



CLIMATE ACTION PROGRAM

Update and Planning Considerations

January 31, 2019



Purpose

- Provide an overview of the Climate Leadership Plan (CLP) and the Climate Action Program (CAP);
- Respond to Council's queries related to climate action progress;
- Present staff's recommendation for CAP in 2019

Background

August 2016: Council motion to establish a long-term greenhouse gas (GHG) reduction target for both corporate and community emissions consistent with global reduction goals of 80% GHG reduction by 2050, including a corresponding target of 100% renewable energy.

Dec 2016: staff provided update on development of Climate Leadership Plan (CLP).

Sept 2017: staff provided update on development and structure of CLP.

Dec 2017: staff presented draft CLP; Council directed staff to carry out community and stakeholder engagement and report back with final CLP in June. Council also approved allocation of over \$400,000 from Climate Action Reserve Fund (CARF) for priority staffing and actions.

July 2018: Council approved the City's Climate Leadership Plan and staff provided Council with an update on the Climate Action Program (CAP).

October 2018: Intergovernmental Panel on Climate Change (IPCC) released a special report.

December 2018: Council adopted the motion, "Leadership for Climate Action," directing staff to report back on options for acceleration of climate action. (CoTW, p. 3-4)



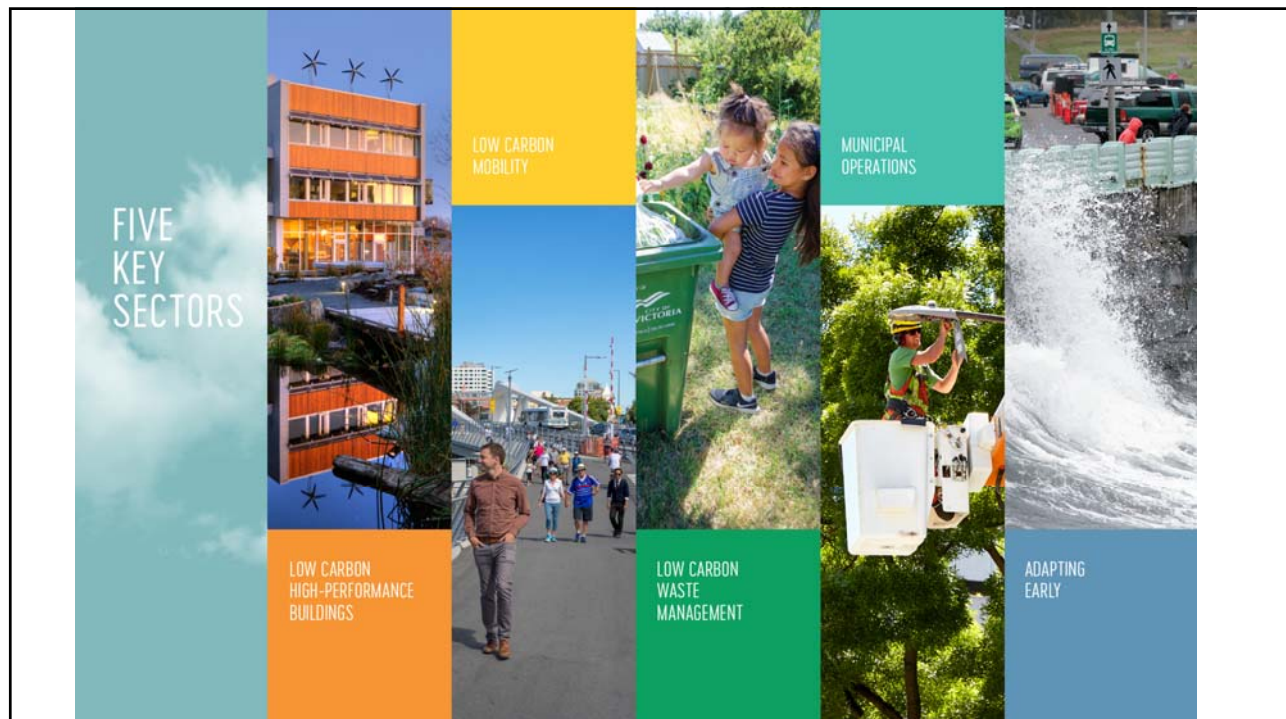
Vision

The City's **vision** for 2050 is of a vibrant, healthy, and prosperous community, fueled by renewable low carbon energy systems, and designed and integrated in ways that promote a high quality of life for all Victorians.

The City's **mission** is to lead Victoria's transition to a renewable energy future, and to inform, equip, enable and inspire the community to rapidly reduce their own GHG emissions and prepare for climate change.



(CLP, p. 18)



Goals	SECTOR	CLIMATE LEADERSHIP GOALS
	 BUILDINGS Page 24	» All buildings are highly energy efficient. » All buildings are powered by renewable energy.
	 MOBILITY Page 34	» All Victorians have access to low carbon, high-performance and affordable multi-modal transportation. » Vehicles in Victoria are powered by renewable energy. » Smart land use minimizes transportation emissions.
	 WASTE MANAGEMENT Page 42	» Organic materials are managed to avoid GHG emissions.
	 MUNICIPAL OPERATIONS Page 48	» The City is a recognized leader in climate mitigation and adaptation. » The City takes integrated and informed climate action. » The City will provide timely and accurate data supporting strong climate mitigation and adaptation actions.
	 ADAPTING EARLY Page 54	» All climate-related risks to city infrastructure are minimized through early planning and action. » Victoria's natural environment flourishes in a changing climate. » All Victorians are empowered and prepared for climate impacts and emergencies.

(CLP, p. 7)
(CoTW, p. 6)



CLIMATE ACTION PROGRAM: UPDATE AND 2019 CONSIDERATIONS

- 2018 CAP Progress Update
- CAP Staffing Model
- CAP Priorities
- Considerations for Program Acceleration
- Options and Impacts
- Recommendation

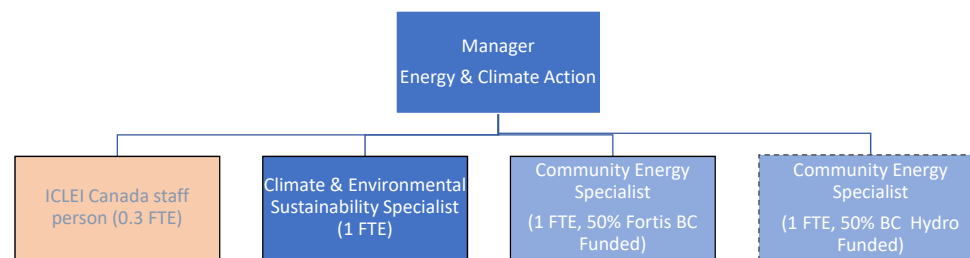
2018 Climate Action Program Updates

- Step Code adopted
- MaRRS (Market Rental Revitalization Study)
- CLP completed and adopted
- Priority action completion/progress
- Commenced or completed additional initiatives aligned with CAP priorities



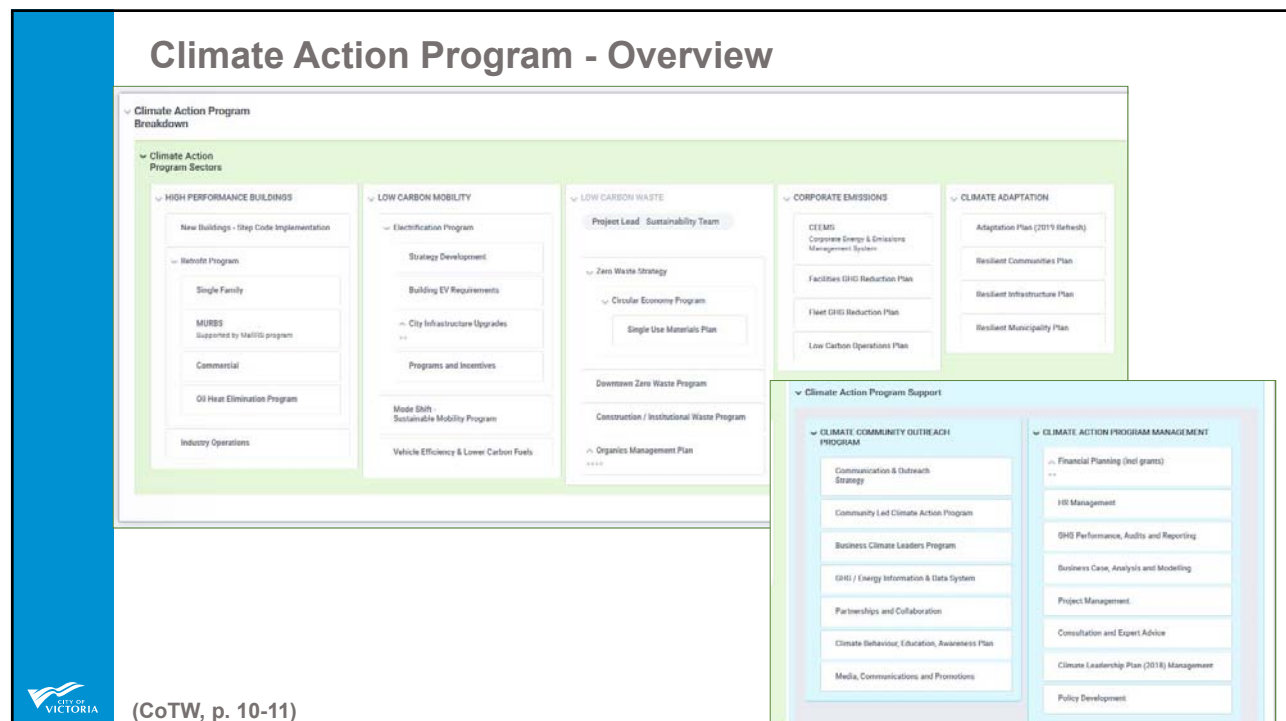
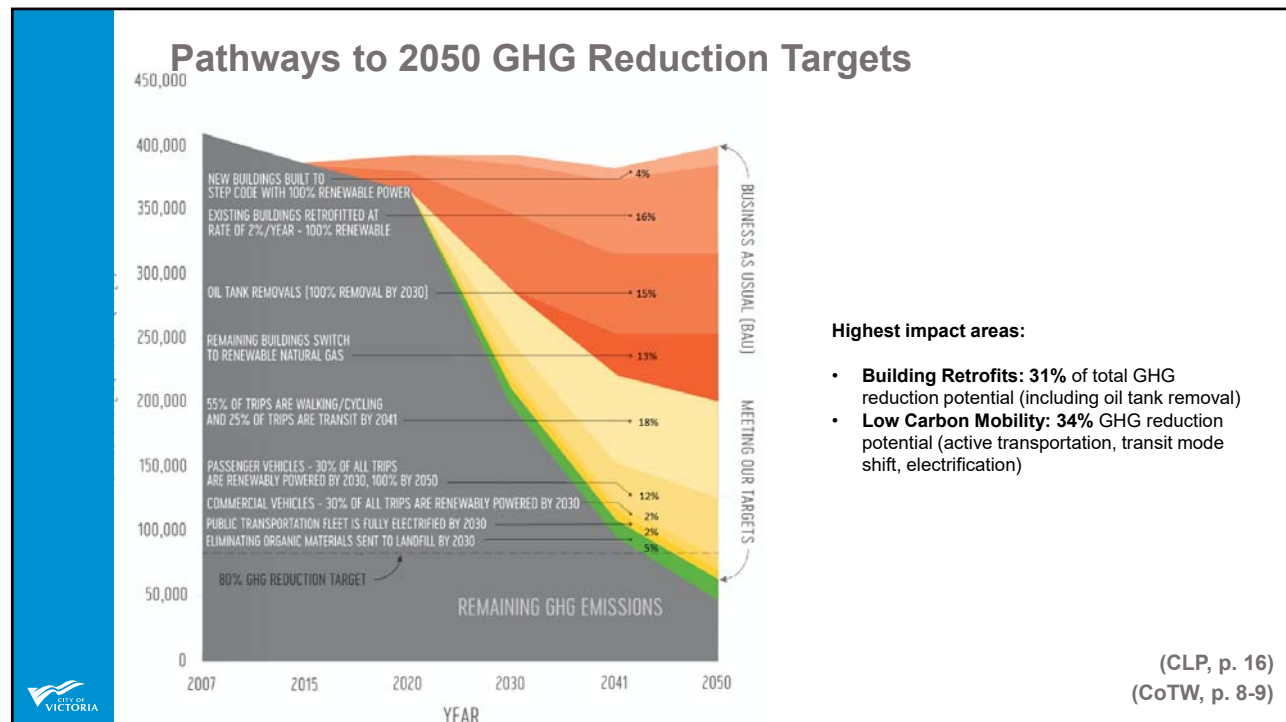
(CoTW, p. 9)

Climate Action Program - Staffing Model



City Climate Action Team. Note: dashed box refers to team member embedded in SPCD, and beige box refers to ICLEI employee/Western Canada office representative.

(CoTW, p. 13)



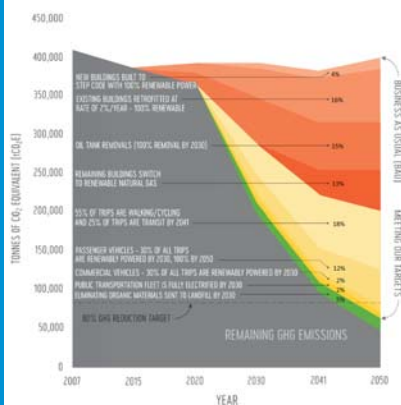
High Impact Initiatives

No.	HIGH IMPACT INITIATIVES	COMMENTS
1	Building Retrofit Program	Buildings represent the largest source of GHG emissions in Victoria.
2	Oil Heat Elimination Project	Oil tank elimination represents a single area with potential for one of the highest GHG reductions.
3	Bike Master Plan	Ongoing investments in mode shift through development of improved safe cycling network.
4	Transit Improvements / Electrification	Partnerships and incentives to transform regional public transit and drastically increase mode-shift to clean public transit system.
5	Climate Outreach Program	Developing strategy and plans for social programs to enable and promote progress in climate action at the personal, family, business and societal levels.
6	Expert Consultant Advice (Policy Workshop)	Comprehensive review of City programs, policy options, approach and priorities to reduce risks and guide staff and Council.



(CoTW, p. 12)

Urgency and Approach



What is the City's **role**, in each GHG reduction area?

What is the **urgency** or **pace** required?

What **approach** should we implement?
(specific policy, education, financial, program?)

What are the **resources required** to meet the urgency/approach?



Considerations for Program Acceleration

That Council direct staff to report back on options for expediting implementation of the Climate Leadership Plan, including options for:

1. Accelerating the reduction of the City of Victoria's corporate emissions.
2. Expediting the transition of the municipal vehicle fleet, as well as the transition of passenger vehicles, commercial vehicles and the VicPD fleet to renewable energy.
3. Mandating electric-vehicle charging capacity in all new construction that provides on-site parking, including a possible exemption for affordable housing.
4. Accelerating the implementation of the BC Energy Step Code for new buildings.
5. Accelerating the retrofitting of existing buildings for energy efficiency, including incentives for the installation of solar hot water, heat pumps and other clean energy technologies.
6. Expediting waste reduction and the capture and re-use of methane.
7. Reviewing the targets in the Climate Leadership Plan to account for GHG emission reductions necessary to limit global warming to 1.5°C.
8. Increasing transparency of the City's annual reporting on emissions targets



(CoTW, pp. 14-16)

Impacts to Financial Plan

- **Climate Action Reserve Fund (CARF)** (approximately \$400, 000 available for 2019)
 - This reserve has been established to provide a source of funds for funding climate mitigation and adaptation strategies that target energy and GHG reductions associated with facilities or transportation of either City-owned assets or community public lands and services.
- **Operating Budget** (\$314, 995, as stated in draft 2019 Financial Plan)
 - To support the Climate Action Program operating costs and expenditures
- **Grants/Funding Partnerships**
 - Yearly, staff submit applications to government agencies, non-profits, and utility providers to supplement those funds available through the CARF and operating budget
- **2018 Carry-Forwards**
 - 2018 work is still underway and funds will be carried forward to 2019
- **2019 Proposed Funding request** (\$592, 700)
 - \$369, 700 available to be funded through the CARF
 - \$223, 000 to be considered as part of 2019 financial planning process
 - **Additional funding requirements may be identified through the recommended policy workshops.



(CoTW, pp. 21-24)

Options

- **Option 1: Status Quo Program**
 - No change to current staffing and resource model
 - This option would include the support of Community Energy Specialist role (new, 2-year agreement with BC Hydro)
 - This option includes progressing several projects and initiatives, currently underway, in order of priority.
- **Option 2: Enhanced Program (recommended)**
 - Includes all of the programming in Option 1 and adds immediate staff resources, and
 - Policy Workshop to define approach for all high-impact initiatives
 - This option requires an allocation of \$369, 700 from the CARF (one-time) and asks that council refer the funding request of \$223, 000 for two new positions to the 2019 financial planning process
- **Option 3: Immediate Program Restructuring**
 - This option would be for Council to consider immediate financial and staffing resource allocations
 - Depending on Council's direction for urgency/policy, staff levels could be augmented and/or consultant support increased.



(CoTW, pp. 19-21)

Recommendation

That Council:

1. Direct staff to proceed on the basis of option 2
2. Approve the Council Proposed Actions to advocate to the Province for the following immediate actions:
 - a) Make available all ICBC municipal vehicle km/make/model/fuel economy information.
 - b) Continue the development and implementation of world-class low carbon fuel standards.
 - c) Continue progressive and direct funding programs and partnerships for municipal low-carbon initiatives, including building retrofit, transportation, waste management and other priority and shared GHG reduction programs.
 - d) Fully invest in delivery of the zero-emission vehicles sales targets as established in the CleanBC Plan.
 - e) Support transformational improvements to regional BC transit infrastructure to promote and enable rapid mode shift to transit in the region, including transitioning the BC Transit fleet to zero emissions as early in the 2020s as possible, and:
 - I. Completion of dedicated bus lanes on all connections between the West Shore and downtown
 - II. Installation of Traffic Signal Priority (TSP) sensors in all buses that operate in the City of Victoria.
 - III. Installation of 'all door loading' capabilities for all busses in the Victoria regional transit system.
 - IV. Introduction of real-time, digital bus information to enable super-convenient, accessible transit operational information.
 - V. Introduction of "tap" payment-systems common to multi-modal service providers, to support rapid loading of busses and align with Smart Mobility goals.
 - VI. Completion of the business-case to determine the most effective investments in public transportation to realize the highest potential mode-shift and ridership in the south island, including but not limited assessing commuter ferry, public transit along the E&N rail corridor and Douglas Street / Highway 1 / Highway 99, bus rapid transit (BRT) or light-rail transit (LRT).
 - VII. Reporting of annual regional transit GHG and combustion pollutants, mitigation priorities, progress and business cases for investments.
 - f) And that Council continue to advocate and engage with the CRD to prioritize the introduction of systems to minimize fugitive methane and capture all landfill GHGs.
3. Consider the 2019 Climate Action Program spending plan as part of the 2019 Financial Planning process:
 - a) Include within the 2019 Financial Plan an allocation of \$369, 700 from the Climate Action Reserve Fund to fund the one-time initiatives as outlined in this report
 - b) Refer consideration of the ongoing funding requests of \$223,000 for two new positions to the 2019 financial planning process

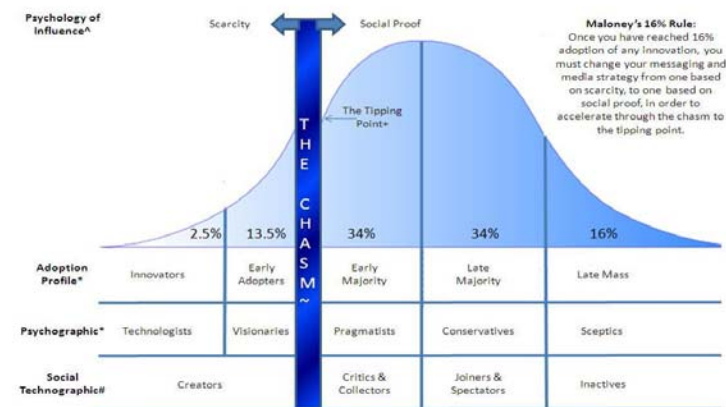


(CoTW, pp. 19-21)

Questions / Discussion



Accelerating Diffusion of Innovation: Maloney's 16% Rule®



^ Robert Cialdini | * Everett Rogers | # Forrester ~ Geoffrey Moore + Malcolm Gladwell

Matinaro, Ville & Liu, Yang. (2015). Virtual design and construction: Innovation process and diffusion in Finnish construction business. *International Journal of Innovation and Learning*, 18, 133. 10.1504/IJIL.2015.070869.

(CoTW, p. 18)

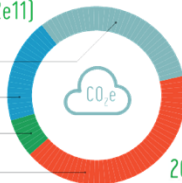


Victoria's Climate Challenge

2017 GHG EMISSIONS BY SECTOR (387,694 tCO₂e11)

32%	COMMERCIAL, INSTITUTIONAL, INDUSTRIAL, AND MULTI-UNIT RESIDENTIAL
19%	SINGLE FAMILY HOMES
9%	SOLID AND LIQUID WASTE
40%	ON-ROAD TRANSPORTATION

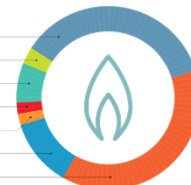
Figure 1: City of Victoria GPC Compliant Inventory, 2017



2017 GHG EMISSIONS BY FUEL TYPE

36%	GASOLINE
3%	ELECTRICITY
7%	DIESEL
2%	WOOD
2%	PROPANE
12%	HEATING OIL
38%	NATURAL GAS

Figure 2: City of Victoria GPC Compliant Inventory, 2017



2017 RENEWABLE AND NON-RENEWABLE ENERGY MIX

35%	RENEWABLE ELECTRICITY
8%	HEATING OIL AND PROPANE
3%	WOOD
<1%	RENEWABLE NATURAL GAS
2%	BIODIESEL AND ETHANOL
23%	GASOLINE AND DIESEL
29%	NATURAL GAS

Figure 3: City of Victoria GPC Compliant Inventory, 2017



(CLP, p. 15)

Climate Imperative

- Human activity has produced greenhouse gases (GHGs) at an intensity beyond what the earth's natural systems can absorb
- Warming of Earth's surface will unleash more extreme impacts. Additional 2 degrees of warming expected by the end of this century.
- Experts project impacts could be catastrophic without deep cuts in future GHG emissions
- Local climate risks include:
 - Increased seasonal precipitation
 - Rising sea levels
 - More frequent, longer heatwaves
 - Unavoidable impacts (including wildfires, drought, and increased infrastructure costs)



(CLP, pp. 11-12)



Low Carbon, High Performance Buildings (p. 24)



GOALS

- All buildings are highly energy efficient.
- All buildings are powered by renewable energy.



TARGETS

- *By 2030, all new buildings are 'net zero energy ready.'*
- *By 2050, all existing buildings meet new high efficiency standards.*
- *By 2030, heating oil is phased out.*
- *By 2050, all buildings exclusively use renewable energy.*



Low Carbon Mobility (p. 34)



GOALS

- All Victorians have access to low carbon, high performance and affordable multi-modal transportation.
- Vehicles in Victoria are powered by renewable energy.
- Smart land use minimizes transportation emissions.



TARGETS

- By 2030, 25 percent of all trips by Victoria residents are taken by public transportation.
- By 2030, 100 percent of BC Transit buses in Victoria are renewably powered.
- By 2030, Victoria residents choose walking and cycling for 55 percent of all trips.
- By 2030, renewable energy powers 30 percent of passenger vehicles registered in Victoria, and 100 percent of passenger vehicles are renewably powered by 2050
- By 2030, 30 percent of commercial vehicles operating in Victoria are renewably powered.
- By 2030, 100 percent of Victoria's neighbourhoods are "complete" by design with substantial transportation system diversity.



Low Carbon Waste Management (p. 42)



GOAL

- Organic materials are managed to avoid GHG emissions.



TARGETS

- Eliminate 100 percent of food and yard waste sent to the landfill by 2030.
- Eliminate 100 percent of other organic materials sent to the landfill by 2030.
- Capture methane from collected organic waste to provide renewable energy by 2025.



Municipal Operations (p. 48)



GOALS

- The City is a recognized leader in climate mitigation and adaptation.
- The City takes integrated and informed climate action.
- The City will provide timely and accurate data supporting strong climate mitigation and adaptation actions.



TARGETS

- By 2040, 80 percent of the City's fleet is electrified, or renewably powered.
- All new City facilities are renewably powered.
- By 2025, all City power tools and small engine-driven equipment are renewably powered.
- By 2040, 80 percent of the City's fleet is electrified, or renewably powered.
- By 2020, capital and operating plans are informed by climate data, carbon pricing, and the City's GHG reduction targets.
- By 2022, the City has developed a 'triple bottom line' accounting system that guides City business planning.
- By 2022, partner with other local governments and the region to develop a community-accessible Energy and GHG information management System (EGIMS).



Adapting Early (p. 54)



GOALS

- All climate-related risks to City infrastructure are minimized through early and wise planning and action.
- Victoria's natural environment flourishes in a changing climate.
- All Victorians are empowered and prepared for climate impacts and emergencies.



TARGETS

- Climate resilience is embedded into all City business.
- The City's infrastructure and services are ready to protect and respond to the risks associated with a changing climate.
- Natural habitats support healthy fish, wildlife, and plant populations and healthy ecosystem function
- The community is knowledgeable and prepared to address the impacts from a changing climate.
- The City incorporates best practices in risk communication (e.g. advanced warning systems, short videos) covering all climate hazards.
- Climate resilience enhances quality of life for all Victorians, especially the most vulnerable.