Community Energy and Emissions Plan

District of Peachland

2021

Community Energy Association

PEACHLAND
ON THE LAKE

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- District of Peachland Mayor, Councillors and Planning staff;
- Mayor's Task Force Climate Change (MTFCC)
- Trail of the Okanagan's Society (TotO)
- Peachland Seniors' Support Society (PSSS)
- Peachland Community Arts Council
- Bat Education and Ecological Protection Society (BEEPS)
- Peachland Chamber of Commerce
- Ponderosa project developers
- Peachland Watershed Protection Alliance

Executive Summary

The District of Peachland Community Energy and Emissions Plan (CEEP) carves a path towards a low carbon future: A future where District of Peachland residents experience the benefits of a connected, healthy, and economically prosperous community while taking action on climate change and adapting to climate impacts.

The climate is changing in British Columbia (BC) and globally. The average global temperature has already increased by 1 degree Celsius (°C) above pre-industrial levels. The United Nations Intergovernmental Panel on Climate Change (IPCC) is urging a limit of 1.5°C warming, which would require global emissions to be net-zero by 2050.

The District of Peachland CEEP focuses on leveraging municipal powers to help residents, businesses, and visitors save energy, emissions, and money. It is residents and businesses in the District of Peachland that have the biggest role: a significant reduction in community greenhouse gas (GHG) emissions depends on their individual choices about how to get around, where to live, and how to handle food waste and yard material. The Plan lays out actions for transportation, buildings, waste, and organizational readiness. Actions fall into three categories:

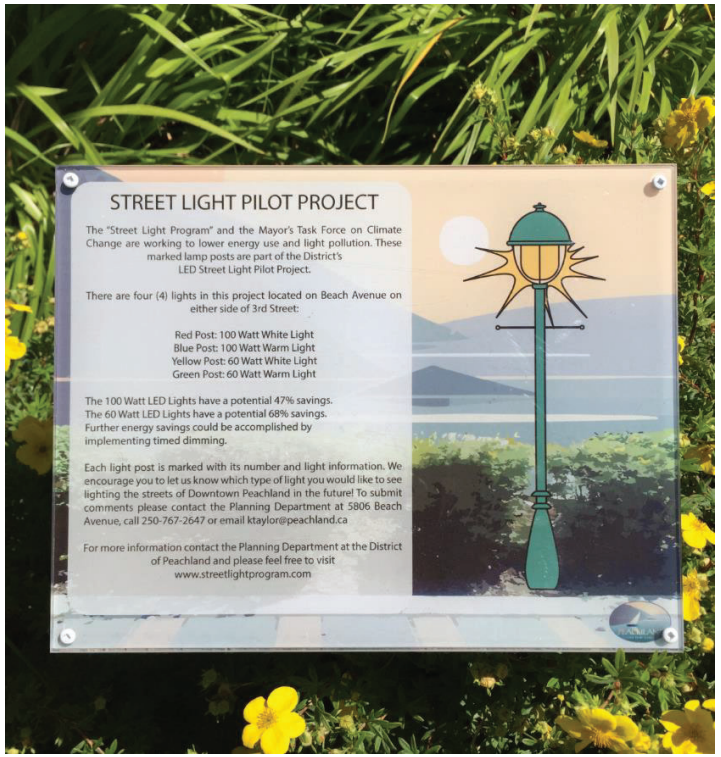
- **Infrastructure**: Investments into District of Peachland owned infrastructure that enables residents and businesses to make lower-emissions choices, such as active transportation networks and public charging stations.
- **Policy**: Changes to District of Peachland policies and regulations that lead to energy and emission reductions in the community, such as requirements and incentives for enhanced energy efficiency in new buildings.
- **Engagement**: Outreach, education and incentives that inspire residents and businesses to make choices to reduce energy and emissions and prepare for a low carbon future.

The purpose of this Plan is to outline a practical approach for District of Peachland to use its municipal powers to help residents and businesses save energy and, by doing so, save money and reduce greenhouse gas emissions.

District of Peachland Community Greenhouse Gas Reduction Target

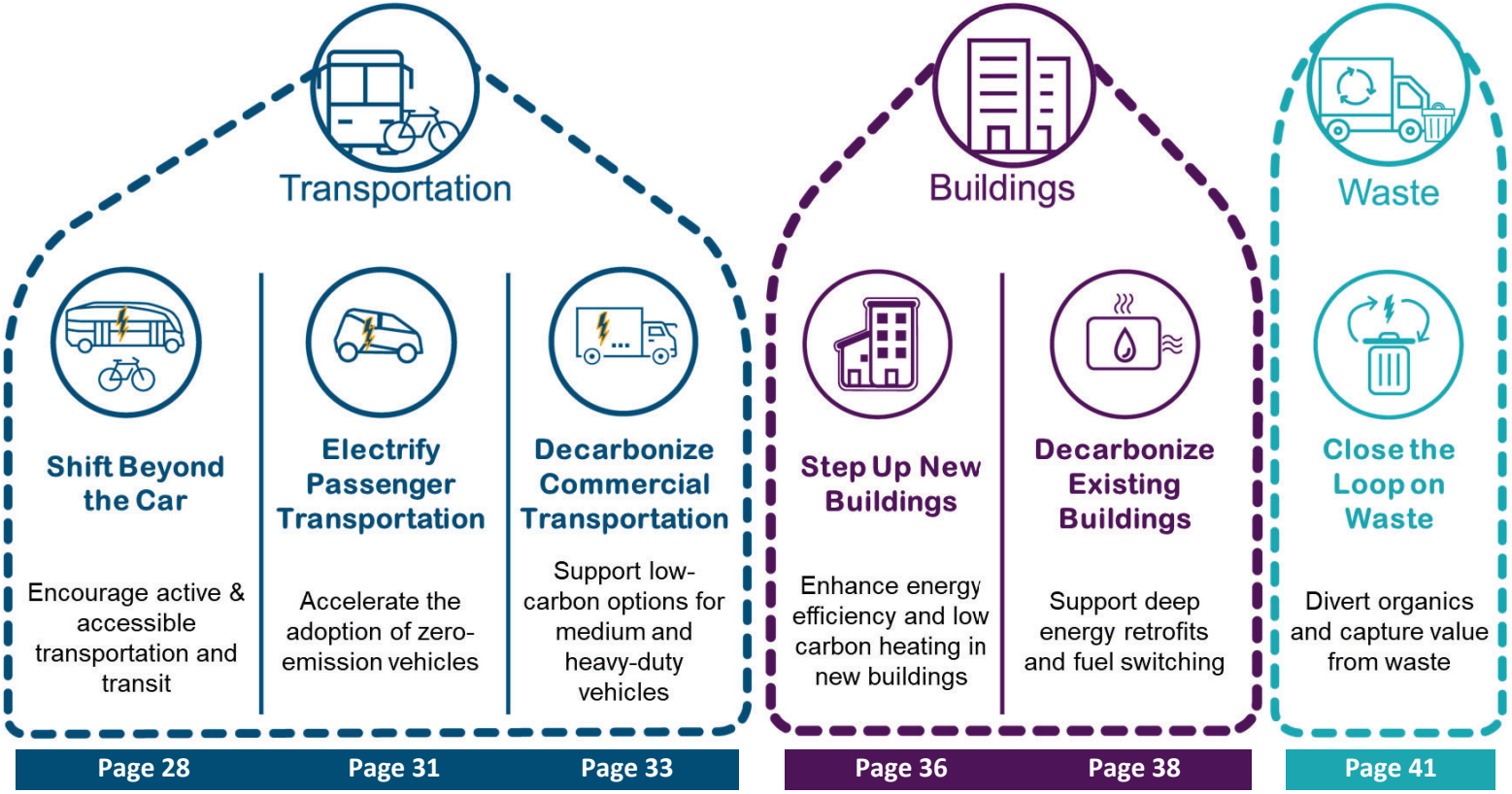
43% per-capita reduction from 2007 levels by 2030

80% per-capita reduction from 2007 levels by 2050



The Big Moves

The six Big Moves are broad categories of actions that have the biggest impact on reducing emissions in the community. The Big Moves focus on the types of emissions that are most in control of the local government and that are measured in the emissions inventory. The CEEP lays out strategies and actions under each of the six Big Moves.



There is one more important category of actions – Organizational Leadership. This "seventh Big Move" is very important because it ensures that climate action becomes a part of regular decision-making and operational process within Peachland. **Page 43**

Our Community's Low Carbon Vision

During the CEEP planning process, community stakeholders went through a visioning exercise called "backcasting" to imagine what a low carbon future for the District of Peachland could look like. We chose 2040 as our visioning year to allow for a slightly longer time horizon than 10 years but short enough to imagine the changes happening.

In 2040, per capita emissions in the District of Peachland will be reduced by about 60%. The water and the air we breathe will be cleaner and natural systems will be thriving. In 2040, you will walk out the front door into a liveable community where concrete has dwindled and natural spaces are abundant. A variety of new mobility services are available to support the needs of all residents and visitors. Congestion is reduced and you arrive at your destination more efficiently. You can also choose to travel by e-bike, scooter or zero-emission public transit.

The air in Peachland is cleaner because there are far fewer cars on the street and most are electric. There is less noise and much more space for parks and pedestrian-only streets as active and alternative transportation has been prioritized.

People are trying out new types of living arrangements with more shared functions and spaces. More houses are built with wood, which makes them better for the climate as they have less embodied carbon than concrete buildings.

In addition to this community vision, workshop participants defined success for each major sector of community emissions:

The Future of Transportation	The Future of Buildings	The Future of Waste
A complete zero-emission transportation system connects our community and region.	Our community's buildings are exceptionally energy efficient, and powered, heated and cooled with 100% renewable energy.	Our community contributes to waste diversion from the Glenmore landfill with our regional partners by recycling and composting our yard waste. We practice back-yard organics composting, and support RDCO's investigation of a future regional composting site.

Where We're Starting From

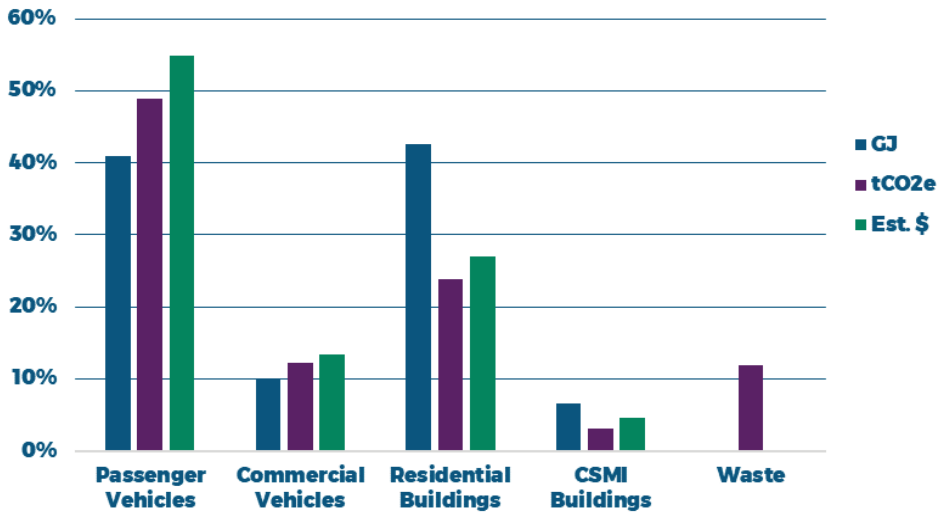
Understanding where we're starting from is just as important as knowing where we want to get to. After visioning, the next phase of the "backcasting" approach identifies our starting point – the current state. Participants identified the current state of buildings, transportation, and waste in District of Peachland.

Peachland is a small community with a population of around 5700 people, with many people living along the lake and many more at higher elevations in our hillside neighbourhoods, bisected by Highway 97. Peachland is comprised of a number of neighbourhoods and the community is growing at a rate of about 1.45% per year. The majority of our residential buildings are single-family homes built before 2000, but there are also a number of low-rise apartment buildings. Most residents get around by car and truck, however Peachland has started making roadway improvements to make walking and cycling safer and more convenient. Chargepoint operates two level 2 electric vehicle charging stations, but there are currently no DC fast chargers in the community. The Regional District of Central Okanagan (RDCO) manages our solid waste, including recycling, yard waste composting and garbage. Some Peachlanders practice backyard composting, but there is currently no organics waste pick up/composting service offered by the RDCO.

Current Energy, Emissions and Costs by Sector

The current state of energy, emissions and expenditure is shown in the chart below for each sector. The most recent inventory year is 2018. In 2018, for the whole community of Peachland;

- Total energy consumption was 739,931 GJ
- Total GHG emissions were 42,037 tonnes of CO_2e
- Total energy expenditures were $19,602,000



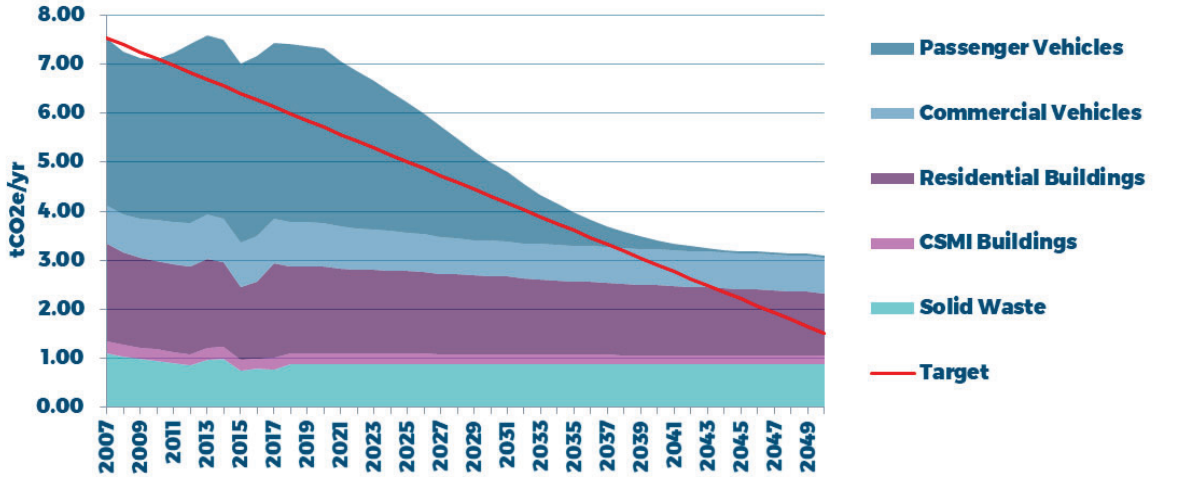
Passenger vehicles account for 49% of Peachland's emissions and residential buildings account for 24%. Commercial vehicles account for 12% of emissions and CSMI (commercial & small-medium industrial) buildings account for 3% of emissions. The decomposition of waste in landfill accounts for 12% of Peachland's emissions. In 2018 Peachland residents spent $10.7 million at the gas station and $5.3 million on home energy. Most of this money leaves the community.

Working Towards our Future Vision and Target

This CEEP carves a pathway towards our low carbon vision and per capita emissions reduction target of 43% below 2007 levels by 2030. The two graphs below compare the business as usual scenario with the fully implemented plan scenario.

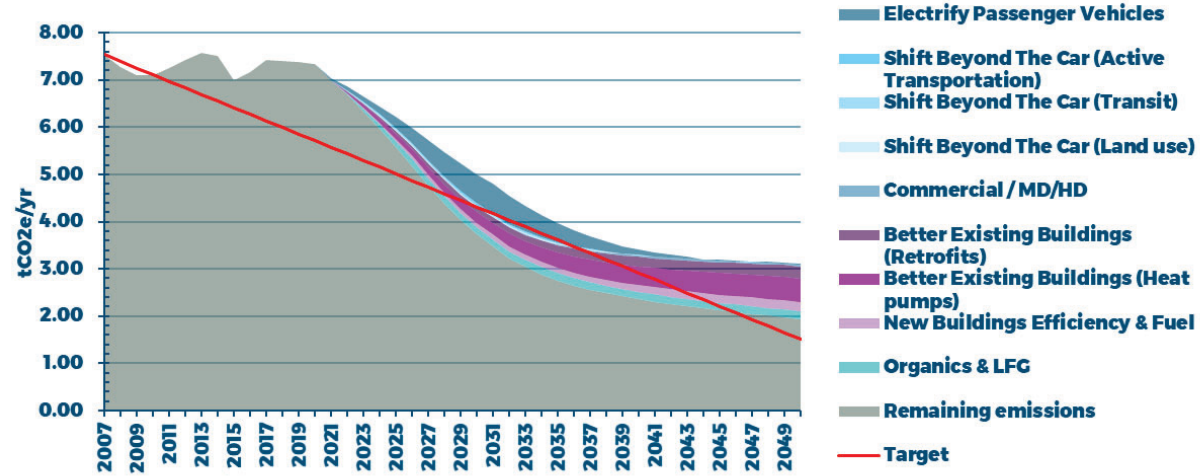
Business as Usual

The Business as Usual (BAU) scenario shows anticipated GHG emissions reductions due to policy commitments made by the Government of Canada and Province of BC. It is anticipated that per capita emissions will reduce by 2.52 tonnes CO_2e or 34% below 2007 levels by 2030 under a BAU scenario.



Full Implementation

By fully implementing this plan, per capita emissions could be reduced by 3.80 tonnes CO_2e or 51% below 2007 levels by 2030. Under this scenario, Peachland's 2030 emissions reduction target would be exceeded.



Implementation Plan Summary

Big Move	Strategy	Timeframe		
		Short	Med	Long
Shift Beyond the Car 	**SHIFT 1: Optimize land use planning tools to enable complete and compact community growth**			
	SHIFT 1.1 – Optimize & apply policies and bylaws for complete & compact community growth			
	SHIFT 1.2 – Create a complete and connected community through local amenities			
	SHIFT 1.3 – Activate public spaces and program civic amenities			
	SHIFT 1.4 – Create a complete community through local housing choice			
	SHIFT 1.5 – Create a complete community with local businesses			
	SHIFT 1.6 – Support a vibrant and pedestrian/cycling oriented Downtown			
	SHIFT 1.7 – Promote local food security			
	SHIFT 1.8 – Protect and steward the natural environment			
	SHIFT 1.9 – Plan to adapt and build community resilience			
	SHIFT 2: Increase walking, cycling and other forms of zero emission mobility			
	SHIFT 2.1 – Enable active transportation through plans and policies			
	SHIFT 2.2 – Build safe routes for walking, cycling and other forms of zero emission mobility			
	SHIFT 2.3 – Develop and deliver an active transportation outreach strategy			
	SHIFT 2.4 – Promote cycling and e-bikes as a fun & viable way to traverse Peachland			
	SHIFT 2.5 – Investigate micro e-mobility and on-demand mobility services			
	SHIFT 3: Increase transit ridership and support a transition to a zero emissions transit network			
	SHIFT 3.1 – Collaborate with BC Transit and neighbouring municipalities to promote transit ridership			
	SHIFT 3.2 – Encourage BC Transit to transition to a carbon-reduced/zero emissions transit network			
	Per Capita GHG emissions reductions for this Big Move by 2030	**0.08 $tCO2_e$**		
Electrify Passenger Transport	**ELECTRIFY 1: Enable charging on-the-go**			
	ELECTRIFY 1.1 – Design, seek grants and expand the public EV charging network			
	ELECTRIFY 2: Enable charging at home and work			
	ELECTRIFY 2.1 – Encourage & consider adopting EV-ready building requirements			
	ELECTRIFY 2.2 – Enable EV charging in existing residential and commercial buildings			

Big Move	Strategy	Timeframe		
		Short	Med	Long
	**ELECTRIFY 3: Encourage EVs through outreach and supportive policies**			
	ELECTRIFY 3.1 – Develop and deliver an EV outreach strategy			
	ELECTRIFY 3.2 – Accelerate EV adoption through supportive policies and incentives			
	Per Capita GHG emissions reductions for this Big Move by 2030	**0.66 $tCO2_e$**		
Decarbonize Commercial Transport 	**COMMERCIAL 1: Accelerate the adoption of ZEVs for commercial fleets**			
	COMMERCIAL 1.1 Encourage businesses to adopt commercial ZEV infrastructure			
	COMMERCIAL 1.2 Engage Commercial and Industrial Stakeholders			
	COMMERCIAL 2: Lead by example by transitioning Peachland's municipal fleet			
	COMMERCIAL 2.1 – Adopt a municipal fleet replacement policy that prioritizes EV and low carbon options for replacing Peachland's municipal fleet over time.			
	Per Capita GHG emissions reductions for this Big Move by 2030	**0.01 $tCO2_e$**		
Step Up New Buildings 	**NEW BUILDINGS 1: Adopt the Energy Step Code with a low carbon approach**			
	NEW BUILDINGS 1.1 – Adopt the Energy Step Code			
	NEW BUILDINGS 1.2 – Encourage a low-carbon approach to the Energy Step Code			
	NEW BUILDINGS 2: Build Industry Capacity			
	NEW BUILDINGS 2.1 – Provide leadership, outreach, and guidance regarding the Energy Step Code			
	NEW BUILDINGS 2.2 – Review and integrate Energy Step Code information into permitting processes.			
	Per Capita GHG emissions reductions for this Big Move by 2030	**0.10 $tCO2_e$**		
Decarbonize Existing Buildings 	**EXISTING BUILDINGS 1: Improve Energy Efficiency and Enable Fuel Switching**			
	EXISTING BUILDINGS 1.1 – Encourage and enable deep energy retrofits			
	EXISTING BUILDINGS 1.2 – Encourage and enable building electrification, solar & renewable gas			
	EXISTING BUILDINGS 2: Build Industry Capacity and Increase Demand			
	EXISTING BUILDINGS 2.1 – Establish a long-term education campaign by linking to and promoting Better Homes Better Buildings BC			
	EXISTING BUILDINGS 2.2 – Build industry capacity			
	Per Capita GHG emissions reductions for this Big Move by 2030	**0.41 $tCO2_e$**		

Big Move	Strategy	Timeframe		
		Short	Med	Long
Close the Loop on Waste 	**WASTE 1: Divert Waste & Organics from Landfill**			
	WASTE 1.1 – Adopt policies that increase organics diversion			
	WASTE 1.2 – Encourage back-yard composting & support future regional organics collection and processing			
	WASTE 1.3 – Collaborate on a regional comprehensive zero-waste outreach program with the RDCO			
	Per Capita GHG emissions reductions for this Big Move by 2030	**0.16 $tCO2_e$**		
	Total Per Capita Plan Reductions Relative to Business as Usual	**1.42 $tCO2_e$**		

Introduction

Municipal Commitment

The District of Peachland, like most communities across British Columbia, is responding to climate change. The District of Peachland signed on to the BC Climate Action Charter, which is a voluntary agreement between the Province of British Columbia, the Union of B.C. Municipalities, and individual local government signatories. Local governments commit to:

- Carbon neutrality in corporate operations;
- Measure and report their corporate greenhouse gas emissions; and
- Create complete, compact, and more energy-efficient communities.

Provincial legislation – the Local Government (Green Communities) Statutes Amendment Act (Bill 27, 2008) – also requires that each local government establish targets, plans, and strategies to do their part to mitigate climate change. Having an up-to-date plan such as this Community Energy and Emissions Plan (CEEP) helps with this, and also makes the District of Peachland ready to apply for funding from the Federal or Provincial governments and other funders to implement strategies in the plan.

Implementing the plan will result in numerous social, economic and environmental benefits to the community, as outlined in Figure 1.

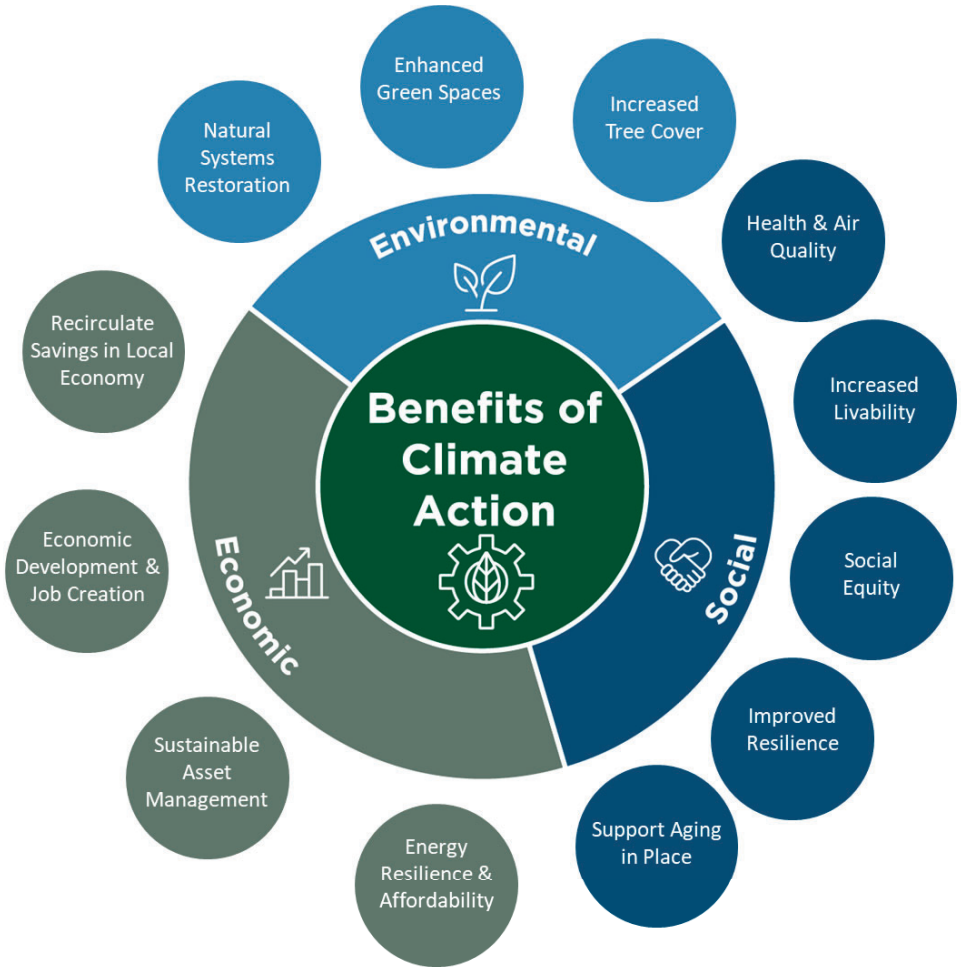


Figure 1 - Climate Action Co-Benefits

What is the Community Energy and Emissions Plan?

Climate action consists of both reducing emissions, or *mitigation*, and preparing for the impacts of a changing climate, *or adaptation*. This Community Energy and Emissions Plan (CEEP) is an important component of a local government's overall climate action strategy, which should also include a plan to address emissions from the local government's own operations and a climate adaptation plan. This scope of this plan includes the elements on the left of Figure 2, which are mitigation, territorial emissions, and community emissions.

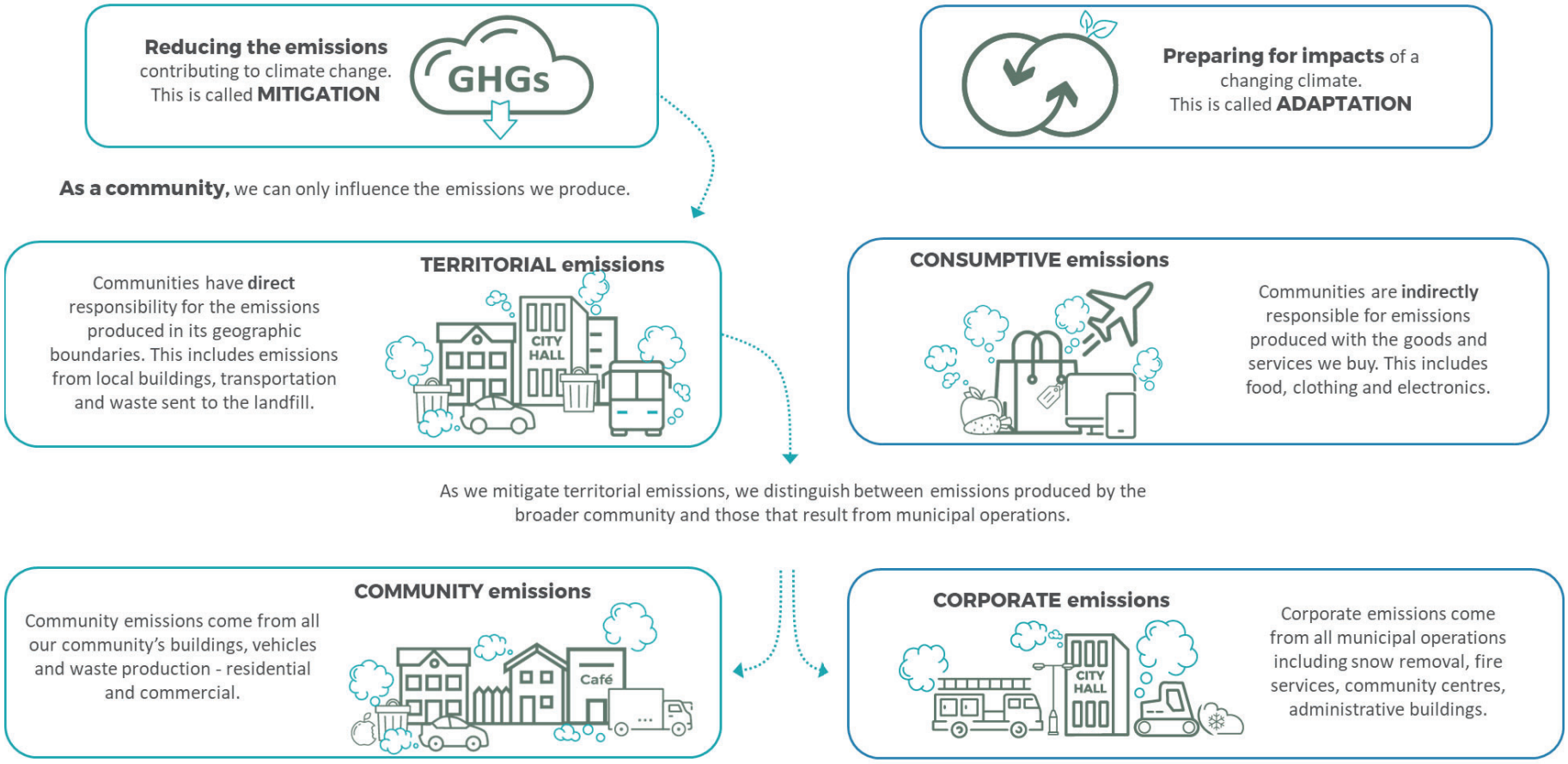


Figure 2 - Local Government Climate Action

The District of Peachland CEEP focuses on leveraging municipal powers to help residents and businesses save energy, emissions, and money. It is residents and businesses in Peachland that have the biggest role: a significant reduction in community greenhouse gas (GHG) emissions depends on their individual choices about how to get around, where to live, and how to handle food waste and yard material. The Plan lays out actions across 7 Big Moves for transportation, buildings, waste, and organizational readiness.

Shift Beyond the Car	Electrify Passenger Transportation	Decarbonize Commercial Transportation	Step Up New Buildings	Decarbonize Existing Buildings	Close the Loop on Waste	Organizational Leadership
						

Actions fall into three categories of municipal powers:

Infrastructure	Policy & Regulation	Engagement & Outreach
 Investments into District of Peachland owned infrastructure that enable residents to make lower-emissions choices, such as active transportation networks and public charging stations.	 Changes to District of Peachland policy and regulation that lead to energy and emission reductions in the community, such as requirements and incentives for enhanced energy efficiency in new buildings.	 Outreach, education and incentives that inspire residents and businesses to make choices to reduce energy and emissions and prepare for a low carbon future.

Targets for Reducing Our Emissions

Community targets show the urgency of the challenge we are facing and the call to action to reduce our GHG emissions. Peachland's 2050 community target is aligned with the Provincial government target, although it is per-capita rather than absolute.

Our community targets are:

43% reduction in per-capita GHG emissions below 2007 levels by 2030

80% reduction in per-capita GHG emissions below 2007 levels by 2050

To meet our 2030 target, each Peachland resident needs to produce at least 3.2 fewer tonnes of greenhouse gasses in a year. The actions in this plan are projected to achieve emission reductions of 3.8 tonnes CO_2e per person by 2030, if fully implemented. In the business as usual scenario, residents will produce just 2.5 fewer tonnes of greenhouse gasses in a year, relative to 2007.

Inventories: What is measured in this plan?

Local governments have varying degrees of influence over different sources of emissions within their boundaries. Our emissions come from both 'local' sources (emissions that are created here) and 'global' sources from local consumption (emissions that include everything from the extraction of raw materials through to processing and transport as well as emissions that may be counted elsewhere but are still ultimately our emissions).

Peachland's GHG reduction target references only local (territorial) emissions. These emissions are measured in the Energy and Emissions Inventory using the BC Methodological Guidance for Quantifying GHG Emissions. The major categories of emissions included in this inventory are: buildings (residential and commercial), transportation (passenger and commercial) and waste.

This plan does not comprehensively address embodied carbon (the emissions associated with creating something), or life cycle emissions (how many GHGs are emitted over the lifetime of an energy source or object). This is outside of the scope of what municipalities can meaningfully address currently, but is important for everyone to think about when they are buying goods or services. How was your item created, how far did it travel, how is it packaged? These are all important questions to consider when buying consumer goods.

Current Energy, Emissions and Costs by Sector and Fuel Type

Figure 3 shows energy consumption, GHG emissions and energy expenditure by sector in 2018.

The sectors are;

- Passenger vehicles
- Commercial vehicles
- Residential buildings
- Commercial and small-medium industrial buildings (CSMI)
- Waste

In 2018, for the whole community of Peachland;

- Total energy consumption was 739,931 GJ
- Total GHG emission were 42,037 tonnes of CO_2e
- Total energy expenditure was $19,602,000

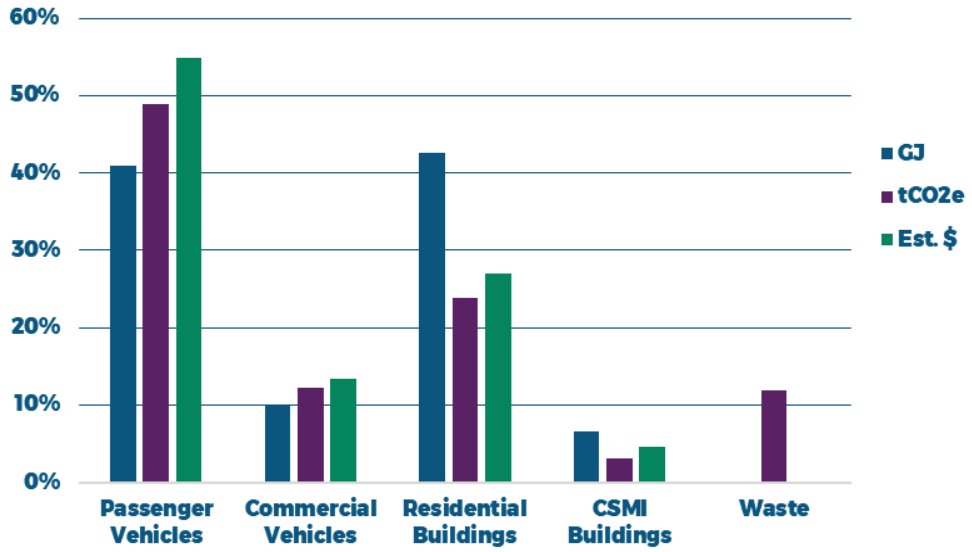


Figure 3 - Current Energy, Emissions and Costs by Sector

Passenger vehicles account for 49% of Peachland's GHG emissions and residential buildings account for 24%. Commercial vehicles and CSMI buildings whilst not insignificant, contribute significantly less than passenger vehicles and residential buildings to Peachland's overall GHG emissions. Waste accounts for 12% of emissions.

Passenger vehicles are also responsible for 55% of energy expenditures in Peachland. This is the money spent by Peachland residents at the pump filling the tank of their personal vehicles, and almost all of this money leaves the community. A lot of money is also spent on residential energy consumption, at 27% of Peachland's total energy expenditure. The majority of a residential energy bill is due to heating and this can be quite a financial burden for many people.

It is interesting to note that waste has no energy consumption or expenditure associated with it in this inventory. Buildings and vehicles use various fuel sources such as natural gas, electricity, gasoline and diesel which cost money to purchase and contain a certain amount of energy. Waste does not use any fuel sources, but its decomposition in a landfill does result in GHG emissions.

Figure 4 shows Peachland's energy expenditures and emissions in 2018 in terms of fuel source rather than sector. Looking at emissions and expenditures in this way can reveal some interesting trends.

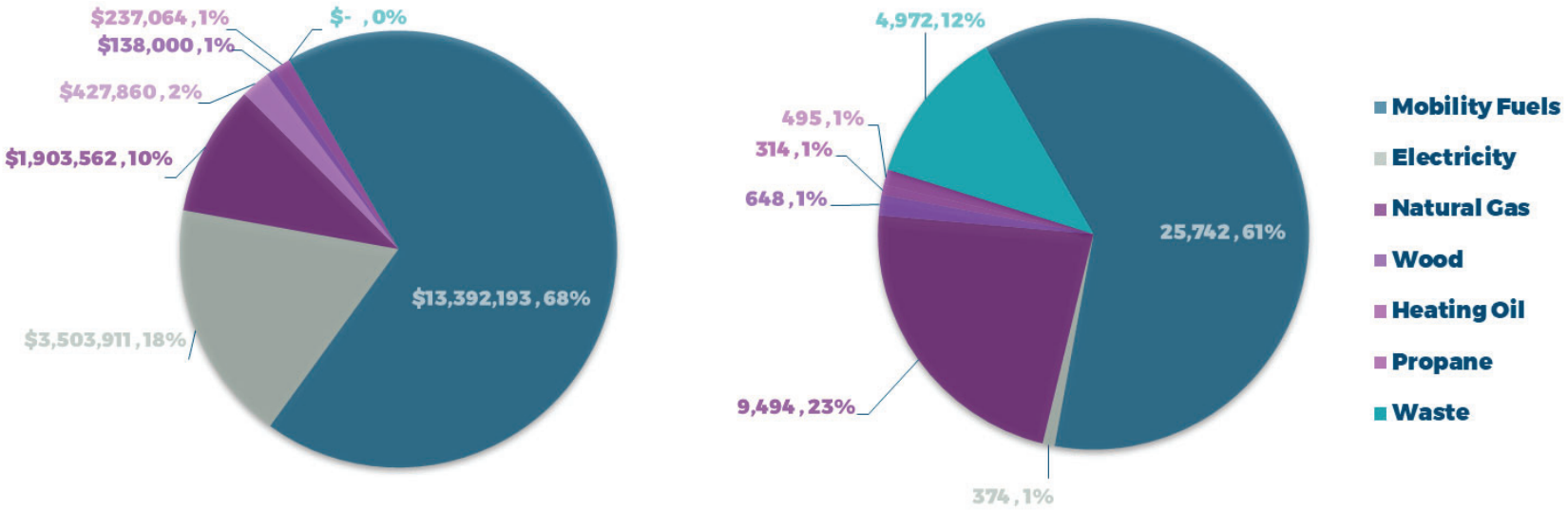


Figure 4 - Energy Expenditures ($) and Emissions (tonnes CO2e) by Fuel Type

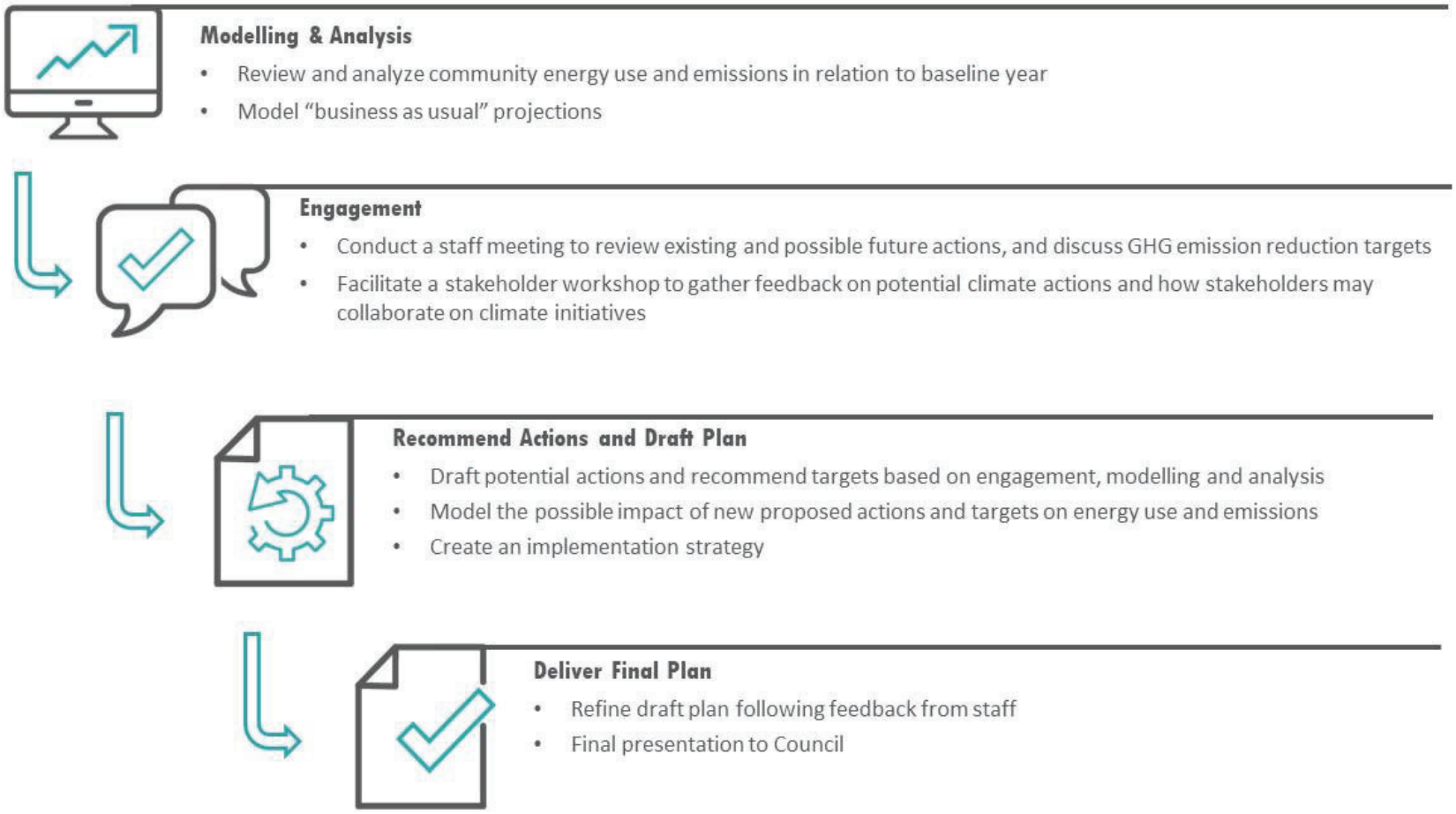
Natural gas and electricity are primarily used in buildings, both residential and CSMI. Small amounts of these fuels may be used in other sectors, such as commercial transportation (natural gas) and passenger vehicles (electricity for EV's). Natural gas contributes 23% of community emissions whereas it accounts for only 10% of the expenditures. On the other hand, electricity contributes only 1% of community emissions but accounts for 18% of expenditures. Heating oil, propane and wood account for less than 5% of emissions and expenditures combined because they are not the main source of energy in most buildings.

Gasoline and diesel are mobility fuels. These are the fuels that we use to power our personal vehicles and most commercial vehicles. They contribute 61% of total community emissions and account for 68% of energy expenditures.

The decomposition of waste in landfill contributes 12% of total emissions in Peachland. There is no energy cost associated with waste.

Process

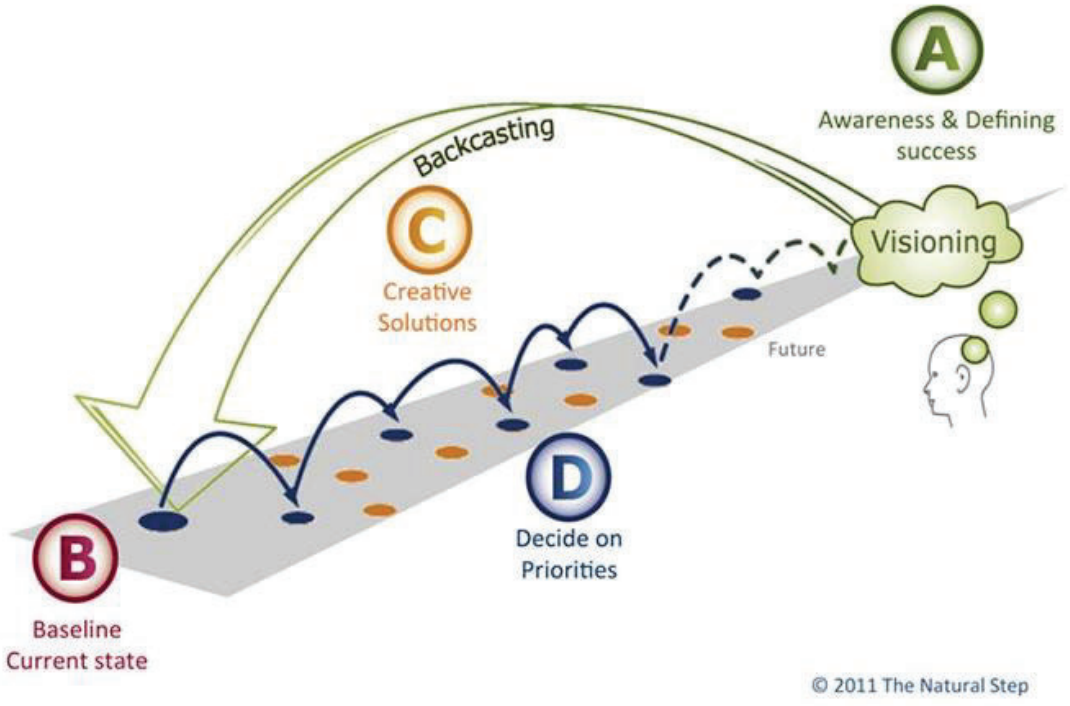
The development of the Peachland Community Energy and Emission Plan followed the process outlined in the infographic below.



Backcasting and Forecasting

There were two different approaches used in the development of the Peachland CEEP: Forecasting and Backcasting. Forecasting is a common approach used to create estimates of future emissions using current inventory data and projections. Backcasting, on the other hand, starts by imagining the desired future scenario that is not limited by current projections or past experience. Used in combination, these two approaches provide us with a clear positive vision of the future and a measurable plan to start us on the pathway to our destination.

Backcasting Approach: Envisioning our Future



Backcasting is a planning approach that starts by defining the future vision before working backwards to identify and prioritize creative solutions to reach that desired future

The concept of "backcasting" as used in this planning processes was developed by the Natural Step.

Over the course of two workshops, Peachland staff and stakeholders:

- Developed a vision of their desired low carbon future, focusing on three sectors: transportation, buildings, and waste.
- Identified the current state of the sectors.
- Brainstormed creative solutions to complement the Big Moves.
- Prioritized the solutions.

Forecasting Approach: Inventory and Modelling

What does 'Business As Usual' mean?

Business As Usual, or BAU, is a way of describing what is estimated to happen to Peachland's emissions if the District takes no further action to decrease emissions beyond what it is already doing and plans to do. A number of factors are taken into account to develop BAU emissions scenarios, population growth being one of the most important considerations. As the number of people increase in a community, more buildings are needed/used and more vehicles are driven on roads.

Other considerations that were taken into account to develop Peachland's BAU emissions scenario for this report include the following:

- Changing climate patterns— as warmer winters and hotter summers occur, they are and will continue to change the way that energy is consumed in buildings
- Likely future impacts of policies already adopted by other orders of government, such as:
    - Renewable and low carbon fuel standards
    - Vehicle tailpipe emissions standards
    - Zero-Emission Vehicle (ZEV) mandate as part of the CleanBC Plan, requiring 10% of new vehicle purchases by 2025 as ZEVs, 30% by 2030, and 100% by 2040
    - The greening of the BC Building Code ready buildings by 2032 (progressive steps towards net zero energy)

and show Peachland's per capita GHG emissions inventory from 2007-2018 and its BAU forecast from 2019-2050, split by sector, and by fuels & waste.

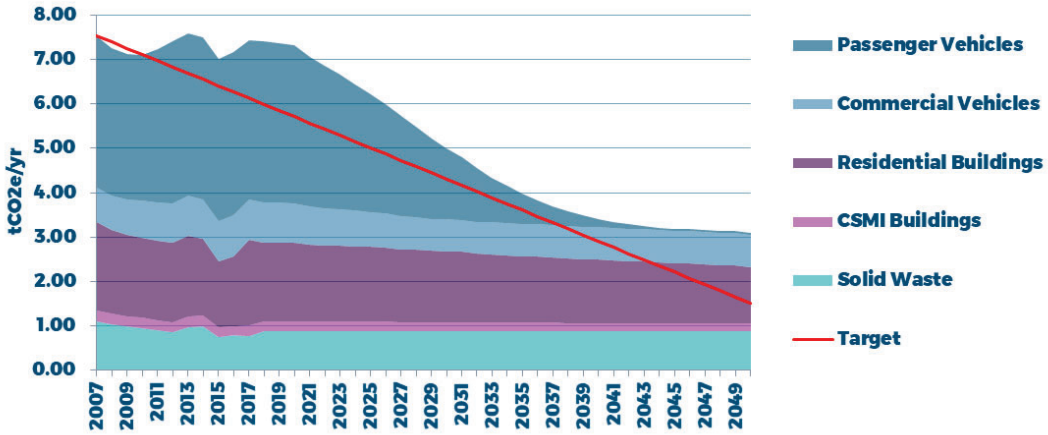


Figure 5 - Business As Usual GHG Emissions by Sector (Per-capita)

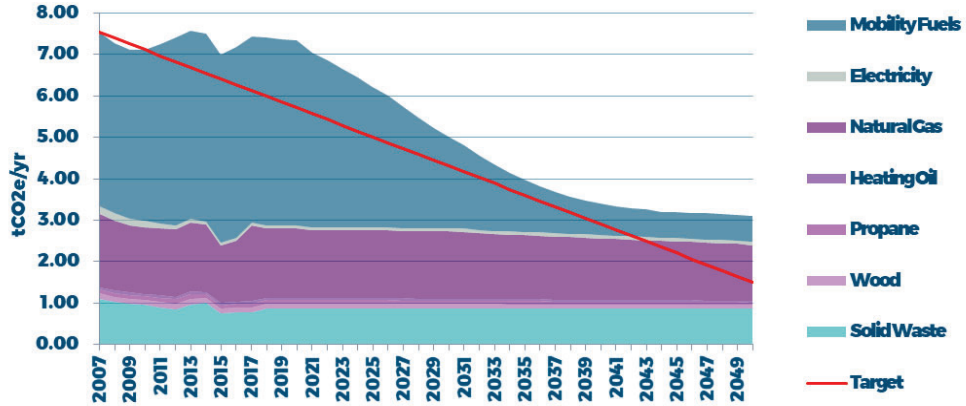


Figure 6 - Business As Usual GHG Emissions by Fuel Type (Per-capita)

Forecasted Emissions Reductions

Figure 7 shows the per capita modelled emissions reduction by Big Move, relative to the BAU. If all Big Moves are implemented in Peachland to the degree outlined in this Plan, GHG emissions in 2030 could be reduced by 3.8 tonnes of CO_2e per capita, or 51% below 2007 levels, exceeding the District's 43% reduction target. Note that although the 2050 emission reduction target is not met, it is anticipated that new technologies will become available in the future which will enable Peachland to achieve the target.

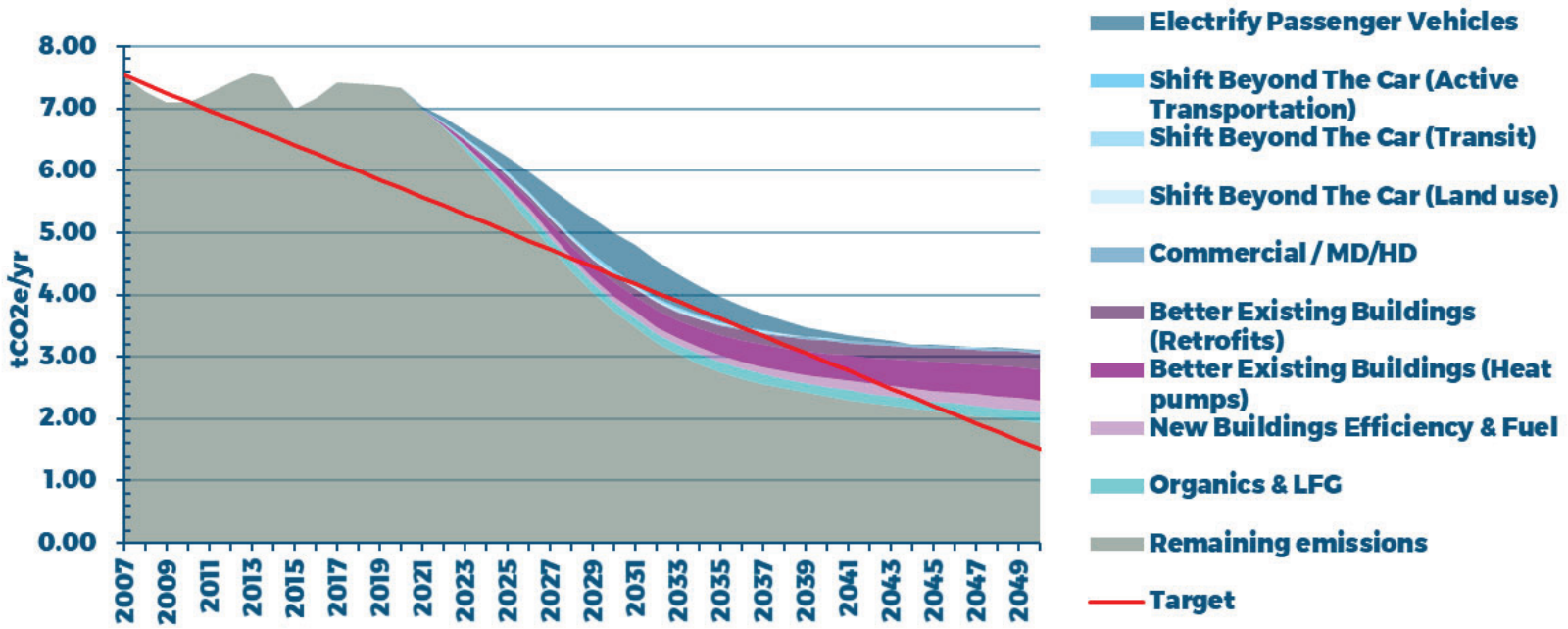


Figure 7 - Modelled Emissions Reduction (Per Capita)

Figure 8 shows the per-capita emissions reduction by Big Move in 2030 relative to the BAU. Whilst the BAU scenario assumes a certain level of passenger vehicle electrification, this Big Move presents the greatest opportunity for further emission reductions, at 0.66 tonnes CO_2e per capita. Retrofitting the existing building stock for both fuel switching to heat pumps and improved energy efficiency present savings of 0.28 and 0.13 tonnes CO_2e per capita respectively. Diverting organic waste from landfill could reduce 0.16 CO_2e per capita.

The modelling methodology is described in detail in Appendix E: Inventory and Modelling Methodology.

Additional inventory and modelling data, including total (i.e. non-per capita) data can be found in Appendix F: Additional Inventory and Modelling Details.

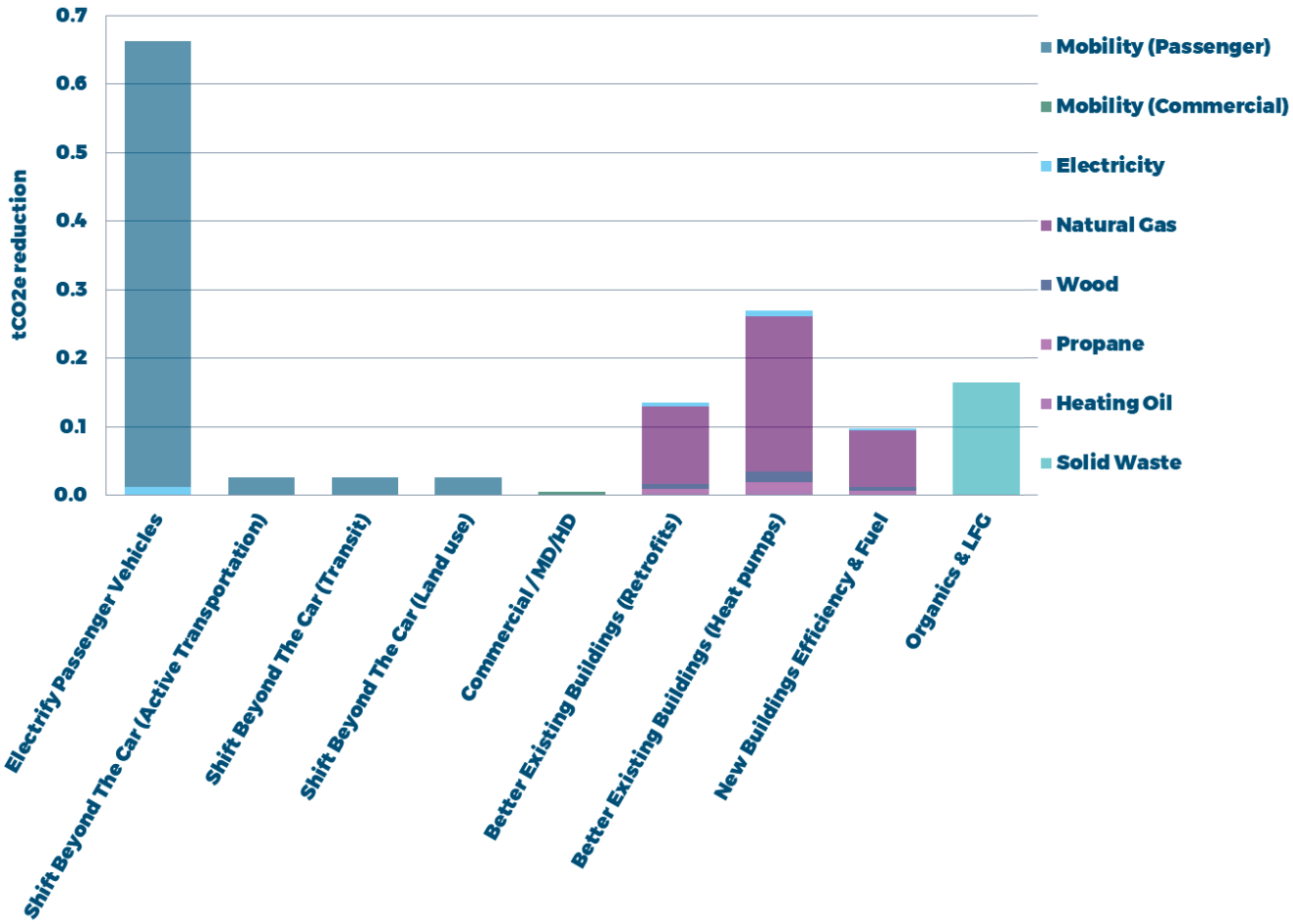
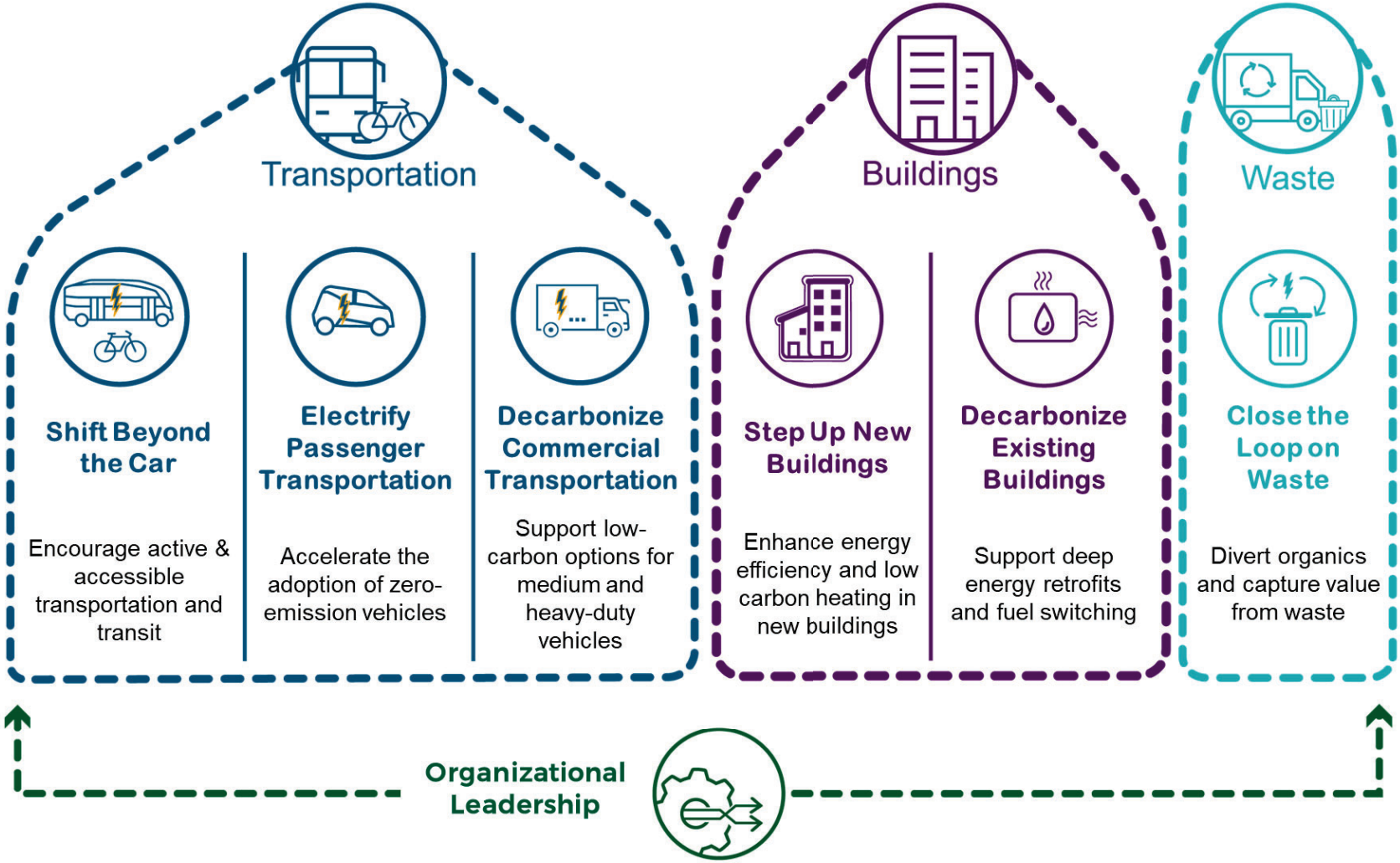


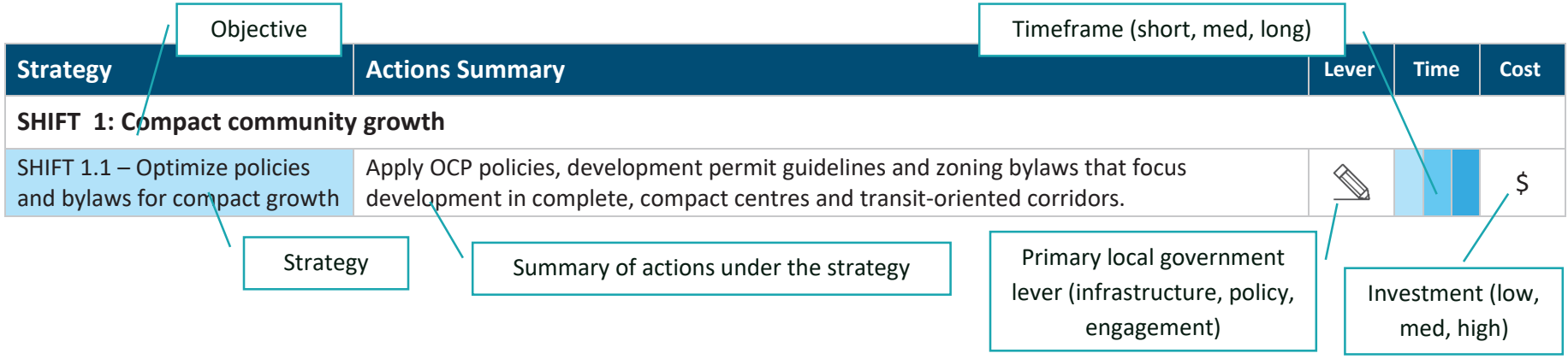
Figure 8 - Emissions Reduction by Big Move in 2030, Relative to BAU (Per Capita)

Action Plan


Transportation
Buildings
Waste
Shift Beyond the Car
Encourage active & accessible transportation and transit
Electrify Passenger Transportation
Accelerate the adoption of zero-emission vehicles
Decarbonize Commercial Transportation
Support low-carbon options for medium and heavy-duty vehicles
Step Up New Buildings
Enhance energy efficiency and low carbon heating in new buildings
Decarbonize Existing Buildings
Support deep energy retrofits and fuel switching
Close the Loop on Waste
Divert organics and capture value from waste
Organizational Leadership

Action Plan Guide

The following pages outline each of the six Big Moves – and their associated objectives, strategies and actions – organized by sector (transportation, buildings, and waste). Below is an example of a strategy from Shift Beyond the Car, showing the types of information displayed.



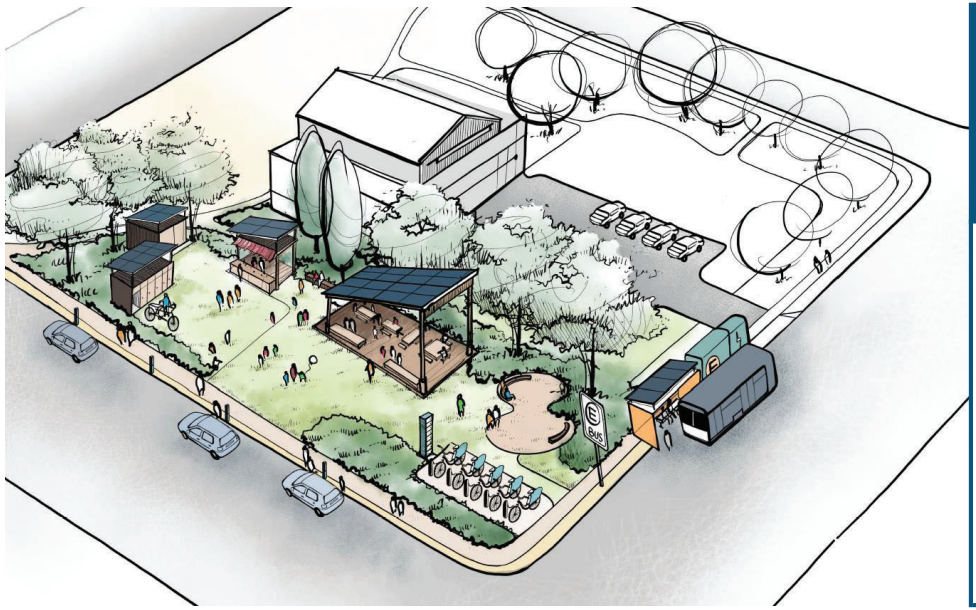
Legend

Lever			Timeframe					Cost	Definition	
Infrastructure			Short (1-2 years)					Low	<$25,000	$
Policy & Regulation			Medium (3-5 years)					Med	$25,000 - $100,000	$$
Engagement & Outreach			Long (5+ years)					High	>$100,000	$$$

Notes:

- Lever: Many strategies utilize more than one local government lever. The following tables show only the primarly lever, however Appendix A: Implementation Details, indicate all levers involved.
- Timeframe: Many strategies span more than one timeframe, with some actions starting in the short term and full deployment of the strategy occuring in the longer term.

The Way We Move



Vision:

A complete zero-emission transportation system connects our community and region.

Current State:

Vehicles are responsible for 61% of the greenhouse gas emissions generated from residents and businesses in Peachland. Transportation fuels such as gasoline and diesel are the largest sources of expenditure on energy in the community at $13.4 million per year.

Big Moves for Transportation

Shift Beyond the Car	Electrify Passenger Transportation	Decarbonize Commercial Transportation
Encourage active and accessible transportation and transit.	Accelerate the adoption of zero-emission vehicles.	Support low carbon options for medium and heavy-duty vehicles.

Shift Beyond the Car

Encourage active and accessible transportation and transit.

Overview

Walking and cycling are not just weekend recreational activities – they are viable, beneficial, economical and environmentally-friendly modes of transportation. The District of Peachland can design and build well-connected, accessible, safe and enjoyable routes. This will encourage residents and visitors to choose an active mode of travel such as walking and cycling. Good sidewalks, bike lanes, and trails make active transportation a viable choice when traveling through neighbourhoods, communities, and town centers. The same infrastructure also affords access for those who use mobility aids, such as scooters and wheelchairs.

Planning for a zero-carbon transportation system requires a paradigm shift. Rather than solve traffic and infrastructure problems by expanding roads or building more of them, communities can support all transportation options and facilitate alternative travel choices that reduce the need for more, or bigger, roads. Not only does this reduce transportation-related emissions, but this shift can also result in reduced infrastructure and maintenance costs down the road.

Looking Forward to 2030

- Half of all trips taken in our community are with active/assisted transportation or transit.
- Streets have been reimagined to prioritize active, public and low carbon transportation options.
- New neighbourhoods are designed to maximize active transportation options and are fully connected via walking paths / sidewalks, bike paths and transit options.
- Appropriate facilities for bike storage and e-bike charging are located in strategic hubs to support emission-free commuting.

Objectives

1. Optimize land use planning tools to enable compact community growth
2. Enable walking, cycling and other forms of zero emission mobility
3. Promote transit ridership and support a zero emissions transit network

Provincial Action

As part of the Province of British Columbia's commitment through **CleanBC** to embrace clean and renewable energy across the board, the government developed **Move Commute Connect – B.C.'s Active Transportation Strategy.** The strategy established a new target for active and assisted transportation:

> *By 2030, double the percentage of trips taken with active transportation*

Federal Action

The Government of Canada's **Pan Canadian Framework on Clean Growth and Climate Change** commits to supporting a shift from higher- to lower-emitting modes of transportation as well was investing in infrastructure.

Strategies for Shifting Beyond the Car

Strategy	Actions Summary	Lever	Time	Cost
SHIFT 1: Optimize land-use planning tools to enable complete and compact community growth				
SHIFT 1.1 – Optimize & apply policies and bylaws for complete & compact community growth	Review, optimize & apply OCP policies, development permit guidelines and zoning bylaws that focus development in complete, compact mixed-use centers, along transit-oriented corridors with existing services and amenities that have safe and well connected walking/cycling routes Peachlanders living close to where they work, live, play and shop will reduce per-capita GHG emissions through reduced automobile trips/distance travelled.			$
SHIFT 1.2 – Create a complete and connected community through local amenities	Decrease out-trips from Peachland by acquiring, creating and improving local amenities that support a complete community with choices for all ages and abilities (e.g. Downtown spray park, Turner park, museum upgrades); facilitate carbon neutral connectivity by incorporating design elements in and around civic facilities that promote pedestrianism, accessibility, cycling/e-bicycles, public transit, and EV charging stations.			$$$
SHIFT 1.3 – Activate public spaces and program civic amenities	Promote residents playing locally by activating public spaces and programming civic amenities with activities that engage all ages and abilities, including local recreation and sports, music/art/cultural programming, open-air markets. Facilitate sustainable “zero-impact” events.			$
SHIFT 1.4 – Create a complete community through local housing choice	Support a diverse and attainable local housing supply that is inclusive of all generations and incomes and close to local amenities; communities and families stay connected, home/work commute trips are reduced, businesses can access labour, and our seniors can “age in place” and remain connected to the community.			$
SHIFT 1.5 – Create a complete community with local businesses	Support and promote local economic development initiatives that help with the retention and expansion of the local businesses community to help ensure “complete community” choices for residents to reduce out-trips from Peachland (including a medical office).			$
SHIFT 1.6 – Support a vibrant and pedestrian/cycling oriented Downtown	Revitalize Downtown to foster a vibrant heart of the community, where local businesses thrive and where people live, work, shop, gather and celebrate in public spaces along connected and safe active transportation corridors.			$$
SHIFT 1.7 – Promote local food security	Promote local and regional food security, while reducing GHG emissions from unnecessary long-haul food transport by connecting local residents and businesses with foods grown in our region; support local farmers markets, community gardening, back-yard composting, and “urban farm” initiatives (e.g. backyard bee keeping & hens).			$
SHIFT 1.8 – Protect and steward the natural environment	Maintain and promote a healthy natural environment in and around the community; Promote and utilize sustainable landscaping practices (landscaping with local drought resistant vegetation/creating habitat for local species).			$

Strategy	Actions Summary	Lever	Time	Cost
SHIFT 1.9 – Plan to adapt and build community resilience	Prepare and plan to adapt to climate change, so that our community's residents, buildings and infrastructure are ready and resilient to face the effects of climate change, including extreme weather events, wildfires, floods, and drought.			$$
SHIFT 2: Increase walking, cycling and other forms of zero emission mobility				
SHIFT 2.1 – Enable active transportation through plans and policies	Develop an Active Transportation Strategy that identifies gaps in the network. Implement supportive policies such as a Complete Streets Policy and updated Sub Division Servicing Bylaw and others to increase AAA infrastructure.			$$
SHIFT 2.2 – Build safe routes for walking, cycling and other forms of zero emission mobility	Continuously improve active transportation infrastructure including reconfiguring existing streets and building safe and convenient active transportation paths to connect all neighbourhoods.			$$$
SHIFT 2.3 – Develop and deliver an active transportation outreach strategy	Connect with community members to learn about their active transportation needs. Dedicate MTFCC member & staff time for promotion and education around active transportation.			$
SHIFT 2.4 – Promote cycling and e-bikes as a fun and viableway to travel around Peachland	E-bike advancements are an opportunity for increasing active and zero-emissions transportation options for a wide range of ages and abilities around Peachland, including hillside neighbourhoods.			$
SHIFT 2.5 – Investigate micro e-mobility and on-demand mobility services	Understand when and where on-demand services are most useful, and review the results of provincial/municipal pilot projects for e-scooters. Depending on those results, review and remove policy barriers and update bylaws. Host awareness events for e-bikes (and other forms of micro mobility) and work with vendors. Work with car sharing and ride hailing providers to expand programs and transition to electric fleets.			$
SHIFT 3: Increase transit ridership and a support a transition to a zero emissions transit network				
SHIFT 3.1 – Collaborate with BC Transit & neighbouring municipalities to promote transit ridership	Promote transit ridership through collaboration and route optimization with transit providers; promote transit services offered, and consider offering free transit days and celebrating new routes. Ultimately explore universal free transit with transit providers.			$$
SHIFT 3.2 – Encourage BC Transit to transition to a zero emissions transit network	Collaborate with BC Transit and neighbouring communities to encourage transit progressively transitions to zero emissions vehicles (e.g. electric)			$
Total GHG emissions reductions for this Big Move: 0.08 $tCO2_e$ per capita by 2030				

Electrify Passenger Transportation

Accelerate the adoption of zero-emission vehicles.

Overview

Zero-emission vehicles (ZEVs) are clean, efficient, and cost-effective. In British Columbia, where at least 94% of all electricity is renewable and non-emitting, electric vehicles (EVs) are already a viable near zero-emission option.

Local governments can make zero-emission vehicles an easier choice for residents and businesses by investing in infrastructure, enacting supportive policies, and by engaging with companies and organizations that operate large fleets, such as car-sharing and ride-hailing providers. Local governments also deliver community outreach and education on zero-emission transportation choices.

If every British Columbia local government implemented this Big Move, by 2030 they would collectively reduce the province's total greenhouse gas emission inventory by 1.5 to 2 million tonnes, because it would lead to removing half a million internal combustion vehicles from our roads. At the individual community level, this move could yield 5 to 25% emissions reductions by 2030.

Looking Forward to 2030

- Half of the kilometers driven in our community are by zero emission vehicles.
- New buildings are required to provide an electrified, dedicated service for EV charging.
- A robust and strategically designed charging network ensures infrastructure is available at workplaces and public parking spaces.
- The District of Peachland continues to demonstrate leadership by prioritizing EVs in its fleet replacement policy and all service contracts require low emission vehicles as part of municipal contracts.

Objectives

1. Enable charging on-the-go
2. Enable charging at home and work
3. Encourage EVs through outreach and supportive policies

Provincial Action

In May 2019 the Province enacted the **Zero Emissions Vehicle Act** to follow through on the transportation commitments in its **CleanBC** climate plan. The legislation requires manufacturers to ensure that a steadily increasing proportion of all new light-duty cars and trucks sold or leased in British Columbia will be zero-emission vehicles, leading up to 100% by 2040.

The Province established its **Clean Energy Vehicle Program** to support the transition. The program provides incentives to reduce the price of new zero-emissions vehicles and charging stations, and works to raise awareness of the benefits of such vehicles.

Federal Action

The Government of Canada also provides purchase and lease **incentives** for new zero-emission vehicles, and offers tax deductions for businesses.

Strategies for Electrifying Transportation

Strategy	Actions Summary	Lever	Time	Cost
ELECTRIFY 1: Enable charging on-the-go				
ELECTRIFY 1.1 – Design, seek grants and expand the public EV charging network	Leverage grant opportunities to install an annually increasing number of EV charging stations at key locations throughout the community. Collaborate with other local governments on a regional charging network strategy.			$$$
ELECTRIFY 2: Enable charging at home and work				
ELECTRIFY 2.1 – Encourage & consider adopting EV-ready building requirements	Incentivize or require all new homes to be EV-ready including single-family homes, townhouses and apartments.			$
ELECTRIFY 2.2 – Enable EV charging in existing residential and commercial buildings	Work with stratas and property management companies on navigating the process to retrofit existing parking stalls with EV charging equipment.			$
ELECTRIFY 3: Encourage EVs through outreach and supportive policies				
ELECTRIFY 3.1 – Develop and deliver an EV outreach strategy	Educate builders and developers on EV charging requirements though open houses and workshops. Partner with other organizations (e.g. Peachland World of Wheels) and industry (e.g. Ford/ other) to host engagement events such as test-drives and ride-alongs.			$
ELECTRIFY 3.2 – Accelerate EV adoption through supportive policies and incentives	Review speed limits/signage/paint to enable active transportation & low-speed EVs on select streets. Provide perks to EV drivers such as priority parking. Incent ride hailing, taxi operators and other fleet operators to switch to EV's			$
Total GHG emissions reductions for this Big Move: 0.66 $tCO2_e$ per capita by 2030				

Decarbonize Commercial Transportation

Accelerate the transition to zero emission medium and heavy-duty vehicles

Overview

Peachland has limited influence over emissions from medium and heavy-duty commercial vehicles; however, these vehicles represent 12% of our community emissions. Peachland can start to engage with fleet operators so they are aware of technology changes. Additionally, Peachland can show leadership by transitioning its own fleet.

Looking Forward to 2030

- Commercial fleets have leveraged their investment in charging infrastructure to establish high-powered charging hubs.
- Transit buses and school buses are electric, providing clean, emission-free travel options for the young and old.

Objective

1. Accelerate the adoption of zero-emission vehicles for commercial fleets
2. Lead by example by transitioning the municipal fleet

Provincial Action

The Province has set targets for 10% of heavy-duty vehicles and 94% of buses to be electric, and 16% of heavy-duty vehicles to run on LNG by 2030.

Federal Action

The Federal Government has set a target of a 40% reduction in tailpipe emission intensity by 2025 from 2015 levels.

Strategies for Decarbonizing Commercial Transportation

Strategy	Actions Summary	Lever	Time	Cost
COMMERCIAL 1: Accelerate the adoption of ZEVs for commercial fleets				
COMMERCIAL 1.1 Encourage businesses to adopt commercial ZEV infrastructure	Update OCP to include policies that encourages commercial/mixed-use building adoption of EV technology as new buildings are constructed.			$
COMMERCIAL 1.2 – Engage commercial and industrial stakeholders	Develop communications strategy to support outreach/engagement with local businesses on EV technology and available provincial and federal grants.			$
COMMERCIAL 2: Lead by example by transitioning municipal fleet				
COMMERCIAL 2.1 – Adopt a municipal fleet replacement policy that prioritizes EV and low carbon options for replacing Peachland's municipal fleet over time	Adopt a fleet-replacement policy to replace the District of Peachland's vehicles. Take the West Coast Electric Fleets Pledge, seek grant opportunities, and target 2035 for replacing all of the District's vehicles with a fully emissions-free fleet. Review and update District of Peachland's purchasing policies to favor contractors who use lower emissions practices, including ZEVs, contractor waste diversion, etc.			$$
Total GHG emissions reductions for this Big Move: 0.01 $tCO2_e$ per capita by 2030				

Where We Live and Work

Vision:

Our community's buildings are exceptionally energy efficient, and powered, heated and cooled with 100% renewable energy.

Current State:

Our homes and commercial buildings are responsible for 27% of the greenhouse gas emissions generated in District of Peachland. The main source of emissions is natural gas used for space and water heating.

Big Moves for Buildings

Step Up New Buildings	Decarbonize Existing Buildings
Enhance energy efficiency and low carbon heating in new buildings	Support deep energy retrofits and fuel switching

Step Up New Buildings

Enhance energy efficiency and low carbon heating in new buildings

Overview

While existing buildings generate the majority of building-related greenhouse gas emissions, local governments have greater authority to influence new construction. They can do so via the BC Energy Step Code; a section of the BC Building Code that local governments may use to require or incentivize better-than-code energy performance in new construction. While the Step Code is a great tool for improving overall building energy performance, it does not explicitly address emissions from new buildings. Local governments can influence emissions by implementing the regulation in tandem with incentives that target zero-emission heating and cooling systems.

The District of Peachland's population is growing at a rate of 1.45%. Every new building built to minimum code standards is a lost opportunity for improved energy efficiency and reduced carbon emissions and is one more building that will have to be retrofitted down the road.

Looking Forward to 2030

- All our community's new buildings are built to meet the requirements of the top step of the BC Energy Step Code, and use only zero carbon energy sources for space and water heating.
- The building industry is now focused on whole building performance, as opposed to prescriptive code requirements.
- Energy performance is quantified and verified, so homeowners and buyers now have a better understanding on the long-term operations cost of the home.
- Homes are quiet, comfortable and durable. Energy costs are minimized through efficient design that reduces demand.

Objectives

1. Adopt the Energy Step Code with a low carbon approach
2. Build industry capacity

Provincial Action

The province's CleanBC climate plan outlines the dates when the base *BC Building Code* will adopt BC Energy Step Code performance targets:

- In 2022, all new buildings will be 20% more energy efficient than those built to meet today's minimum code requirements.
- By 2027, all new buildings will be 40% more energy efficient.
- By 2032, all new buildings will be "net zero energy ready".

CleanBC **Better Homes** links homeowners and residential builders to rebates and resources, and CleanBC **Better Buildings** provides funding and capital incentives to encourage energy efficient design, construction and renovation in larger buildings.

Federal Action

Natural Resources Canada's **Build Smart: Canada's Buildings Strategy** establishes the goal that all provinces and territories will adopt a net-zero energy-ready model building code by 2030.

Strategies for Stepping Up New Buildings

Strategy	Actions Summary	Lever	Time	Cost
NEW BUILDINGS 1: Adopt the Energy Step Code with a Low Carbon Approach				
NEW BUILDINGS 1.1 – Adopt the Energy Step Code	Begin by adopting one of the lower levels of the Energy Step Code with a plan to move up through the levels. Adopt policies and programs to incentivize adoption of higher steps, e.g. density bonus.			$
NEW BUILDINGS 1.2 – Encourage a low-carbon approach to the Energy Step Code	Promote Better Homes BC website. Showcase Passive Home designs. Opt-in to Provincial carbon metrics for new buildings if/when they become available or adopt a tiered approach (e.g. Step 3 or Step 2 with a low carbon energy system).			$
NEW BUILDINGS 2: Build Industry Capacity				
NEW BUILDINGS 2.1 – Provide leadership, outreach and guidance regarding the Energy Step Code.	Promote existing Clean BC new construction incentives and encourage working with an Energy Advisor and/or mid-construction testing.			$
NEW BUILDINGS 2.2 – Review and integrate Step Code information into permitting processes.	Review building permitting processes and integrate clear and timely information for builders and homeowners regarding the Energy Step Code.			$
Total GHG emissions reductions for this Big Move: 0.10 $tCO2_e$ per capita by 2030				

Decarbonize Existing Buildings

Support deep energy retrofits and fuel switching

Overview

In 2030, almost 90% of all the buildings in the District of Peachland will be ones that are already standing today. Many buildings use more energy than is necessary. Owners of 20-year-old gas-heated homes can lower their energy bills by as much as 30% through energy efficiency retrofits and reduce about 1 tonne of greenhouse gas emissions per year. Homeowners can pursue various degrees of building energy retrofits—from replacing individual pieces of equipment to comprehensive overhauls of the whole building, known as deep energy retrofits.

Deep energy retrofits involve changes to the entire building, including insulation, windows and doors, and air barrier, as well as ventilation and space and water heating equipment. To ensure emissions reductions as well as energy reductions, the energy retrofit must include fuel switching, from fossil fuel sources to zero-carbon sources such as electricity or 100% renewable gas. Such projects usually rely on the expertise of an energy advisor, who conducts energy modelling and airtightness testing.

District of Peachland has limited jurisdiction over requirements for existing building retrofits but has an opportunity to influence and enable building owners to make investments in the energy efficiency of their buildings.

Objectives

1. Improve energy efficiency
2. Encourage and enable fuel switching
3. Build industry capacity and increase demand

Provincial Action

CleanBC **Better Homes** links homeowners and renovators to rebates and resources, and CleanBC **Better Buildings** provides funding and capital incentives to encourage energy efficient renovation in larger buildings. The Province is currently working on an Existing Buildings Renewal Strategy, which will enable increased energy efficiency retrofits in the existing building stock.

Federal Action

The Government of Canada's **Home Energy Retrofit Initiative** provides grants for energy efficiency upgrades and free EnerGuide assessments. The program also supports training Energy Advisors across Canada to meet increasing demand.

Looking Forward to 2030

- 25% of our existing building stock has undergone a deep energy retrofit.
- All replacement heating and hot water systems are zero emissions, powered by either electricity or renewable gas.

Strategies for Decarbonizing Existing Buildings

Strategy	Actions Summary	Lever	Time	Cost
EXISTING BUILDINGS 1: Improve Energy Efficiency				
EXISTING BUILDINGS 1.1 – Encourage and enable deep energy retrofits	Educate building owners about how to make their home or business more energy efficient and the benefits of doing so, including resources such as *Better Homes* and *Better Buildings BC*. Help building owners to understand the rebates and incentives available. Increase the use of energy labelling and benchmarking.			$
EXISTING BUILDINGS 1.2 – Encourage and enable building electrification or renewable gas	Identify and remove barriers, and promote energy efficient home designs and heating/cooling equipment by linking the District's webpage and application process to "Better Homes BC" Retrofit civic facilities with energy saving options when replacements are required.			$
EXISTING BUILDINGS 2: Build Industry Capacity and Increase Market Demand				
EXISTING BUILDINGS 2.1 – Establish a long-term marketing campaign	Promote and integrate Better Homes BC into pre-application processes to encourage building envelope improvements, electrification, solar, passive house/building designs, and other low carbon fuel sources.			$
EXISTING BUILDINGS 2.2 – Build industry capacity	Educate renovators and realtors on energy efficiency and low carbon choices for space and water heating.			$
Total GHG emissions reductions for this Big Move: 0.41 $tCO2_e$ per capita by 2030				

How We Manage 'Waste'

Vision:

Our community diverts all of our organic waste, such as food scraps and yard trimmings, from landfills and recovers value from everything that enters the waste stream

Current State:

Organic waste ending up in our landfill accounts for 12% of our community's GHG emissions. Currently, the Regional District of Central Okanagan (RDCO) does provide yard waste pick-up which is composted at the landfill, but does not have pick-up of other organics. The District of Peachland participates in the RDCO residential backyard composting bin program.

Big Move for Waste

Close the Loop on Waste

Divert organics and capture value from waste

Close the Loop on Waste

Divert organics and capture value from waste

Overview

Emissions from waste occur when organic waste mixed in with garbage decomposes in the landfill and produces methane, a potent greenhouse gas that is released into the atmosphere. Organic waste makes up about 35-40% of landfill waste, and includes food waste from homes and businesses, yard and garden waste, wood waste, and paper that cannot be recycled, such as food-soiled paper. Organic material decomposes over approximately 10 years in the local landfill. Organic diversion reduces or eliminates the new waste added every year but the waste that is already in place at the landfill continues its decomposition process. How much waste is diverted (the diversion rate) is key to emissions savings.

By diverting organic waste from the landfill, it can be turned into compost that can be sold. There are other technologies that can capture value from the waste stream, such as landfill gas capture, biogas digesters, gasification plants, and waste heat recovery systems.

Objectives

1. Divert organics from the landfill
2. Capture landfill gas and/or explore other resource recovery technologies

Provincial Action

The Province of British Columbia has committed to ensuring that, by 2030, 95% of organic waste will be diverted from landfills, and 75% of landfill gas will be captured. The province has also committed to fund workforce training.

Federal Action

The Government of Canada, through its Investing in Canada Infrastructure Program (ICIP) provides funding for infrastructure that enables resource recovery, such as generating renewable fuel from waste.

Looking Forward to 2030

- Our community is educated in waste diversion – all Peachland residents, businesses and institutions recycle and divert yard waste responsibly. Most households have a back-yard composter for their food-scrap organics, and the RDCO has identified a viable and sustainable location for a future regional organics composting.
- We are looking forward to our community's residential and commercial food and yard waste being converted to useable compost at a regional processing facility in the future.
- Peachland supports RDCO in becoming a leader in Integrated Resource Management for the region.

Strategies for Closing the Loop on Waste

Strategy	Actions Summary	Lever	Time	Cost
WASTE 1: Divert Organics from Landfill				
WASTE 1.1 – Adopt policies that increase organics diversion	Collaborate with the Regional District on organics, processes and targets. Link to and promote RDCO's back-yard composting and grass-cycling programs throughout the community.			$
WASTE 1.2 – Implement organics collection and processing	Support future RDCO curbside organics/kitchen waste collection for homes and businesses if a regional service becomes available in the future. If a service becomes implemented, require new multi-family developments to include central collection points for recycling & composting.. Consider partnering with Regional District or neighbouring communities.			$
WASTE 1.3 – Collaborate on a comprehensive zero-waste outreach program	Connect to and promote RDCO's recycling education programs, to help reduce and divert waste from entering the Glenmore landfill. A zero-waste outreach program may include community-led composing projects, school programs, participation in Provincial "Love Food Hate Waste" campaign and education around RDCO's backyard composting program and source-separation requirements and promoting recycling options in the area			$
Total GHG emissions reductions for this Big Move: 0.16 $tCO2_e$ per capita by 2030				

Organizational Leadership

Implementation for Success

Several key factors are important for the successful implementation of community energy and emission reduction plans based on research conducted by CEA, QUEST, and Smart Prosperity.[1] Among others, they include establishing broad support for implementation, building staff and financial capacity for implementation, and institutionalizing the plan in order to withstand political and staff turnover.

With regards to institutionalization, ideas on how this can be done are shown in the table below.

Incorporate	Embed climate action into other planning documents such as the OCP, bylaws and policies, and departmental/master plans. Climate action could also be incorporated into District staff job descriptions. Some communities report on climate action or sustainability implications in reports to Council.
Budget	Embed climate action into the budgeting process.
Monitor	Monitor indicators as outlined in the Monitoring and Evaluation section.
Convene	Host regular meetings to discuss implementation with internal and/or external stakeholders.
Report	Report regularly to Council on progress and accomplishments. Annual reporting is recommended. It can be integrated with CARIP reporting.
Renew	Prepare for plan renewal approximately every five years.

Monitoring and Evaluation

Monitoring and evaluating the implementation of the Climate Action Plan is critical for its success. Key Performance Indicators (KPIs) enable communities to measure the outcomes of a plan's implementation. When KPIs are monitored regularly, communities can determine how to best allocate resources to support implementation, and what success different actions are having.

Suggested indicators are shown in Appendix B: Sample Key Performance Indicators.

[1] Community Energy Implementation Framework, https://questcanada.org/project/getting-to-implementation-in-canada/?dc=framework

Funding

Funding sources that communities typically use for climate action are shown in the table below.

Internal Funding Sources	External Funding Sources
1. CARIP rebate allocated for climate action 2. Allocation from operating budget 3. Revolving energy efficiency fund (from corporate projects) 4. Forgone revenue 5. General revenue (e.g. property taxes) 6. Recycling and solid waste user fees 7. Building permit fees and other service fees charged by Development Services 8. Electrical utility and water user fees	1. UBCM Gas Tax Agreement Funds 2. FCM's Green Municipal Fund supports plans, studies, capital projects and pilot projects for environmental initiatives in a number of focus areas 3. Federal government programs such as the Low Carbon Economy Challenge and Clean Energy Innovation Program 4. Provincial government programs such as the Clean Energy Vehicle Program, BikeBC Program, and CleanBC Communities Fund 5. Emotive grants for EV educational events to foster greater EV adoption 6. CleanBC and FortisBC energy efficiency incentives for new home construction and for increasing energy efficiency in existing buildings 7. BC Housing and FortisBC for education or demonstration projects to encourage the building industry to construct low energy and GHG emission homes.

Appendix A: Implementation Details

The following pages include detailed actions for each of the Big Move strategies. The actions are presented in four tiers: Tier 1 represents foundational actions that any community can begin with and Tier 4 represents full deployment of the strategy. The Big Move will be considered fully deployed when all four tiers are complete. Highlighted columns indicate the level of implementation modelled in the District of Peachland CEEP.

Municipal levers are noted for each strategy:

Infrastructure	Policy & Regulation	Engagement & Outreach
 Investments into the District of Peachland owned infrastructure that enable residents to make lower-emissions choices, such as active transportation networks and public charging stations	 Changes to District of Peachland policy and regulation that lead to energy and emission reductions in the community, such as requirements and incentives for enhanced energy efficiency in new buildings.	 Outreach, education and incentives that inspire residents and businesses to make choices to reduce energy and emissions and prepare for a low carbon future.

Timeframe		
Short (1-3 years)	Medium (3-5 years)	Long (5+ years)

Transportation – Shift Beyond the Car

The combination of land use (being near where you need to go daily) and infrastructure (active and accessible paths & transit) and policy (parking pricing) combine to shift transportation preferences from single occupancy vehicles to active transportation and transit. Land use policy effects are long term rather than short term partly due to the long time-scale of development.

Strategy	Tier 1	Tier 2	Tier 3	Tier 4
SHIFT 1.1 **Optimize & apply policies and bylaws for complete & compact community growth** 	Review & apply OCP policies to further incent or require infill development. Review employment locations and link location/land use to local economic development strategy.	Focus development in compact mixed-use centres (i.e. downtown) with existing services and amenities that have safe and well-connected walking/cycling/bus routes to reduce GHG emissions.	Investigate planning tools and incentives (e.g. CLIC tool to assess impacts of development proposals, density bonus structure for development within short walking distance of the core transit network; Increase Density for neighbourhood node viability; Utilize DCC to support densification).	
SHIFT 1.2 **Create a complete and connected community through local amenities**	Decrease out-trips from Peachland by acquiring, creating and improving local amenities that support a complete community with choices for all ages and abilities (e.g. Downtown spray park, Turner park, museum/community center upgrades, etc.)	Support carbon neutral connectivity by including design elements in and around civic facilities that promote active transportation and low-carbon option (e.g. cycling/e-bicycles, e-bicycle charging stations, EV charging, public transit).	Undertake long-term strategic land acquisition planning to foster a complete community that supports a sustainable growth pattern with civic choices that promote quality of life, active transportation, and community independence into the future.	
SHIFT 1.3 **Activate public spaces and program civic amenities**	Promote residents staying in Peachland and playing locally by activating public spaces and programming public amenities with activities that engage and support all ages and abilities, including	Encourage “zero-impact” events and vending that generate less waste (i.e. disposables), and enable recycling.	Encourage transitioning from gas powered generators propane, solar options, and electricity options.	

	recreation and sports, music/art/cultural programming and education, special events, festivals, and open-air markets.			
SHIFT 1.4 **Create complete communities through housing choice**	Support a diverse and attainable local housing supply that is inclusive of all generations and incomes. Support BC Housing Projects.	Review and adopt policies that promote long-term rentals and entry-level market housing in Peachland;	Promote compact housing located close to existing amenities and services in walkable/bike able areas. Encourage infill that is located near transit and walking/biking corridors and amenities/businesses;	Work with the province/developers to ensure that non-market affordable housing is highly energy efficient (e.g. Step Code 4+); and low GHG emitting.
SHIFT 1.5 **Create a complete community with local businesses**	Support the retention and expansion of the local businesses community to ensure a thriving community with a variety of choices to reduce trips outside Peachland.	Actively encourage the attraction of a community medical office to locate in Peachland to reduce residents' need to make regular out-trips.	Ensure there is a viable supply of commercially zoned and mixed-use properties for a growing community that desires choice.	
SHIFT 1.6 **Support a vibrant and active Downtown**	Promote and facilitate Downtown as a central hub for sustainable low-carbon living through compact mixed-use infill that is close to amenities and provides housing choice.	Support downtown as a vibrant walkable and bike-able hub. Seek opportunities for increasing Downtown pedestrianism and cycling through an Active Transportation Strategy.	Bring festivals, events, and programming to the Downtown. Collaborate with downtown events to demonstrate CEEP initiatives, including e-cycling, farmer's markets, waste diversion, EV vehicles & changing technology.	
SHIFT 1.7 **Promote local and regional food security**	Support the retention/expansion of the Peachland's Farmers' Market and other local food-related	Promote growing food locally and sustainable backyard gardening practices. Promote/facilitate community gardening initiatives. Promote	Investigate "urban farm" initiatives and policies (e.g. backyard bee keeping & hens) as part of upcoming OCP/zoning bylaw updates.	Support the preservation of Agriculture lands in the region through policies and decisions that promote compact infill development and the

	initiatives as opportunities arise.	RDCO's backyard organics composting program.		preservation/inclusion of Agriculture/ALR lands at the RDCO Board.
SHIFT 1.8 **Protect and steward the natural environment**	Protect and steward natural areas and waterways. Review foreshore-related policies and bylaws. Communications/education to boaters to reduce wave action that leads to shore erosion/riparian damage.	Connect the MTFCC with the Healthy Watersheds Committee, BEEPS, and actively seek cross-learning opportunities and aligned initiatives. Collaborate with the RDCO and Okanagan Sustainability Leadership Council on various environmental initiatives.	Incorporate and encourage sustainable landscaping practices (example: drought resistant landscaping, bioswales and low-energy LED lighting along Centennial Way). Promote sustainable landscaping practices to homeowners and builders that reduce energy use (e.g. tree shade, drought resistant landscaping). Review landscaping policies and bylaws.	Undertake or collaborate with RDCO and regional partners on an Environmentally Significant Areas / Habitat Corridor Study.
SHIFT 1.9 **Plan to adapt and build community resilience**	Seek opportunities to help mitigate extreme temperatures and anticipate weather events (e.g. community cooling stations). Support provincial/BC Hydro initiatives to develop a second electrical transmission line to Peachland.	Collaborate with the RDCO and OBWB on flood mitigation studies and practices. Link to/promote online the RDCO's Okanagan Basin Flood Portal.	Help prevent wildfires and massive carbon releases by ensuring Peachland Fire and Rescue Services has all necessary resources (i.e. new fire hall, equipment, staff, volunteers). Promote FireSmart in neighbourhoods to educate homeowners with fire-prevention strategies.	Collaborate with the Province and regional partners to continue the work of the "Okanagan Climate Projections" on next-stage planning (i.e. Regional Climate Change Risk Assessment & Adaption Plan) so that our residents, buildings and infrastructure are better prepared and more resilient to withstand the effects of climate change.

SHIFT 2.1 **Enable active transportation through plans and policies** 	Develop an Active Transportation Strategy to review gaps/opportunities to increase safe & convenient pedestrianism and cycling in the community. Support non-motorized water recreation. Survey the community on travel habits and what services / opportunities are needed within the community to reduce out-of-community travel.	Develop a Complete Streets Policy to including formalizing hierarchy (pedestrian - bike - transit - truck - car); Encourage businesses/civic amenities to include trip-end facilities (bike racks, lockers, showers).	Review Subdivision Servicing bylaw to identify opportunities to include active transportation infrastructure into new subdivisions.	
SHIFT 2.2 **Build safe routes for walking, cycling and other forms of zero emission mobility** 	Apply for grants and strategically improve active transportation infrastructure per existing plans and an Active Transportation Strategy.	Implement Complete Streets Policy to reconfigure streets to be 'complete streets' as streets are regularly scheduled for resurfacing / reconstruction for pavement maintenance or installation of utilities. If new streets are required, design to support connectivity.	Prioritize grants & budgeting for key AAA (All Ages & Abilities) transportation infrastructure that will connect major destinations (schools, shopping) to main residential areas; Invest in enhanced transit. Promote active intermodal travel (e.g. bike racks in key locations and bike carriers on public transit).	Initiate a 10-year program to connect all neighbourhoods to safe and convenient active transportation paths.
SHIFT 2.3 **Develop and deliver an active transportation outreach strategy** 	Promote new routes, bike racks,and end-of-trip facilities that enable employers active transportation for community to work; Promote events such as Bike to Work Week.	Expand active transportation promotion. E.g. education events for new 'all ages and abilities' routes (e.g. priority for disabled users, etiquette when passing others).	Work with regional partners to engage the community on active transportation and transit.	Collaborate with communities in the region on shared outreach capacity.

SHIFT 2.4 **Promote cycling & e-bikes as a fun & viable way to traverse Peachland, including steep slope neighbourhoods**	Promote cycling & e-bikes as a viable way to traverse Peachland, including flat areas along Beach Avenue and steep slope neighbourhoods.	Host awareness events for e-bikes/support vendors who wish to operate in Peachland. Consider a grant program for e-bikes.	Investigate additional bike racks/lanes, an e-bike sharing program, including bikes and/or e-bikes in its municipal fleet.	Investigate inter-municipal trails/partnerships for safe and accessible region-wide trail connections.
SHIFT 2.5 **Investigate micro e-mobility (i.e. electric scooters) and on-demand mobility services** 	Investigate the outcomes/lessons learned in e-scooter pilot programs in select BC communities. Before advancing this "Shift", ensure province has fully legalized this mode.	Conduct an analysis to understand when and where on-demand service will would be most useful in Peachland.	Collaborate with a technology vendor to bring e-mobility on demand solutions to the community, such as electric kick-scooters or e-bikes available for rent through an app.	
SHIFT 3.1 **Collaborate with BC Transit & neighbouring municipalities to promote transit ridership** 	Promote transit ridership by celebrating new routes and offering free transit days; Encourage flexible and active intermodal travel (e.g. bike racks on buses, bike racks at key bus stops, etc.)	Collaborate with transit providers to enable free transit programs for children/seniors, and during bad air quality or very cold weather.	Collaborate with transit providers and engage the community services/routes to better serve high-need riders in the community.	Explore universal free transit with transit providers.
SHIFT 3.2 **Encourage BC Transit to transition to a zero emission transit network** 		Collaborate with neighbouring communities on safe and convenient inter-community transit that is safe and responsive to the needs of the communities.	Encourage transit providers and neighbouring communities to shift to zero emissions vehicles (e.g. electric).	Collaborate with BC Transit and neighbouring municipalities connect all neighbourhoods and connect to other communities with zero emissions transit.

Transportation – Electrify Passenger Vehicles

New vehicle sales are approximately 10% of total vehicle stock annually. Switching to an EV from a fossil vehicle eliminates almost 100% of the emissions in BC. The more that people can walk, cycle and take transit in the community and between communities may reduce the % of EV's required for the first target year. In 2019, 10% of car sales (not including trucks and SUVs) were EV's, though this is not even across BC. Provincial ZEV mandates do not require even portions of sales regionally so District of Peachland can help influence local EV adoption.

Strategy	Tier 1	Tier 2	Tier 3	Tier 4
ELECTRIFY 1.1 **Design, seek grants and expand the public EV charging network** 	Install public Level 2 charging at one municipally owned parking lot to demonstrate leadership. Consider up to 4 Level 2s as a demonstration at that location.	Develop a community EV charging infrastructure strategy (current/future demand for L2 and DCFC, garage orphans). Engage with BC Hydro, Petro-Canada etc. to include Peachland in their EV charging networks.	Collaborate with other local and regional governments on a regional charging network strategy. When opportunities arise during construction, "future proof" locations with EV-ready installations (e.g. conduits).	Leverage grants to implement community EV charging infrastructure strategy. Consider implementation to focus on supporting other actions, such as integrated transportation hubs (connectivity of charging infrastructure to e-bike shares, transit options, etc.).
ELECTRIFY 2.1 **Encourage & consider adopting EV-ready building requirements** 	Initiate staff consultation on Part 9 and Part 3 new construction charging infrastructure requirements.	Draft building bylaw amendment to integrate Part 9 EV readiness requirement for 100% of all new non-street parking. For Part 3, consider requiring smart chargers, to facilitate load management in the future.	Implement Part 3 EV charger readiness policy (I.e. 100% electrified, EV-ready stalls for new MURBs (energized outlet capable of supporting Level 2 charger - integrate load management); 25% of stalls at new, non-residential Part 3 buildings)	Require EV readiness reflective of new Part 3 construction for rezoning or development permits for major redevelopment/renovation.
ELECTRIFY 2.2 **Enable EV charging in existing residential and commercial buildings** 	Provide information to homeowners and businesses about Provincial EV charging incentives; work with the Thompson Okanagan Tourism Association to get the word out to local tourism businesses	Work with strata's and property management companies on navigating the process to retrofit existing parking stalls with EV charging equipment.	Promote provincial residential/MURB and workplace L2 retrofit incentives.	Advocate for Tier 2 exemptions or kWh allowances or time-of-day billing to protect EV owners against increased electricity prices.

ELECTRIFY 3.1 **Develop and deliver an EV outreach strategy** 	Advise local groups of EV outreach incentives from Emotive; Demonstrate various Electric Vehicles at civic events (e.g. World of Wheels); Showcase new EV charger installations. Create a communications plan to support engagement; Deliver builder/developer education on EV charging requirement for part 9 and part 3 such as an Open House for electrical trades to engage on EV charging readiness requirement.	Continue outreach to builders, public, EV boat/auto dealers including workshops and stakeholder engagement. Partner with other organizations to host engagement events such as test-drives and ride-along's, e.g. at Peachland World of Wheels annual car show.	Collaborate with the RDCO and member municipalities on EV outreach initiatives (e.g. regional workshop to identify opportunities to leverage community EV charging network implementation to support regional travel; Partner with neighbouring communities on ongoing active outreach to public and car dealers, implementing the communications plan (Tier 1) to support community identity around EVs.)	Create a community or regional brand around electric vehicle adoption, reflective of the local priorities and context to encourage adoption.
ELECTRIFY 3.2 **Accelerate EV adoption through supportive policies and incentives** 	Investigate opportunities for strategic locations for EV charging stations in attractive public locations that promote civic amenities, local shopping and green trips/tourism.	Consider adjusting speed limits for more streets to 30km/h when possible to allow for low speed EV's.	Leverage Provincial decal program (EV-OK) to provide a suite of EV priority parking (may include free parking or just priority).	Incent ride-hailing, taxi operators and other fleet operators to switch to EV's (e.g. priority parking for EV taxis, business permit reduction for electrified fleets); Create EV-only zones in core downtown areas.

Transportation – Decarbonize Commercial Transportation

Strategy	Tier 1	Tier 2	Tier 3	Tier 4
COMMERCIAL 1.1 **Encourage businesses to adopt commercial ZEV infrastructure** 		Update OCP to include policies that encourages commercial/mixed-use building adoption of EV technology as new buildings are constructed.	Support a pilot fleet electrification initiative with one commercial/institutional partner. (e.g. land use/zoning change to allow for transit charging hub, or electric school bus parking zone, etc.), (Collaborating with other local return-to-base fleets such as BC Transit, school board, waste haulers, and industry / commercial operators).	
COMMERCIAL 1.2 **Engage commercial and industrial stakeholders** 	Develop communications strategy to support outreach/engagement with local businesses on EV technology and available grants.	Engage with BC Transit and School District to identify early adoption opportunities of electric bus and transit options (recognizing 100% electric transit target for BC Transit, and currently available school bus funding for School Districts).	Engage with stakeholders on design of the commercial EV charging network. Integrate as much as possible with public and municipal charging strategies.	
COMMERCIAL 2.1 **Adopt a municipal fleet replacement policy that prioritizes EV and low carbon options for replacing Peachland's municipal fleet over time.** 	Peachland to become a West Coast Electric Fleets partner by pledging to incorporate Zero Emissions Vehicles (ZEVs) into the District's municipal fleet. Develop an EV-based fleet-replacement policy.	Review and integrate municipal purchasing policy/contractual requirements for municipal services to require low emission vehicles, increasing over time with 100% requirement by 2040. (applies to commercial entities that	Require Municipal fleet electrification policy to buy used vehicles at time of replacement if no low-carbon options are available. Seek grants through the Province and others to incorporate ZEVs into Peachland's municipal fleet.	Municipal fleet electrification policy fully implemented (to extent that available technology allows) for 100% EV.

		are contracted for municipal services).		

Buildings – Step Up New Buildings

Step Code is an efficiency code, not a GHG code. Efficiency is a good first step, but to get deep emissions reductions the heating fuel must be low/no emissions. Electricity is nearly emissions free in BC and heat pumps use 1/2 to 1/4 the energy of a baseboard heater, saving energy and money over the long run. Each new building that is inefficient and has a fossil heating system is one more building that will need to be retrofitted at some point.

Strategy	Tier 1	Tier 2	Tier 3	Tier 4
NEW BUILDINGS 1.1 **Adopt the Energy Step Code** 	Designate departments and individuals to attend the local government Step Code Peer Network and start working on an implementation strategy.	Adopt the Energy Step Code with a community-wide requirement for one of the lower steps; Promote adoption of higher steps.	Determine timelines for adopting upper steps (e.g. earlier adoption of Step 3). Adopt a rezoning policy to require upper steps for new developments that add significant density.	Adopt upper steps of the Energy Step Code community-wide at the earliest opportunity, and signal intent to require top step in advance of 2032.
NEW BUILDINGS 1.2 **Encourage a low-carbon approach to the Energy Step Code** 	Promote Better Homes BC website and materials. Conduct consultation with the local building industry about low carbon approaches to the Energy Step Code.	Showcase Passive Home design in Peachland. Consider a tiered approach encouraging low carbon energy systems (e.g. Step 3 community wide, Step 2 if they implement a low carbon energy system.	Adopt the Provincial GHG metrics when they become available.	Support opportunities to reduce embodied carbon and increase sequestered carbon in the construction sector, with a goal to make construction net negative overall.
NEW BUILDINGS 2.1 **Provide leadership, outreach, and guidance regarding the Energy Step Code** 	Promote existing incentives for building more efficient new homes via Better Homes & Better Buildings BC.	Leverage BC Hydro funding to provide subsidies to builders that offset the additional cost of Energy Advisors and/or provide incentives for mid-construction air tightness testing; Fee rebates could also be considered for new homes that install solar or electric vehicle charging stations.	Lead by building facilities that achieve high BC Step Code with a low carbon footprint.	

NEW BUILDINGS 2.2 **Review and integrate Energy Step Code information into permitting processes.** 	Review and integrate clear and timely information for builders and homeowners regarding the Energy Step Code into permitting processes. Assemble and promote list of local or regional Energy Advisors.	Support locally relevant education with regional partners where possible; Support regional building industry partners where possible to accelerate Energy Advisor training;	Continue partnering to provide training to building industry, focusing on meeting Upper Steps;	

Buildings – Retrofit Existing Buildings

Building envelope improvements reduce energy needed to heat the building. An average retrofit can save 10% to 35% of energy while a deep retrofit ($80,000-$100,000) can save 50% to 60%. Heat pumps use 1/2 to 1/4 of the energy of baseboard heaters. Electricity has >80% less emissions than natural gas. Perpetual locked in renewable gas contracts (buying the environmental benefits of renewable gas produced somewhere) may be an option in the future.

Strategy	Tier 1	Tier 2	Tier 3	Tier 4
EXISTING BUILDINGS 1.1 **Encourage and enable deep energy retrofits.** 	Promote *Better Buildings* and *Better Homes BC on the District's website (building permit check-list),* at front counter and in property tax mailings as well as business license renewal mailings.	Lead by retrofitting existing Municipal buildings and streetlights with energy saving options	Require EnerGuide assessments (Part 9 buildings) and building energy benchmarking (Part 3 buildings) as a condition of a renovation permit over a value threshold.	Require minimum energy performance standards aligning with the Province's upcoming retrofit code (*as more information becomes available).
EXISTING BUILDINGS 1.2 **Encourage and enable building electrification, solar & renewable gas** 	Provide information about Better Buildings & Better Homes BC and Energy Advisors, to make renovators and homeowners more aware of low-carbon options (e.g. heat pumps) at time of permit.	Identify and remove any potential barriers to energy efficient & low-carbon upgrades including streamlining permitting processes, optimizing communications with applicants, restructuring permitting fees, and others.	Promote various rebate and incentive programs offered by the Province and BC Hydro.	
EXISTING BUILDINGS 2.1 **Establish a long-term marketing campaign** 	Promote "Better Buildings and Better Homes BC" on Peachland's website at front counter and in property tax mailings as well as business license renewal mailings.	Establish a community-wide online social media campaign to promote the principles and programs of "Better Buildings and Better Homes BC" (based on 'energy diets') to encourage building envelope improvements, electrification or other low carbon fuel sources.	Collaborate with RDCO/local governments in the region on a coordinated ongoing campaign to promote/integrate "Better Buildings and Betters Homes BC" principals and programs, in promoting deep energy retrofits and fuel-switching from heating oil, propane, and natural gas to heat pumps.	

EXISTING BUILDINGS 2.2 **Build industry capacity** 	Promote “Better Buildings & Better Homes BC” to educate renovators and realtors on energy efficiency and low carbon choices for space and water heating.	Signal intention to adopt 'retrofit code' when it becomes available (outreach to public, retailers, realtors, trades).		

Waste – Close the Loop on Waste

Strategy	Tier 1	Tier 2	Tier 3	Tier 4
WASTE 1.1 **Adopt policies that increase organics diversion** 	Collaborate with the Regional District to initiate staff consultation on organics, processes & targets.	Connect with RDCO and local groups to promote back-yard composting; Promote RDCO's grass-cycling program in Peachland.	Promote diversion (away from landfill) for construction and demolition wood waste; Require recycling & organics diversion for event permitting once a regional composting facility is operational.	Promote RDCO waste diversion programs to the community (residential, commercial, institutional) organics (food waste, yard waste, etc.), and promote future RDCO curbside organics waste collection once a regional program becomes available.
WASTE 1.2 **Encourage back-yard composting, and support future regional organics collection and processing** 	Gather available information from RDCO and become better informed of community organic waste volumes and landfill diversion programs.	Once available, support any viable/sustainable regional program that includes curbside kitchen waste collection for homes and businesses.	If RDCO provides composting in the future, require developers to install central collection points that are regularly picked up for multi-family units and food-related businesses	Collaborate with RDCO on regional public program for compost pick-up from all buildings; Integrate organics collection in streetscapes, where appropriate.
WASTE 1.3 **Collaborate on a regional comprehensive zero-waste outreach program with the RDCO** 	Support community-led composting projects/demonstrations; Support existing and new capacity for reusable resources, including Free Swaps, Share Sheds, free-store for unwanted goods, and building materials depot; Collaborate with School District on programs	Connect and collaborate with RDCO staff dedicated to waste diversion to support implementation; Conduct annual community zero-waste drives to enhance awareness, streamline with school and business programs.	Educate and communicate the source-separation requirements; Outreach to wood waste landfill owners, and other people who can help identify the opportunity. Investigate the feasibility of a local recycling transfer station.	If established, join the RDCO waste reduction working group consisting of key staff across the region that institutionalizes support for organic diversion and zero waste initiatives, & include external organizations where possible.

	educating about waste reduction/diversion.			

Appendix B: Sample Key Performance Indicators

Two types of indicators are recommended. Primary indicators measure community energy consumption and GHG emissions, while secondary indicators can quantify the indirect success of various actions. The following table provides a description of these indicators, the measures of success, data sources for each indicator, and frequency of reporting. Annual progress reporting should be planned by the District of Peachland.

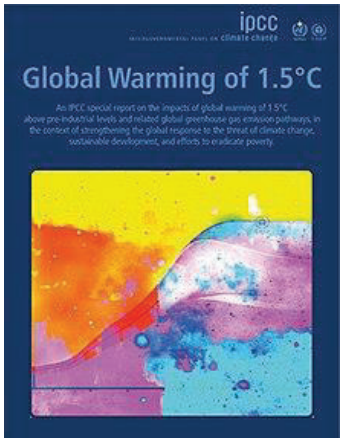
	Indicators	Measures of Success	Data Sources
Overall	1. Community GHG emissions	43% reduction in emissions from 2007 levels by 2030 80% reduction in emissions from 2007 levels by 2050	Provincial energy & emissions data at the community level, and Kent Marketing Group fuel sales data for area gas stations converted into emissions using latest factors from the Province
Overall	2. Per capita energy usage	Average household and commercial energy use declines over time to 2050 Annual fuel sales (gas & diesel) decreases over time to 2050	Provincial energy & emissions data at the community level, Kent Group fuel sales data for area gas stations.
Transportation	3. kWh/year used recharging EVs at public charging stations	Increase in number of kWh/year of charging at EV stations	Usage data from service provider.
	4. Infrastructure to promote active transportation	Progress towards outcomes of the following plans: • Parks & Recreation Master Plan • Regional Bicycling and Trails Master Plan • Official Community Plan	Public Works & Recreation
	5. Commuting / personal travel mode split	Increase in travel around Peachland and between Peachland and Penticton / Kelowna by ride share, public transit, walking or cycling	BC Transit ridership data, and Census
Existing buildings	6. # of energy efficiency incentives distributed for building efficiency upgrades	Average increase in incentive use	Summary data from FortisBC (and other entities as applicable, e.g. Province)

	Indicators	Measures of Success	Data Sources
New buildings	7. # of buildings at each level of the BC Energy Step Code	Increase in number or percentage of new buildings constructed to various levels of the Step Code	Permit applications *(Notes: suggest setting this up in advance for GIS; Some builders may currently be building to Step Code and getting FortisBC rebates without the District knowing, by following the prescriptive pathway. Advising local builders and front counter staff of the Step Code compliance pathway in the building code should solve this.)*
Renewable Energy	8. # of renewable energy buildings installations	Increase in percentage of buildings adding solar and other renewable energy sources	Distributed Generation Program applications *(Note: this only covers renewable energy systems that generate electricity. Others will not be possible to track.)*
Waste	9. Amount of organics diverted from landfill	Increase in organics at composting facility	District of Peachland
	10. Recycling rates	Increase in recycling rates	District of Peachland
	11. Tonnes of waste per capita to landfill	Decrease in waste per capita sent to landfill	District of Peachland
Other	12. Urban tree canopy cover	Increase in canopy	Development applications; Public Works tree planting data
	13. Per capita water consumption	Decline in water use	Usage data on water utility bills / metering system
	14. # of participants at building community & citizen educational events / workshops	High participation levels at events	Registration/Attendee lists for events

Appendix C: Climate Action at All Levels

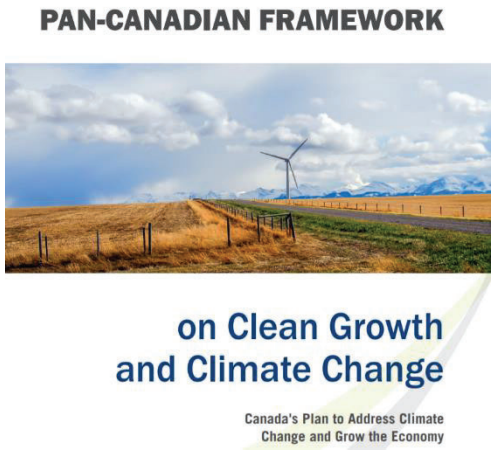
Global Action

When Canada signed the Paris Agreement in 2015, we joined a global commitment to keep global warming below 2°C, and as close to 1.5°C as possible. In October 2018, the United Nations Intergovernmental Panel on Climate Change (IPCC) released a major report that emphasized the dramatic difference in consequences between a 1.5°C and 2°C world. Every degree of warming beyond this threshold will lead to increased impacts of extreme weather, more wildfires and floods, increases in sea-level rise, and severe threats to human health and well-being.



By limiting these impacts, we can ensure a healthy environment, economy and society for ourselves and future generations. While it is not too late, time is of the essence.

The key finding of the IPCC report is that limiting warming to 1.5°C is possible, but requires deep emissions reductions across all areas of society – reducing global emissions by 45% from 2010 levels by 2030 and reaching net zero emissions by 2050.



National Action

In 2016, the Government of Canada released its Pan-Canadian Framework on Clean Growth and Climate Change. The framework sets out the federal government's strategy to meet its commitment under the Paris Agreement to reduce national greenhouse gas (GHG) emissions 30% below 2005 levels by the year 2030. In 2017, the most recent emissions inventory year, Canada's emissions were 716 megatonnes of CO2 equivalent (Mt CO2e), which is a 2% decrease from 2005 levels. This means that in order for Canada to meet its emissions reduction target, we need a decrease of 28% from 2005 levels in just ten years. More recently, the Government of Canada has established a target of net-zero emissions by 2050, requiring an acceleration of action by all levels of government.

Actions available to the federal government include vehicle fuel-efficiency standards, model national building codes, energy ratings, and carbon pricing. The partners for Climate Protection (PCP) program is a national network of over 400 municipalities with the shared goal of taking action against climate change and reducing local greenhouse gas emissions. PCP is managed and delivered by FCM and ICLEI—Local Governments for Sustainability Canada (ICLEI Canada) and receives financial support from the Government of Canada and ICLEI Canada.

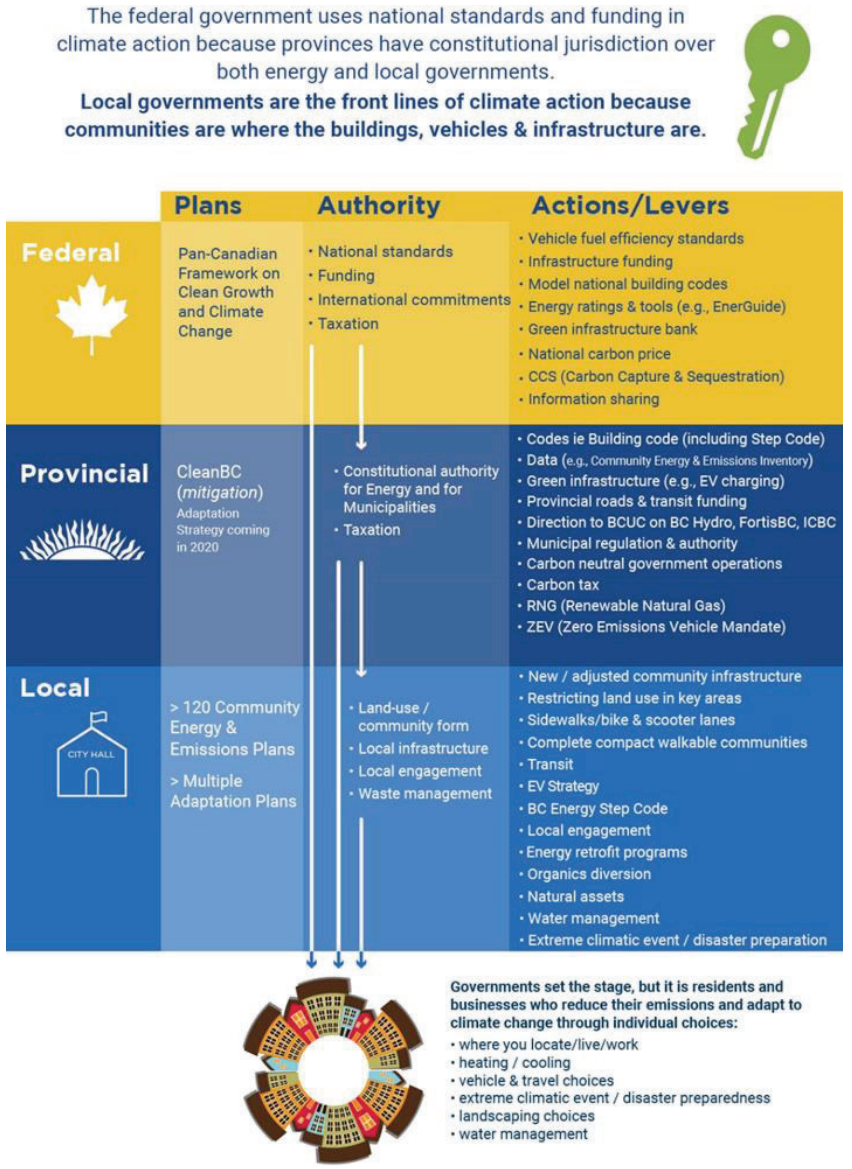
Provincial Action

In December 2018, the Province of British Columbia released its CleanBC climate plan. The plan reaffirmed the province's previous target to reduce emissions 80 per cent below 2007 levels by the year 2050, and established a new interim target to reduce emissions 40 per cent by 2030. In 2017, BC's provincial emissions were 0.5% below 2007 levels, which means that in order for BC to meet its emissions reduction target, we need a decrease of 40% from 2007 levels in just ten years.

CleanBC outlines a path to meeting the 2030 targets, outlining a range of actions to meet 75% of the target. These actions include sourcing clean and renewable electricity, incremental increases in building-energy performance in the BC Building Code, tailpipe emissions standards, and measures to reduce emissions from industry. The Province is currently identifying the actions to achieve the remaining 25% of emissions reductions.

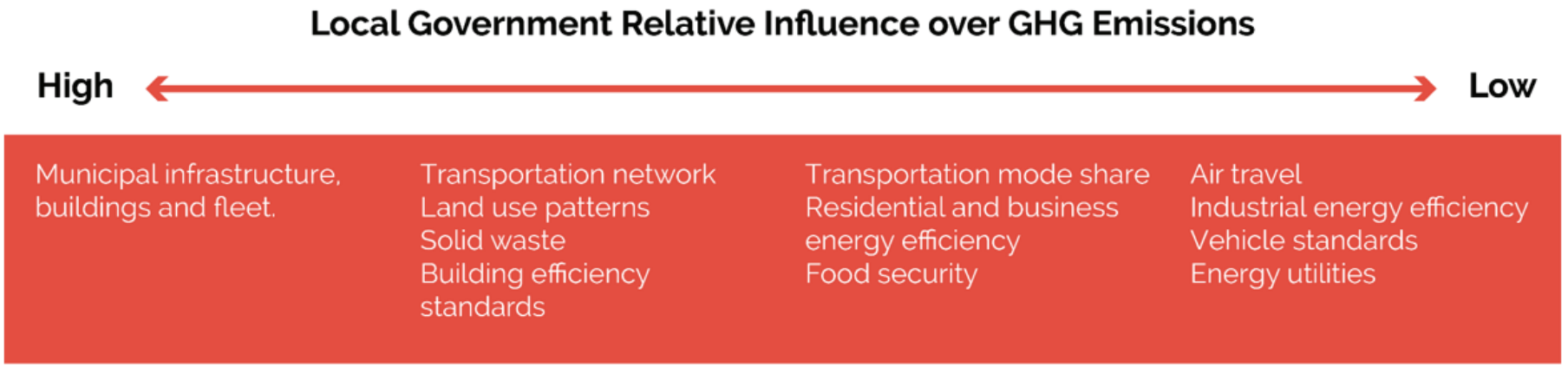
CleanBC builds on a history of provincial climate action: The provincial government has enacted laws and regulations to reduce emissions and transition to a low-carbon economy. These include the Climate Change Accountability Act, Carbon Tax Act, Greenhouse Gas Industrial Reporting and Control Act, and Clean Energy Act.

Senior levels of government have recognized the need for strong climate action (particularly on mitigation), and provide support to local governments.



Local Action

More than 120 British Columbia local governments have to date enacted community climate action plans or Community Energy and Emissions Plans (CEEPs), which outline actions they can take, or are taking, to reduce greenhouse gas emissions. Local governments have varying degrees of influence over different sources of emissions within their boundaries, as shown below.



If local governments are to succeed, they will need leadership and/or support from other orders of government, as well as commitments from residents and businesses. Further, the outputs of this Plan and the targets/actions prioritized for implementation will need to be embedded into relevant policy, operational, budgetary and asset management plans or strategies. Communities and regional districts play an important role in climate change mitigation and adaptation. Almost every British Columbia local government has committed to some degree of action under the B.C. Climate Action Charter. Across Canada, local and regional governments directly and indirectly influence approximately 60 per cent of the nation's overall energy use and 50 per cent of its GHG emissions.

Residents and Businesses

Residents and businesses also have an important role in climate action, such as individual choices on where to live, how to heat or cool, how to travel, how to handle household waste, preparing for extreme events such as extreme heat, making landscaping choices that affect the urban tree canopy and are wildfire smart, and being careful with water use. Meanwhile, businesses' decisions regarding their current operations and future plans as well as factors such as leadership and innovation also impact community-based emissions and affect a community's resilience to a changing climate. Residential and business decisions are shaped by other levels of government, including local government, creating an opportunity for governments to influence those choices in a way that addresses environmental issues and climate action.

Appendix D: Template for Climate Action at the Personal Level

The Peachland CEEP details actions that the District can implement to reduce community GHG emissions. These actions fall into one or more of three broad categories; Policy & Regulation, Infrastructure and Engagement & Outreach. Implementation of these actions will enable residents to make lower carbon choices.

Residents of Peachland can use an online tool to estimate their personal GHG emissions[2]. The following list provides examples of ways in which residents can reduce their personal carbon footprint and reduce their broader impact on the environment. The list below offers easy ways to reduce your household's GHG emissions, increase your quality of life while helping out the community and saving you money.

1. **Shop locally in Peachland! Supporting local businesses helps foster a complete community and reduces fuel consumption.**
2. **Enjoy the great outdoors! Walk or cycle for local trips. An e-bike is a great option for hilly terrain, and rebates are available.**
3. **Next time you replace a family car, consider an electric vehicle (and get up to $14,000 in rebates toward your purchase!)**
4. **Use LED bulbs. Look into rebates and financing for renovating your home to make it more energy efficient.**
5. **Buy locally grown fruits, vegetables and other foods grown in BC, and especially the Okanagan.**
6. **Get involved with backyard gardening or community gardening to grow your own delicious local food.**
7. **Become a superstar recycler, and try out the RDCO's backyard composting bin system.**
8. **Sign up for RDCO's "Make water work!" campaign and help Peachland become a Community Champion!**
9. **Become FireSmart, and learn how to prevent wildfires.**
10. **Make informed choices about how you shop, travel, and use energy, to increase your quality of life and reduce your household's footprint.**

[2] For example, https://www.saanich.ca/EN/main/community/sustainable-saanich/climate-change/carbon-fund-calculator.html

Appendix E: Inventory and Modelling Methodology

This appendix contains details on the community energy & emissions inventory and projections for District of Peachland.

Inventory

Peachland's inventories were created using data for buildings, transportation and waste obtained from the Province of BC. Full inventory years for buildings and waste are: 2007, 2010, 2012, 2013, 2014, 2015, 2016 and 2017. Full inventory years for transportation are 2007 and 2010.

Emissions factors for inventory years are shown in the following table, and are sourced from the Province of BC.

Table 1 – Emissions factors used for inventory years

GHG/GJ, by Year	2007	2010	2012	2013	2014	2015	2016	2017	2018
Gasoline	0.068	0.067	0.066	0.065	0.065	0.065	0.065	0.065	0.065
Diesel	0.069	0.069	0.068	0.067	0.067	0.067	0.067	0.067	0.067
Electricity	0.007	0.007	0.007	0.007	0.005	0.004	0.004	0.003	0.003
Natural gas	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Wood	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019
Heating oil	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068
Propane	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.061

As can be seen, some of the emission factors have changed over time. The emission factors for gasoline have decreased as a result of the Renewable and Low Carbon Fuel Requirements Regulation. The emissions factor for electricity has decreased as a result of ongoing efforts to decarbonise the electricity grid. However, please read the textbox below regarding future changes in emissions factors for electricity.

Transportation data was sourced from a previous release of the Province of BC's Community Energy & Emissions Inventory (CEEI) data,[3] and building energy and landfill waste data was sourced from the latest CEEI data and the Province's release of Provincial Inventory data at the community level.[4]

[3] https://www2.gov.bc.ca/gov/content/environment/climate-change/data/ceei
[4] https://www2.gov.bc.ca/gov/content/environment/climate-change/data/provincial-inventory

Electricity emissions factor subject to change

Information received from the Province of BC in December 2020 and January 2021 states that the electricity emissions factor used for electricity consumption across BC will change, effective for reporting for the 2021 year. But because of the lag in reporting cycles it will not appear in reports until June 1st 2022, and the Province will not officially change the electricity emission factors in the forthcoming *2019 BC Methodological Guidance for Quantifying Greenhouse Gas Emissions.*

Despite this it is official that there is an intention to change, which will take effect in 2022, and the change will be backdated as well for previous years.

Previously, emissions from electricity use was calculated using a three-year rolling average of emissions from BC utility owned and operated facilities, and did not include emissions associated with importing electricity from outside of BC. Those emissions will now be included. (Note that no credit will be made for clean electricity generated in BC used to displace electricity generated in other jurisdictions.)

Under the old methodology the Province calculated the electricity emissions factor to be 10.67 tCO_2e/GWh for 2018. Based on the limited information currently available, under the new methodology the Province has calculated the figure for the 2019 year to be 29.9 tCO_2e/GWh. *If* the 2018 and 2019 years are comparable (and it is probable that they are at least approximately comparable), this would be an increase of 2.8 times.

Despite the increase, emissions from electricity would still be far lower than for natural gas on a per unit of energy basis, and electricity used in the District would still have among the lowest GHG emissions in the world (e.g. still about 30 times lower than Australia's, 8 times lower than New York's, or 40% lower than Ontario's).

Assumptions made with respect to the inventories are as follows:

- The Province of BC made a series of standard assumptions in the creation of the CEEI data, which are outlined on the CEEI webpage: https://www2.gov.bc.ca/gov/content/environment/climate-change/data/ceei. The CEEI inventory years in the preceding charts are 2007, 2010, and 2012.
- The Province of BC made assumptions for buildings and landfill waste emissions information, which are outlined in the community level spreadsheets on the Provincial Inventory webpage: https://www2.gov.bc.ca/gov/content/environment/climate-change/data/provincial-inventory
- In creating the inventories, CEA made other assumptions in addition to these:
    - Because the Province removed transportation data from its most recent release of the 2007 and 2010 CEEI data, and has not provided this data for any other year, CEA has used population data to extrapolate transportation data for any year post-2010.

The following are not included in the inventory:

- Emissions from Agriculture, Forestry and Other Land Use (AFOLU)
- Emissions from large industry
- Consumptive emissions (e.g. food, services, consumer goods)

Business As Usual Projection

CEA's QuickStart model was used both to calculate the BAU trajectory, and to estimate the potential GHG reductions that could be achieved. Developed in 2010 on behalf of BC Hydro and used by approximately 65 communities to date, the model builds on information including population and community energy and emissions inventory data.

The model uses formulas both to calculate the BAU trajectory, and to estimate the impacts of implementing each Big Move.

The BAU trajectory was calculated by using available inventory data, and then projecting forwards using a population forecast provided based on census data.

There are full or partial inventory years that describe the community's emissions profile from 2007-2018. From 2019 onwards, all of the data is an estimate as a BAU projection.

For the BAU projection modelling, the assumption is that energy consumption and emissions will increase proportionally with increases to population, although the impact of policies from higher levels of government are also incorporated, and other assumptions. Only policies that have already been adopted and that will have quantifiable impacts are incorporated. Assumptions are:

- The Province's incremental steps to net zero energy ready buildings by 2032.
- Tailpipe emissions standards.
- Renewable & low carbon transportation fuel standards.
- Zero-Emissions Vehicle Act, requiring every new LDV sold in B.C. to be a zero-emission vehicle by 2040 (with a ramp up in advance of that date).
- An annual decrease in natural gas consumption per residential connection is included, as per Fortis BC 2017 Long Term Gas Resource Plan: https://fbcdotcomprod.blob.core.windows.net/libraries/docs/default-source/about-us-documents/regulatory-affairs-documents/gas-utility/171214_fei_2017_ltgrp_ff.pdf
- How the impacts of a changing climate will affect building energy consumption, as outlined below.

The final assumption had the following methodology:

- Climate change data for the region obtained from ClimateData.ca.
- Projected global emissions to 2030 currently places the world in the range for the IPCC's Fifth Assessment Report's Representative Concentration Pathway (RCP) 6.0 scenario.

- RCP 6.0 scenario not available on ClimateData.ca, therefore RCP 4.5 (median impact scenario) used as a (conservative) proxy.
- Decreases in residential heating oil and propane consumption assumed to be proportional to projected decreases in Heating Degree Days (HDDs).
- Decreases in residential and commercial natural gas consumption assumed to be proportional to decreases in HDDs and the proportions of natural gas consumed for space heating for each sector, and that proportion obtained from the Navigant 2017 Conservation Potential Review for FortisBC Gas.
- Decreases in residential and commercial electricity consumption assumed to be proportional to decreases in HDDs and the proportions of electricity consumed for space heating for each sector. However, proportions of electricity consumed for space cooling for each sector and how this will increase proportional to projected increases to Cooling Degree Days (CDDs) also included. These proportions obtained from the Navigant 2016 Conservation Potential Review for FortisBC Electric.

Although CEA's model assumes that projections will be linear, there will be annual variability due to factors such as economic conditions (on mobility fuels and building energy consumption) and climatic variations (particularly on building energy consumption). These variations mean that it may often be necessary to collect several years of data before one can see the success or lack of it in implementation of an action, in the primary indicators.

Modelling the Big Moves

The QuickStart model estimates the impacts of the Big Moves compared to the BAU trajectory. The impacts of the Big Moves can vary greatly between communities, and depend on the assumptions made. The assumptions made for each Big Move are based on research that CEA has conducted and can be tailored for individual communities.

GHG emission reductions by Big Move are described in the main body of this report in the Action Plan section.

The QuickStart model allows Big Move implementation at five levels; 0%, 25%, 50%, 75% and 100%. This allows for varying levels of ambition within each Big Move. The model also requires an implementation start year.

The QuickStart model makes the following assumptions based on full implementation (100% ambition level).

Big Move	Modelling Assumptions	
Step Up New Buildings	90%	New homes with zero-carbon heating
Decarbonize Existing Buildings	3%	Homes retrofit per year
	33%	Energy reduction per retrofit
	2%	Homes replacing fossil fuel heating with heat pumps
Shift Beyond the Car	1 year	Lag time from implementation for initial impact

	20 years	Full implementation takes 20 years
	17%	Maximum VKT reduction after 20 years from Active Transportation, Transit and Land Use
	33%	Attribution of VKT reduction to Active Transportation
	33%	Attribution of VKT reduction to Transit
Electrify Passenger Vehicles	9%	Current % of vehicle sales as EV
	20%	Compound Annual Growth Rate of new car purchases as EV in year 1
	12%	Compound Annual Growth Rate of new car purchases as EV in year 5
Decarbonize Commercial Transportation	1%	Percentage GHG reduction per year
	10%	Maximum GHG reduction after 10 years
	5	Lag time from implementation for initial impact
Waste	75%	Percentage GHG reduction from organics diversion or landfill gas capture
	5	Full implementation takes 5 years.

If a lower level of ambition is selected, then that would be applied in the model. For example, if a community selects a 50% ambition level for Waste, then the GHG reduction would be 50% of 75% (or 37.5%) but would still take 5 years to ramp up to that diversion level.

Appendix F: Additional Inventory and Modelling Details

The main body of the report presented per-capita emissions rather than total emissions, which is in line with Peachland's GHG emissions reduction target. Here the data is presented as total community emissions.

Inventory and Modelling

Figure 9 and Figure 10 show Peachland's GHG emissions inventory from 2007 to 2018 and it's business as usual forecast from 2019 to 2050

The top chart shows emissions from the five sectors stacked on top of one another to show total emissions. The bottom chart shows emissions by fuel type. Between 2007 and 2018 there was an increase in GHG emissions of 9.1%, with some annual fluctuations in between. Emissions are expected decline from 2021 onwards. It is anticipated that the biggest reductions will come from passenger vehicles/mobility fuels. This is due to Provinical climate policy such as the Zero Emission Vehicles Act in British Columbia.

The red line indicates Peachland's emissions reduction target. As can be seen from the chart, in a business-as-usual scenario, Peachland will not meet this target at any point between now and 2050.

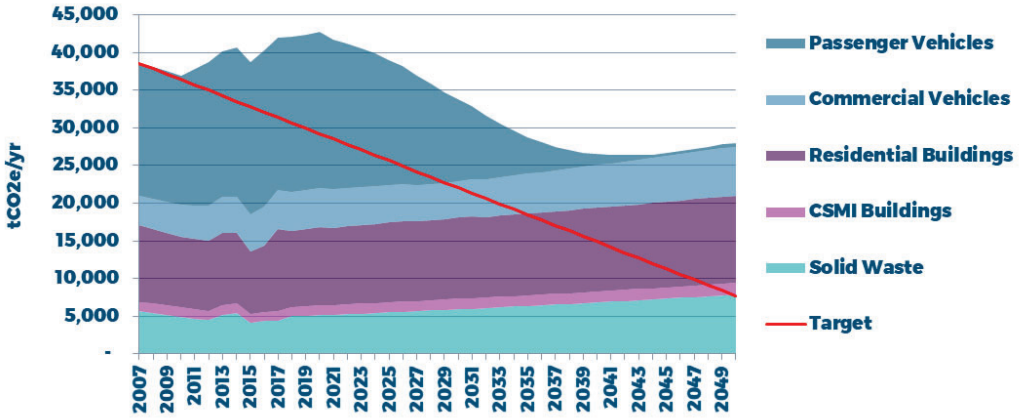


Figure 9 – Business As Usual GHG Emissions by Sector

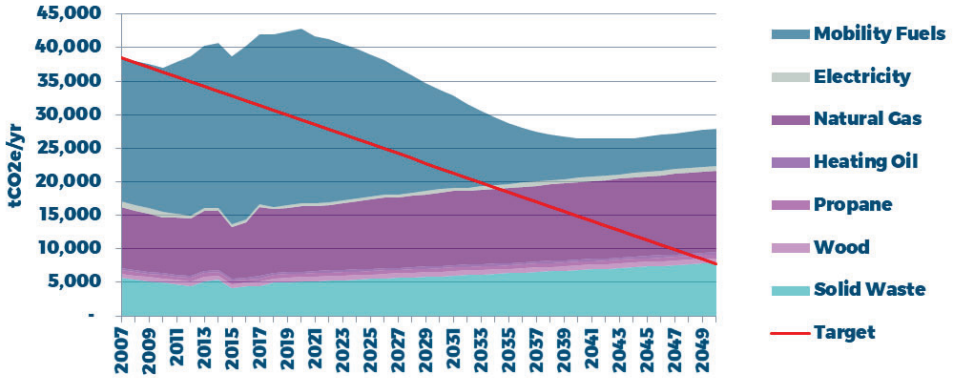


Figure 10 – Business As Usual GHG Emissions by Fuel Type

Forecasted Emissions Reductions

Figure 11 shows the modelled emissions reduction by Big Move, relative to the BAU. If all Big Moves are implemented in Peachland to the degree outlined in this Plan, GHG emissions in 2030 could be reduced by 13,400 tonnes of CO_2e, or 35% below 2007 levels. This would not meet the 43% reduction target. However, it was noted in the main body of the report that the per capita target would be met.

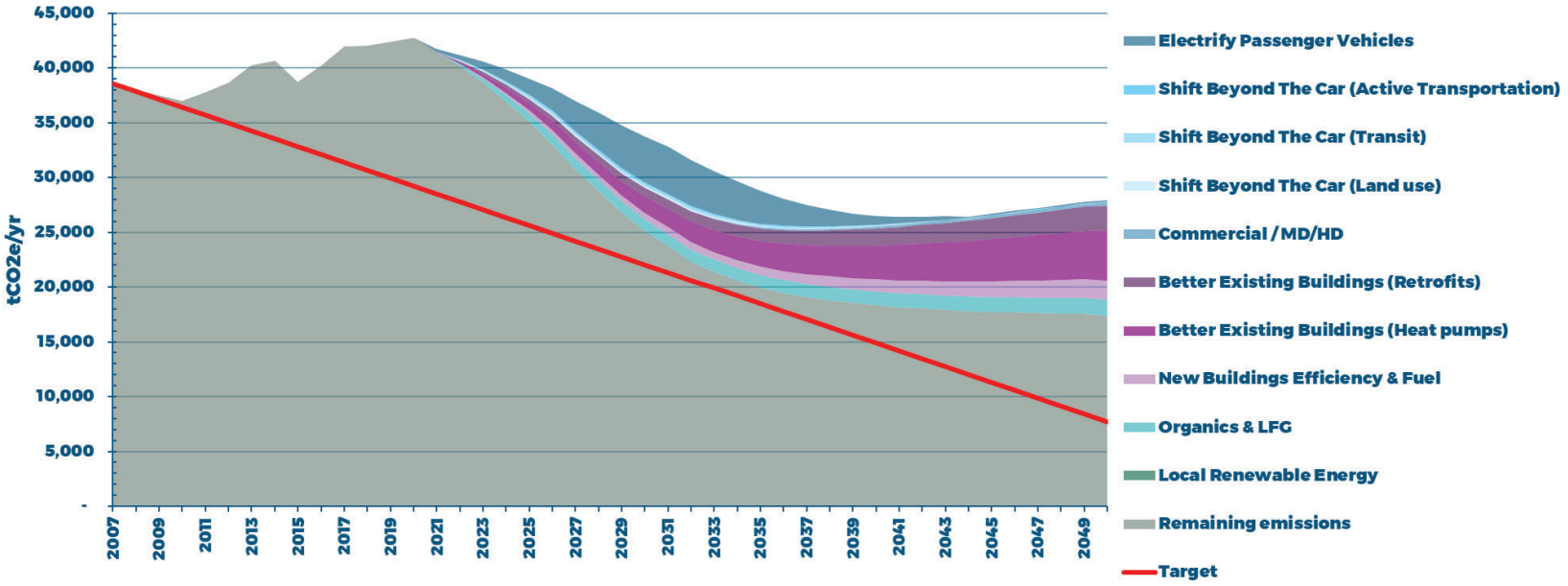
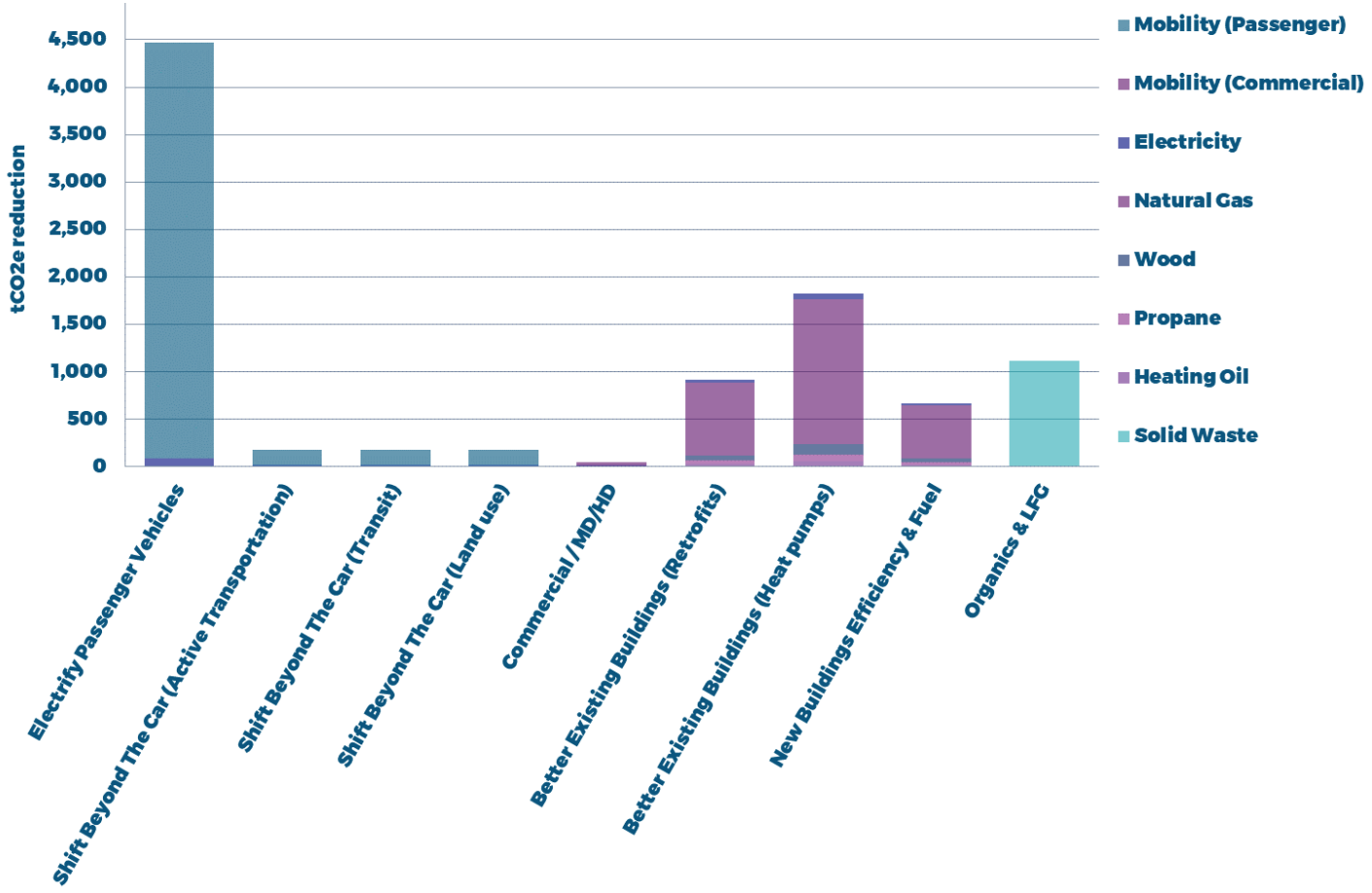


Figure 11 – Modelled Emission Reduction

Figure 12 shows the emissions reduction by Big move in 2030 relative to the BAU. Whilst the BAU scenario assumes a certain level of passenger vehicle electrification, this Big Move presents the greatest opportunity for further emissions reductions, at 4,465 tonnes CO_2e. Retrofitting the existing building stock for both fuel switching to heat pumps and improved energy efficiency present savings of 1,823 and 911 tonnes CO_2e respectively. Diverting organic waste from landfill could save 1108 tonnes CO_2e.

Figure 12 - Emissions Reduction by Big Move in 2030, Relative to BAU



Appendix G: Engagement Summary

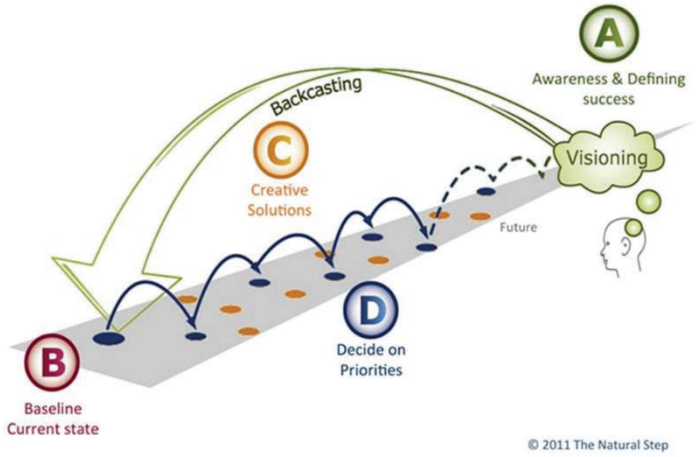
On November 23 and 30th 2020, Peachland community stakeholders gathered via Zoom to discuss the District of Peachland's Community Energy and Emissions Plan. The workshops were facilitated by Community Energy Association (CEA) staff. The workshops featured in-depth discussion on the current community emissions in the District of Peachland as well as the envisioning of a low carbon future, review of the opportunities and actions to reduce community Greenhouse Gas Emissions (GHGs) and set the new community GHG reduction target for 2050. The workshop group who spent two afternoons examining community energy emissions and expenditure data and developing an action plan. Workshop participants and community stakeholders represented the following groups:

- District of Peachland Mayor, Councillors and Planning staff;
- Mayor's Task Force Climate Change (MTFCC)
- Trail of the Okanagan's Society (TotO)
- Peachland Seniors' Support Society (PSSS)
- Peachland Community Arts Council
- Bat Education and Ecological Protection Society (BEEPS)
- Peachland Chamber of Commerce
- Ponderosa project developers
- Peachland Watershed Protection Alliance

The workshops followed the "backcasting" approach, which first envisions a low carbon future and defines success, then identifies the current state before brainstorming creative solutions and prioritizing actions. Workshop 1 focused on A and B of the backcasting approach. Workshop 2 focussed on C and D of the backcasting approach.

Workshop participants were divided into two breakout groups and remained in the same group throughout. The breakout groups were;

- Transportation
- Buildings and Waste



Workshop One

Activity A - A Vision of the Future

In the first breakout session, participants were asked to describe their vision of the future for Peachland for Buildings, Transportation and Waste. The year 2040 was used in this exercise as it bridges the gap between 2030 which is the short-term target year and 2050 which is the long-term target year. Participants were told that their vision could be unimpeded by traditional constraints such as cost. Participants were encouraged to be bold with their ideas. The Miro boards can be seen in Figure 13 and Figure 14.

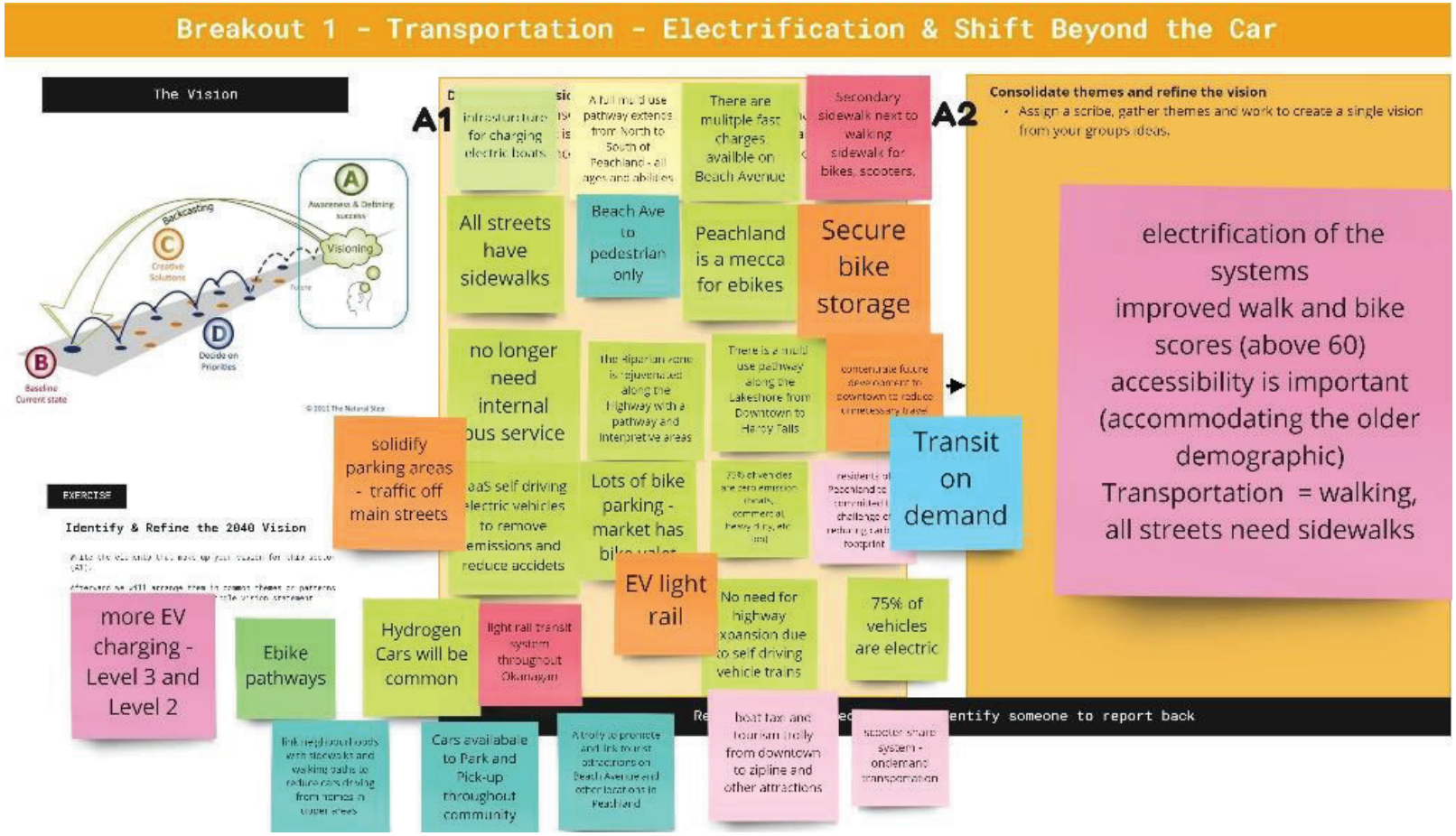


Figure 13 - A Vision of the Future for Transportation

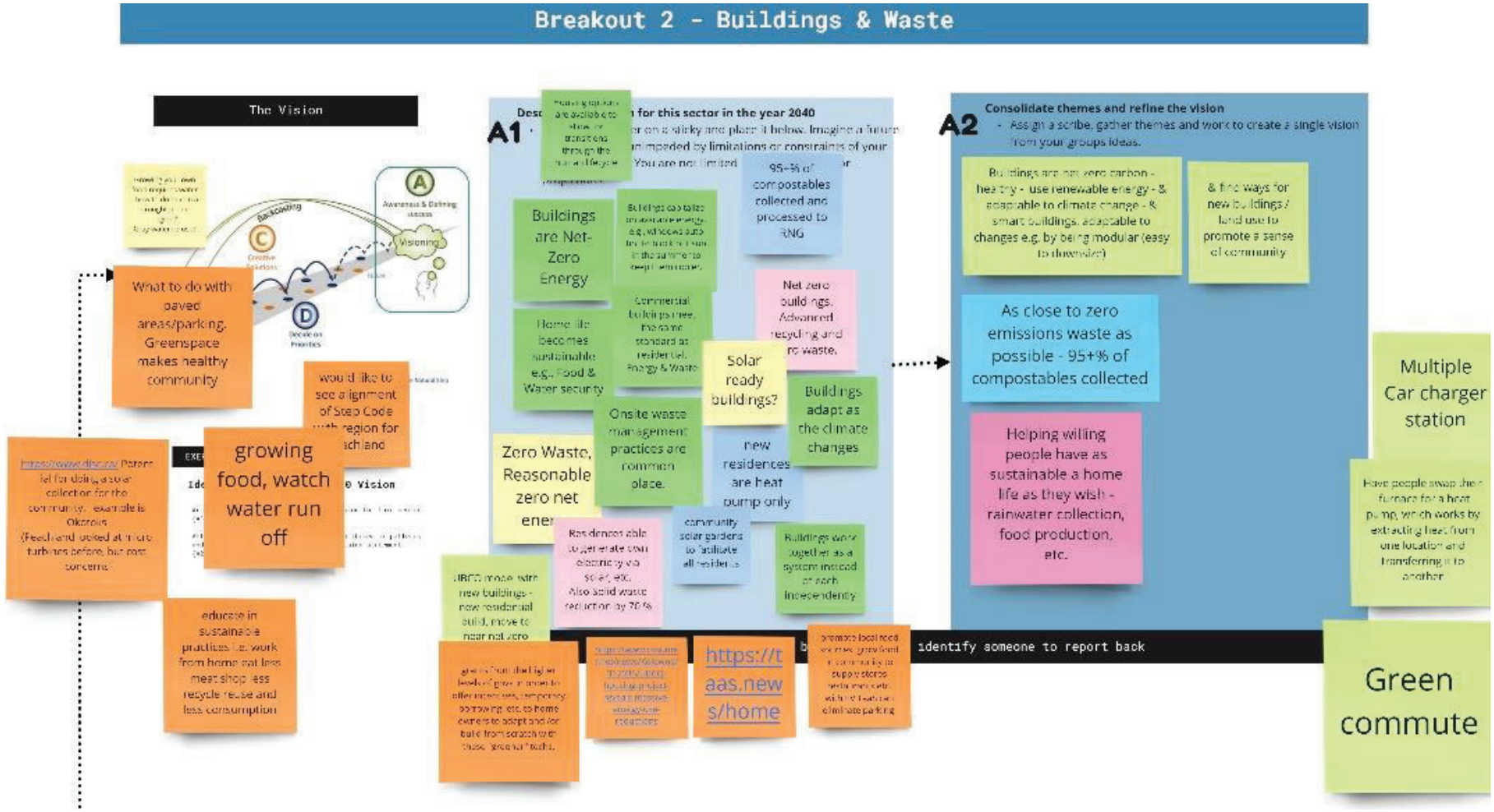


Figure 14 - A Vision of the Future for Buildings and Waste

Activity B – The Current State

In the second breakout session, participants were asked to describe the current state of Transportation, Buildings and Waste for Peachland. The Miro boards can be seen in Figure 15 and Figure 16.

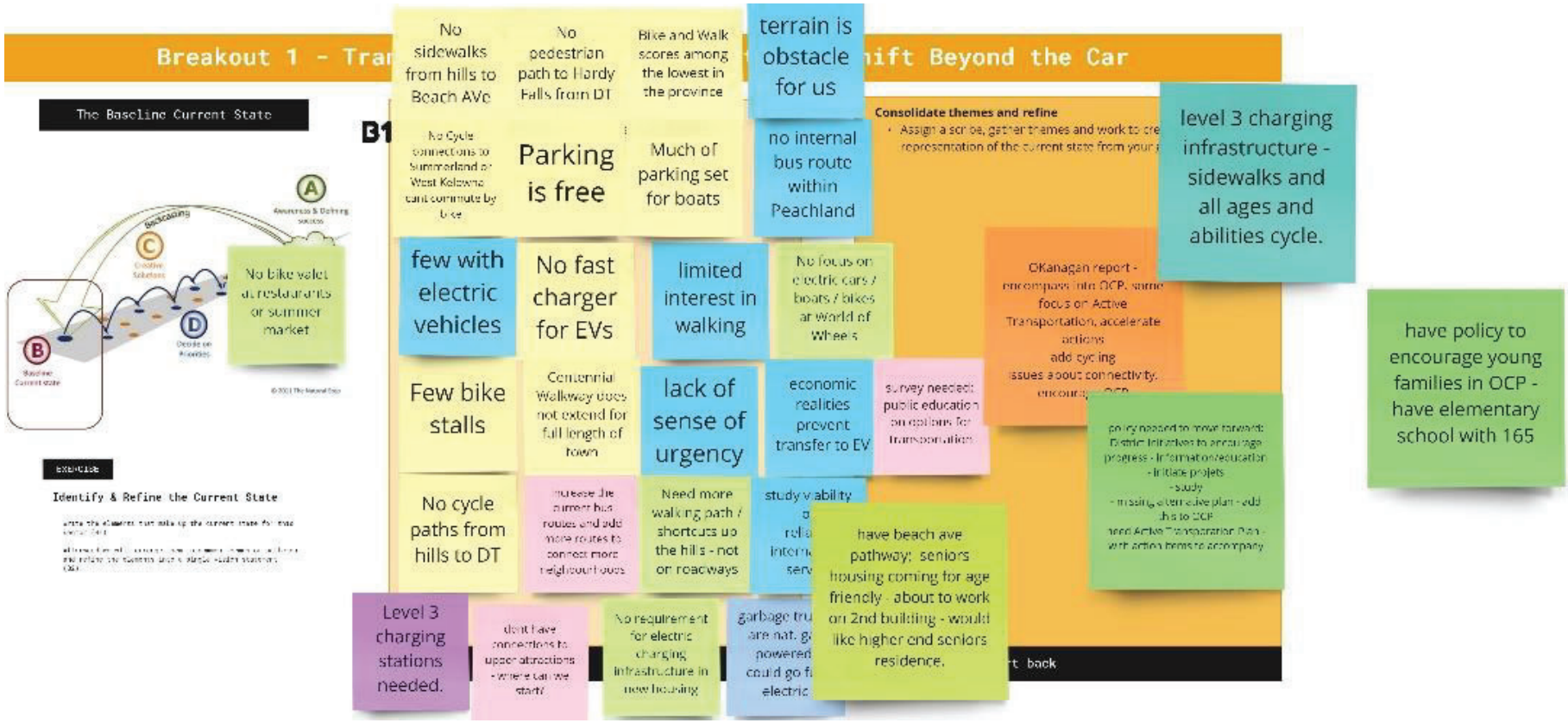


Figure 15 - The Current State of Transportation

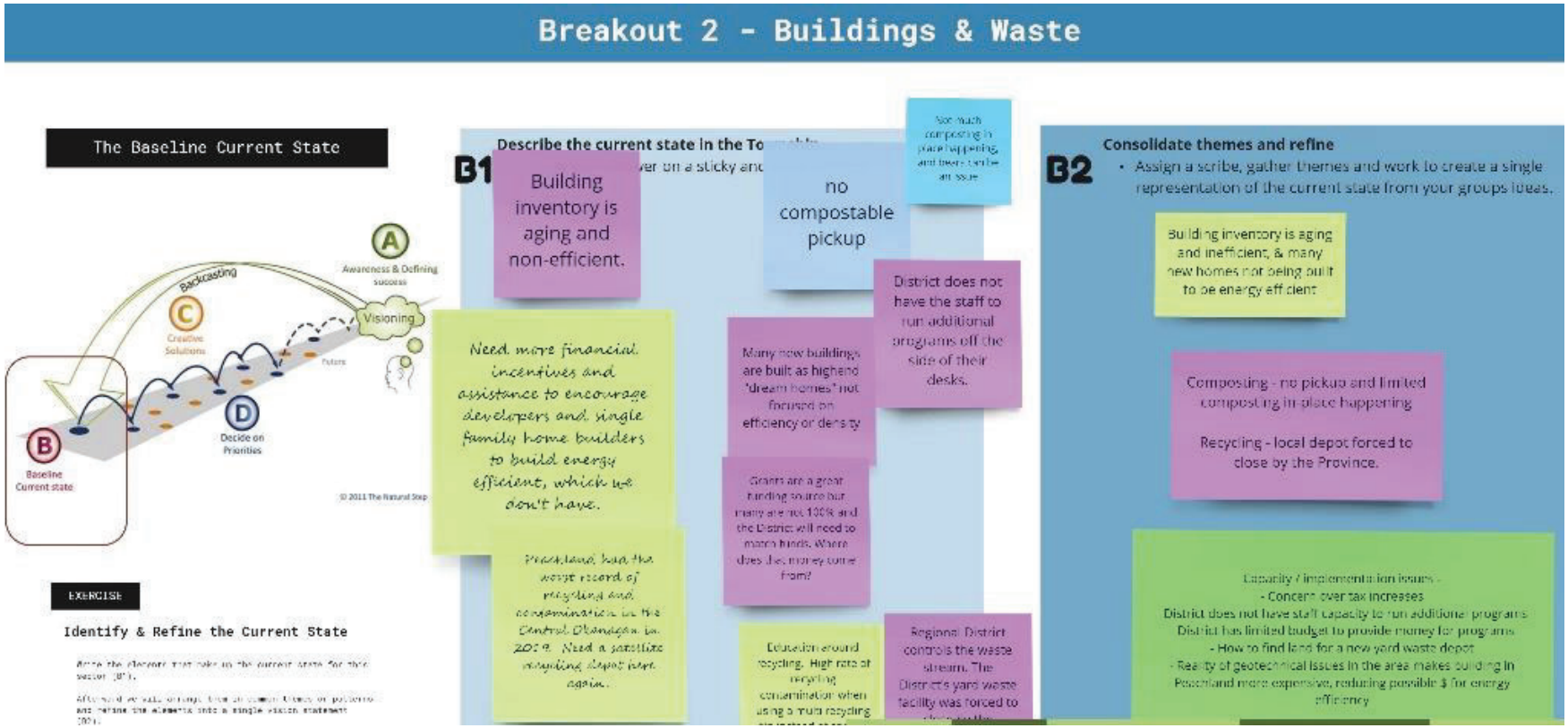


Figure 16 - The Current State of Buildings and Waste

Workshop Two

Activities C and D – Identifying and Prioritizing Creative Solutions

In the third breakout session, participants were asked to consider a number of creative solutions provided by CEA and identify additional ones. These creative solutions, or strategies, were then prioritized according to possible implementation timelines. Strategies were prioritized in the following way;

- Short-term implementation (1 - 2 years)
- Medium-term implementation (3 – 5 years)
- Long-term implementation (5+ years)

Figure 17 and Figure 18 show the strategies for Transportation and Buildings & Waste respectively. Figure 19 and Figure 20 show the prioritization of the Transportation and Buildings & Waste strategies respectively.

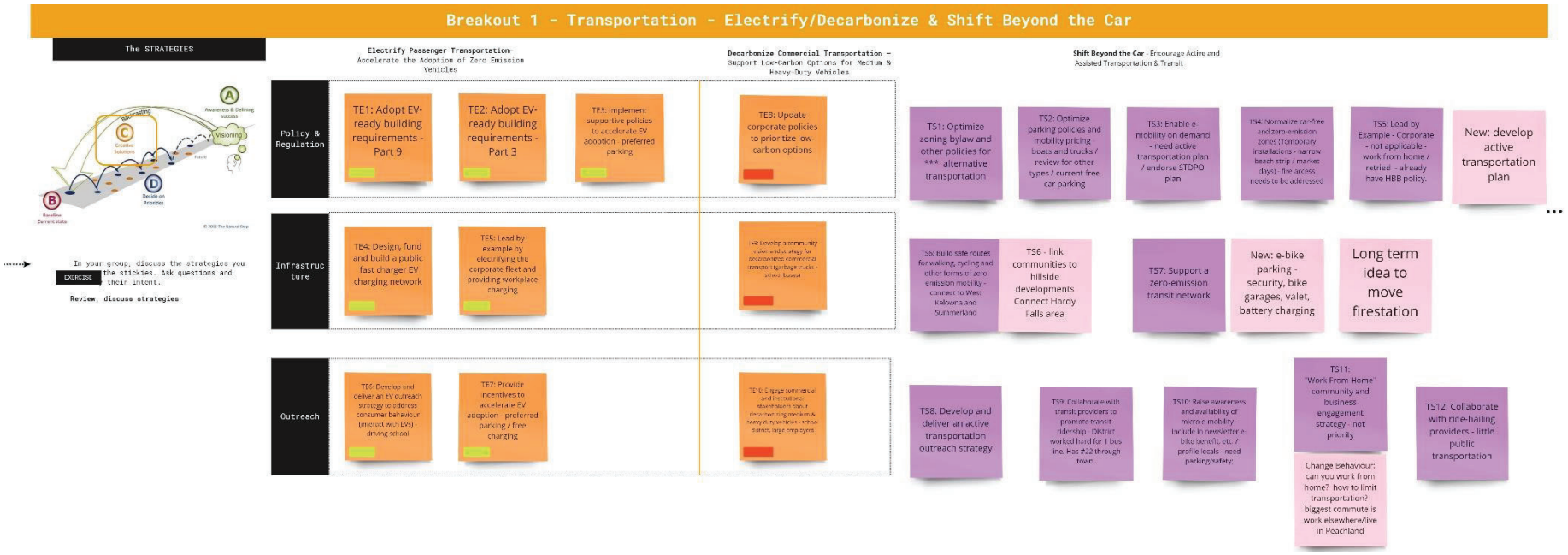


Figure 17 - Strategies for Transportation

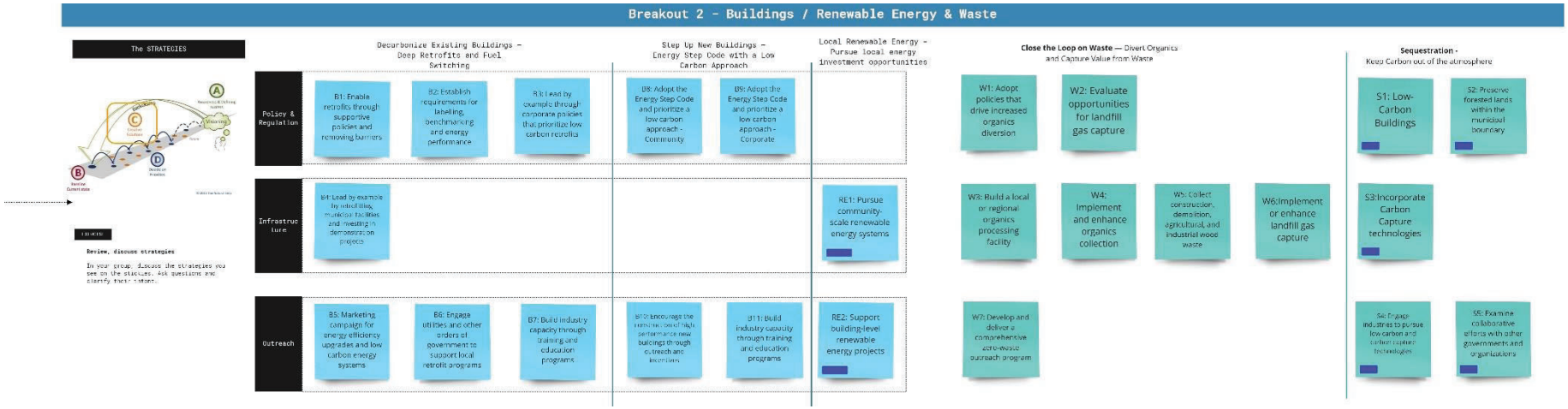


Figure 18 - Strategies for Buildings and Waste

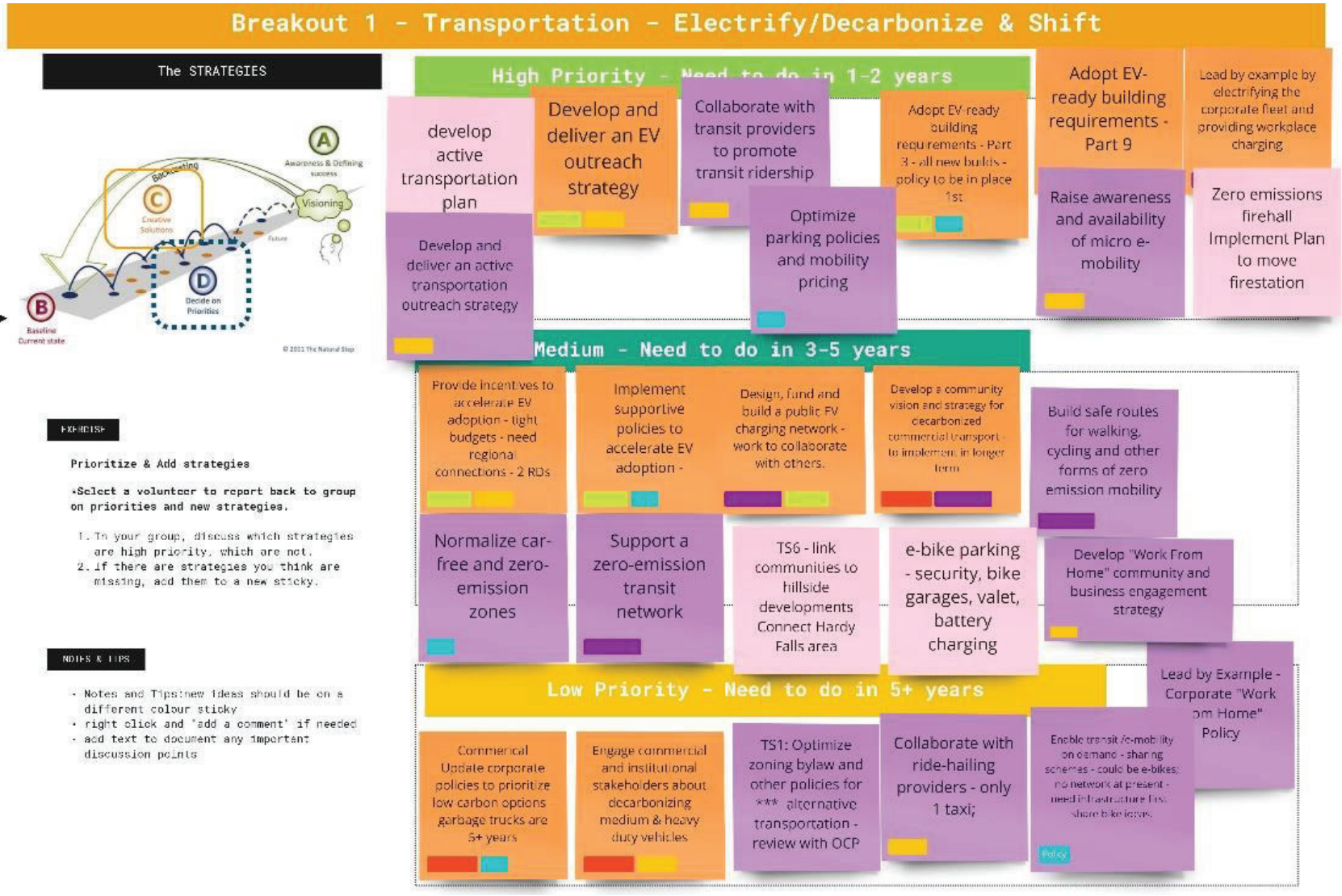


Figure 19 - Strategy Prioritization for Transportation

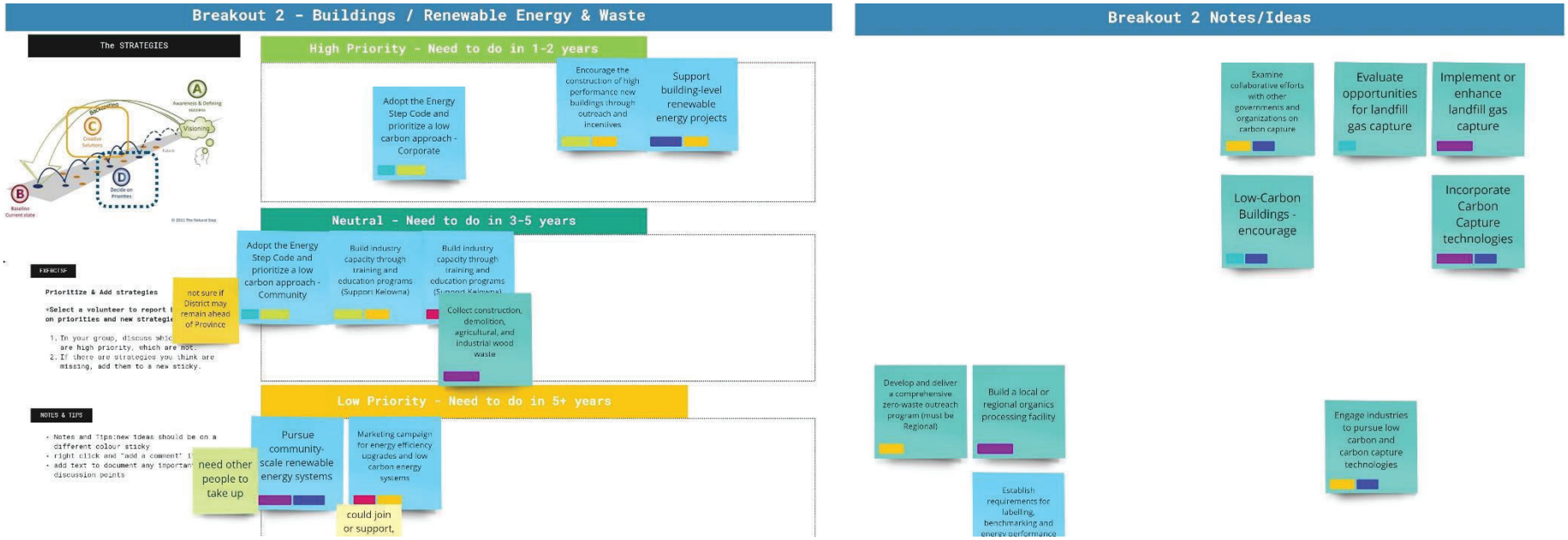


Figure 20 - Strategy Prioritization for Buildings and Waste

Deep Dive on Priority Strategies

In the final breakout session of workshop 2, participants were asked to select one or two of the priority strategies and do a deep dive in terms of co-benefits, local leverage points, barriers/challenges, catalysts/potential for collaboration, equity and next steps. The Miro boards for this exercise can be seen in Figure 21 and Figure 22.

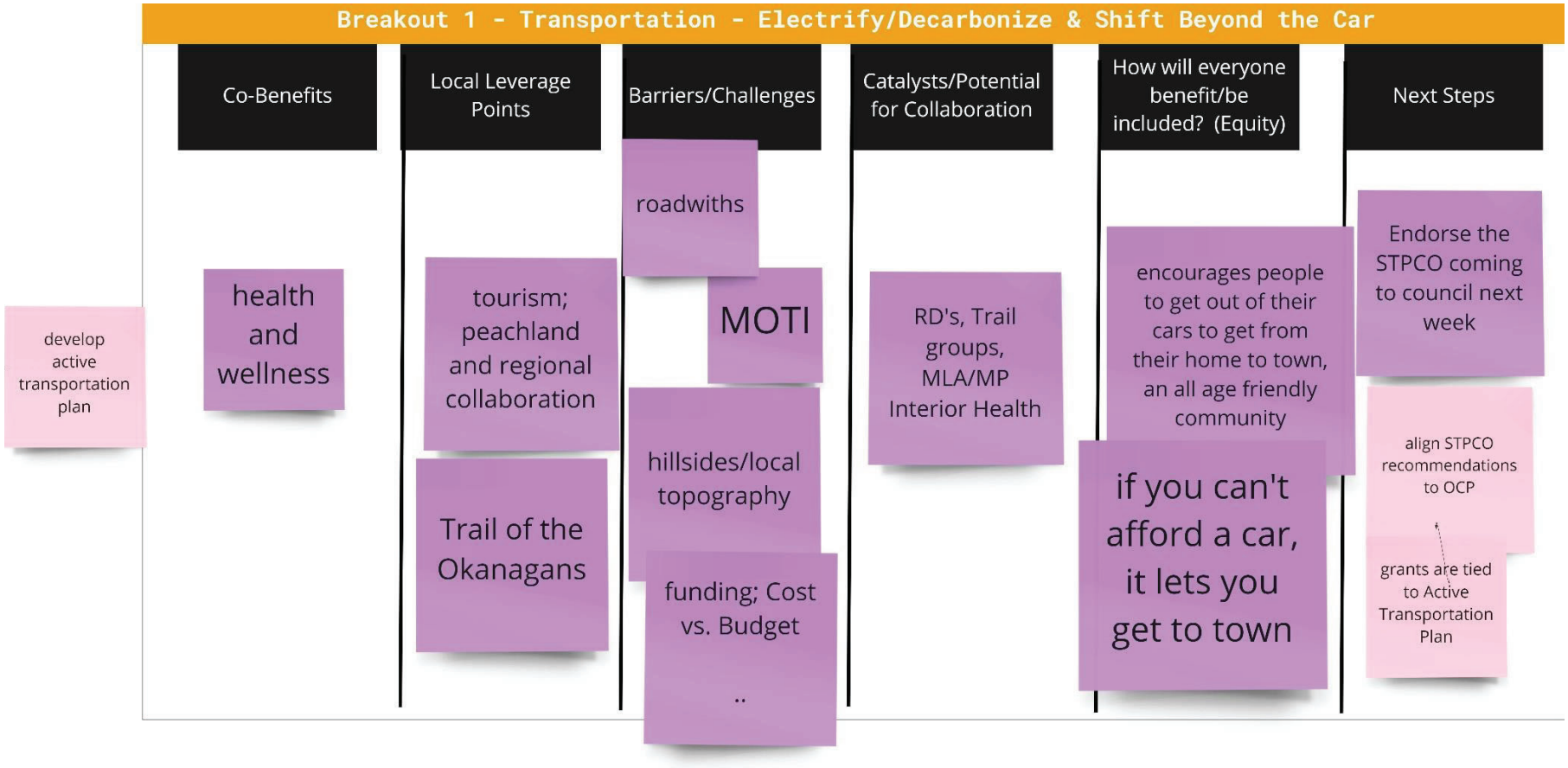


Figure 21 - Deep Dive for Transportation

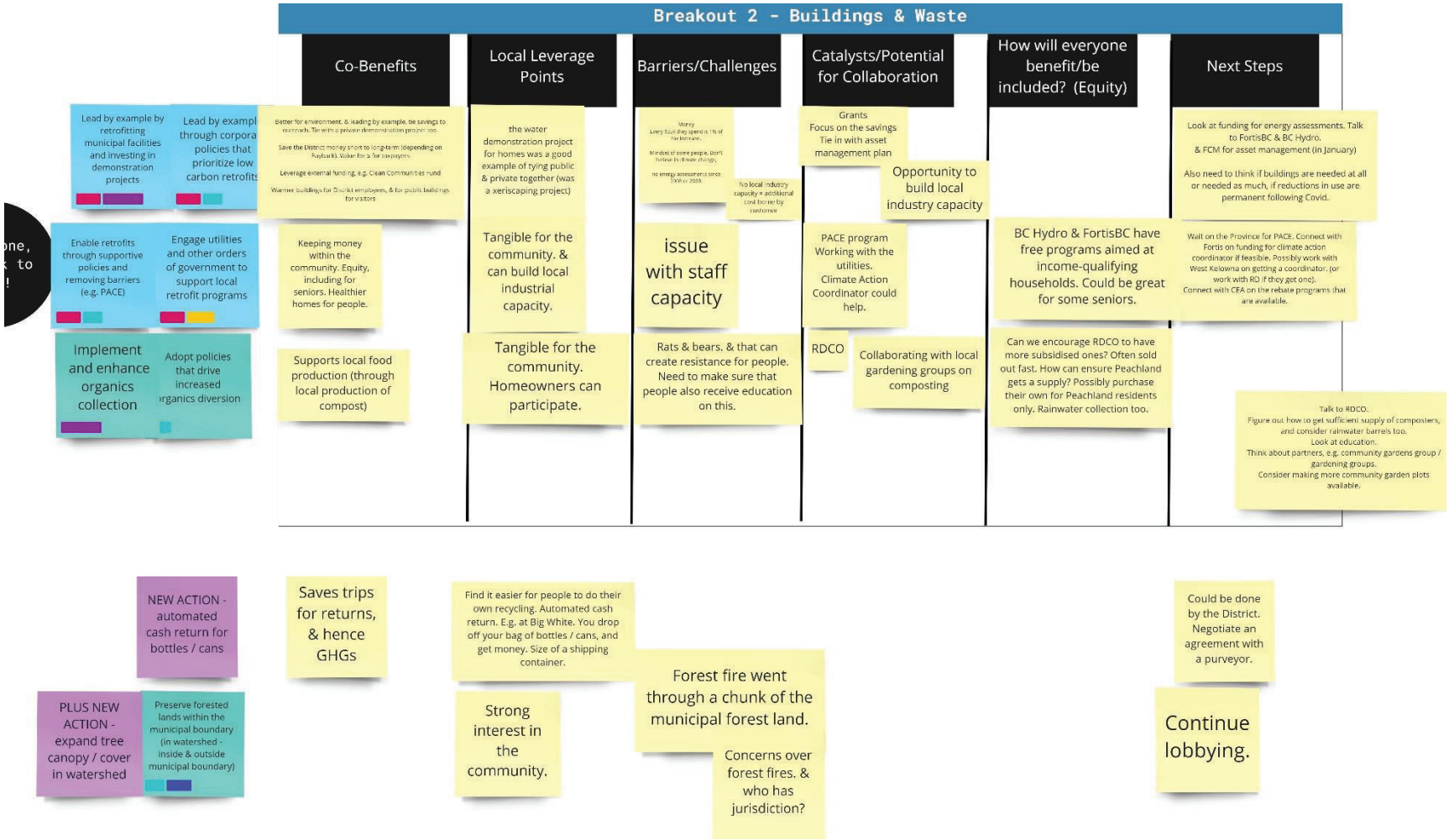


Figure 22 - Deep Dive for Buildings and Waste

Survey

Following the two stakeholder workshops, participants were invited to complete a survey via Survey Monkey. Fourteen responses were collected between December 2nd and December 15th.

Transportation

1. **For strategies related to electrifying and decarbonizing transportation**, the following strategies were listed as high priority by workshop participants. **Please rate how strongly you agree** with each one by rating them on a scale of 1 to 5, with 5 being the highest.

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
TE1 Adopt EV-ready building requirements	8.33% 1	0.00% 0	16.67% 2	25.00% 3	50.00% 6	12	4.08
TE5 Lead by example: Electrify corporate fleet and provide workplace charging	0.00% 0	16.67% 2	8.33% 1	25.00% 3	50.00% 6	12	4.08
TE6 Develop and deliver an EV outreach strategy	16.67% 2	0.00% 0	16.67% 2	16.67% 2	50.00% 6	12	3.83
TE9 Develop community vision and strategy for decarbonizing commercial transportation	16.67% 2	8.33% 1	16.67% 2	33.33% 4	25.00% 3	12	3.42

2. Who are the **important partners or collaborators** for implementing these strategies?

- STPCO recommendations to OCP, and Active Transportation Plan. Transit providers / regional collaboration
- B.C. Transit, Community, Higher levels of Gov. (and neighbouring community, such as the extra route we've just signed onto with the Regional District of the Okanagan Similkameen - Route 70)
- BC Hydro, MTFCC, neighbouring municipalities
- Peachland bylaw for implementing requirements for EV charging in new builds and retrofits / District for implementing EV charging in public parking areas and prioritizing parking for EV vehicles and purchasing EVs as fleet turns over / World of Wheels could have section to focus on EVs cars, boats, bikes
- Provincial Government, Central Okanagan Regional District, Kelowna/ West Kelowna municipalities, BC Hydro, First Things First,
- BC Transit, Regional District, Federal and Provincial Gov.
- Transit, public, builders
- District of Peachland, companies with 2 or more vehicles, homeowners with 2 or more vehicles, residents commuting to work outside of Peachland

- Regional District of Central Okanagan Peachland Residents - for input
- Levels of Government and Utilities to engage grant funding.
- Districts around us and Citizens of Peachland
- BC Hydro Industry Reps Community

3. Do you have any **more comments about Peachland's role supporting electrifying vehicles / decarbonizing transportation?**

- Need to set an example. Have purchased two electric vehicles. Need better transit.
- The District must be a role model and demonstrate the costs and benefits of EV/low carbon vehicles. regular updates on costs, kilometers travelled, ease of use, and carbon saved by District vehicles/staff --need to be regularly publicized and celebrated.
- Peachland should be at least on par with neighbouring communities - Summerland is doing good work in this area
-
- Great idea, Consider an electric trolley to service the hilly areas.
- district needs to lead by example and provide clear strategies for businesses and residents
- Leading by example would be great, but previous consideration showed that the steep grade of some of our roads do not make EVs practical for some heavy duty public works vehicles.
- Faster charging station and preferred parking. Carbon sequestering re agricultural land and forests creeks and riparian areas
- Be a role model; inform and advocate, monitor and report

4. For strategies related to shifting beyond the car, the following strategies were listed as high priority by workshop participants. **Please rate how strongly you agree with each one** by rating them on a scale of 1 to 5, with 5 being the highest.

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
Develop an Active Transportation Plan and Strategy	0.00% 0	8.33% 1	0.00% 0	33.33% 4	58.33% 7	12	4.42
TS1 Optimize zoning bylaw, OCP, etc. for compact growth: relocate zero emissions fire hall / include alternative transportation	0.00% 0	8.33% 1	25.00% 3	25.00% 3	41.67% 5	12	4.00
TS2 Optimize parking policies and mobility pricing - include boat and truck review	16.67% 2	8.33% 1	33.33% 4	33.33% 4	8.33% 1	12	3.08
TS6 Build safe routes for walking, cycling, zero emission mobility. Connect to West Kelowna and Summerland / hillside developments	8.33% 1	8.33% 1	8.33% 1	25.00% 3	50.00% 6	12	4.00
TS9 Collaborate with transit providers / regional collaboration for transportation	8.33% 1	8.33% 1	0.00% 0	33.33% 4	50.00% 6	12	4.08
TS10 Raise awareness and availability of micro e-mobility. Include infrastructure - parking, security, garages, valet, charging	16.67% 2	0.00% 0	25.00% 3	33.33% 4	25.00% 3	12	3.50

5. Who are the **important partners or collaborators** for implementing these strategies?

- Transit, Local groups/societies working on connectivity routes for walking, cycling...
- Neighbouring municipalities, Trail of the Okanagans, Provincial government, regional district
- RDCO and RDOS to connect planning for active transportation across boundaries and to adjacent communities, MOTI needed to provide active transportation adjacent to Hwy 97 from Princeton to Hardy Falls and key section to Goats Peak Park, Trail of the Okanagans, West Kelowna for securing property for multi-use pathway at north end of Goats Peak Park to create connection to West Kelowna from Peachland, Province to create regional park at Fur Brigade Trail and improve trail for connection to Summerland, District of Peachland to review amount of parking reserved for trucks and boats (can boat launch be moved ?) Complete centennial pathway north - better definition of cycle pathways, DoP for creating Active Transportation Plan via updating the Pedestrian Connectivity Plan to include cycling and a network of cycle routes for Peachland and BC design guidelines for Active Transportation, DoP Council to create standing budget item to incrementally complete the items noted in the Active Transportation Plan,
- Not sure -yet.
- Transit, public, builders and developers
- District of Peachland, BC transit, new transit company to connect to Penticton, RDCO, residents and businesses
- RDCO BC Transit Peachland Residents for input
- RDCO
- Regional district and funders
- RDCO, Grant providers (Fed and Prov) STPCO

6. Do you have any **more comments regarding shifting beyond the car in** Peachland?

- I recognize that this is a tough one for our community, due to the terrain, and the demographics -- many older citizens. Kelowna and West Kelowna have more flat land for this. However, I think it would be a fantastic project to develop an electric biking assistance promotion.
- Shifting the Firehall could include opportunities to shut down the main street for special events.
- Ensure access to all corners of the District.
- I do not agree with requiring a zero emissions fire hall - may make the project unaffordable for a long time to come. Low emissions is more acceptable.
- Shut down down down and make it walk only or biking. Include was de parking. Ensure options for people with mobility challenges
- Financial incentives needed

Buildings

7. For strategies related to **buildings**, the following strategies were listed as high priority by workshop participants. **Please rate how strongly you agree with each one** by rating them on a scale of 1 to 5, with 5 being the highest.

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
B1 Enable retrofits through supportive policies and removing barriers (e.g. PACE)	0.00% 0	8.33% 1	0.00% 0	33.33% 4	58.33% 7	12	4.42
B3 Lead by example through corporate policies that prioritize low carbon retrofits	8.33% 1	0.00% 0	0.00% 0	33.33% 4	58.33% 7	12	4.33
B4 Lead by example by retrofitting municipal facilities and investing in demonstration projects	8.33% 1	0.00% 0	8.33% 1	25.00% 3	58.33% 7	12	4.25
B6 Engage Utilities and others to support local retrofit programs	0.00% 0	8.33% 1	8.33% 1	33.33% 4	50.00% 6	12	4.25
B9 Adopt the Energy Step Code and prioritize a low carbon approach - Corporate	8.33% 1	16.67% 2	8.33% 1	0.00% 0	66.67% 8	12	4.00
B10 Encourage the construction of high performance new buildings through outreach and incentives	16.67% 2	0.00% 0	16.67% 2	25.00% 3	41.67% 5	12	3.75
RE2 Support building-level renewable energy projects	0.00% 0	8.33% 1	16.67% 2	41.67% 5	33.33% 4	12	4.00

8. Who are the **important partners or collaborators** for implementing these strategies?

- FortisBC & BC Hydro & FCM for asset management. Province for PACE. Connect with CEA on the rebate programs, RDCO.

- UDI, Developers looking to build in Peachland, Power Companies, higher levels of government (grant assistance), or grant opportunities
- Neighbouring municipalities, BC Hydro, Fortis, MTFCC, BC Govt
- Fed/ Prov governments (grants, Building code, per square foot funding accepted for new buildings, waste reduction policies), Construction industry, Planning depts., Economic Development, District Council members.
- Builders and buyers
- district of Peachland, builders and developers, home renovating companies and residents, utility companies
- Levels of Government and Utilities to secure grants.
- Builders and clients. Regional districts
- Urban Development Institute, UBCO, Province, BC Hydro

9. Do you have **any comments regarding buildings** in Peachland?

- Much more could be done. Budget limitations, but maybe more grant opportunities An updated District building inventory is crucial.
- Existing building retrofits has one of the highest GHG impacts and the highest potential for job creation
- Difficult to move ahead without staff and funding resources.
- Step code past stage 2 is VERY expensive and will impact affordability with very little increase in efficiencies.
- to encourage green roofs for new development and roof replacements on existing buildings and homes
- I don't believe the District should provide significant financial incentives for new construction.
- They are not as energy efficient as they could be. Focus on improving ceiling insulation, windows
- We need to accelerate Step Code to secure compliance. Retrofitting will need incentives.

Waste

10. For strategies related to **capturing value from waste and sequestration ideas**, the following strategies were listed as high priority by workshop participants**.**

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
W1 Adopt policies that drive increased organics diversion	8.33% 1	0.00% 0	16.67% 2	16.67% 2	58.33% 7	12	4.17
W4 Implement and enhance organics collection	8.33% 1	0.00% 0	16.67% 2	8.33% 1	66.67% 8	12	4.25
S2 Preserve forested lands within boundary: expand tree canopy in watershed; GHG emission offset opportunities forest /agriculture	16.67% 2	0.00% 0	0.00% 0	33.33% 4	50.00% 6	12	4.00
Automated cash return for bottles in Peachland	0.00% 0	0.00% 0	33.33% 4	25.00% 3	41.67% 5	12	4.08

11. Who are the **important partners or collaborators** for implementing these strategies?

- RDCO x2
- RDCO Waste Reduction office, neighbouring communities (re: Forest canopy), higher levels of government, Forestry Practices Board, local organizations/groups/professionals
- Regional district, MTFCC, BC Govt
- Not sure- yet
- Private waster companies, Regional District, public.
- District of Peachland, MTFCC, water shed and community garden representatives,
- Organics can be composted in yard and used to enhance soils and water retention. Partners water board
- RDCO, Prov, Bottle Return Partner,

12. Do you have any more **comments on Peachland's role in capturing value from waste**?

- This would have to be done at the wastewater? facility in West Kelowna, of which we partner. Also, Kelowna does do some recapturing at the main solid waste landfill. Peachland, itself, would have trouble doing anything here.
- Organic collection--not always popular here due to wildlife risk. Also many residents in strata complexes and / or apartments. Don't think District can take on collection ourselves. Where to put /utilize collected waste?
- Great idea if practical.
- I support and encourage the automated cash for bottle returns in Peachland.
- We have no control over waste diversion. It's done at the regional level of which we have a small almost non-existent voice.
- See previous we should be building soils in Peachland not transporting organic out
- WE have a lot to learn from other communities

Other Ideas

13. Are there any other comments or ideas you have on anything else you would like to see be included in the Peachland CEEP?

- The implementation of a Return-It Express & GO recycling station. I believe it was mentioned during the conversation. It's a great idea and very feasible.
- Setting short term, achievable goals, rather than looking at 2050, for example. Looking at what residents, organizations, and builders can do. Look at it from a "What can you do?" and work up from there to the larger picture. Looking at the end goal first can be overwhelming to some people who then just throw their hands up and say it is impossible. Or that reducing our small footprint will not make a dent, rather than looking at the collective effect. I would like to see a months long education and incentive program in Peachland.
- It was hard not to list every strategy as a 5, but fiscal realities will restrict what actions we'll be able to take.
- Update the Peachland OCP to include any changes noted in the STPCO Regional Transportation Plan
- This is much bigger than the Mayor's Task Force on Climate Change. Implementing these strategies may benefit from a different approach than our current set-up. Council needs to find a way to engage the community more fully.
- Achieve goals in the logical, affordable way for most impact.
- Research feasibility of hop-on-drop-off cars, bikes and/or scooters for Peachland, ASAP.
- Feedback from staff on what is realistic for our community.
- Local food production means less transportation. Solar gardens and options for citizens to tie into solar. Less logging in water shed
- Renew research into Hydro generation possibilities on Deep Creek and/or Trepannier Creek; Renew research into a District Heating system; Research an internal bus service.