



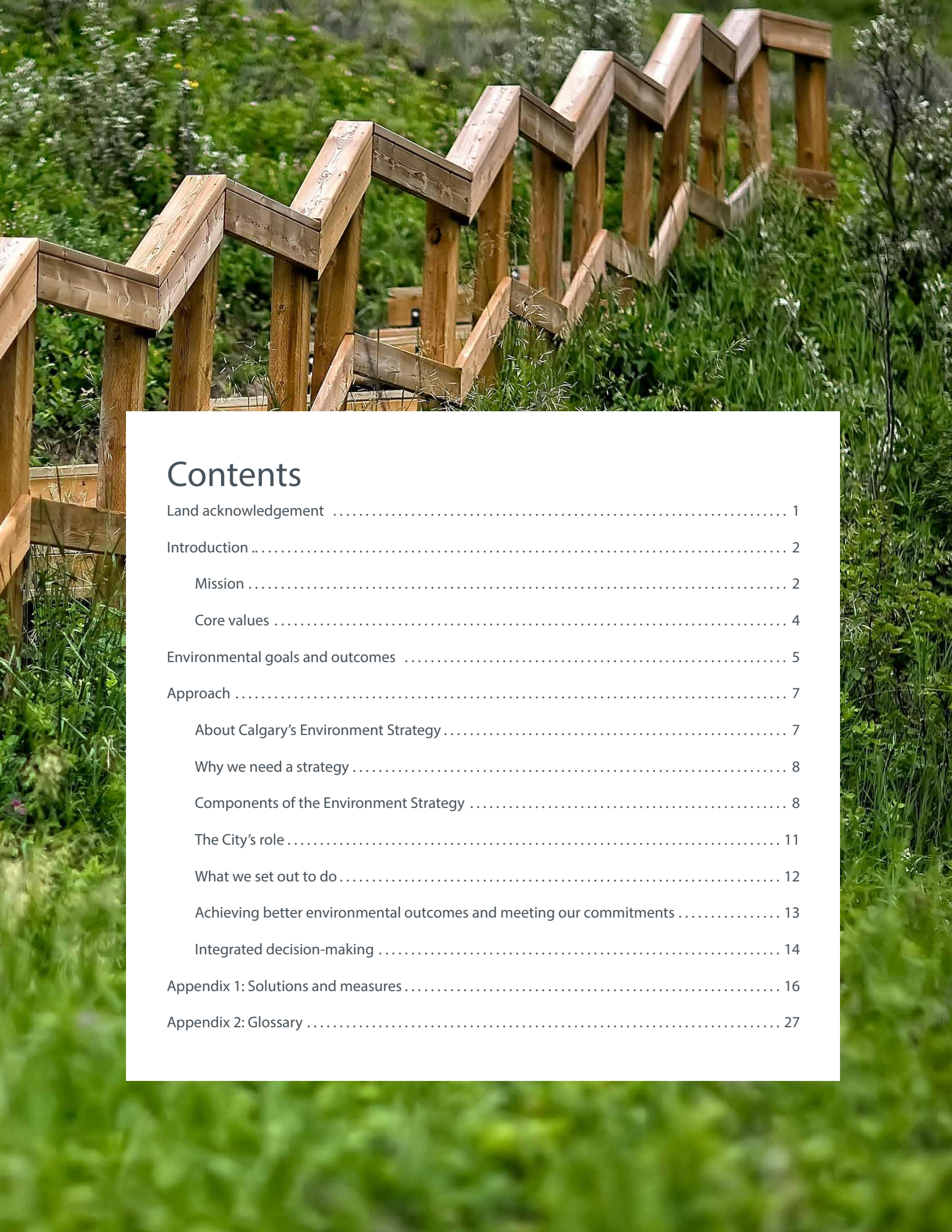
Calgary



Environment Strategy

June 2021





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Land acknowledgment

In the Blackfoot language, Calgary is Moh'kin'stis; in Stoney Nakoda, Wiçispa Oyade; in Tsuut'ina, Gu'tsi'tsi and in Métis, it is Otoskwunee. For each of these Indigenous languages, the words translate to 'Elbow,' representing the confluence of the Bow and Elbow rivers. This is where the story of Calgary begins as the confluence has been a trading hub for Indigenous peoples for millennia and the site where they celebrated natural abundance, ceremony, culture, and partnerships.

This plan acknowledges the traditional lands of the Treaty Seven Nations – the Blackfoot confederacy, (Siksika, Kainai, Piikani), the Tsuut'ina, the Îyâxe Nakoda Nations (Bearspaw, Chiniki, Wesley), the Métis Nation of Alberta, Region 3, and all people who have made Calgary their home. This plan honours their long history and deep connections to this land.

The strength and energy of Calgary comes from the land it was built on, as well as the Indigenous people and newcomers whose footsteps have marked this territory.

Introduction

For over two decades, The City of Calgary has strategically developed environmental plans, policies and strategies across multiple departments to guide the protection of public health and the environment for present and future generations.

The City of Calgary is committed to achieving community environmental sustainability.

~ The City of Calgary's Environmental Policy

It was in 2006 that imagineCALGARY, a vast citywide, public engagement initiative, charted the aspiration of our community and businesses to be an environmental leader. The Calgary Environment Strategy (the Strategy) will renew and strengthen this commitment to the legacy of a sustainable and thriving city and communities. This Strategy sets out a clear direction – our mission, core values, goals and outcomes for improving Calgary's environment. The Strategy defines how The City measures, reports, communicates and educates on the environment.

Mission

An environmentally sustainable and resilient city where people and nature thrive.

A healthy and green city – Council and citizen priority

Calgary is a leader in caring about the health of the environment and promotes resilient neighbourhoods where residents connect with one another and can live active, healthy lifestyles. To achieve this priority, this Strategy builds on the work accomplished and sets out a unified direction that will further lead and inspire actions to conserve, protect and enhance the environment. Additionally, it aims to increase Calgarians' connections to nature and provide a strong future and competitive advantage for Calgary to thrive in the global economy.

Calgary has forged a strong tradition of environmental stewardship and conservation. Calgarians have made it clear that a city with vibrant, healthy natural spaces and strong environmental performance is a top priority.



What is environmental sustainability?

Environmental sustainability is the responsibility to conserve, protect and reduce our impact on and use of the planet's natural resources; it reflects the need to live within the planet's carrying capacity to ensure quality of life, human and ecological health and well-being is maintained and thrives now and in the future.

Environmental sustainability is concerned with issues such as:

- Long-term health of ecosystems.
- Intergenerational decision-making.
- Protection of species diversity and ecological structure.
- Properly valuing environmental resources (air, land, water, biodiversity, and energy) for the services they provide to sustain nature and people.
- Protection of environmental and human health and wellbeing.
- Equitable access to and use of natural resources.
- Advancing renewable resources.
- Reducing the risk caused by global climate change.



Core values

Calgary's strategy for the environment is guided by three core values for integrated decision-making: sustainability, resilience and livability.

Maintaining a healthy natural environment, moderating our city's impact on the environment, and adapting to chronic stresses and acute shocks is a crucial part of making our city more environmentally resilient. Together sustainability and resilience provide the ability for our environment to renew itself even after stresses, shocks, and challenges weaken various systems. Enhancing Calgary's livability, the health and well-being of Calgarians, by improving urban and natural systems and access to nature is also a core value. The Environment Strategy links these core values together for the greatest possible conservation efforts and outcomes.

Sustainability Healthy natural environment

Protect the natural balance of environment and reduce our environmental impact today and in future.

Resilience Vital, resilient communities and economy

Increase opportunities for jobs, green businesses and resilient ecosystems.

Reduce climate change impacts.

Livability Healthy, inclusive city and communities

Increase access, quality and stewardship of natural areas and assets for all Calgarians.












Environmental goals and outcomes

This Strategy identifies specific key focus areas that reflect Council priorities and established, community supported, corporate environmental direction and objectives. Each focus area contains a goal for City projects and programs to achieve through the pursuit of the outlined environmental outcomes. The goals will act as a yardstick for monitoring progress and evaluation. These long-term environmental goals and desired outcomes define The City's environmental direction and demonstrate our accountability for environmental stewardship and protection – work that delivers multiple benefits for Calgarians.

ENVIRONMENTAL GOALS AND OUTCOMES

	Nature and healthy ecosystems	Protect, restore and enhance natural areas, parks and trees, and provide access to nature <ol style="list-style-type: none"> 1. Natural and urban ecosystems are protected, restored and connected with the capacity to recover from disturbance and adapt to change. 2. Natural areas, open spaces and trees are valued and accessible to everyone. 3. Citizens have more opportunities to connect with, learn about, and be stewards of nature, resulting in increased conservation and improved health, well-being and quality of life. 4. The integration of natural systems and natural infrastructure to maximize the ecosystem services they provide is prioritized in City planning, development and management.
	Watershed management	Protect our water supply, use water wisely, protect the health of our rivers and build resilience to flooding <ol style="list-style-type: none"> 5. Risks to our source water are reduced and our water supply is protected. 6. Water use efficiency is optimized to protect our water resources. 7. Calgary's rivers are kept healthy now and for future generations. 8. Calgary communities are more resilient to river flooding.
	Clean air	Protect and improve air quality <ol style="list-style-type: none"> 9. Air quality is protected and sustains healthy ecosystems and human health.
	Zero waste	Waste less and conserve more resources <ol style="list-style-type: none"> 10. Less waste is generated, and more resources are conserved.
	Sustainable transportation and land use	Plan for a compact city and complete communities with a convenient, safe and highly integrated transportation system that reduces energy usage, conserves natural resources (including land), and minimizes environmental impacts <ol style="list-style-type: none"> 11. Reduce the release of harmful emissions from the transportation system. 12. Reduce the consumption of energy associated with travel within Calgary by prioritizing high-frequency public transit and expansion of walking and wheeling networks. 13. More housing choices in Calgary communities, with densities that support high-frequency public transit and other services and amenities. 14. Significant natural areas and features are protected, restored through improved design and conditions and managed and integrated into new and existing developments as key assets in Calgary's ecological network. 15. Our performance in preventing pollution, reducing the use of harmful substances and managing contaminated sites is improved.
	Climate change and energy	Prepare for and adapt to climate change, improve energy management and reduce greenhouse gas emissions <ol style="list-style-type: none"> 16. Exposure and vulnerabilities to severe weather and current, emerging and long-term effects are reduced. 17. Energy and resource management is improved, and greenhouse gas emissions released into the atmosphere are significantly reduced.
	Green government	Lead by example and reduce our corporate impact on the environment <ol style="list-style-type: none"> 18. The City delivers on its commitments to Calgarians by complying with legislation, managing environmental risk and continually improving The City's environmental performance. 19. The City supports the sustainable use and management of resources in our operations and services, while protecting the environment.



Approach

About Calgary's Environment Strategy

This is Calgary's first unified environment strategy for the environment. It brings together approaches to key aspects of the environment, integrating the areas of land, air, water, energy, and biodiversity. It will facilitate an increased understanding of emerging environmental issues, trends and opportunities, and provide assurance that The City is making consistent, collaborative, and transparent decisions to protect and act as steward of the environment.

In combination with supplementary research, The City examined and outlined the critical environmental challenges and risks that Calgary faces today and in the coming years. These include threats to water and air quality, habitat loss and decreasing biodiversity, and a growing urgency for effective climate action paired with the strategies needed to address them.

Why we need a strategy

The environmental challenges we collectively face are complex and interrelated, demanding a comprehensive strategy and a coordinated set of solutions and long-term response and commitments.

The strategies and actions required to manage these challenges and achieve the vision of a healthy, green city, are considered in today's context. This includes an increasing population, fiscal constraints, destabilizing climate, and changing technology and global economies, as well as the City's ability to respond to the diverse and changing needs of all citizens.

This is an opportunity for Calgary to establish a leadership role in our fast-changing world, where it is profitable to protect the environment. A healthy and green city is also a city that attracts talent, new investment, and innovation.

Components of the Environment Strategy

The Calgary Environment Strategy is made up of a strategic framework and an action plan. This reflects the two phases of the project – a comprehensive project planning phase and a strong commitment to an effective and ongoing implementation program.

Strategic Framework

This guiding document informs on current environmental challenges and opportunities facing Calgary and outlines a strategic framework that is intended to be used as a tool for enhancing capacities and improving decision-making on the environment.

Action Plan: Reporting and communication tools

Along with the strategic framework, an implementation program (action plan) comprised of critical components provides the essential elements of a structured and systematic process. These initiatives provide practical tools including monitoring and evaluation methods and ongoing implementation mechanisms to ensure better communication, education and other successful outcomes.



The Environment Strategy is comprised of the following components, as shown in Figure 1: Components of the Environment Strategy.

1. Strategic Framework

The strategic framework details our mission, principles and core value statements aimed at making Calgary a more sustainable, resilient and livable city.

It also outlines eight themed focus areas. Each area includes:

- Defined environmental goals, outcomes and measures.
- A consolidation and summary of current solutions – Calgary’s key environmental initiatives and actions underway.

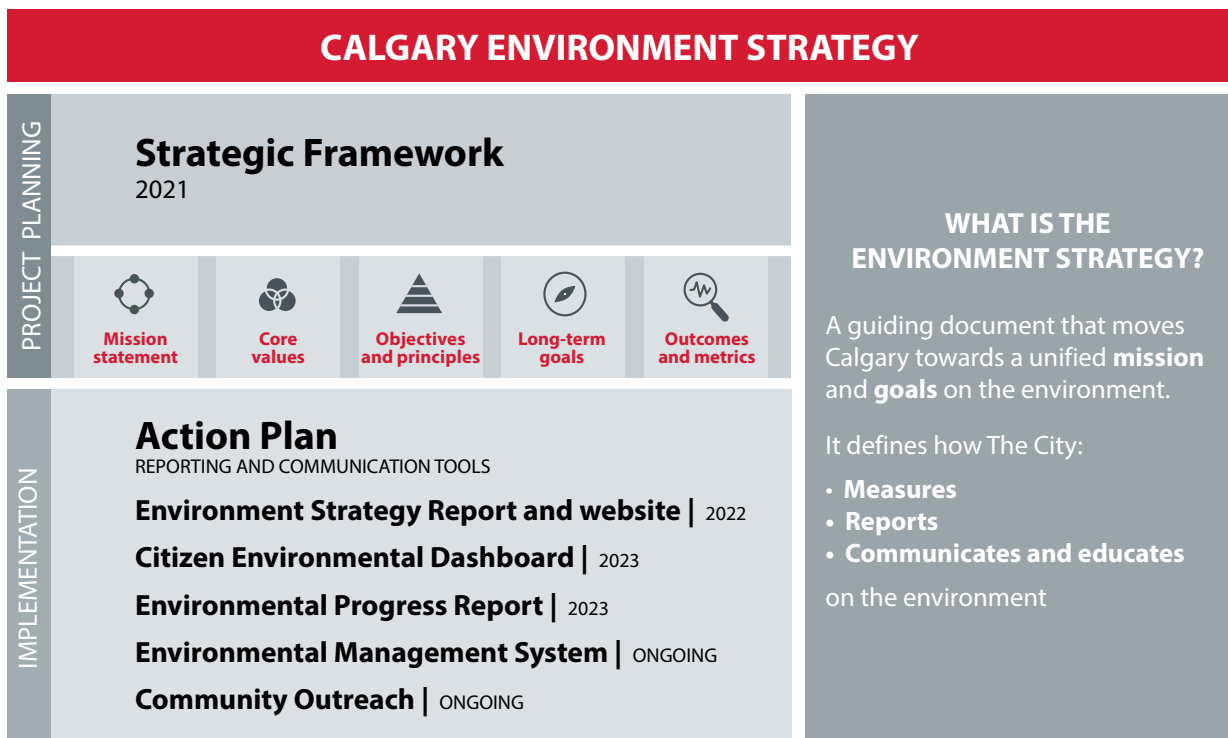
2. Environment Strategy Report and website

A report that outlines and expands on The City’s key environmental strategies, solutions, comprehensive environmental baseline and trends data corresponding to the respective goals. An accompanying website will inform Calgarians on the Strategy, implementation status and milestones, engagement opportunities, and highlight corporate and community key environmental initiatives underway and planned.

3. Citizen Environmental Dashboard

An online platform that visually tracks and provides Calgarians with a summarized and user-friendly view of environmental progress. It will enable users to explore city-wide environmental progress and trends through interactive maps and charts, simplifying complex environmental data, and providing context and additional information on the Environment Strategy’s key indicators.

Figure 1: Components of the Environment Strategy



4. Environmental Progress Report

A report to The City and our communities to ensure that progress on our commitments continues and that new environmental challenges and opportunities are identified as they arise. This report will comprehensively evaluate Calgary's environmental performance and progress using a results-based accountability approach.

5. Environmental Management System (EnviroSystem)

The Environmental Management System links our Environmental Policy to procedures that help assure compliance and reduce environmental

impacts in the corporation's day-to-day operations. The design of our system was informed by the International Organization for Standardization (ISO) 14001 standards that specifies requirements for effective environmental management.

6. Community Outreach

An Outreach Strategy for stakeholders and citizens for relevant Environment Strategy initiatives. Sharing information on The City's environmental progress with the public and engaging and mobilizing citizens to undertake their own actions is critical to our success.



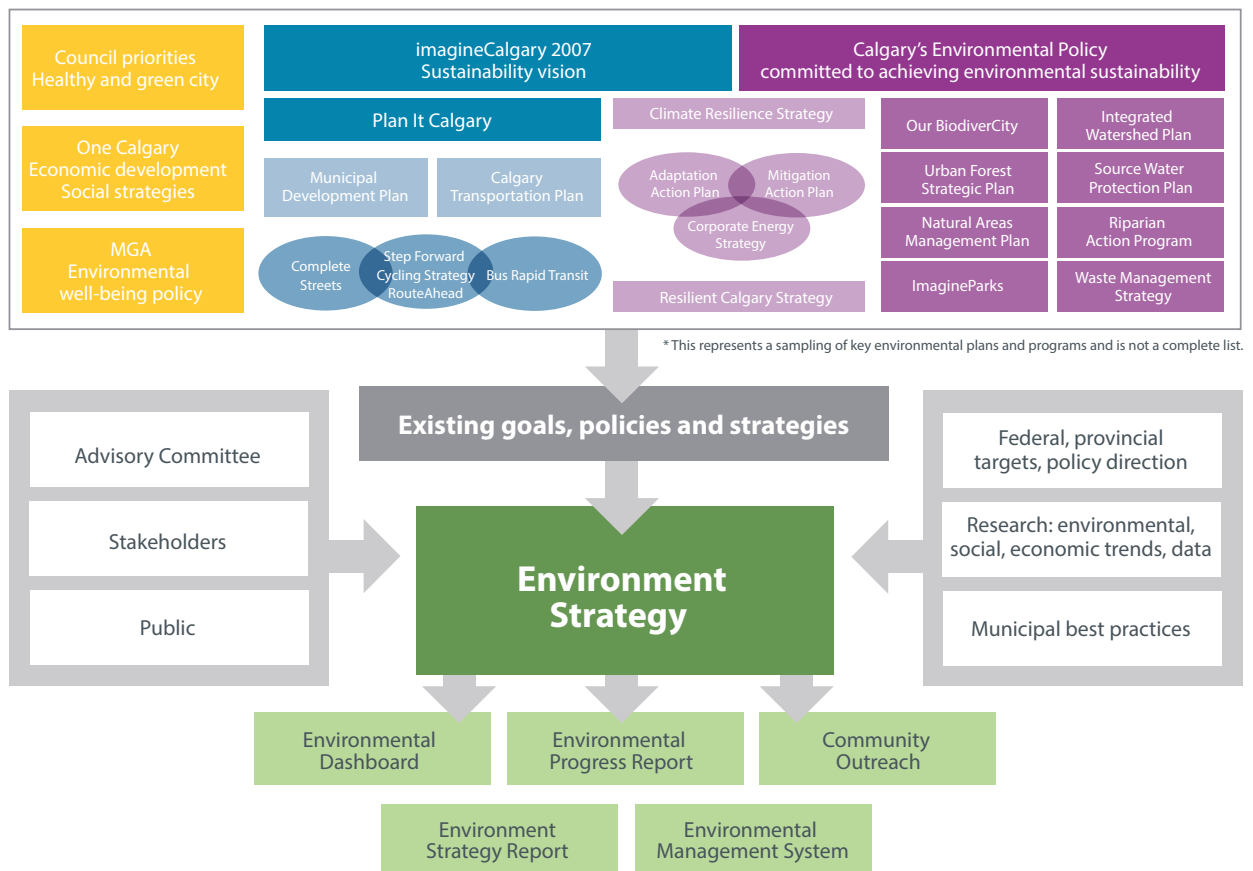
The City's role

We have already set many ambitious targets to help us shape Calgary's environmental performance but in some areas these targets need to be improved or expanded.

As shown in Figure 2: Environment Strategy approach, the work to develop the Strategy included internal and external engagement for a long-term environmental vision, best practice research, and gap analysis, in alignment with existing process and projects. Public engagement will continue to be an integral process in shaping our environmental work as it progresses.

Building on the work already underway, while combining data insights, will help to better understand and inform on environmental impacts and Calgary's well-being. This work will help strengthen integration amongst environmental programs making it easier to assess, set priorities, and measure overall progress towards our commitments.

Figure 2: Environment Strategy approach



What we set out to do

1. Provide a clear, unified vision and identify policies, programs, and actions that have the greatest impact in responding to environmental challenges, increasing sustainability.
2. Build an improved and shared understanding about the environment by providing research and baseline data that illustrates the current state of Calgary's environment and existing environmentally themed plans and strategies.
3. Advance shared civic environmental goals through work that is strategic, practical, and aligned to citizen values, as well as local and national priorities.
4. Provide an assessment of current and future environmental risks and help to identify opportunities and create solutions that can make a measurable difference.
5. Advance a more environmental outcome-based approach by providing a more complete set of targets and performance measures, and a related data management system.
6. Make direct connections between Corporate actions and programs, and short, medium, and long-term outcomes to help identify and address gaps in The City's environmental work and strengthen integration amongst environmental programs.
7. Help identify best practices and partnerships for success.

Guiding principles

This Strategy is guided by the following principles:

- **Evidence-based decisions** – Collaborate on and use the best, accessible, up-to-date data and scientific information available, and local understanding to inform a long-term perspective for development and policy and decision-making.
- **Integrated** – Identify and leverage a systems-based approach and strategies that build on existing programs or policies.
- **Collaborative** – Provide co-benefits with other community priorities and are coordinated with provincial and federal initiatives.
- **Maximization and coordination of effort** – Build a shared understanding about the environment to help identify opportunities, constraints, and potential partnerships across Corporate programs and with community partners.
- **Adaptable** – Promote flexible and adaptive management approaches that maintain human and environmental health and the integrity of ecosystems.
- **Comprehensive** – Bring mainstream environmental and broader environmental protection and conservation considerations into day-to-day City business, across sectors and communities.
- **Innovative** – Willingness to consider and pilot initiatives and prototypes to identify the best and creative solutions.
- **Equitable and resilient** – Consider and advance equitable and resilience outcomes. Commit to inclusiveness and accessibility in our environmental programs and initiatives.
- **Transparent** – Set goals that can be measured, reported, verified, and evaluated. Openness in plans, decisions, actions and results.

These principles are adapted from common principles outlined in Calgary's strategic corporate plans along with a comprehensive best practice review of local and international environment strategy and ecological sustainability plans, including the ICLEI-Local Governments for Sustainability, Canadian Council of Ministers on the Environment (CCME), among many others and align with United Nations-Habitat principles for sustainability and local-level climate action. The United Nations-Habitat principles were generated through a global, multi-stakeholder process including climate action NGOs, academics, engineering and planning associations, and public agencies, and have been endorsed by multiple global organizations including UCLG (United Cities and Local Governments), and FCM (Federation of Canadian Municipalities).

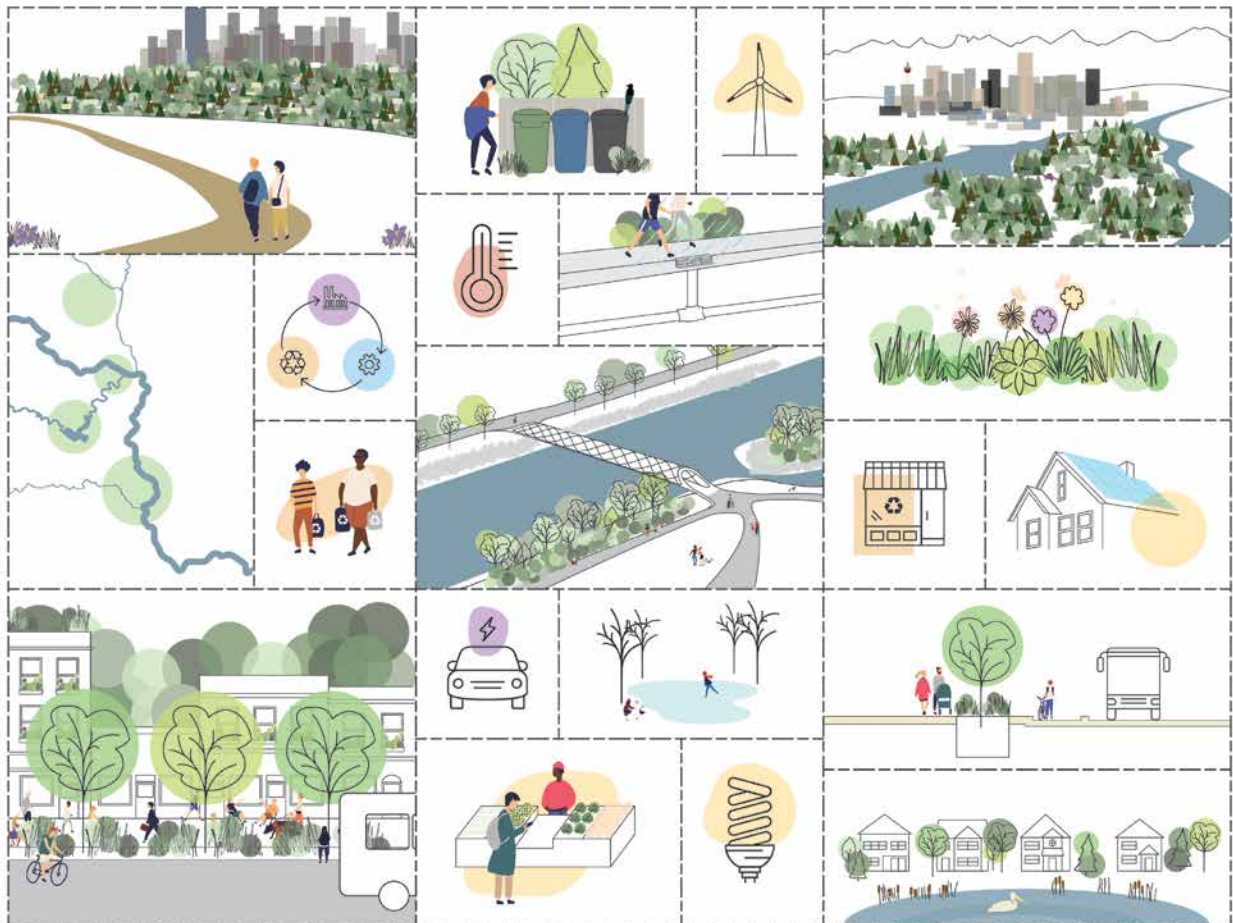
Achieving better environmental outcomes and meeting our commitments

This work encompasses all aspects of the environment, including improving and maintaining clean air, clean and safe water, healthy soils and more biodiversity, by supporting sustainable practices for energy, waste, emissions, trees, urban forests and vegetation, transportation networks, and community design and construction – all areas that impact the ecological integrity and health of natural areas.

The Strategy recognizes that there are various conditions that reflect the full range of **a healthy**

and green city – addressing what it means to be a healthy society living in a sustainable way. These include:

- Maintaining and improving biophysical conditions of our city such as clean air and water, healthy soil, responsible use of resources and materials and clean and renewable energy.
- Supporting community well-being and good quality of life as well as a culture of sustainable communities.



Source: Calgary Today: Environment Background Study

Integrated decision-making

Goals

The goals describe what must be accomplished for Calgary to be a sustainable and resilient city.

Solutions

Clear and defined solutions to our most pressing problems. These are the key initiatives and actions that must be taken to achieve the goals.

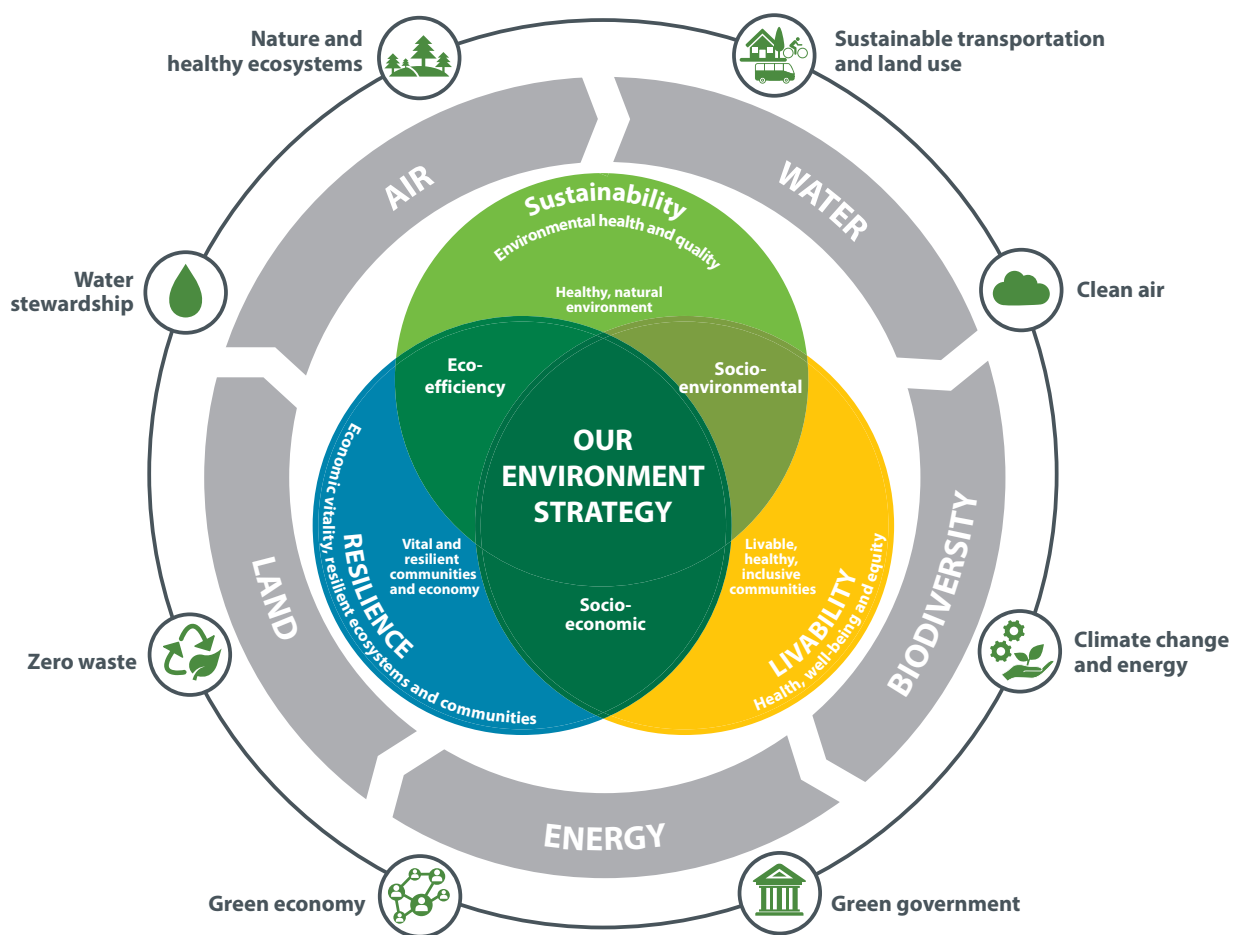
Outcomes

Measurable achievements towards reaching our goals.

Metrics

Measures and key indicators, based on observable characteristics or changes, that allow us to gauge our progress, course correct, and share our story.

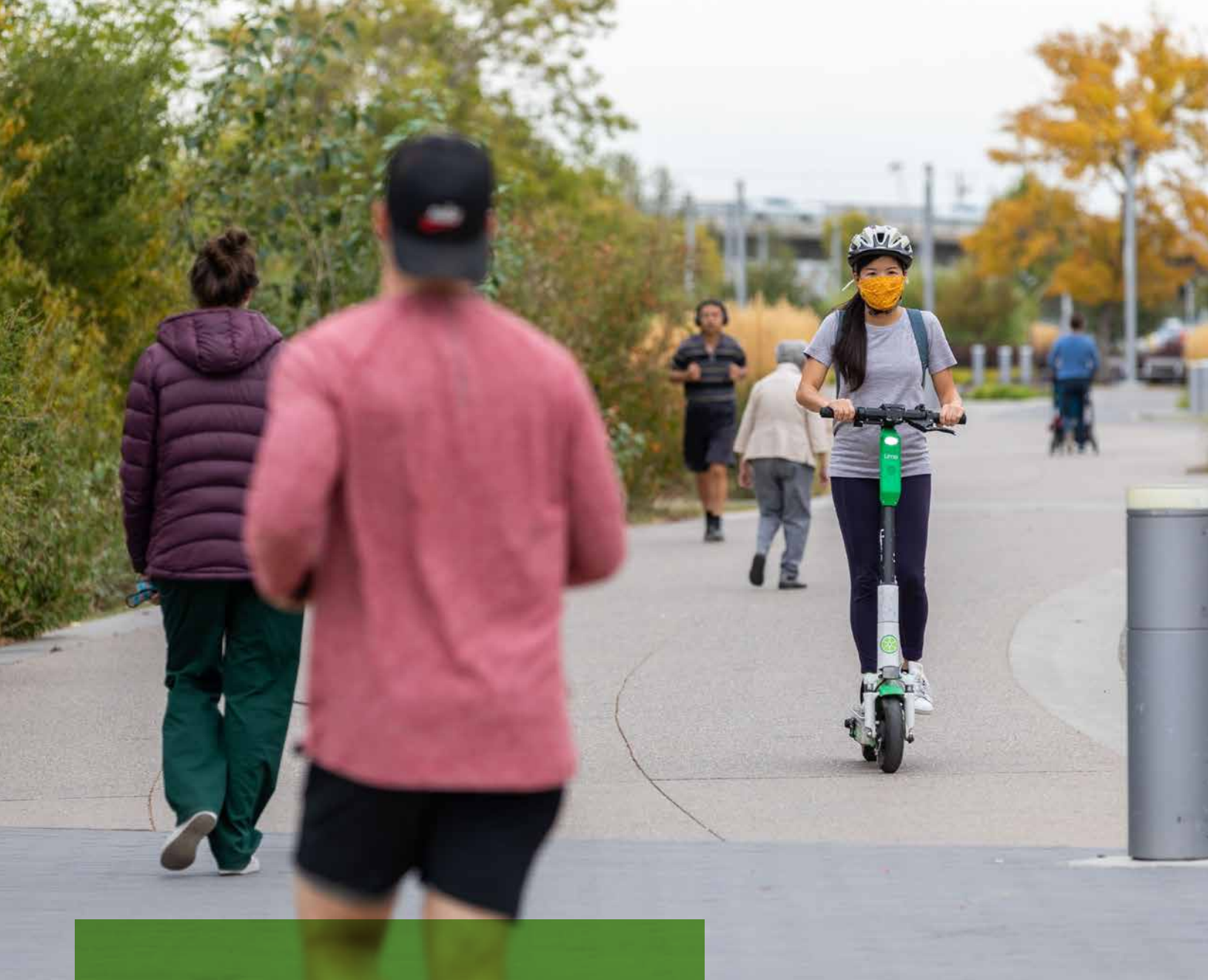
Figure 3: Integrated decision-making



This Strategy is focused on environmental challenges and opportunities. Economic development, social well-being, health, and equity lenses are also reflected to ensure that we are considering critical sustainability and resilience issues as we move ahead with the work and envision the transformative and better future of our city.

Supporting effective implementation tools and processes are key to achieving successful environment outcomes and achieving the City's overall environmental commitments. We've outlined our path to success - to comprehensively inform on environmental plans, policies and initiatives that are transitioning Calgary towards a sustainable, greener future together.





Appendix 1

Our environmental solutions and measures

The City of Calgary business units responsible for different environmental portfolios provided the main actions and initiatives outlined in this section. These actions are currently underway or planned. A comprehensive corporate policy review, best-practice research and data-based analysis also informed the organization of themed solution areas.

Nature and healthy ecosystems

Protect, restore and enhance natural areas, parks and trees and provide access to nature

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Protect natural areas and open spaces

- Improve the understanding of current status of natural areas and open spaces.
- Identify key areas for protection.
- Acquire land for the primary purpose of protecting beneficial ecosystem functions.
- Improve intermunicipal cooperation to protect natural areas and open spaces.
- Develop an implementation plan for the protection of priority natural areas, based on the ecological network mapping and associated tools.
- Create a strategy to require the offset of unavoidable impacts to natural areas.
- Develop a strategy and secure funds, as permitted under *Municipal Government Act*, to purchase conservation reserve.

- Hectares of environmental reserve, environmentally significant areas (ESAs) and natural area wetlands retained during the development process
- Intermunicipal agreements in place to protect natural areas
- Amount of funding for identifying key areas for protection, evaluating ecosystem health, including assessment, and improved data collection and management

Restore and connect natural areas and open spaces

- Develop a corporate Habitat Restoration Framework.
- Fund key restoration projects that have been prioritized using the ecological network and habitat restoration prioritization tools.
- Accelerate habitat connectivity by protecting, restoring and connecting floodplains and diverse habitats that support biodiversity.
- Increase the resilience of natural systems to respond to drought conditions, increased temperatures and shifts in seasonal precipitation.
- Prioritize native, drought-adapted species for development and municipal projects.

- Hectares of active and completed restored natural area and open space
- Habitat connectivity metrics
- Habitat condition rating
- Overall best practices score
- Percentage of tree canopy cover

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Create thriving, valued and accessible natural areas and open spaces

- Reinforce the development of an expanded, strengthened and connected green network of natural areas and open spaces, which provides contact with nature and appropriate recreation.
 - Provide equitable opportunities for experiences in parks and open spaces across the city.
 - Provide a variety of passive and active recreation opportunities within natural areas and open spaces to meet citizen expectations while protecting ecosystems.
- Amount of green space per resident
 - Percentage of people within 450 metres walking distance of a multifunctional park or open space
 - Customer Level of Service (CLOS) rating

Create more opportunities for citizens to engage with and be stewards of nature

- Increase public understanding of Calgary's natural heritage, biodiversity and ecological processes to encourage personal stewardship and positive actions that support environmental conservation.
 - Collaborate internally and externally to establish conservation and biodiversity values and practices into City planning, management and operations and within Calgary neighbourhoods.
- Percentage of people who have connected with parks and open space in the last three months
 - Number of users spending more than 20 minutes in parks and open space
 - Number of environmental education programs and opportunities
 - Kilometres of pedestrian and cycling pathway infrastructure to natural areas and open spaces
 - Number of community volunteers and volunteer groups participating in habitat creation and enhancement activities
-

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Nature and healthy ecosystems are prioritized in city planning, development and management

- Continue to strengthen collaboration and integration across City departments to achieve improved outcomes for nature and ecosystems.
 - Increase sustainable and resilient practices in planning and managing natural areas and open space.
 - Increase the use of natural infrastructure throughout the city; including its demonstrated use within development applications and the application of the mitigation hierarchy approach.
 - Incorporate environmental cost management into design and operation of City capital projects, including implementation of natural asset valuation.
 - Develop minimum standards for natural infrastructure requirements for development applications.
 - Increase consideration of ecological process and function in infrastructure design.
- Projects that utilize sustainable practices such as Low Impact Development (LID) principles
 - Development applications that use natural infrastructure and mitigation hierarchy approach

Watershed management

Protect our water supply, use water wisely, protect the health of our rivers and build resilience to flooding

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Protect our water supply

- Implement priority actions from The City's Water Security Framework, including:
 - Finalize the Drought Management Plan to build resiliency to drought.
 - Implement the Source Water Protection Policy and Plan to manage source water risks.
 - Analyze future water supply scenarios to build understanding of climate change impacts on the Bow and Elbow river watersheds.
 - Address The City's water license limits.
 - Collaborate regionally on ensuring water security.
 - Advocate for a new provincially-owned upstream reservoir on the Bow River for flood mitigation and water supply management.

- Federal Water Quality Index (WQI)
- Future additional measures to be developed

Use water wisely

- Reduce water consumption to support population growth and reduce water supply pressures.
- Reduce daily per capita water demand to meet the Water Efficiency Plan targets.
- Reduce peak day demand to remain below the operating capacity of our water treatment plants.

- Litres per capita per day used by all residential, industrial, commercial and institutional customers

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Keep our rivers healthy

- Reduce impacts to river health through investments and efficiencies in wastewater treatment plants.
 - Reduce the impacts of city-building on river health through effective stormwater management.
 - Utilize an integrated watershed planning approach to protect the watershed and manage the relationship between watershed protection and land use.
 - Protect and restore riparian areas, wetlands and aquatic habitat.
 - Consider and reduce the stormwater quantity and quality impacts from a changing climate and development on the environment and stormwater infrastructure.
 - Reduce the total suspended solids and phosphorous in the Bow River to continue to meet or exceed environmental standards and improve river health for downstream users.
- Loadings (kg/day) of Total Suspended Solids (TSS) in the Bow River from stormwater and treated wastewater
 - Loadings (kg/day) of phosphorous in the Bow River from stormwater and treated wastewater
 - Average city-wide Riparian Health Score

Build resiliency to flooding

- Implement Calgary's Flood Resilience Plan, which includes a combination of upstream, community and property-level flood mitigation to make Calgary more resilient to river flooding considering climate uncertainty and continued urban development.
 - Advocate for the Province to implement upstream mitigation on the Bow and Elbow Rivers.
 - Continue to work with communities on flood mitigation barriers to mitigate river flood risk.
 - Enhance planning policy and regulations in flood risk areas to protect citizens, property, and Calgary's river valleys.
 - Enhance flood risk awareness and education programming to support citizens.
- Number of properties at risk of a 1:100 flooding on the Bow and Elbow rivers

Clean air

Protect and improve air quality

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Reduce the level of air contaminants

- Collaborate across the region and province on air quality monitoring and management and support the implementation of regional and provincial air quality management plans.
 - Reduce air contaminants emitted from the transportation system, homes and buildings, and industry.
- National and provincial air quality standards, objectives and guidelines
 - Air Quality Health Index (AQHI)

Zero waste

Waste less and conserve more resources

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Reduce waste and increase diversion

- Provide programs and education to help Calgarians reduce and divert their waste.
 - Work with partners in the community to help Calgarians reduce and divert their waste.
 - Advocate for government policy and legislation that support and enable waste reduction and diversion.
 - Manage waste and waste management facilities to protect public health and the environment.
- Waste diverted from landfill

Sustainable transportation and land use

Plan for a compact city and complete communities with a convenient, safe and highly integrated transportation system that reduces energy usage, conserves natural resources (including land), and minimizes environmental impacts

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Optimize the transportation system and accelerate the shift to low carbon mode choices and transportation fuels to minimize emissions and environmental impact

- Plan, design, construct, and operate the transportation system deliberately to reduce emissions and minimize environmental impacts.
- Undertake initiatives and investments in support of shared-use mobility services.
- Support the shift to zero emission vehicles.
- Collaborate with regional partners on initiatives to reduce the environmental impacts of goods movement.

- Greenhouse gas emission from transportation sector
- Publicly accessible electric vehicle charging stations
- Shared mobility use

Design our city and neighbourhoods to make walking and cycling preferred choices in more places, through better street design, complementary land uses and augment this with public transit for longer trips

- Plan and design communities and the transportation system to improve conditions for walking and wheeling, and support improved transit service and user experience.
- Focus on convenience, physical safety, and sense of safety on walking and wheeling routes, and invest in dedicated facilities and supporting infrastructure.

- Percentage of person-kilometers travelled by public transit, walking or wheeling
 - Accessibility to public transit for people with low incomes
-

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Increase the diversity of land uses and choice of housing types at urban densities supportive of quality, frequent transit

- Plan for complete and transit supportive communities and the 15-minute-city.*
- Prioritize investment in transit-oriented development around transit stations.
- Prioritize and facilitate growth in existing communities.
- Link infrastructure investment to sustainable land uses.
- Promote sustainable building and neighbourhood design.

- Population density in built up area

Protect and actively promote ecosystem integrity and connectivity and integrate natural infrastructure in new and existing developments

- Plan and design neighbourhoods to conserve and enhance the health of natural systems and areas of environmental significance.
- Design and integrate natural infrastructure into new and existing developments.
- Incorporate naturalized spaces in new developments.
- Focus on greening grey infrastructure (reducing the effective impervious area, increasing vegetative cover, increasing the tree canopy).
- Plan and develop in a way that improves energy and water efficiency and protects local ecosystems.
- Integrate watershed management in land use planning.

- Naturalized areas in new and existing development

Prevent the pollution of lands, groundwater and surface water, manage the use of pesticides and support the remediation of contaminated sites to ensure safe and healthy communities

- Sustainably manage land and prevent the pollution of land, air, water: promote the responsible management of environmental risks, including the use of harmful substances, preventing pollution.
- Manage the use of pesticides.
- Remediate contaminated sites.

* The concept of the 15-minute city is being adopted by cities around the world – pushing to transform neighbourhoods where all of life's necessities are within a 15-minute reach by foot or bike, and walkability is prioritized above all.

Climate change and energy

Prepare for and adapt to climate change, and reduce energy consumption and greenhouse gas emissions

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Prepare Calgary to adapt to climate change and reduce climate-related risks

- Reduce Calgarians' vulnerability to the impacts of climate change through preserving, restoring, and enhancing natural assets and systems.
- Strengthen the resilience of our natural infrastructure to adapt to climate change.
- Value the multiple services provided by natural infrastructure and integrate this understanding into City processes to inform climate aligned decision-making.

- Natural assets incorporated in The City's asset management plans
- Natural asset valuation

Improve energy and resource management and reduce greenhouse gas emissions

- Improve energy performance in new and existing buildings.
- Increase energy generation from renewable and low-carbon energy systems.
- Integrate greenhouse gas reduction potential into transportation assessments and growth management decisions.
- Conserve and manage green spaces and natural areas to support climate change mitigation.

- Community wide GHG emissions by sector
- Community-wide GHG emissions by energy type

Green government

Lead by example and reduce our corporate impact on the environment

SOLUTIONS – MAIN INITIATIVES AND ACTIONS

MEASURES

Deliver on our commitments to Calgarians by complying with legislation, managing environmental risk and continually improving The City's environmental performance

- Review and improve The City's environmental policies for relevance and effectiveness.
- Identify, understand, and manage The City's environmental risks and opportunities.
- Maintain The City's compliance with regulatory and voluntary environmental requirements.
- Report on The City's environmental performance consistently and transparently to both administration and the public.

- Corporate performance targets
- Corporate environmental risk profiles and risk registers
- Environmental mitigation plans
- Non-compliances and non-conformities
- Provincial and federal enforcement actions and corrective actions for environmental impacts

Support the sustainable use and management in The City's operations and services, while protecting the environment

- Establish corporate environmental objectives, targets, and measures to create a roadmap for reducing the impact on the environment from City operations.

- Corporate environmental objectives, targets and measures established for: air, water, land, biodiversity, emissions, consumption and governance



Appendix 2

Glossary

Biodiversity: Variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems, as well as the ecological complexes of which they are part; includes diversity within species, between species and of ecosystems.

Ecological processes: The physical, chemical and biological actions or events occurring in ecosystems, connecting organisms and their environments (e.g. wildlife migration, predation, nitrogen cycling).

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living, abiotic environment interacting as a functional unit.

Ecosystem-based approach: A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Ecosystem services: Benefits that humans gain from healthy, properly functioning ecosystems. These benefits take the form of supporting services (e.g. nutrient cycling, soil formation), provision services (e.g. food supply, flood regulation, water purification), regulating services (e.g. carbon sequestration, waste decomposition), and cultural services (e.g. spiritual and cultural connections, recreation, education).

Environmental sustainability: The responsibility to conserve, protect and reduce our impact on and use of the planet's natural resources; it reflects the need to live within the planet's carrying capacity to ensure quality of life, human and ecological health and well-being is maintained and thrives now and in the future.

Natural infrastructure: A range of assets from natural through engineered elements which rely on ecological and hydrological processes to provide municipal, ecosystem and social services as well as resilience benefits.



