environmental aspects to be addressed to an acceptable risk level (i.e. managing regulatory, civil, financial and reputational risks). Staff seek advice, tools and training to reduce environmental risk within our operations. Business sector working groups have asked us to lead and to convene for climate action.

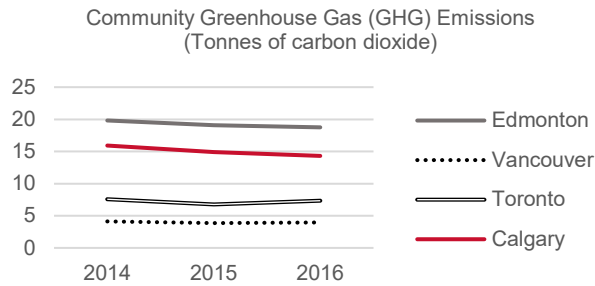
What Council has directed

Council expects Calgary to be a leader regarding the health of the environment, promoting resilient neighbourhoods. We will manage environmental risks to ensure the health of the public and the natural environment. Council has directed us to address climate change in a co-ordinated way that resonates with citizen expectations. We will align ourselves to provincial and federal strategies and focus on the economic benefits. We will support the organization to embrace a low carbon economy and implement mitigation and adaption actions that address the risks associated with climate change. We will manage environmental risks to ensure the health of the public and the natural environment. We also align to: Corporate environmental policy, Climate Resilience Strategy, provincial legislation (e.g. City Charter, Environmental Protection and Enhancement Act), and federal strategies (e.g. Climate Lens).

What are we watching

City Charter: The Government of Alberta requires us to develop climate mitigation and adaptation plans by 2020. Calgary may enact bylaws on environmental well-being, as well as prevention of third party contamination. Policy: At the federal level, we are watching evolving legislation and direction to manage GHG reductions and infrastructure investment. This includes an escalating carbon price. Alberta's Climate Leadership Plan contains a carbon levy, energy efficiency program, coal phase-out and renewable energy. Weather events: Climate models predict more severe flooding, drought and storms with increasing temperatures. We'll see impacts on water quality and quantity, infrastructure damage, health impacts and more frequent and severe events. Land Management: Construction projects may encounter third-party contamination resulting in cost increases, delays, liability and health impacts.

Benchmarking



Source: The City of Calgary, Carbon Disclosure Project, Cities of Vancouver, Edmonton, Saskatoon, Toronto

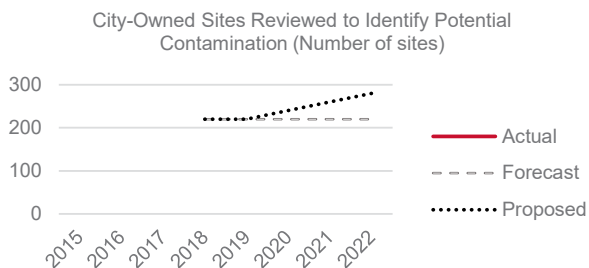
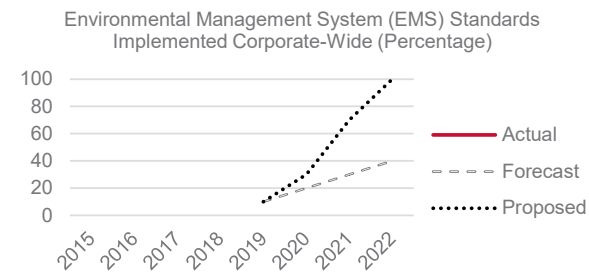
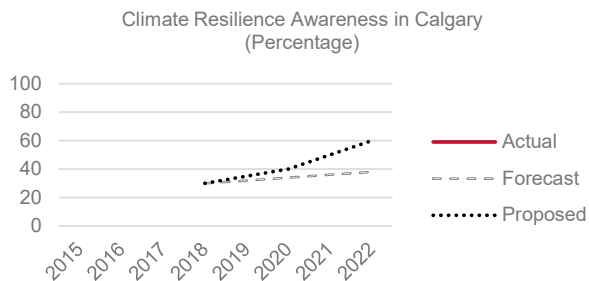
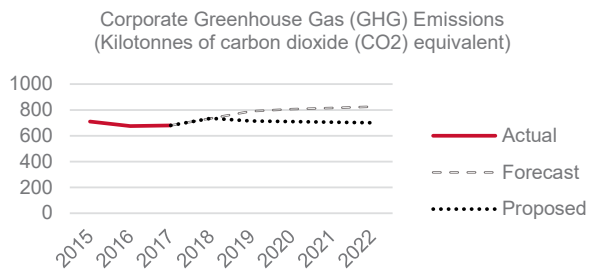
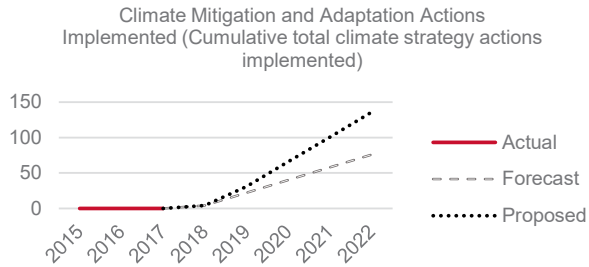
Calgary's GHG emissions per capita are comparable to other prairie cities and higher than cities where electricity comes from lower carbon source (e.g. hydro power in British Columbia and Ontario). Per capita emissions declined between 2011 and 2016, linked to cleaner electricity supply and the local economic downturn. Residential emissions have been dropping yearly, while commercial buildings started a downward trend in 2015. The forecast, however, is for higher emissions with an expanding growth pattern and increased transportation.

What matters to Calgarians

VALUE DIMENSION	DESCRIPTION
Environmental	We help to conserve, protect and enhance the environment.
Legislative Compliance	We help The City comply with municipal, provincial and federal environmental legislation.
Reduces risk	We work to reduce risks related to impacts on the environment, The City, citizens and ICI sector.
Resilient	We help The City and citizens to adapt and grow no matter what environmental chronic stresses and acute shocks occur.
Quality	We deliver consistent, high quality environmental management solutions in alignment with customer needs.



How is the Service performing? Where we are headed and where do we want to go?



Story behind the curve

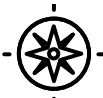
We work to reduce the environmental risks and liabilities in The City's operations and services provided to Calgarians. This helps us to protect the quality of life in Calgary and equip The City to address environmental challenges. We guide the Corporation to protect and strengthen infrastructure and the natural environment, and to protect staff and citizens from the impacts of severe weather events. Tracking the progress of the Climate Mitigation and Adaptation plan actions will indicate organizational effectiveness and serve as an indication of reduced risk.

The impacts from City operations such as road construction, vehicle operations, or waste generation on air, energy, land, water and natural systems should be reduced. We track Corporate GHGs to help us understand our overall impact of our operations on the environment (e.g. road construction, vehicle operations, waste generation, etc.).

The City asks Calgarians how they are taking climate change action, such as: extreme weather preparation, improved energy efficiency response and implementing climate resilience habits in their daily lives. The City supports citizen action by providing relevant information, by leading within our own operations, and by collaborating and enabling actions in the community. Turning the curve will involve more frequent and meaningful education and awareness, and delivering on the actions in the Climate Resilience Strategy and Action Plans during the next four years.

The City's environmental performance uses a corporate Environmental Management System comprised of a minimum set of standards, which were drafted in 2018 and will be implemented during this business cycle. We will measure the progress of implementation of these standards across the Corporation.

Environmental site assessments reduce unknown liabilities. Reviews identify contaminated sites and, where warranted, assessments are carried out to determine the extent and impact of the contamination. Management plans are developed and implemented for sites that pose an unacceptable risk to the environment and/or human health. Site reviews have been carried out for years, but a new method of tracking them will allow us to better highlight the positive progress being made in reducing unknown liability.



What do we propose to do?

What we propose to continue doing

STRATEGY
Service line oversight – ensure environmental legislative compliance, risk reduction, protection, assurances and standards.
Climate change – key focus on implementation of the Climate Strategy and Actions Plans.
Risk reduction – support the organization to reduce City and community environmental risks (e.g. climate change, contamination, etc.).
Environmental leadership – enable the protection and enhancement of the natural environment, corporately and community-wide.
Corporate leadership – provide Council and corporate leaders with relevant information to make informed environmental decisions.
Capacity building – support the organization to invest and provide uninterrupted services to citizens considering environmental impacts.
Citizens and business support – inform, educate and prepare communities to manage environmental risks and opportunities.

Why?

Citizens rely on us to understand the impacts of the changing environment – both scientifically and technologically. We enable understanding of these environmental and climate threats, such as contamination and severe weather events. We develop tools to assess and reduce these risks. These aim to reduce adverse environmental impacts within City operations and the community, while continuing to ensure high quality services for Calgarians.

What we propose to do less of

STRATEGY
Brownfield development.

Why?

We will shift from driving to supporting brownfield development by other City services. We will continue our important role of providing expertise on environmental risk management for contaminated land.

What we propose to do more of or include as a new offering

STRATEGY
Implement Climate Resilience Strategy and Action Plans.
Educate and develop partnerships with communities and business to enable climate and energy action.
Identify funding opportunities for climate risk reduction and energy and GHG management.
Establish and integrate community and operational environmental strategies into City services.
Engage Calgarians and City services through environmental awareness and subsequent reduction of environmental impact.

Why?

These strategies further the Council-directed climate resilience actions, as well as ensuring that a clear path is created for environmental stewardship and leadership in The City and community. These strategies will enable The City to strengthen its infrastructure, natural environment and the operations and services provided to Calgarians.



What Operating Budget do we need to achieve these results and strategies?

For Council Approval

SERVICE PERFORMANCE RESULTS FOR 2019-2022	CURRENT	TREND
Climate Mitigation and Adaptation Actions Implemented (Cumulative total climate strategy actions implemented)	4	↑
Corporate Greenhouse Gas (GHG) Emissions (Kilotonnes of carbon dioxide (CO ₂) equivalent)	735	↔
Climate Resilience Awareness in Calgary (Percentage)	30	↑
Environmental Management System (EMS) Standards Implemented Corporate-Wide (Percentage)	0	↑
City-Owned Sites Reviewed to Identify Potential Contamination (Number of sites)	220	↑

Breakdown of net operating budget (\$000s)

	2019	2020	2021	2022
Previous Year's Budget	5,336	5,636	6,091	6,196
Less Previous Year one Time	-	-	-	-
Base	5,336	5,636	6,091	6,196
Revenue Changes	-	-	-	-
Internal Recovery Changes	124	-	-	-
Inflation	91	100	96	99
Operating Impact of Previously Approved Capital	-	-	-	-
Operating Impact of New Capital (Incremental)	-	-	-	-
Efficiencies	(91)	(100)	(96)	(99)
Service Reductions	(238)	-	-	-
Service Increases	414	455	105	-
One Time	-	-	-	-
Realignments	-	-	-	-
Total	5,636	6,091	6,196	6,196

Total Operating Budget (\$000s) for Approval

	2018 Budget	2019			2020			2021			2022		
	At Mar 31	Base	One-Time	Total	Base	One-Time	Total	Base	One-Time	Total	Base	One-Time	Total
Expenditure	7,831	8,008	-	8,008	8,463	-	8,463	8,568	-	8,568	8,568	-	8,568
Recoveries	(2,172)	(2,048)	-	(2,048)	(2,048)	-	(2,048)	(2,048)	-	(2,048)	(2,048)	-	(2,048)
Revenue	(324)	(324)	-	(324)	(324)	-	(324)	(324)	-	(324)	(324)	-	(324)
Net	5,335	5,636	-	5,636	6,091	-	6,091	6,196	-	6,196	6,196	-	6,196



Recommended Capital Investment to Support Service Delivery

For Council Approval

Capital Budget for Council Approval

ACTIVITY	DESCRIPTION	2019 REQUEST (\$000s)	2020 REQUEST (\$000s)	2021 REQUEST (\$000s)	2022 REQUEST (\$000s)	2023+ REQUEST (\$000s)	Total REQUEST (\$000s)
Annual Investment Program(s)		-	-	-	-	-	-
Project(s)		-	-	-	-	-	-
Program(s)		545	540	335	245	-	1,665
410713	Environmental Programs	545	540	335	245	-	1,665
Sub-Total (New Budget Requests)		545	540	335	245	-	1,665
Previously Approved Budget Remaining		50	-	-	-	-	50
Total Capital Investment		595	540	335	245	-	1,715

Explanation of Capital Budget Requests

Program(s)

Activity 410713: Environmental Programs

New Budget Request of \$1,665 thousand to support strategic climate change technology, federal and provincial pilot projects and maintenance of existing environmental technology solutions.

Funding from Pay-As-You-Go

Operating Impact of Capital: None