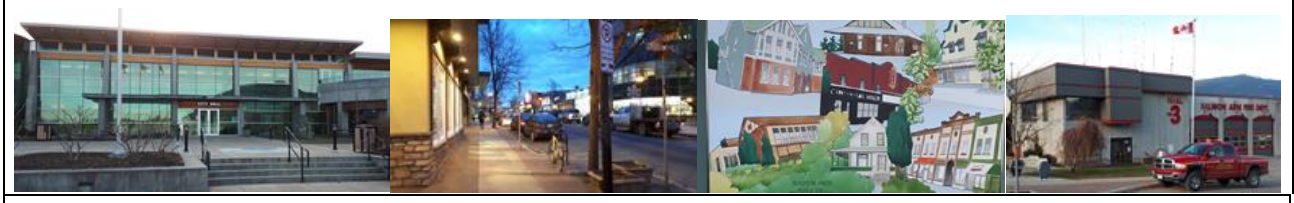

City of Salmon Arm
Community Energy and Emissions Plan

Final Document – November 2020

SALMONARM
SMALL CITY, BIG IDEAS

Community Energy Association

Acknowledgements

The Salmon Arm Community Energy and Emissions Plan (CEEP) was developed by the City of Salmon Arm in collaboration with the Community Energy Association.

The City of Salmon Arm would like to acknowledge the contributions of several people and organizations that were involved in the development of this plan.

- Mayor and Council
- Members of the Environmental Advisory Committee
- Stakeholders who offered feedback on potential climate actions and opportunities to collaborate with the City including: Interior Health, Regional District of Columbia Shuswap, Shuswap Recreation Society, North Okanagan-Shuswap School District No. 83, Ministry of Transportation and Infrastructure, FortisBC and BC Hydro.
- Community members who attended the public information session and provided comments on possible climate actions.
- Staff from City of Salmon Arm departments including Administration, Finance, Development Services, and Operations.

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List of Acronyms

BAU	Business as Usual
BCH	BC Hydro
CARIP	Climate Action Revenue Incentive Program, administered through the Province of BC
CEA	Community Energy Association
CEEI	Community Energy and Emissions Inventory (inventories created by the Province for each local government)
CEEP	Community Energy and Emissions Plan
CO_2	Carbon Dioxide
CSA	City of Salmon Arm
CSRD	Columbia Shuswap Regional District
DCC	Development Cost Charge
DPA	Development Permit Area
DPC	Downtown Parking Commission (City of Salmon Arm)
DSM	Demand Side Management (name for measures used to reduce energy consumption)
EAC	Environmental Advisory Committee (City of Salmon Arm)
ECAP	Energy Conservation Assistance Program, a program offered through BC Hydro and FortisBC that provides free home energy efficiency retrofits to income qualifying households
EV	Electric Vehicle
FBC	FortisBC
FCM	Federation of Canadian Municipalities
GHG	Greenhouse Gas (there are several different anthropogenic GHGs and they have different relative impacts. When tonnes of GHGs are stated in the document the standard practice of stating this in equivalent of tonnes of carbon dioxide is followed. Carbon dioxide is the most important anthropogenic GHG.)
GJ	Gigajoules (one of the standard measures of energy)
GMF	FCM's Green Municipal Fund
HDV	Heavy Duty Vehicles (or commercial vehicles)
ICLEI	Name of an FCM partner in the PCP program
IH	Interior Health Authority
kWh	kilowatt hours (standard measure of energy, typically used with electricity)
LCR	Low Carbon Resilience
LDV	Light Duty Vehicles (or passenger vehicles)
LED	Light Emitting Diode
MOTI	Ministry of Transportation and Infrastructure
OCP	Official Community Plan
PCP	FCM-ICLEI's Partners for Climate Protection
PV	Photovoltaics (solar panels that generate electricity)

Executive Summary

The City of Salmon Arm is committed to climate action. The City has signed the BC Climate Action Charter and established a goal of 6% reduction of community GHG emissions from 2007 level by 2020 in the 2011 Official Community Plan. The annual CARIP reports describe actions the City has implemented to reduce GHG emissions. Some highlights of work undertaken include establishing a Climate Action Reserve fund, leadership on organic waste diversion, capturing value from biogenic methane, ban of plastic bags, solar array at the arts centre and geothermal at City Hall. On September 9, 2019, City Council declared a climate emergency with the resolution:

> *The City of Salmon Arm declare a climate emergency and work towards achieving carbon neutrality consistent with the research of the Inter-Governmental Panel on Climate Change (IPCC) as well as the BC Climate Leadership Plan.*

To take climate action, the City of Salmon Arm engaged the Community Energy Association (CEA) to prepare a Community Energy and Emissions Plan (CEEP). On November 26, 2019, a workshop was held with City of Salmon Arm staff and members of Council, and representatives from the Environmental Advisory Committee, Columbia Shuswap Regional District, Interior Health, Ministry of Transportation & Infrastructure and Shuswap Recreation Society. CEA staff facilitated the one-day workshop, featuring an in-depth discussion on opportunities and potential community actions. Many thanks to the workshop group who spent their day reviewing energy, emissions, and energy expenditure data for the community as a whole and developing an action plan.

Although senior levels of government work on climate action policy, the City of Salmon Arm plays a key role in community climate action through building infrastructure, community planning, and hosting educational activities to influence changes in the categories of land use, energy use in buildings, transportation choices, solid waste diversion, and water use. In turn, government policy and action shapes the choices and decisions made by local residents and businesses taking individual actions resulting in collective climate action.

Our Changing Climate

The climate is changing in British Columbia (BC) and around the world. The average global temperature has increased by 1 degree Celsius (°C) above pre-industrial levels and is expected to reach 1.5°C between 2030-2052, according to the Intergovernmental Panel on Climate Change. Salmon Arm is predicted to experience certain changes according to publicly available climatic data:[1]

- increases in annual mean temperatures
- increase in temperature of the hottest day
- a greater number of days over 30°C
- higher number of frost-free days

[1] climatedata.ca

More extreme weather events such as floods, landslides, storms and wildfires can also be expected similar to those experienced in BC in 2017 and 2018. These changes to our local climate can affect our buildings and infrastructure, physical safety and health, water supply, agricultural resources, local economy and natural environment. It is important to adapt to climate impact in addition to taking action to lower greenhouse gas (GHG) emissions. The Salmon Arm CEEP provides an action plan focused on reducing GHG emissions in the community, which is one part of broader climate action strategy that also includes adapting to impacts.

The Case for Climate Action

Through Bill 27, the *Local Government (Green Communities) Statutes Amendment Act*, the Province of BC amended the *Local Government Act* and *Community Charter* to require local governments to set GHG reduction targets *and* outline actions and policies to achieve those targets in their Official Community Plans and Regional Growth Strategies. This Community Energy & Emissions Plan (CEEP) helps the City comply with legislation.

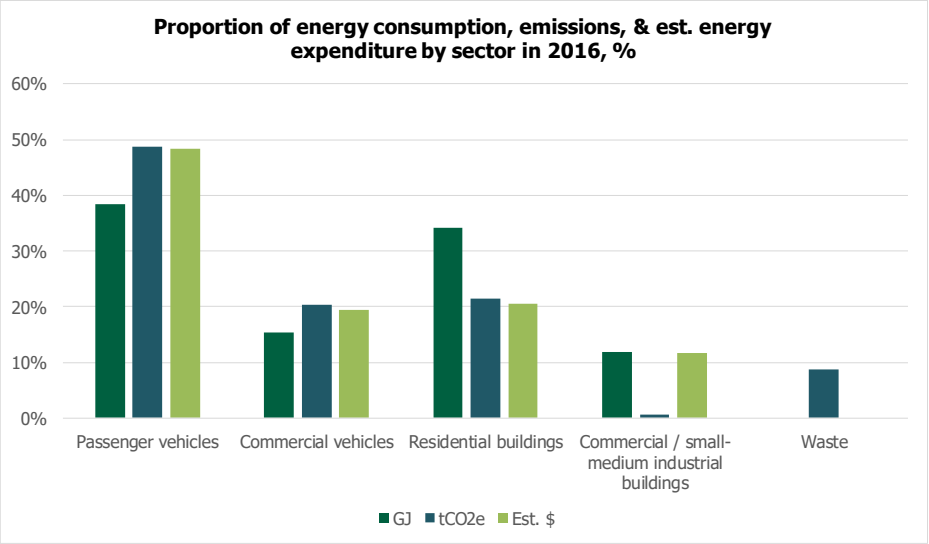
Beyond environmental benefits, reducing GHG emissions offers economic, social, and health benefits to communities. Reducing community energy expenditures can help local residents save money, augment local purchases, and stimulate the local economy. Many strategies to address climate change also improve physical and mental health of residents through active transportation and access to local, healthy food.

Salmon Arm Climate Action and Current Emissions

Salmon Arm has a population approaching 20,000 and is situated on the picturesque shores of Shuswap Lake in the Columbia Shuswap Regional District. Salmon Arm, “Small City, Big Ideas”, covers an area of 155 km^2, boasts a beautiful natural setting and a compact downtown. Salmon Arm is located within the traditional territory of the Secwepemc. The laying of the Canadian Pacific Railway along the shores of Shuswap Lake in 1885 prompted the development of western settlement and since the 1960s, the TransCanada highway “roars” through its centre. The City of Salmon Arm incorporated in 1905.

Salmon Arm’s emission profile resembles that of many mid-size BC with a heavy dependence on automobile transport leading to high emissions from mobility fuels. For the purposes of the CEEP, the Salmon Arm population growth rate was selected as 1.99% (post 2016) to reflect its high growth rate.

The Province of BC has provided the total energy use and GHG emissions of the community for 2007, 2010, 2012 and 2016 through various sources. For the most recent inventory year, 2016, the total community annual energy expenditure was approximately $64 million ($3,600 per capita) and GHG emissions were approximately 129,600 tonnes (7.3 tonnes per capita). An overview of 2016 energy consumption, emissions and energy expenditures is shown in the adjacent chart.



The City's commitment to address climate change by reducing energy consumption and emissions will also support economic development and improved health outcomes for the community as whole. By reducing local energy expenditures, a significant co-benefit of implementing this plan is that it will assist residents and businesses with reducing their cost of living, and increase the likelihood they purchase goods and services locally.

Priority Climate Actions

Based on input from municipal staff consultation, stakeholder and public engagement, and best practices, priority actions were identified to help Salmon Arm lower its community GHG emissions and adapt to climate impacts. For the CEEP, these actions fall within the following six Action Categories:

Zero Emission Transportation	Zero Emission Buildings	Close the Loop on Waste
Organizational	Sequestration	Supportive Actions – Water Conservation / Food Production

The full detailed list of actions is shown as Appendix 2 of this document, and reports on the discussions and recommendations of the CEEP workshop group. Each action has a timeframe for implementation, department or position responsible for implementation, and potential partners / funding sources noted. Climate action consists of both reducing emissions, or *mitigation*, and preparing for the impacts of a changing climate, or *adaptation*. Although the Salmon Arm CEEP is a mitigation plan, future actions outlined in this plan may be investigated through a low carbon resilience (LCR) lens (adaptation),

ensuring a co-evaluation strategy between emissions reduction and ability to adapt over time under projected climate impacts. The actions will need to address areas where Salmon Arm is most vulnerable to climate impacts, areas where adaptation strategies may influence the City's emissions profile, and areas where emissions reduction strategies account for changing conditions over time (e.g. warmer average and peak temperatures). Identifying synergies where joint mitigation and adaptation benefits exist will help to streamline actions and policies and transition the City toward low carbon resilience.

Community GHG Reduction Targets

Salmon Arm Official Community Plan GHG reduction targets	Province of BC Emissions reduction targets	COP21: The Paris Agreement	Proposed updated targets for City of Salmon Arm
6% below 2007 levels by the year 2020* *(*achieved on a per capita basis)*	Using 2007 as the baseline, the Province of BC is committed to GHG emission reductions of: • 40% by 2030 • 60% by 2040 • 80% by 2050	Targets net zero emissions by 2050. Aim to keep global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Community-wide 100% renewable energy or an 80% carbon reduction by 2050.	Based on the CEEP workshop discussion, the City of Salmon Arm proposes to work to meet 100% renewable energy by 2050. The community GHG reduction target is proposed as 80% reductions by 2050.

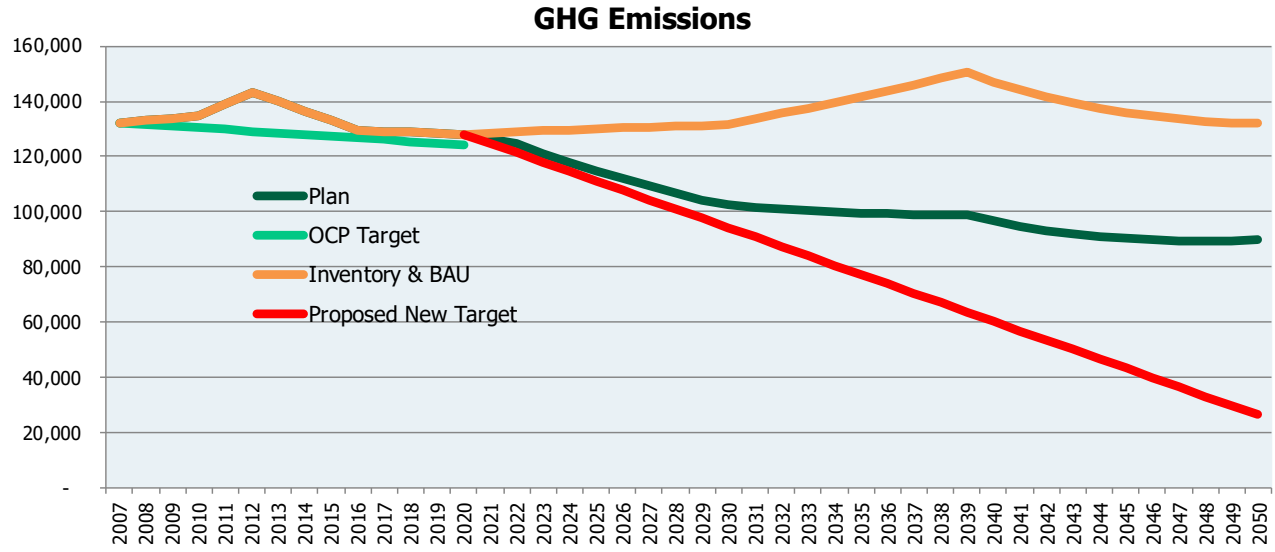
The City's current GHG reductions target, established in the 2011 OCP, was a 6% reduction from 2007 levels by 2020. Salmon Arm achieved a 1.9% reduction below 2007 levels by 2016 (the last inventory year). City of Salmon Arm's *per capita* emission reductions are 17.5% in 2020 from the 2007 rates. Thus, the OCP GHG reduction target of 6% by 2020 on *a per capita* perspective is surpassed.

The CEEP Workshop group recommends:

> **That the City of Salmon Arm update the OCP GHG reduction target to be 80% below 2007 levels by 2050.** It is further recommended that the City revisit the target, consider interim target emission levels and update this CEEP action plan in five years.

Analysis and Discussion of Action Impacts

The estimated impact of the plan on community GHG emissions (in tonnes of GHGs per year) is shown below. Emissions reductions will be achieved beyond business as usual (BAU).



Due to population growth, the BAU GHG emissions trend upwards. Announced policy measures from higher levels of government, such as the 100% zero emissions vehicle mandate for light duty vehicles from 2040, influence a BAU reduction in emissions trend. The Salmon Arm CEEP is projected to achieve 12% reductions beyond the Business As Usual by 2025 and 34% reductions by 2040. Implementation of CEEP actions will help the community meet the new target trajectory in the short term. A revisit of the CEEP to update long-term reduction measures will be needed.

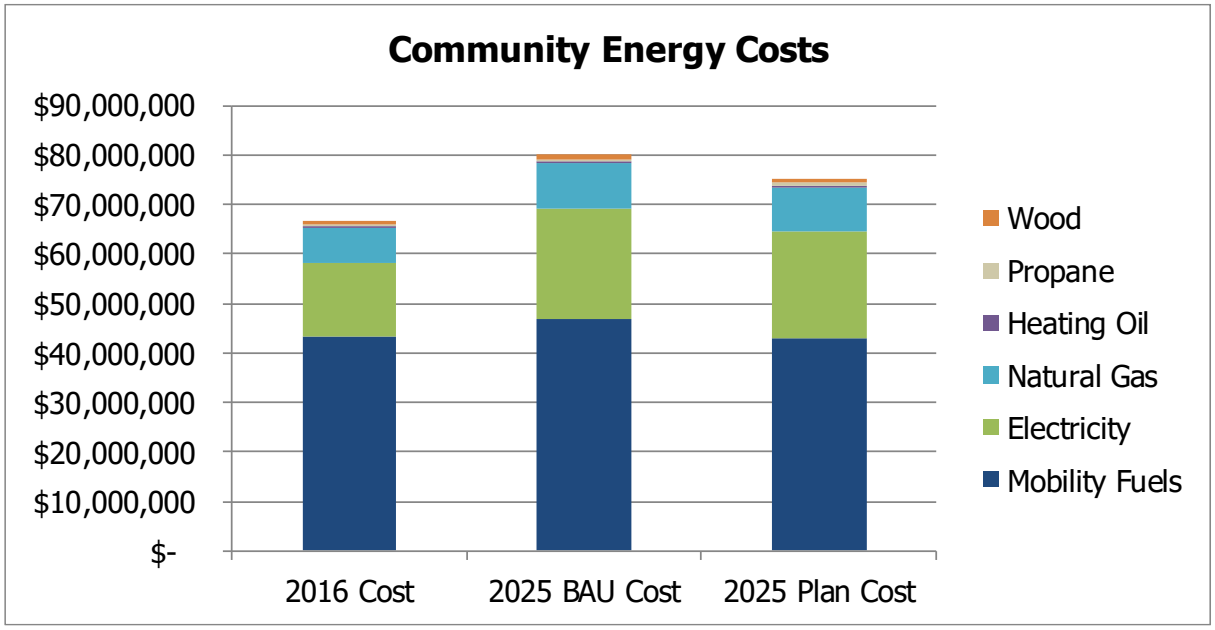
Top CEEP actions for Salmon Arm, according to estimated impacts on annual GHG emission reductions and energy savings in the year 2025, are shown in the following table.

GHG reductions (tonnes per year)	Energy dollars kept in Salmon Arm (dollars per year)
• Low Carbon Transportation – especially electrification (9477 tonnes/yr.) • Active Transportation / Transit / Land Use (4872 tonnes/yr.) • Divert organic waste (1715 tonnes/yr.)	• Low Carbon Transportation -especially electrification ($4,200,000/yr.) • Active Transportation / Transit / Land Use ($2,900,000/yr.) • Create a retrofit program for deep energy retrofits ($75,000/yr.)

Some actions may not achieve significant benefits in the short term, but will achieve great cumulative impacts over a longer timeframe. These include:

- Education of builders and implementation of energy efficient building practices and BC Energy Step Code.
- Comprehensive home energy efficiency retrofit campaign in partnership with the utility

The economic impacts of the plan are summarised in the "Community Energy Costs" chart, comparing the years 2016 and 2025. Salmon Arm community energy costs are projected to be reduced by approximately 6% per capita through plan implementation. The model assumes that the energy prices for electricity and natural gas increase between 2016 and 2025, and mobility fuel prices remain constant. The 6% plan cost reduction equates to about $4.9 million in savings per year ($237 per capita).



Success Factors for Implementation

In order to successfully implement actions within this CEEP, broad political, staff and community support is needed, along with staff and financial capacity and the institutionalization of the plan. Salmon Arm has a strong and dedicated staff team, as well as a policy on funding through the Climate Action Reserve fund to support emission reductions and implement actions. The Environmental Advisory Committee also helps facilitate community-wide climate action. The City of Salmon Arm may benefit from integrating a LCR lens into all City decisions. In addition to being prudent and responsible for levels of service under a changing climate, and anticipating key capacity needs to address key risks, vulnerabilities, and emissions targets, there are also broader community benefits to integrating climate actions.

Considerations on how to further embed climate action include adding climate action implications in reports to Council, incorporating climate action into job descriptions of City staff, and monitoring and reporting on indicators to ensure progress. In 2019, Salmon Arm joined FCM-ICLEI's Partners for Climate Protection program. Progressing through the PCP program milestones will also help institutionalize climate action within the City.

By monitoring CEEP progress regularly, Salmon Arm can determine how to best allocate resources to support implementation and the success of different actions. Annual reporting on progress and accomplishments to Council should continue. In five years, it is advisable to renew this plan.

Introduction

The purpose of this plan is to outline a practical method for Salmon Arm to use its municipal powers to help residents and businesses save energy and, by doing so, save money and reduce greenhouse gas emissions.

The City of Salmon Arm, like most communities across British Columbia, is responding to climate change. Salmon Arm was an early adopter municipality by signing the BC Climate Action Charter in 2008, committing to working towards carbon neutral operations, measuring community emissions, and creating a complete, compact community. Provincial legislation requires that each local government establish targets, plans, and strategies to do their part to mitigate climate change.

Salmon Arm's Official Community Plan contains policies that directly relate to climate action and saving energy, emissions, and money in the community. This *Salmon Arm Community Energy and Emissions Plan* (CEEP) will guide the implementation of these OCP directed climate action policies.

Community (and Corporate) Energy and Emissions Planning

Actions to reduce energy consumption and GHG emissions are categorized into the realm of corporate and community emissions.

- **Corporate emissions** – those that the local government creates through its activities (and which it has control over) such as local government building operations, recreation centres, vehicle fleets, and utility services; and

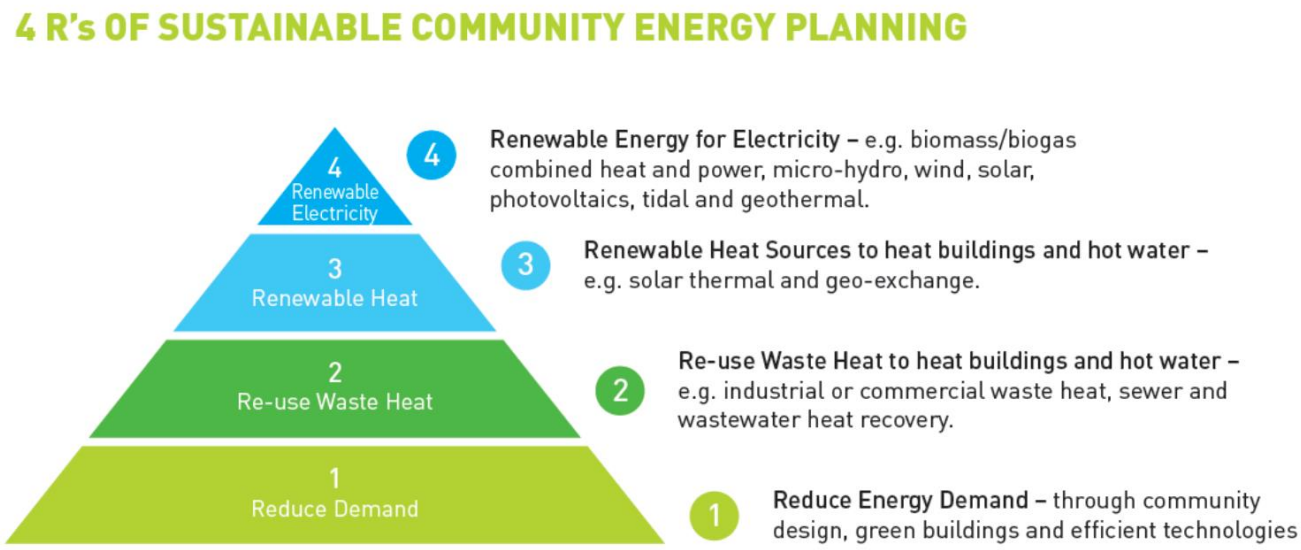
- **Community emissions** – those that residents and businesses in the community create through their activities. The local government cannot directly control these emissions, but may be able to influence them through investments in infrastructure, policy, planning and program activities. (i.e., the focus of this Community Energy and Emissions Plan – CEEP)

A Community Energy and Emissions Plan (CEEP) evaluates a community's existing energy use and GHG emissions with a view to improving efficiency, cutting emissions, enhancing community resilience, managing future risks, and driving economic development. A CEEP usually encompasses energy efficiency, building and site planning, land use and transportation planning, and infrastructure (including solid and liquid waste management). It provides guidance to a local government in long-term decision-making processes.

Most GHG emissions within a local government's jurisdiction result from energy consumption and the burning of fossil fuels. With this relationship, it makes sense to combine GHG and energy planning into one integrated plan. In this report, the term Community Energy and Emissions Plan (and the acronym CEEP) is intended to incorporate both energy and GHG emissions, but not other emissions such as particulates or criteria air contaminants.

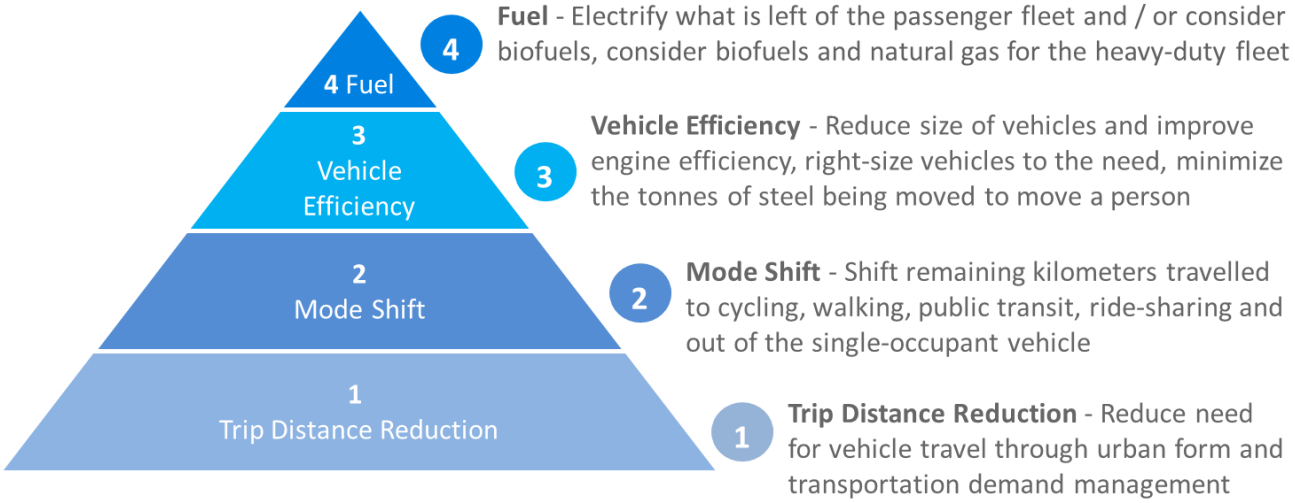
Energy Planning Hierarchy

Not all opportunities to influence energy and emissions across a community are equal. In the building sector, to begin, work to reduce demand, since usually the best business cases are found through improving efficiency.



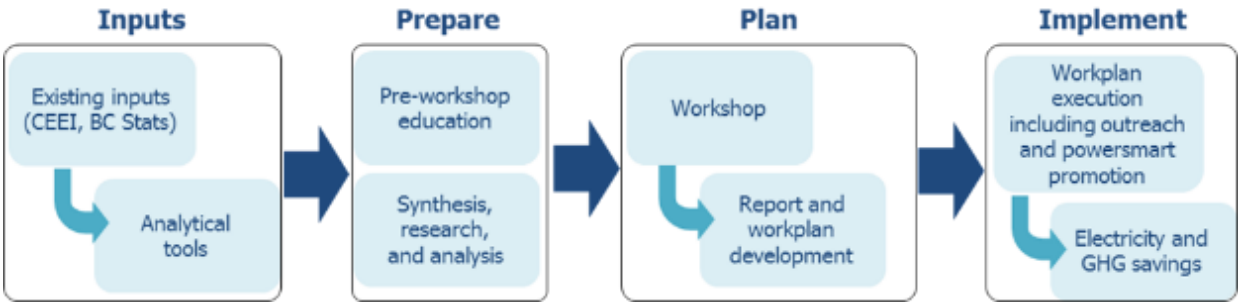
Suggested steps in energy planning.
Concept source: Robyn Wark and Jorge Marques, BC Hydro

A similar hierarchy of energy reduction actions applies to the transportation sector. The starting point is to reduce vehicular trip distances through appropriate planning tools and transportation demand management.



CEEP Actions Overview

The CEEP program assists BC communities within the BC Hydro electrical service area to develop a cost effective and practical plan with an implementation timeline. Salmon Arm has followed the CEEP process (depicted in the graphic below) and is currently at the "Plan" stage.



REGISTRATION

- Initial call with key staff to determine comprehensive community information for analysis by CEA and select preferred CEEP workshop dates

PREPARATION

- Engage in a 1 hour webinar approximately 1 week prior to workshop to build on foundations from the pre-workshop reading

PLANNING

- Develop a CEEP in a 1-day workshop, led by CEA staff, experts in the field.

IMPLEMENTATION

- Complete report and gain Council approval
- Work on implementation
- Keep CEA informed of success stories
- Green your community and achieve electricity and GHG savings

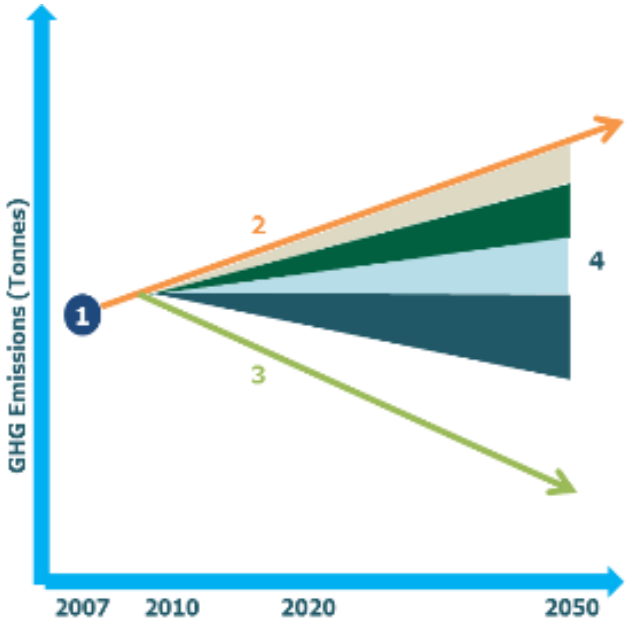
Participant Commitments

CEEP participants commit to and are responsible for:

- Taking ownership and demonstrating leadership concerning the CEEP
- Submitting the CEEP to Council for approval
- Implementing the CEEP in their community

There are four elements of a CEEP:

1. **BASELINE**: 2007, 2010, 2012, and 2016 community energy and emissions inventories, derived from data provided by the Province
2. **BUSINESS-AS-USUAL FORECAST**
    a. Population forecast (BC Stats and local government)
    b. Impact of provincial commitments (tailpipe standards, fuel standards, building code, Zero Emissions Vehicle mandate)
3. **TARGET**: From OCP GHG reduction target (legally required)
4. **ACTION PLAN:** Developed from a menu of suggested actions plus locally specific opportunities, and includes an approach to estimating impacts.



Our Role in Climate Action

Climate action consists of both reducing emissions, or *mitigation*, and preparing for the impacts of a changing climate, or *adaptation*.

This CEEP could become a component of an overall low carbon resilience (LCR) strategy for the City. The CEEP's focus is mitigation, and an LCR strategy includes additional work on adaptation, such as a climate risk assessment, a Corporate Energy and Emissions Reduction Plan, and a resilience lens embedded in an asset management strategy.

Communities play an important role in climate action. They influence approximately 50% of emissions nationally,[2] and also own and operate many of the assets that are impacted by a changing climate. Local governments build infrastructure, implement policies, and conduct education and outreach activities to affect changes in land use, transportation, buildings, water and wastewater, and solid waste.

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

As shown in the BC Climate Action Planning figure (following page), senior levels of government have recognized the need for strong climate action (particularly on mitigation), and provide support to local governments. In 2016, the Federal Government introduced the Pan Canadian Framework on Clean Growth and Climate Change to help reach its target of reducing national GHG emissions by 30% below 2005 levels by 2030 and 80% by 2050, and to build resilience to a changing climate.[3]

In December 2018, the Province of BC released the CleanBC Plan, focused on mitigation, to support local government climate actions. CleanBC outlines bold actions to lower emissions in buildings, transportation, waste, and industry to achieve a 40% emissions reduction target below 2007 levels by 2030, 60% by 2040, and 80% by 2050.[4] The Province of BC has also committed to developing an adaptation strategy by 2020 based on a province-wide climate risk assessment.

Both the Federal and Provincial levels of government have devoted funding for local government climate action. The CleanBC Communities Fund[5] and the Low Carbon Economy Fund at the Federal level are two examples.[6]

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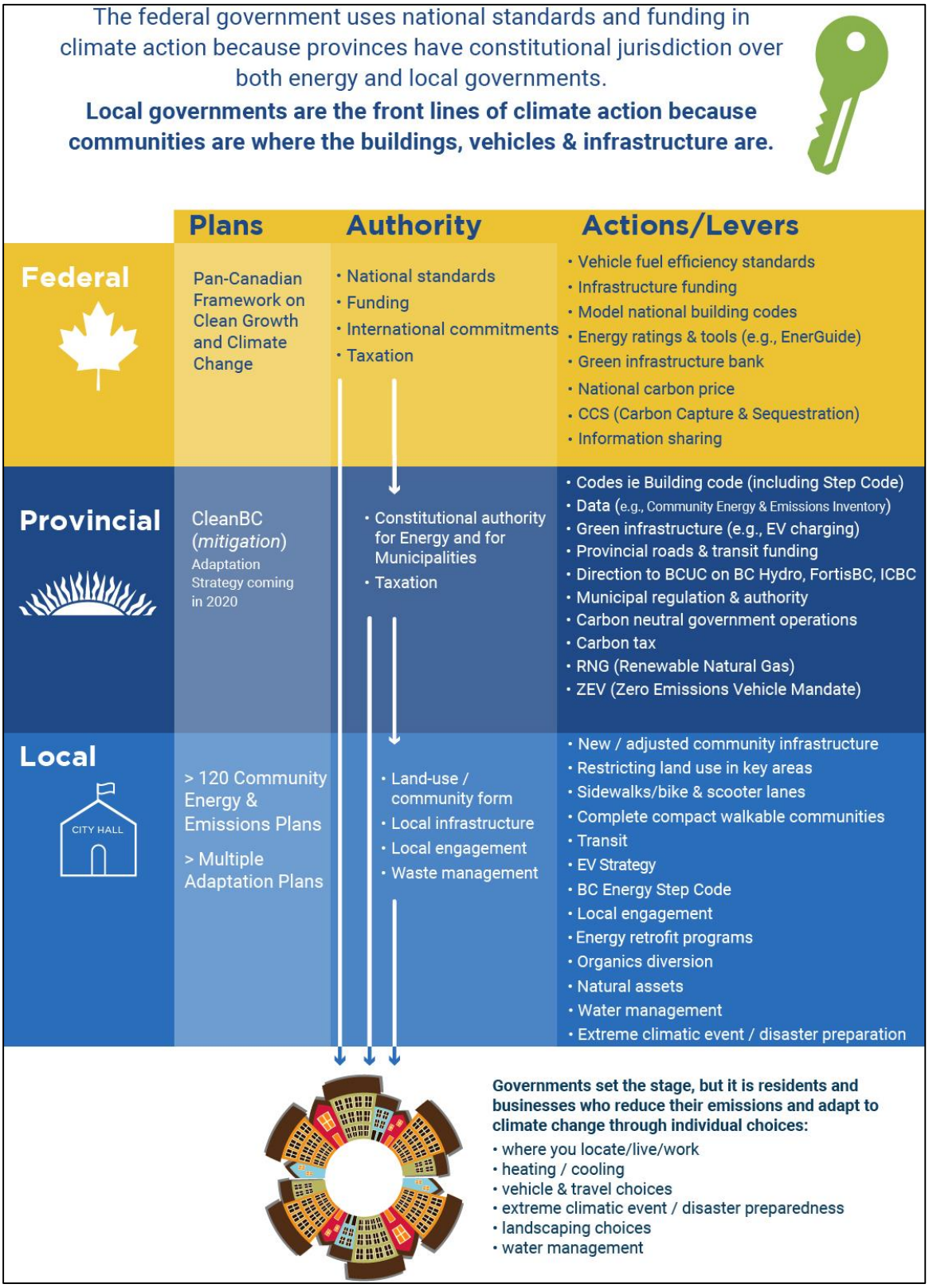
[3] Pan Canadian Framework on Clean Growth and Climate Change, https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework/climate-change-plan.html. In addition, through the Climate Lens, Infrastructure Canada is ensuring that proponents of large-scale projects are considering both emissions and vulnerability reduction strategies into the future, increasing the emphasis placed on both mitigation and adaptation considerations at the project scale.

[4] CleanBC, https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_2018-bc-climate-strategy.pdf

[5] CleanBC Communities Fund, https://www2.gov.bc.ca/gov/content/transportation/funding-engagement-permits/funding-grants/investing-in-canada-infrastructure-program/green-infrastructure/cleanbc-communities-fund

[6] Low Carbon Economy Fund, https://www.canada.ca/en/environment-climate-change/services/climate-change/low-carbon-economy-fund.html

BC Climate Action Planning Through the Three Levels of Government:
Supporting Local Government Targets



Source: Community Energy Association

Residents and businesses also have a role in climate action. Individuals make choices on where to live, home heating/cooling, travel options, household waste disposal, extreme weather event preparation, landscape / urban tree canopy choice and water usage. Businesses make decisions concerning current and future operations, impacting both community-based emissions and the community's resilience to a changing climate. Local government, through policy and practice, can influence these community choices to address environmental issues and take climate action.

Co-Benefits of Developing a CEEP and Low Carbon Resilience (LCR)

The benefits of developing and implementing a CEEP and are as follows:

- Reduced GHG emissions: Energy planning helps local governments effectively manage their GHG emissions. This contributes to mitigating climate change, and helps manage costs associated with carbon taxes and offsetting.
- Reduced energy costs: Energy planning improves budgeting and saves money.
- Creation of jobs and stimulation of the local economy: a CEEP can highlight opportunities for community development.
- Increased community resilience: a CEEP can increase the resilience of a community in the face of potential interruptions in energy supply, and fluctuations or shocks to energy prices.
- Improved community health: a CEEP can improve community health, e.g. through improved access to active transportation, local food sources, and improved air quality.
- Demonstration of leadership: a CEEP contributes to a smart community plan, more efficient infrastructure, more livable neighbourhoods, and protection of the environment; showing leadership on multiple fronts.

The Simon Fraser Univiersity (SFU) Adaptation to Climate Change Team (ACT) ICABCCI (Integrated Climate Action for BC Communities Initiative) program reports co-benefits of natural assets (as part of the LCR framework) to include:

- Improves biodiversity/habitat creation
- Optimizes energy savings
- Reduces waste/optimizes resources
- Improves water retention/absorption
- Improves air and/or water quality
- Improves equity/improvements for vulnerable populations
- Improves community livability/vitality
- Improves costs savings
- Creates jobs
- Improves human health & well being
- Increased carbon storage/sequestration
- Reduces extreme temperatures
- Improves green space/recreation
- Support local food security initiatives
- Enhances local autonomy
- Reduces risk to property values
- Reduces congestion
- Reduces burden on grey infrastructure
- Captures pollutants
- Supports clean energy transition
- Improves water and/or energy efficiency

Source: https://act-adapt.org/special-projects/low-carbon-resilience/

FCM-ICLEI Partners for Climate Protection Program

The City of Salmon Arm joined the FCM-ICLEI Partners for Climate Protection (PCP) program in 2019, and intends to use the CEEP to help it progress through the program milestones.

PCP is a network of Canadian municipal governments that have committed to reducing GHGs and to acting on climate change. Since the program's inception in 1994, over 350 municipalities have joined PCP, making a public commitment to reduce GHG emissions. PCP membership covers all provinces and territories and accounts for more than 65 per cent of the Canadian population.

The PCP program is managed and delivered by FCM and ICLEI Canada. FCM and ICLEI Canada form the PCP Secretariat, which provides administrative and technical support, develops tools and resources, and delivers capacity building activities to support members in reducing local GHG emissions. The Secretariat also provides national recognition for member achievements.

The program empowers municipalities to take action against climate change through a five-milestone process that guides members in creating GHG inventories, setting GHG reduction targets, developing local action plans, implementing actions to reduce emissions, and monitoring and reporting on results.

Under PCP, there are five milestones for mitigation, under both corporate and community categories. The five milestones are set out in the following figure.

Partners for Climate Protection: Program Milestones

For Milestones 1-3, this report with its appendices will be sufficient. To achieve milestone 2 the CEEP report must be adopted by Council.

For Milestone 4, the City must implement actions in the CEEP, and report on this activity in the annual CARIP reports and submit these reports to FCM-ICLEI.

For Milestone 5, the City will need to create a rigorous document with updated inventory information, and that quantifies the impacts of actions that have been conducted.

Source: PCP https://fcm.ca/en/programs/partners-climate-protection/milestone-framework

City of Salmon Arm

Salmon Arm's motto is "Small City, Big Ideas". The City's Official Community Plan (2011) elaborates on the motto with the City's Vision.

Vision for City of Salmon Arm

Salmon Arm is a community that has a comfortable, safe lifestyle and a vibrant feeling. The community deeply values the city's magnificent natural setting with its healthy ecosystems. The city is nestled between mountains and the shore of Shuswap Lake, offering beautiful scenery, greenery, rich agricultural land, and a desirable climate.

Salmon Arm has an abundance of recreational, educational, commercial, tourism, health care, and cultural opportunities and services. The strong and growing economy supports varied employment and shopping, and innovative businesses and industry.

The community is spirited, diverse and inclusive, with housing for residents of all ages and needs. Everyone works together towards a shared vision of a good quality of life for all.

In the vibrant City Centre, people live, work, visit, meet, shop and spend time enjoying diverse artistic and cultural activities. Downtown's unique urban identity combines heritage preservation, a walkable environment, and high quality, mixed-use developments.

Green space extends throughout the city, including active recreation sites, and natural parks with trails. The city abounds with safe walking and cycling opportunities, connecting neighbourhoods, the City Centre, natural areas, and parks.

Source: City of Salmon Arm OCP 2011

Salmon Arm has a growing population approaching 20,000. It is situated on the shores of the Shuswap Lake in the Columbia-Shuswap Regional District. The City covers an area of 155 km^2 and is bisected by the busy TransCanada Highway, the City of Salmon Arm boasts a compact downtown setting. Salmon Arm is located within the traditional territory of the Secwepemc. The laying of the Canadian Pacific Railway along the shores of Shuswap Lake in 1885 prompted the development of western settlement. The City of Salmon Arm incorporated in 1905.

Context and Workshop

Since signing the *BC Climate Action Charter*, Salmon Arm has been implementing actions to reduce GHG emissions. In 2019, the City took the opportunity to formalize their climate action planning by working with the Community Energy Association to prepare a Community Energy and Emission Plan (CEEP).

On November 26, 2019, Salmon Arm community stakeholders gathered in the City of Salmon Arm Council Chambers to draft the City of Salmon Arm's Community Energy and Emissions Plan, 2020. The workshop was facilitated by the Community Energy Association (CEA) and featured in-depth discussion on the current community emissions situation in the City of Salmon Arm (CSA) as well as opportunities and actions to reduce community Greenhouse Gas Emissions (GHGs) and set the new community GHG reduction target for 2050. The project is funded by the City of Salmon Arm.

The CEEP workshop format is based on the BC Hydro "QuickStart" model used in small and mid-size communities in BC. During in-person workshops, community-specific actions are selected from a list of potential actions (ranging from high to low impact) that can be implemented to reduce community GHG emissions.

The workshop group reviewed a collection of action cards. Each action was discussed within the group and placed in one of four categories: "yes", "no", "maybe", and "already done"(ongoing actions). New actions, proposed by the group, were discussed and added to the plan if appropriate. The actions were placed on a timeline to create a plan for the years from 2020 to 2024, with ongoing actions noted. Detailed discussion of key action items ensued.

From the workshop, the Salmon Arm actions and timelines were inputted into a community action GHG reduction assessment tool. The tool, in the form of an Excel Spreadsheet, is populated with data derived from calculations that assess the impact various actions and strategies may have on future GHG emissions. The tool shows the results in user-friendly charts and graphs displayed throughout this document.

Many thanks to the workshop group who spent their day examining community energy emissions and expenditure data and developing an action plan. Workshop participants and community stakeholders consisted of:

- City of Salmon Arm (CSA) Mayor, Council and Administration, Development Services and Operations Staff;
- Salmon Arm Environmental Advisory Committee (EAC) members;
- Interior Health (IH), Healthy Communities;
- Columbia Shuswap Regional District (CSRD) Environmental Health Services and Planning Staff;
- Ministry of Transportation and Infrastructure (MOTI);
- Shuswap Recreation Society (Rec);
- Indirectly represented by staff from: School District No. 83 North Okanagan-Shuswap (SD83);
- Utility conservation programs represented (but not in attendance) were: BC Hydro (BCH) and FortisBC (FBC).

During the workshop, participants shared their biggest hopes and fears for the future of their community and reflected on Salmon Arm's greatest social assets. These reflections are illustrated below.

Message from Workshop Stakeholders:

Interior Health, a community stakeholder participating in the Salmon Arm CEEP, provides further information on a related program.

Healthy Communities in Interior Health (IH) *is a set of complementary programs that work with local governments around the region to promote health and the creation of healthy public policy and planning. The rates of chronic diseases such as diabetes and cardiovascular disease are rising in the area served by IH. Much of this increase is attributable to physical inactivity, tobacco use, and unhealthy diets, and is preventable. Community planning and design can influence the health of the population and reduce chronic disease. The IH healthy built environment team, the community health facilitators, the tobacco reduction team, and the community food security team are available to collaborate with local governments.*

Constituents of a Healthy Built Environment

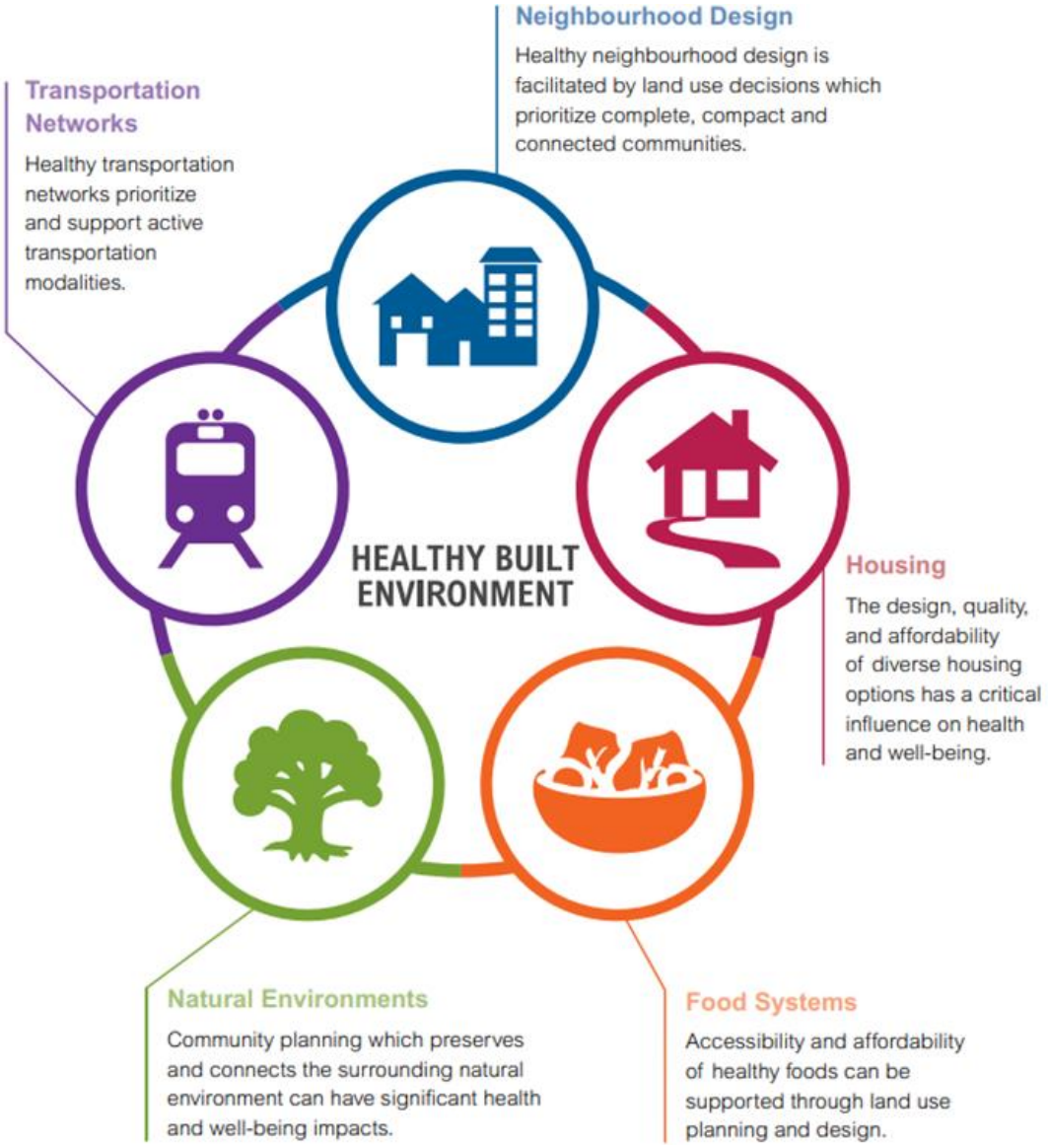


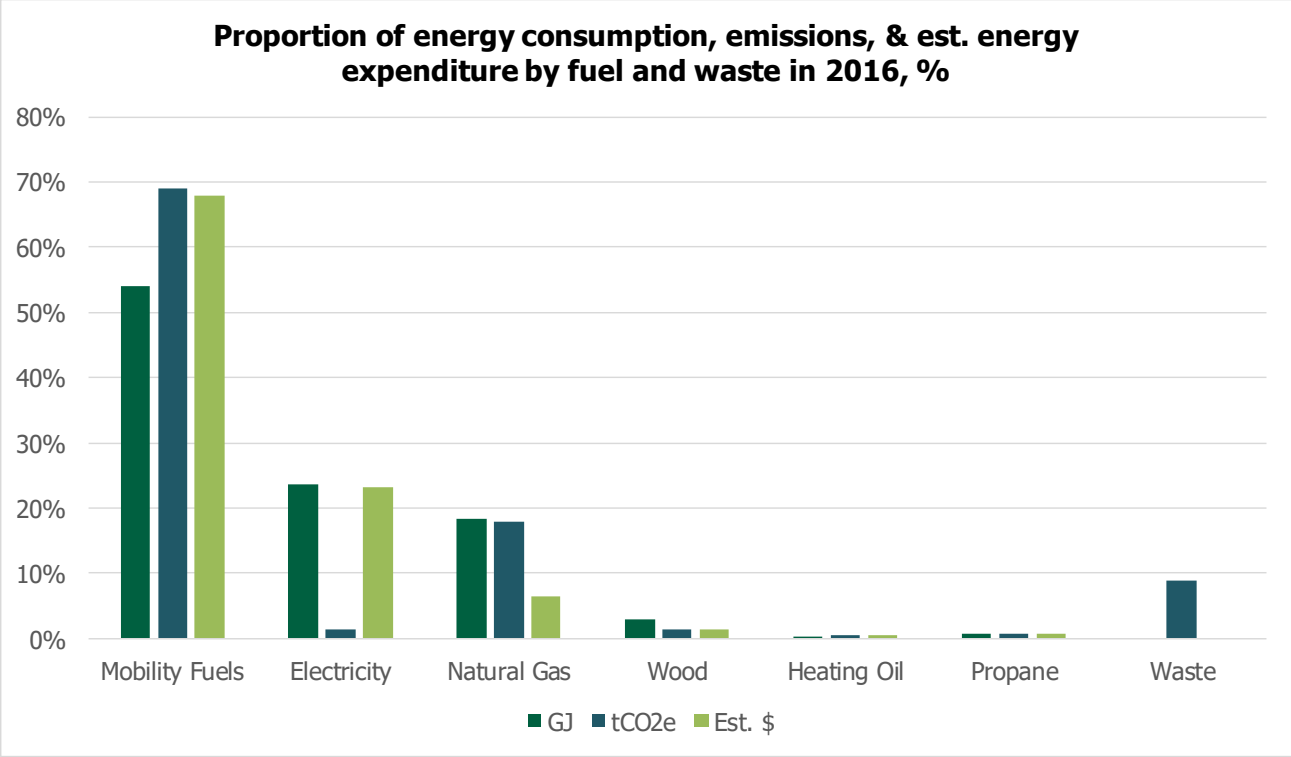
Diagram Source: Healthy Built Environment Linkages Toolkit, BC Centre for Disease Control

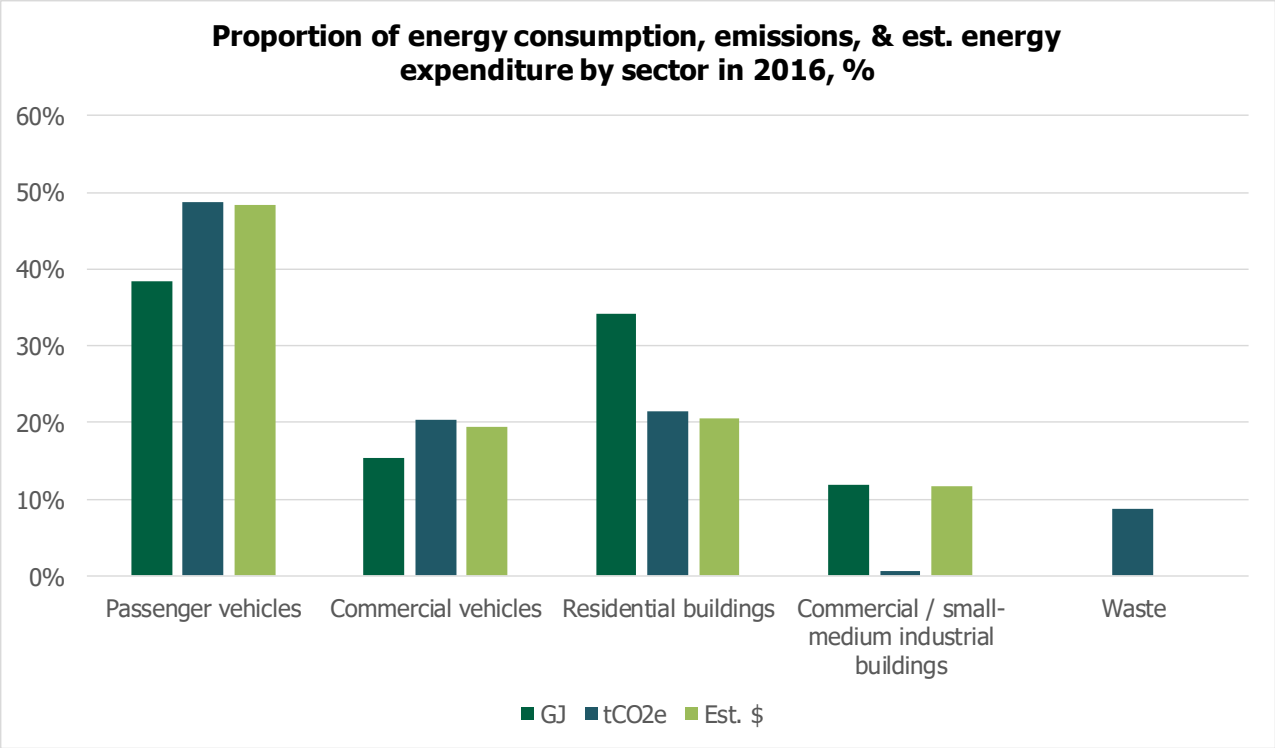
Current Emissions, Targets, and Business As Usual

Current Emissions

The Province of BC has provided the total community energy use and GHG emissions data for 2007, 2010, 2012 and 2016 through various sources. For the most recent year, 2016, the total community annual energy expenditure was approximately $64 million ($3,600 per capita) and GHG emissions were approximately 129,600 tonnes (7.3 tonnes per capita). See Appendix 1 for further detail on the community energy & emissions inventory data.

The 2016 City of Salmon Arm energy & emissions inventory is summarised in the following two charts.





The inventory data shows that mobility fuels are responsible for the largest proportion of the community's energy consumption, GHG emissions, and energy expenditures. Electricity represents about one-quarter of energy consumption and energy expenditure, with negligible GHG emissions (because of electricity's low GHG intensity). Natural gas represents under 20% of community energy consumption and GHG emissions and has less significant energy expenditures as it is a cheaper costing fuel. Waste sector emissions account for under 10% of total GHG emissions. Heating oil and propane fuel sources (high GHG intensity) have been mostly phased out in Salmon Arm.

Targets

Salmon Arm Official Community Plan GHG reduction targets	Province of BC Emissions reduction targets	COP21: The Paris Agreement	Proposed updated targets for City of Salmon Arm
6% below 2007 levels by the year 2020* *(*achieved on a per capita basis)*	Using 2007 as the baseline, the Province of BC is committed to GHG emission reductions of: • 40% by 2030 • 60% by 2040 • 80% by 2050	Targets net zero emissions by 2050. Aim to keep global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Community-wide 100% renewable energy or an 80% carbon reduction by 2050.	Based on the CEEP workshop discussion, the City of Salmon Arm proposes to work to meet 100% renewable energy by 2050. And, the community GHG reduction target is proposed as 80% reductions by 2050.

The City's current GHG reductions target, established in the 2011 OCP, is a 6% reduction from 2007 levels by 2020. Salmon Arm achieved a 1.9% reduction below 2007 levels by 2016 (the last inventory year). To be on track with the OCP target, a 4.2% reduction (in 2016) was needed. The steady population growth in Salmon Arm contributes to a slower achievement of the target. Note that a 9.8% *per capita* reduction in GHG emissions was achieved in 2016. Thus, the OCP target on a *per capita* perspective is achieved. The 2020 per capita GHG reduction, from the 2007 baseline, is 17.5%

From CEEP workshop discussion, the recommended updated community GHG target is 80% below the 2007 levels by 2050. The City of Salmon Arm will also work towards achieving a related goal of 100% renewable energy by 2050. To meet 80% reduction below 2007 levels by 2050, Salmon Arm needs to reduce emissions by approximately 2.5% every year (below 2007 levels).

Recommendation: That the City of Salmon Arm update the OCP GHG reduction targets to be 80% below the 2007 levels by 2050. It is further recommended that the City revisit the target, consider interim target emission levels and update this CEEP action plan in five years.

Salmon Arm Taking Action

Since signing the Climate Action Charter in 2008, the City of Salmon Arm reports projects, plans and actions each year in its CARIP report. The table summarizes climate action projects underway and accomplished at the City.

Summary of City of Salmon Arm Existing Climate Action Projects

Year	Actions
Projects proposed for 2020 and beyond; and Projects completed in 2019	• Develop and adopt CEEP; • Solar project feasibility study; • Solar panels on the Arts Building - winter 2020; • Hybrid fleet vehicles (purchase of 2 additional budgeted); • Tree planting - BC Hydro Re-Greening Program (urban area); • LED street lighting projects (Hudson Street revitalization); • Auditorium LED lighting project (rec centre); • Ross Street Underpass; • Roof replacement projects (Arena and Senior's Centre); • Curbside food waste pick-up program; • Continued residential yard waste pick-up (bi-annual); • Planning for Aquatic Centre replacement; • Ongoing park enhancements (Klahani, Blackburn, and Canoe Beach Parks); • Ongoing greenways network enhancements (including Turner Creek Trail); • Trans Canada Highway improvements including parallel pathway; • Various sidewalk projects (175 m proposed for 2019); • Community Plastic Bag Ban – Effective July 2019; • Joined the FCM PCP program – Sept 2019; • Become CEA member – Sept 2019; • Submit notice of Step Code Consultation – Sept 2019; • Council Declared Climate Emergency – Sept 2019.
Projects completed in 2018	• Efficient Arena Flood Technology; • Hybrid fleet vehicles (2 purchased); • Tree planting - BC Hydro Re-Greening Program (urban area & Blackburn Park); • Residential yard waste pick-up (bi-annual); • Sidewalk install (509 m by City and 761 through development); • Greenway network enhancement (2,579 m new trails created).

Projects completed in 2017	• Refrigeration upgrades at Shaw Centre Arena; • Pool pump upgrade (variable frequency drive); • Civic building/City Hall atrium LED lighting upgrades; • Airport LED lighting project (south); • Residential yard waste pick-up (bi-annual); • Blackburn Park improvements (life trail); • Sidewalk install (520 m by City); • New Canoe Beach Crosswalk installed; • Bicycle Route enhancement (1 km of sharrow painting); and • Greenway network enhancement (7,775 m new trails created).
Projects completed in 2016	• Hucul Pond Arena LED lighting installation; • Sidewalk install (1240 m by City and 1788 m through development); • LED street lighting project (Jackson street revitalization); • Residential yard waste pick-up (bi-annual); • Residential food waste pick-up pilot project (2016); and • Greenway network enhancement (3,808 m new trails created).
Projects completed in 2015	• Sanitary upgrade 75 Avenue NE - gravity sewer allowed pump station removal; • Sidewalk install (approximately 30 m by City and 990 m through development); • Yard waste pick-up (bi-annual); • Greenway network enhancement (1,978 m new trails created); • Electric vehicle charging station installed in collaboration with BC Hydro; • SASCU Recreation Centre LED lighting installed.
Projects completed in 2014	• Sanitary Upgrade 75 Avenue NE - gravity sewer allowed pump station removal; • 11 Ave sidewalk (Broadview Villa to 30 Street NE) – approximately 55m; • Yard waste pick-up (11.5 metric tonnes collected for composting); • Shaw Centre LED lighting upgrades ($85,000 from Climate Action Reserve fund).
Projects completed in 2013	• Boiler replacement at the SASCU Recreation Centre • Construction of approximately 395 lineal metres of new sidewalks. • SRS exterior light LED replacement • Greenway projects

Projects completed in 2012	• RCMP Boiler replacement • Public Works Building window replacement • SRS Electric Ice edger purchased (replacing propane edger) • SRS 3 pump motor efficiency replacements • SRS wading heat exchanger replacement • Solar crosswalk signal installation • Sidewalk and Greenway projects
Projects completed in 2011	• Anti-Idling Policy adopted • Energy Efficiency Monitoring software installed at Sunwave Centre • 150 trees planted – tree planting project (trees for tomorrow) • GHG emissions tracking initiated • Curbside recycling program implemented • Sidewalk and Greenway projects
Projects completed in 2010 and earlier	• 2010 OCP adopted with GHG reduction targets • 2010 Greenways Strategy Adopted • 2010 Facility Reports - Golder Associates Ltd, in conjunction with Convergint Technologies. • 2008 Energy and Greenhouse Gas Emissions Study completed by Urban Systems. • Signed Climate Action Charter, began participation in CARIP program, and established Climate Action Reserve fund. • 2005 Geothermal at City Hall

Business As Usual

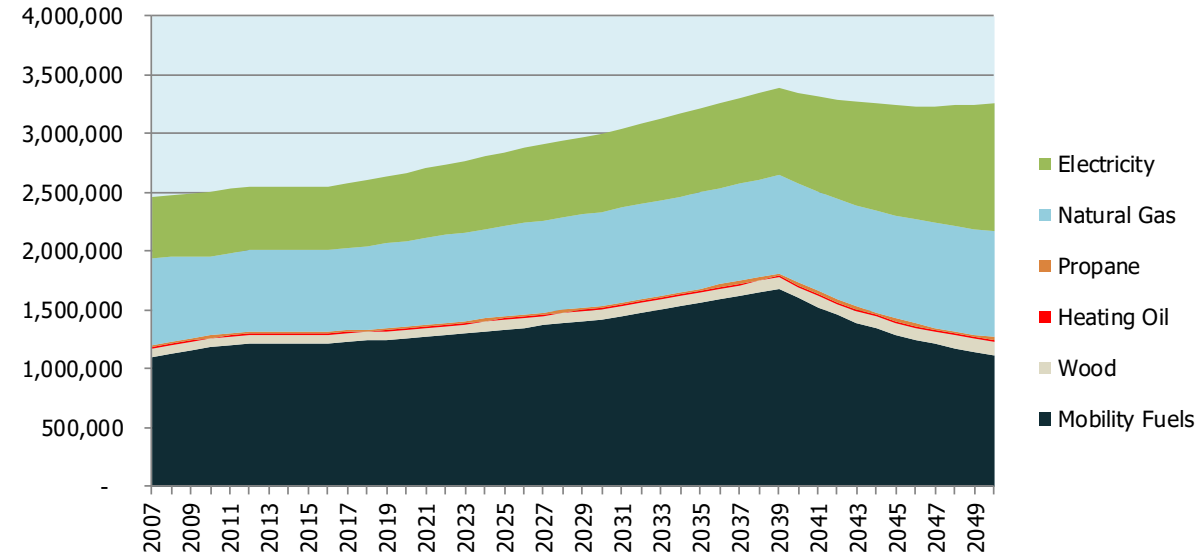
Without implementing the CEEP, but taking into account the population projection and legislated Provincial policies, community emissions are predicted to change according to the tables and charts shown in the rest of this section as “Business as Usual” (BAU). The Salmon Arm annual population growth rate was selected as 1.99% (post 2016). This figure was used for modelling of the CEEP.

Provincial policies included in the BAU projections are:

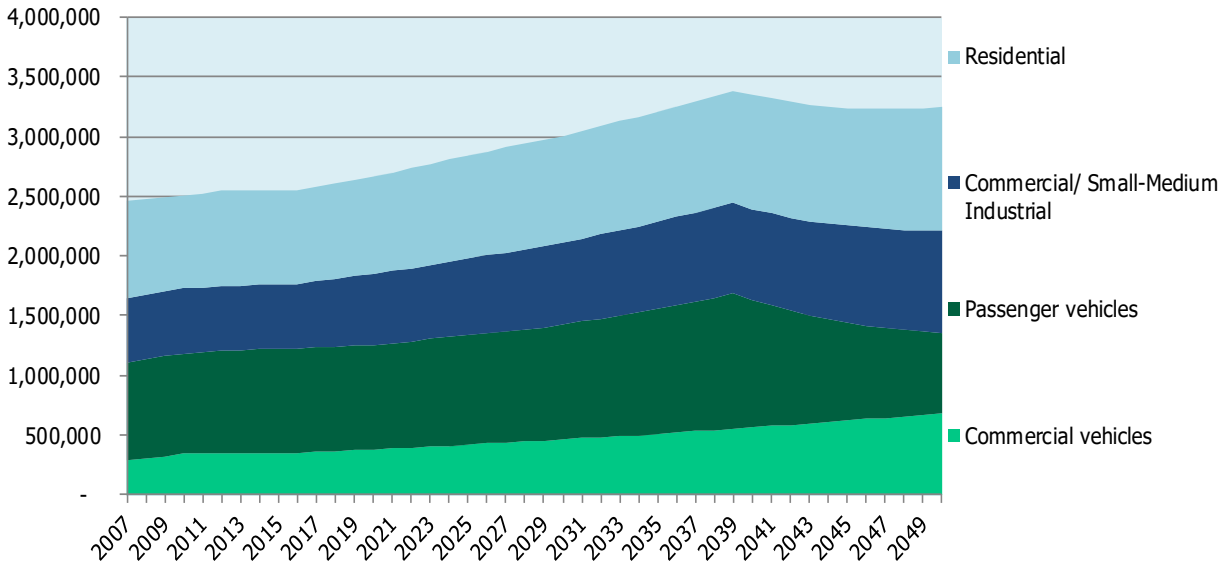
- Renewable & low carbon fuel standards
- Vehicle emission standards
- 100% Zero-Emission Vehicle mandate from 2040
- Greening of the BC Building Code (net zero energy ready buildings by 2032, with gradations over the next two building code cycles)

In addition, although not a Provincial policy, the BAU projection also assumes a 1.228% annual decrease in natural gas consumption for each existing natural gas connection. FortisBC uses this figure in its Long Term Resource Plan as observed across North America in mature natural gas markets.

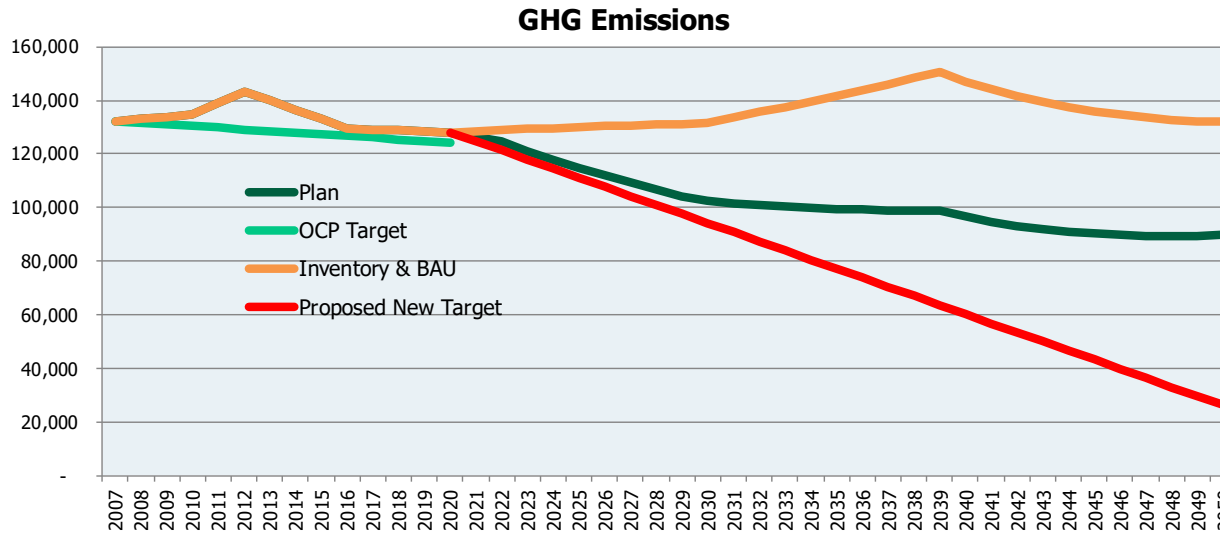
BAU Energy Use by Fuel, GJ/year



BAU Energy Use by Sector, GJ/year



BAU Emissions & Comparisons with Targets



Based on assumptions about policies from higher levels of government and changes in population, BAU annual energy consumption and emissions are predicted as shown in the previous charts. There will be a steady GHG emission increases until 2040 generally due to population growth. After 2040, BAU GHG emissions are expected to decrease in response to the 100% Zero Emissions Vehicle mandate, which has a strong impact on mobility fuels / passenger vehicle energy consumption and emissions.

Implementation of Salmon Arm CEEP actions is predicted to achieve reductions well beyond the Business As Usual: 12% reductions by 2025, 22% by 2030, 34% by 2040, and 32% by 2050. The CEEP will help the community meet the new target trajectory in the short term. A revisit of the CEEP to update long-term reduction measures will be needed.

It is notable that the City of Salmon Arm's *per capita* emission reductions are 17.5% in 2020 from the 2007 rates. Thus, the OCP GHG reduction target of 6% by 2020 on *a per capita* perspective will be surpassed

Action Plan

The action plan developed by the workshop group is shown below. Further details on each of the actions discussed is contained in Appendix 2. Actions were selected from a menu of action cards developed for the CEEP workshop process. A number of actions will start in a given year, and continue into the future. The Action plan leverages municipal influences to help residents, businesses and visitors save energy, emissions, and money. The Plan lays out actions for transportation, buildings, waste and other organizational categories.

Plan Action Categories

1) Zero Emission Transportation: a) Electrify Passenger Transportation b) Shift Beyond the Car c) Zone for Zero 2) Zero Emission Buildings a) Step Up New Buildings b) Retrofit Existing Buildings	3) Close the Loop on Waste a) Divert Organic Waste b) Capture Value for Waste 4) Organizational 5) Sequestration 6) Supportive Actions

The Action Plan

The CEEP workshop on November 26, 2019 included an in-depth discussion of opportunities and actions to reduce community emissions an energy consumption. This section contains the action plan in table format. Detail on each action, potential partners, next steps, opportunities and barriers are outlined in the Action Table found in Appendix 2.

Some action items are noted as “Ongoing” which are already in place or continuing to take place. Action items noted as “Annual” are repeated each year. Other action items are proposed to be implemented within the next five years. Some actions were marked as “idea” as although there is interest / discussion for the action, the City either does not have mandate nor will not actively implement in the short term.

Image - the workshop on November 26, 2019

Actions	Already Done/Ongoing	2020	2021	2022	2023	2024	Idea
1) Zero Emission Transportation							
a) Electrify Passenger Transportation							
Zero-emission vehicle ready MURBs (OCP / density bonus?)			x				
Zero-emission vehicle charging network - promote				x			
Support zero-emission vehicle charging network	x						
Outreach campaign for electric car use / less car use/active transportation			x				
b) Shift Beyond the Car							
Build safe walking /cycling / zero emissions mobility	x						
Support transit	x						
Outreach campaign for active and alternative zero emission e-mobility			x				
c) Zone for Zero							
Land use suite (OCP update?)				x			
Address commercial vehicle emissions							x
Need for better data							x
2) Zero Emission Buildings							
a) Step up New Buildings							
Education on BC Energy Step Code	x						
Support transition to high performance low carbon construction		x					
b) Retrofit Existing Buildings							
Support building retrofit program		x					
Reduce barriers to heat-pump adoption				x			
Coordinate with Province to establish retrofit requirements		x					
Support public and builder knowledge for retrofits		x					
3) Close the Loop on Waste							
a) Divert organic waste							
Divert organic waste (Phase 4/5)	x		x				
Public education campaign for organic waste diversion	x						
b) Capture Value from Waste (improve landfill gas collection)							
Capture value from biogenic methane	x					x	
4) Organizational							
Organizational structure for climate action (City Administration)		x					
Long-term, deep communty engagement	x						
5) Sequestration							
Investigate / collaborate on carbon capture & sequestration (tree bylaw)		x					
6) Actions to Build Supports for Big Moves							
Expand urban tree canopy (tree bylaw)		x					
Support solar photovoltaic systems (demonstration)	x						
Encourage water conservation	x						
Support local food production	x						

Budget Considerations for 2020-2024

The following table provides some consideration for the City to take action on GHG emission reductions. Based on the workshop discussion, the following actions may have budget implications and could be considered part of Strategic Planning.

Action	Budget Items	Approximate Cost
1 Zero Emission Transportation a) Electrify Passenger Transportation • Adopt zero-emission vehicle ready Multi-Unit residential building requirements (MURBs) – investigate OCP Development Permit Areas or Density Bonus • Update the GHG Development Permit Guidelines using examples from other communities • Support and Promote Zero-emission vehicle charging network	• Staff time	Under $500
• Public outreach campaign for electrifying passenger transportation *(and promoting less car use/more active transportation) Hybrid Vehicle Fleet*	• Staff time • Communication budget to work with advertising / tourism campaign and events	$500 - $5000
1 b) Shift Beyond the Car • Build safe routes for walking, cycling (Ongoing) • Make existing routes safer for walking and cycling. Ross Street (Ongoing), 175 m of Sidewalk, Turner Creek Trail, TCH parallel trail. • Build safe routes for zero emissions mobility such as electric scooters. • Public outreach campaign for new AAA *(active and assisted transportation)* routes and alternative zero emission e-mobility 2021	• Staff time • $20,000 in budget for active transportation • Apply for Provincial Plan H grant to implement • Communication budget: include signs & stickers (idle free / route maps / awareness)	Over $5000
1 c) Zone for Zero • Land use suite – OCP Update (2022) • Address commercial vehicle emissions • Need for better data	• OCP update budget in 2022	Over $5000
2) Zero Emission Buildings a) Step up New buildings • BC Energy Step Code education	• Staff time • Volunteer capacity from Environmental Advisory Committee	$500 - $5000

• Support the building industry through the transition to high-performance low carbon construction • Investigate a retrofit program, and financing mechanisms to enable deep energy retrofits • Coordinate with the provincial government, BC Hydro, FortisBC to align retrofit requirements and incentives. • Grow public and builder knowledge and support for retrofits	• Communication budget • Staff training budget	
3) Close the Loop on Waste a) Divert organic waste • Divert organic waste (Phase 4/5) • Public education campaign for organic waste diversion b) Capture value from Waste • Capture the value from biogenic methane / improve landfill gas collection	• Communications budget: continue to celebrate and communicate progress	$500 - $5000
4) Organizational • Organizational structure for climate action (City Administration) • Consider GHGs in every decision for Council • Utilize EAC for communication, promotion, facilitation for long-term, deep community engagement (culture change)	• Staff time • Possibly budget for an event • Communication budget	$500 - $5000
5) Sequestration • Tree Bylaw • Commercial Development Permit Areas – Landscaping Reuirements.	• Staff time	$500 - $5000
6) Supportive Actions (Actions to build support for big moves) • Expand urban tree canopy through DPA and Tree Removal Bylaw, BC Hydro Tree Planting • Support solar photovoltaic systems Demonstration at Art Gallery • Continue to support / promote Water Conservation • Continue to support / promote local food production	• Staff time • Budget for tree planting • Budget for communication and celebration of progress	Over $5000

Potential Community Engagement Opportunities

Community engagement provides an opportunity for the local government to present the CEEP, and to highlight some of the energy and emission reduction actions already in place. This demonstrates commitment and leadership, and sets a positive example for the community. Opportunities include:

- Invite local experts or relevant businesses/organizations to set-up a booth at an event to share the services or products they offer that will support GHG emission reductions and energy efficiency.
- Encourage input into the CEEP through an interactive wall chart timeline of energy and emissions actions. Invite participants to add their own ideas or commitments to the timeline.
- Incorporate the CEEP into other planning documents, and engage on the CEEP through engagement on those initiatives.

Integration of the CEEP into municipal processes

The table below provides a guide to embedding the CEEP into other plans, work programs, committees and budgets. Regular reporting and five-year reviews of the plan will help ensure consistent progress.

Incorporate	Budget	Monitor	Convene	Report	Renew
Embed CEEP into other planning documents, e.g.: -OCP -Zoning Bylaw -Strategic Plan -Other plans as appropriate	Embed CEEP actions into budgeting process.	Monitor CEEP implementation indicators for specific actions, e.g.: - Number of homes participated in utility incentive programs or energy efficiency retrofits - Meters of cycling path or sidewalk added	Regular meetings to discuss implementation, e.g.: - Council Committee - Staff meetings - EAC meetings	Regular reports to Council Integrate at same time as annual CARIP report Provide statistics to Council and show community accomplishments	Prepare for plan renewal every 5 years.

Workshop participants discussed options for integrating the CEEP and ongoing climate work into the City's organizational structure. Each city department has responsibility to implement their related actions and champion the CEEP. It is expected that the City of Salmon Arm CEEP will be introduced to Council in March 2020. The Council may also review the CEEP during its 2020 Strategic Planning session as a way to introduce emission reduction programs /policies to the strategic plan and help drive change for the City to meet its community emission reduction target.

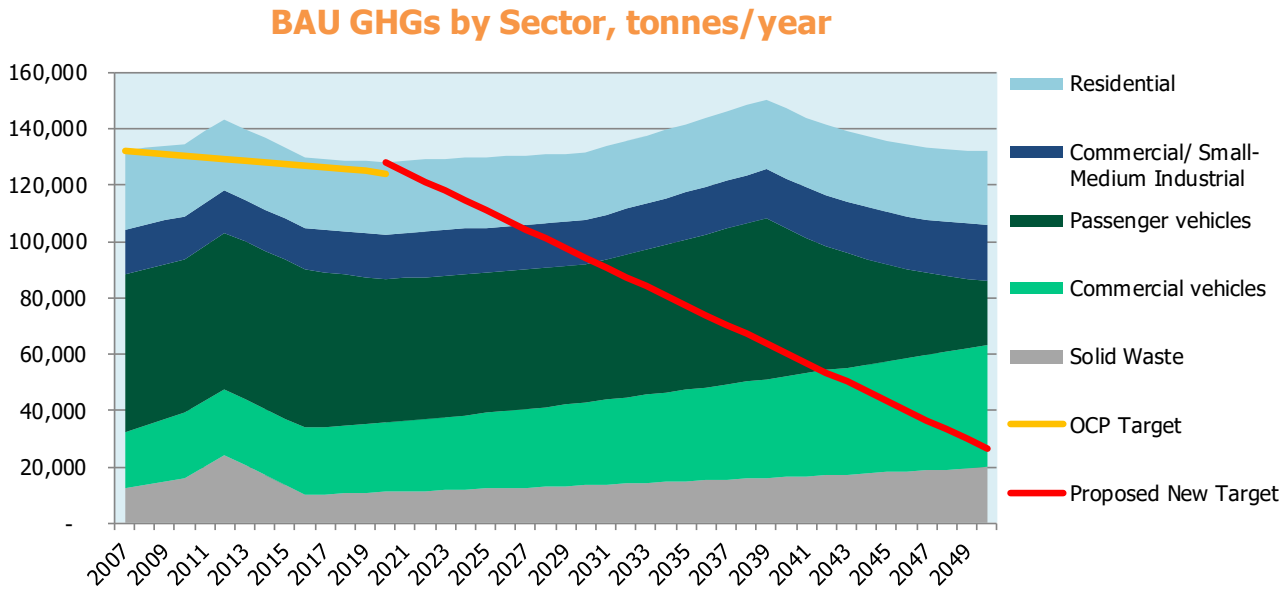
Items in the CEEP should be included in every report to Council to note plan implementation progress and keep Energy and Emissions reduction a priority. It is important to report on specific actions and measurable outcomes. Sharing this information with the community helps to build awareness. Promotion of local actions already underway such as becoming a member of the FCM-ICLEI PCP program, establishing a Climate Action Reserve fund, leadership on organic waste diversion, capture value from biogenic methane, ban of plastic bags, solar array at the arts centre and geothermal at City Hall, to name a few. The City recognizes the value of communication in building community support for energy and emissions reduction.

Detailed Analysis & Discussion of Impacts of CEEP Actions

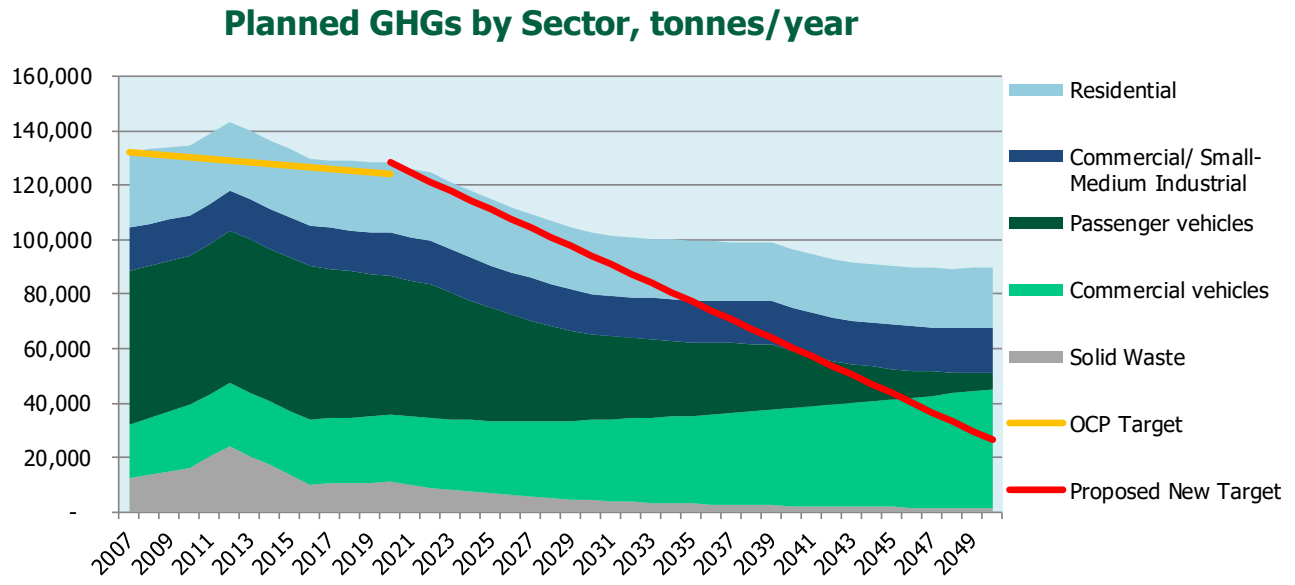
Salmon Arm has levers to reduce community energy and emissions and can move closer towards its target, but many things remain outside of the City's control including Federal and Provincial actions, and technological changes. These may provide significant assistance towards meeting the new target trajectory, for example, with the impact of the 100% Zero-Emissions Vehicle mandate affecting the purchase of all new passenger vehicles from 2040.

Note that actions to reduce electricity consumption will result in financial benefits for the community, but will not result in significant savings in emissions. Electricity in BC has a very low GHG intensity.

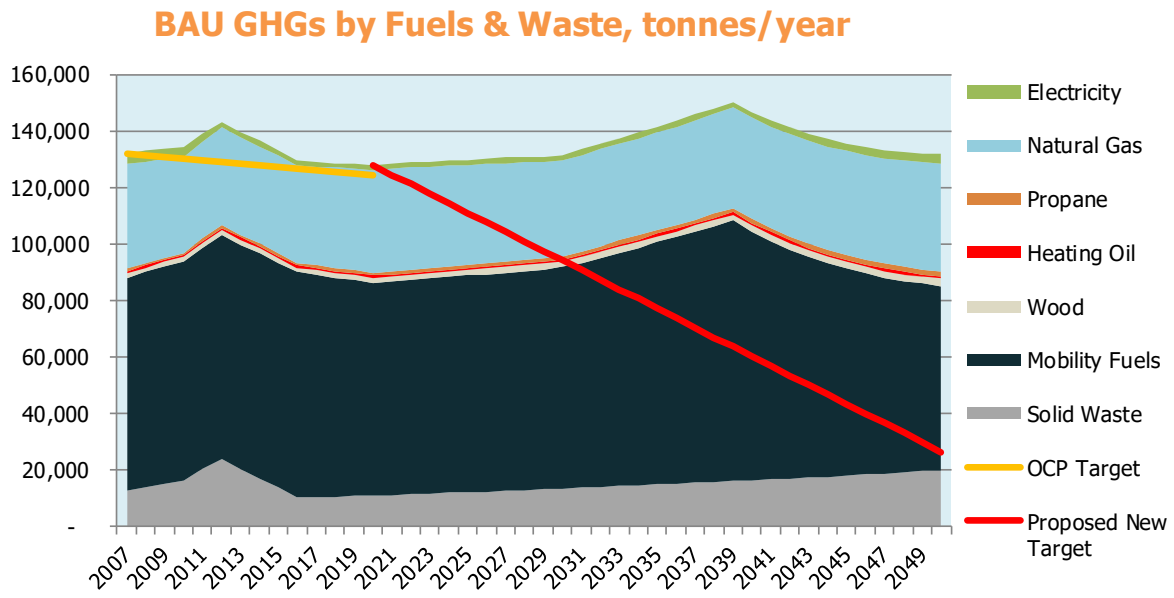
GHG Emission by Sector: BAU and Planned

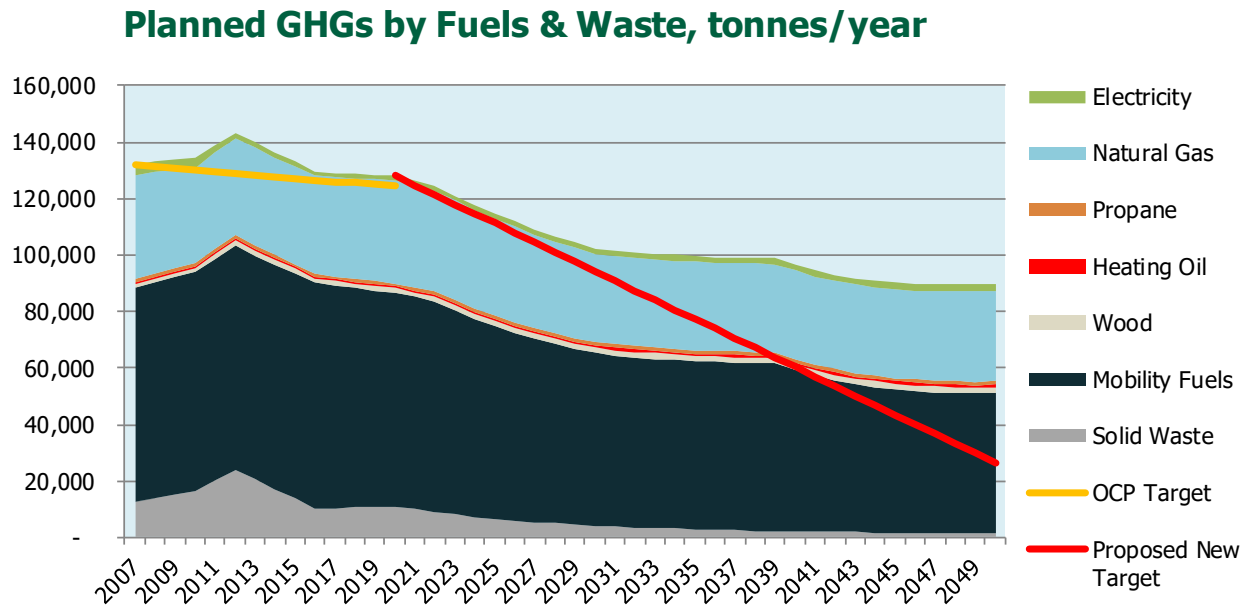


In the preceding chart, the plan shows reductions in passenger vehicle emissions. There will be no reductions in the commercial vehicle sector. The commercial vehicle sector is an opportunity for further reductions in future years.

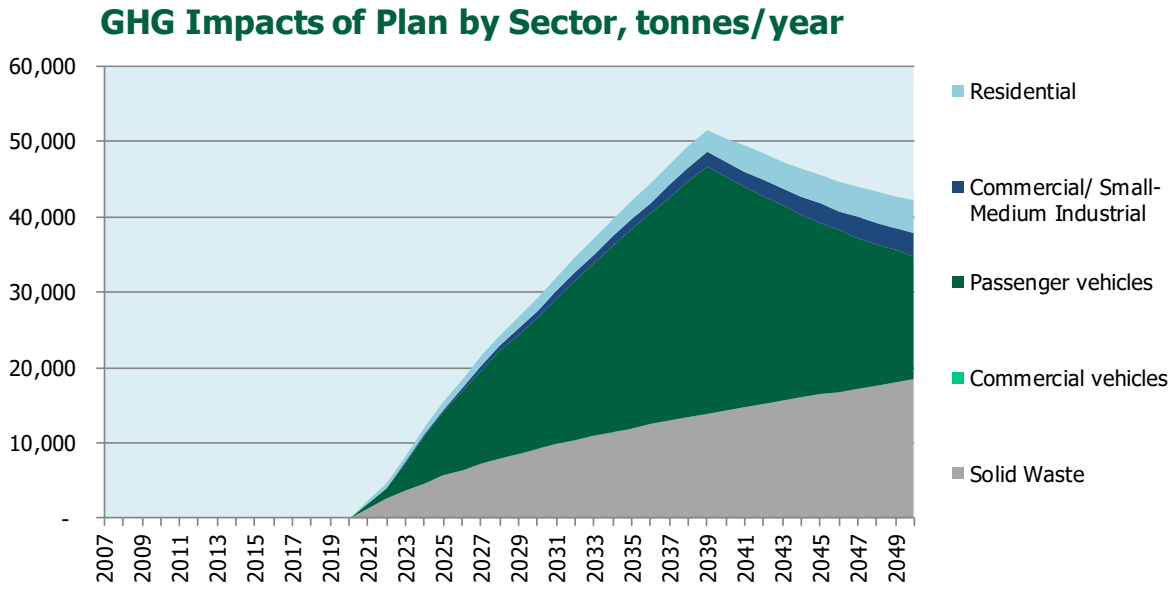


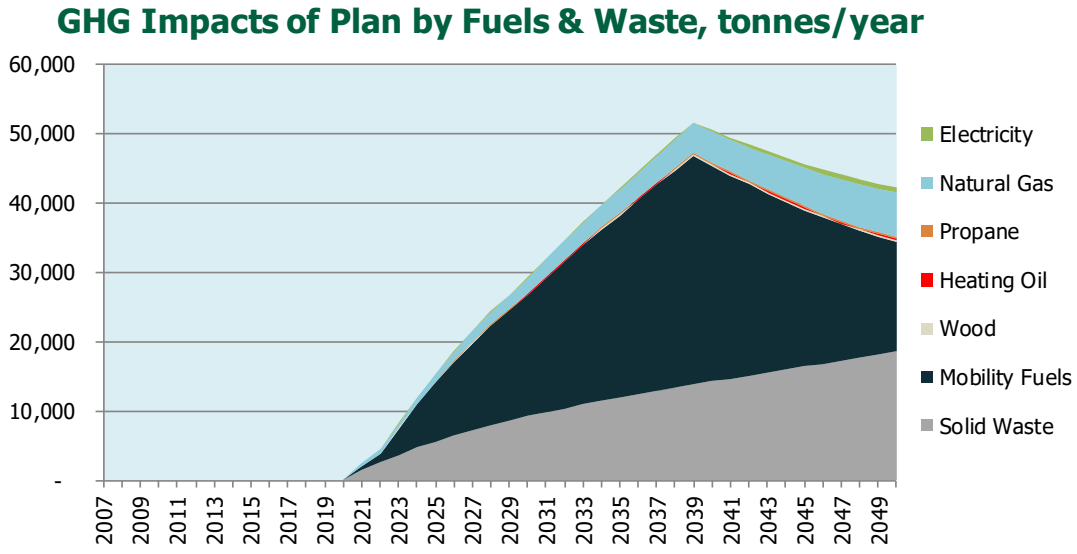
GHG Emissions by Fuel and Waste: BAU and Planned





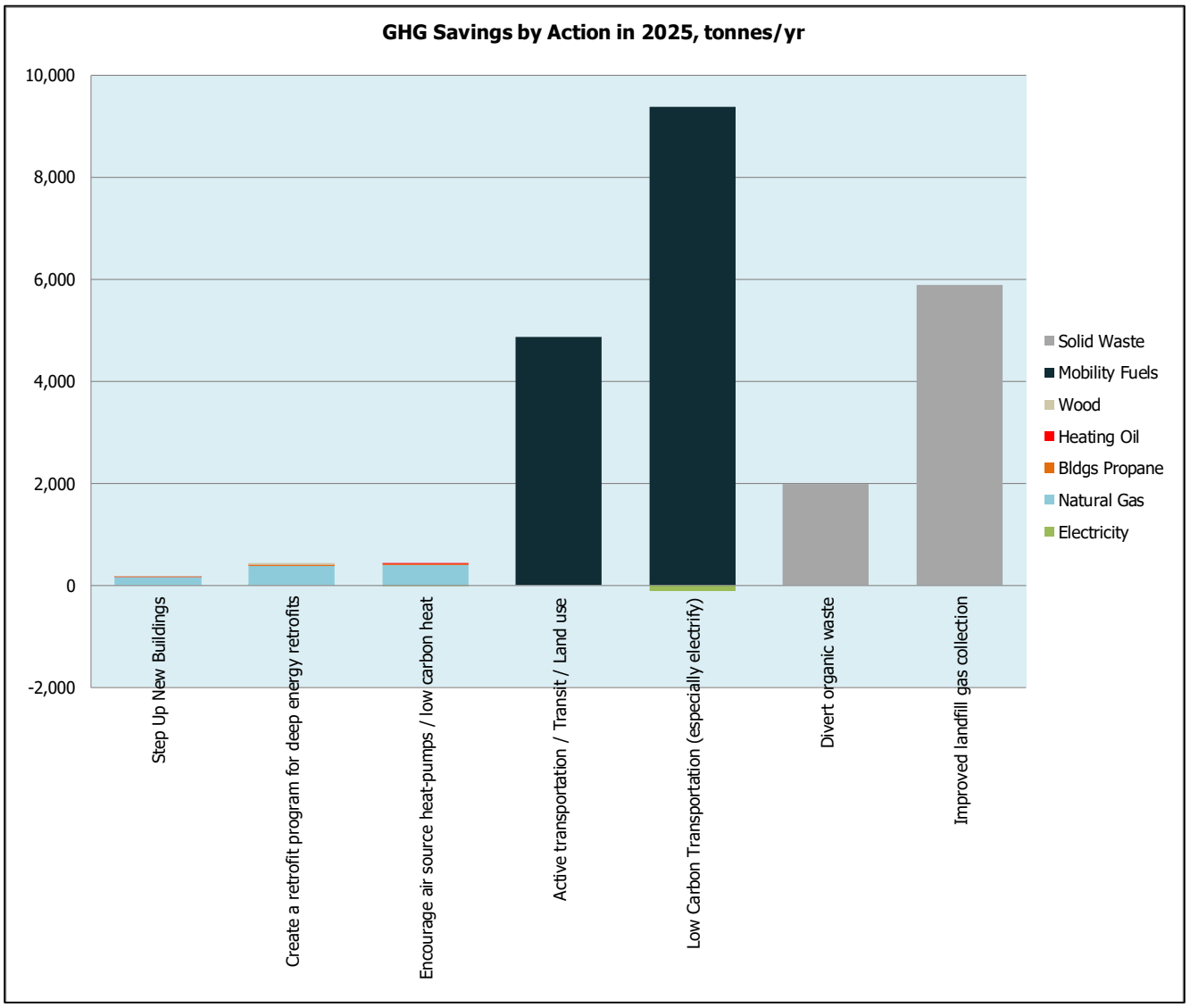
GHG Emissions in Salmon Arm explained





With implementation of actions from the CEEP, modeled to begin in 2021, GHG reductions in the solid waste and passenger vehicle sectors are substantial. GHG reductions from buildings sector will be modest. Note that CEEP GHG impacts may reduce in later years as a result of Provincial / Federal Policies augmenting the impact of local government decisions.

GHG Savings by Action

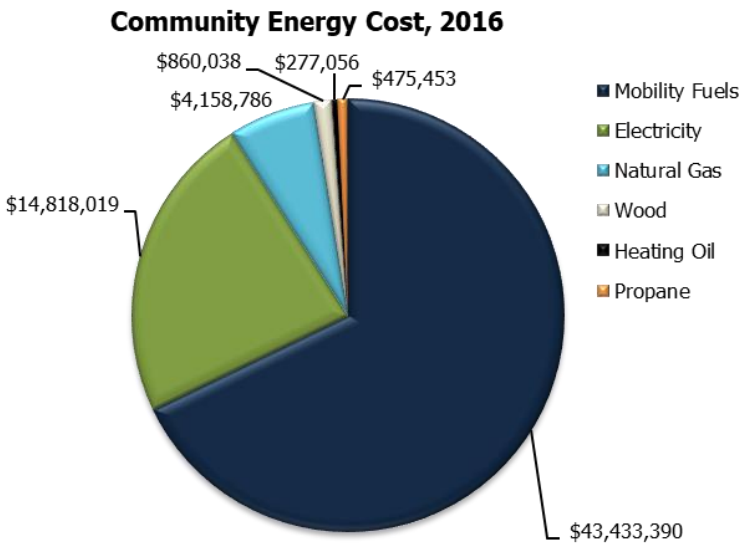


The preceding chart takes a snapshot of the year 2025, five years from now, and indicates which actions could reduce the most GHGs that year. According to model assumptions, the single greatest action will be implementing low carbon transportation to reduce about 9400 tonnes / year. Diverting organic waste and improving the landfill gas collection are combined to be 7850 tonnes/year reduction. The third most effective action, also aimed at the transportation sector is implementing active transportation and more transit resulting in a reduction of 4900 tonnes/year.

Community Financial Savings

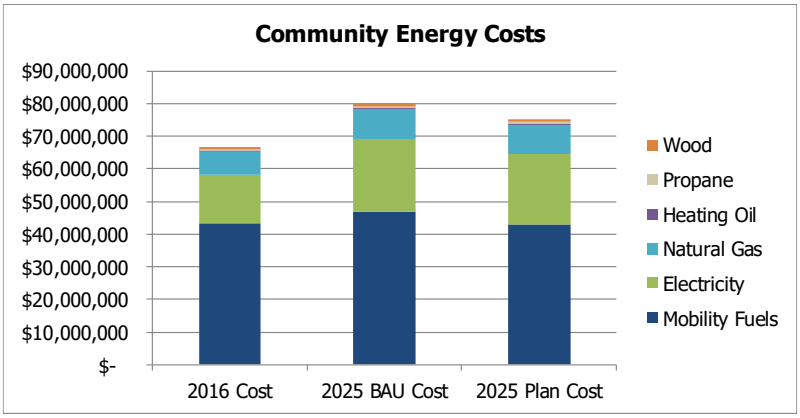
Along with the City's commitment to address climate change, by reducing energy consumption and emissions, there are strong economic impacts and improved health outcomes for the community as a whole. Most energy dollars spent within the community, leave the community. With a local expenditure of approximately $3,600 per capita, a significant co-benefit of implementing the CEEP will help residents and businesses reduce their cost of living, and increase the likelihood of spending on local goods and services. In addition, any locally generated energy will help to keep energy dollars local rather than exported.

The pie-chart shows the approximately $64 million ($3,600 per capita) of Salmon Arm community energy expenditures in 2016, split by fuel type. The chart is derived from energy consumption data from the Province of BC, and local energy costing information.

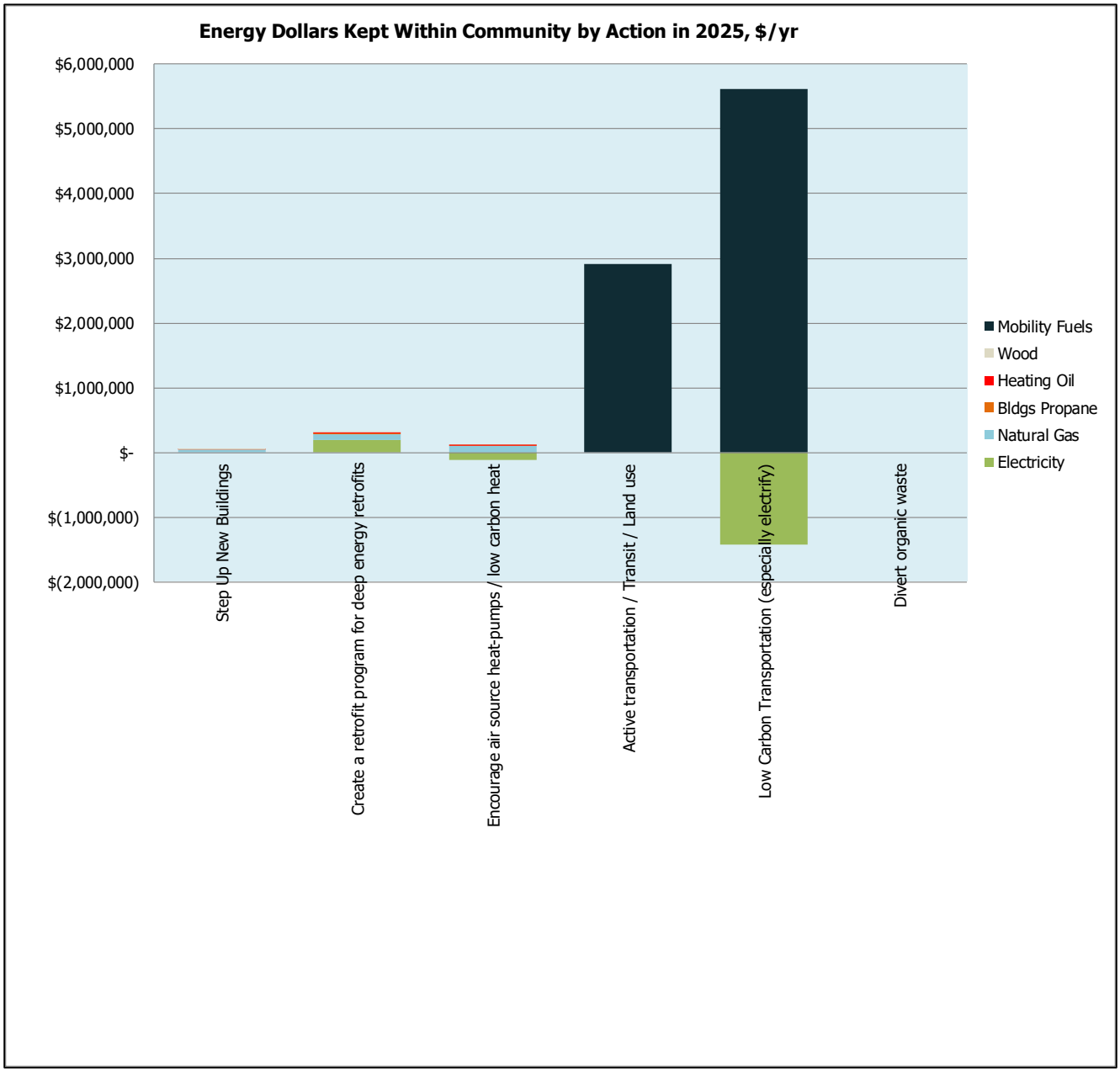


Several actions have additional benefits, including financial benefits, that are not included in the calculation of "community energy dollars saved". For example, improving upon organics diversion and landfill gas collection with FortisBC will increase the economic payback.

The impacts of the plan are shown in the adjacent chart, comparing 2016 and 2025. Salmon Arm community energy costs are projected to be reduced by approximately 6% per capita through plan implementation. The model assumes that the energy prices for electricity and natural gas have increased between 2016 and 2025, and mobility fuels remain constant. Although energy prices are very difficult to predict, there is confidence that the price of electricity will increase over the next few years. The 6% plan cost reduction equates to about $4.9 million per year ($237 per capita).



From a resilience perspective, increasing building energy efficiency (adding insulation), increasing opportunities for active transportation, and increasing the local food supply makes the community better able to cope with potential interruptions in energy supply. Plus energy efficiency makes the community better able to cope with fluctuations or shocks to energy prices. Estimates for financial savings, through keeping energy dollars local, potentially attributed to each action are shown in the following chart.



Next Steps

Recommended next steps for the City are as follows:

1. Council adopt the CEEP with the updated community GHG reduction targets.
2. As the FCM funded BC & Yukon Regional Climate Advisor, and with adoption of the CEEP, CEA will guide the City through Community Milestones of the FCM-ICLEI Partners for Climate Protection Program. The CEEP will support meeting Community Milestones 1-3.
3. Staff consider ways to incorporate the CEEP into other City documents and strategies including the OCP update in 2022.
4. Implement CEEP Actions.

Finally, CEA recommends CEEP review on a five-year cycle to amend ongoing actions, evaluate new actions and reflect new opportunities. This will help to meet GHG reduction targets and realise co-benefits.

Next Steps and Conclusions

Appendix 2 provides the documentation for the City of Salmon Arm Climate Action Plan or CEEP. The tasks and timeline to finalize the CEEP for adoption by the City of Salmon Arm are noted in the next table.

Timeline	Task
January 2020	✓ CSA staff review Appendix "draft Action Plan", provide edits to CEA ✓ CEA internally completes CEEP model update ✓ CEA incorporates Appendix discussion notes into the CEEP model ✓ CEA delivers full draft plan (actions and model graphs) to CSA
February/March 2020 and readjust to reflect CSA operations during COVID-19 Pandemic	✓ CSA internal review of plan / CEA prepare draft #2 ✓ CSA lead public process for further comment and input. ✓ CSA provide comments to CEA for inclusion into Plan ✓ CEA finalize draft CEEP with CSA feedback
Autumn 2020	✓ Review of CEEP by EAC ☐ CSA adopt CEEP

It has been CEA's privilege to support the City of Salmon Arm to develop its Climate Action Plan in the form of the Community Energy and Emissions Planning (CEEP) tool and emissions modeling exercise. We look forward to finalizing the CEEP and enjoy our continued relationship with the City of Salmon Arm. This includes CEA Membership, participant in the FCM Partners for Climate Protection Program, and participant in the Step Code Local Government Peer Network. If any further information is required for this CEEP report, please do not hesitate to contact the team at the Community Energy Association (CEA).

Appendix 1 – Community Energy & Emissions Inventory Assumptions

This appendix contains details on the community energy & emissions inventory for the City of Salmon Arm. Emissions factors for the fuels used in the four inventory years are shown in the following table.

GHG/GJ, by Year	2007	2010	2012	2016
Mobility fuels	0.068	0.065	0.065	0.065
Electricity	0.007	0.007	0.004	0.003
Natural gas	0.050	0.050	0.050	0.050

Some of the emission factors have changed over time. The emission factors for mobility fuel has 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 BC Hydro electricity grid.

The data sources have been the Province of BC's Community Energy & Emissions Inventory (CEEI) data (both current and older versions),[7] and utilities and landfill waste data at the utility level.[8]
To note: Emissions from large industry *not* included.

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 CEEP document charts are 2007, 2010, and 2012.
- The Province of BC made other assumptions for the 2016 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's 2016 natural gas commercial buildings data included large industry in an aggregated way, CEA had to use the 2012 natural gas commercial buildings data and assume that it changed according to population.
  - Because the Province had removed transportation data from its most recent release of the 2007, 2010, and 2012 CEEI data, and has not provided any for 2016 either, CEA had to take make assumptions. CEA took transportation data from a previous release of CEEI which was provided up to 2012, assumed that this was correct, and that it changed proportionally with population.

[7] https://www2.gov.bc.ca/gov/content/environment/climate-change/data/ceei

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

2016 Inventory Information and Data Breakdown

Salmon Arm	2016 Population 17, 706								
Community 2016	Sector	Subsector Desc	Measurement I	Connections	Consumption	Units	Avg VKT	Energy (GJ	CO2E (t)
Salmon Arm City	On-Road Transportation	Motorcycles, Mopeds	Gasoline	259	70,194	L	6,066	2,456	156
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Gasoline	3,088	4,834,916	L	16,885	169,223	10,859
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Diesel Fuel	91	144,067	L	23,356	5,518	383
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Natural Gas	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Propane	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Hybrid	<10	withheld	L	16,076	150	10
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Electric	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Small Passenger Cars	Other Fuel	<10	withheld	L	13,245	25	0
Salmon Arm City	On-Road Transportation	Large Passenger Cars	Gasoline	1,652	3,134,403	L	16,986	109,704	7,039
Salmon Arm City	On-Road Transportation	Large Passenger Cars	Diesel Fuel	17	22,041	L	14,357	843	59
Salmon Arm City	On-Road Transportation	Large Passenger Cars	Hybrid	39	50,092	L	22,850	1,753	111
Salmon Arm City	On-Road Transportation	Large Passenger Cars	Other Fuel	<10	withheld	L	11,425	69	4
Salmon Arm City	On-Road Transportation	Taxi, Limo	Gasoline	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Taxi, Limo	Natural Gas	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Taxi, Limo	Other Fuel	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Light Trucks, Vans, SUVs	Gasoline	5,171	15,317,990	L	20,424	536,131	34,720
Salmon Arm City	On-Road Transportation	Light Trucks, Vans, SUVs	Diesel Fuel	178	495,853	L	16,683	18,991	1,312
Salmon Arm City	On-Road Transportation	Light Trucks, Vans, SUVs	Hybrid	19	42,990	L	27,097	1,504	96
Salmon Arm City	On-Road Transportation	Light Trucks, Vans, SUVs	Other Fuel	27	56,076	L	12,234	1,418	87
Salmon Arm City	On-Road Transportation	SUV / Van	Gasoline	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	SUV / Van	Diesel Fuel	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	SUV / Van	Natural Gas	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	SUV / Van	Other Fuel	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Motorhomes	Gasoline	117	377,645	L	22,345	13,218	842
Salmon Arm City	On-Road Transportation	Motorhomes	Diesel Fuel	68	283,695	L	20,828	10,865	741
Salmon Arm City	On-Road Transportation	Motorhomes	Other Fuel	<10	withheld	L	22,041	90	4
Salmon Arm City	On-Road Transportation	Light Duty Truck	Gasoline	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Light Duty Truck	Diesel Fuel	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Light Duty Truck	Propane	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Medium Duty Truck	Gasoline	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Medium Duty Truck	Diesel Fuel	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Medium Duty Truck	Propane	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Heavy Duty Truck	Gasoline	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Heavy Duty Truck	Diesel Fuel	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Commercial Vehicles	Gasoline	484	1,650,046	L	20,424	57,752	3,692
Salmon Arm City	On-Road Transportation	Commercial Vehicles	Diesel Fuel	804	3,789,753	L	26,894	145,148	9,895
Salmon Arm City	On-Road Transportation	Commercial Vehicles	Hybrid	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Commercial Vehicles	Other Fuel	13	36,133	L	14,863	914	57
Salmon Arm City	On-Road Transportation	Tractor Trailer Trucks	Gasoline	<10	withheld	L	12,638	124	7
Salmon Arm City	On-Road Transportation	Tractor Trailer Trucks	Diesel Fuel	168	3,487,907	L	50,250	133,587	9,106
Salmon Arm City	On-Road Transportation	Tractor Trailer Trucks	Other Fuel	0	0	L	8,594	0	0
Salmon Arm City	On-Road Transportation	Bus	Gasoline	11	31,275	L	16,582	1,096	69
Salmon Arm City	On-Road Transportation	Bus	Diesel Fuel	52	299,051	L	21,435	11,454	780
Salmon Arm City	On-Road Transportation	Bus	Hybrid	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Bus	Electric	0	0	0	0	0	0
Salmon Arm City	On-Road Transportation	Bus	Other Fuel	<10	withheld	L	5,359	0	0
Salmon Arm City	Solid Waste	Community Solid Waste	Solid Waste		11,664	T			10,194
Salmon Arm City	Buildings	Residential	Electricity	7,978	73,482,000	kWh		264,535	784
Salmon Arm City	Buildings	Residential	Natural Gas	6,062	415,879	GJ		415,879	20,740
Salmon Arm City	Buildings	Residential	Propane	1	16,226	GJ		16,226	992
Salmon Arm City	Buildings	Residential	Heating Oil	1	9,212	GJ		9,212	630
Salmon Arm City	Buildings	Residential	Wood	1	68,257	GJ		68,257	1,609
Salmon Arm City	Buildings	Commercial/Small-Medium Industrial	Electricity	1,205	74,697,000	kWh		268,909	797
Salmon Arm City	Buildings	Commercial/Small-Medium Industrial	Natural Gas	0	0	0		0	0
Salmon Arm City	Buildings	Commercial/Small-Medium Industrial	Propane	0	0	0		0	0
Salmon Arm City	Buildings	Large Industrial	Electricity	0	0	0		0	0
Salmon Arm City	Buildings	Large Industrial	Natural Gas	0	0	0		0	0
Note: 0 values mean that there is no value for the community.									

2016 Inventory Information source: 2016 CEEI reports
https://www2.gov.bc.ca/gov/content/environment/climate-change/data/cee

Appendix 2 –Action Details

This section contains details on the actions, as discussed in the CEEP workshop / reviewed by staff.

Action	Year	Discussion: Barriers / Opportunities	Partners
1) Zero Emission Transportation			
a) Electrify Passenger Transportation			
Adopt zero-emission vehicle ready building requirements (MURBs)	2021	Include in City of Salmon Arm GHG Development Permit Area Include in OCP / consider density bonus	CSA
Design, fund, and build a public zero-emission vehicle charging network. (BCH) Promote a zero emission vehicle charging network. (CSA)	2022 (in progress)	In progress - BC Hydro is working on this as a Regional approach BCH wants to manage now. Previously partnered with community for charging sites. Consider advertising campaign as tourism link to find local stations (example Accelerate Kootenays) 4 private groups in the process of installing fast chargers	BCH CSA
Supportive policies and levers for zero-emission vehicle charging network	Done	City hall parkade will be electrified	CSA
Public outreach campaign for electrifying passenger transportation *(and promoting less car use/more active transportation)*	2021	Include transportation planning in event planning (Roots & Blues, farmers markets, etc.) ebus, app, rideshare, coordination of carpools Partner with PAC/School District for idle free zone at schools. “Idle no more” Consider downtown temporary no car/no parking/emission free zone. i.e., One day per month or Sundays. Promote pedestrian movement. Allow for deliveries at certain times. Idle free campaign Need cultural shift, public relations, communication, promotion, planning, celebrate and reframing of message partner with Environmental Advisory Committee for publicity, social media posts of highlights, update TV screen at CSA front counter .	MOTI SD83 EAC CSA Idle Free BC

b) Shift Beyond the Car			
Build safe routes for walking, cycling Make existing routes safer for walking and cycling. Build safe routes for zero emissions mobility.	2020 Ongoing	☐ In progress: Has been ongoing strategy for 25 years. Created fund for active transportation plan. $20,000 into active transportation budget for 2021 ☐ Provincial Plan H Grants to plan and implement Active Transportation funding stream opens Dec 2019. Age Friendly grants available ☐ CSA capitol projects invested several $100k for sidewalk expansion and $30k for curbs to improve connections. Currently funded through general revenue. ☐ Greenways committee building connections and lots of spirit. CSA $50-75k spent on trails. Quick wins accomplished ☐ Greenways need to acquire property to expand. Considering lower surface standards for cost savings. Gravel not suitable for uphill and bikes. Add connector routes / trails with switchbacks for uphill bike paths. Lower surface standards increase ongoing maintenance costs ☐ Possibility to extend current roads to include bike lanes and sharrows (10th Ave SE, Five corners" to 97B, to South New Trails) ☐ Safe routes to school: Have crosswalk now; identify high-risk areas. Include planning principals for safety and trend for safety in numbers. Perceived risk vs. real risk. Citizens patrol. Slow the vehicle travel ☐ Promotion ideas: Highlight citizens on low carbon footprint. Mantra: "Walking puts time in day." Promote to citizens. Walking is a habit and needs planning. Survey number of kids who walk to school ☐ Vision Zero is designation and aspiration for zero serious motor vehicle accidents. Includes funds for plans AND next phase. Examples in Kelowna and First Nations for Tappen Trail application ☐ Cost share with ICBC for crosswalk lighting with pedestrian warning systems ☐ MOTI: Bike BC previously provided funds for active transportation. Now new guide for trails and grants from CleanBC ☐ In 2016, Subdivision Bylaw changed to include all trail standards, and arterial route standards to include bike lanes or multi-use paths. Shuswap Bike Community installed reflectors to reduce speed for vehicles (due to narrow roads). Sharrows and painted "share the road options" work in building awareness and helping to build bike network. Request for more around the community, but requires truck to go around painting them ☐ Education, awareness, and safety for people i.e., Walking school bus, Vision Zero movement, ICBC partner to reduce accidents, Active Transportation / Bike BC Guide for grants)	CSA MOTI IH SD83 EAC: Greenways – Recreation Idle Free BC ICBC

Transit *Support a zero-emission transit network*	2021 Ongoing	☐ CSA partners with BC Transit through a shared service arrangement ☐ CSA manages all bus routes with recently approved later hours (until 10pm on weekends, and 8pm on weekdays) ☐ Reaching the point where transit routes are at a max. Cost is $200k/year to expand route. ☐ Example: City of Revelstoke poverty reduction strategy had BC Transit discussion to better support community (e.g. seniors use the service in the daytime. More targeted smaller routes) ☐ CSA worked with SD83 to develop schedules so bus arrivals coincide with school start time. Reduced student pickup within 3km radius of school ☐ Examples: Kingston and Victoria provide bus etiquette education and bus pass to high school students. Increased ridership. University students get free transit passes ☐ Barrier: Bike rack is full before bus. Cyclists don't ride up hill ☐ In CSA, there's a lack of transit use since schools in Shuswap Middle school start at 8, but parent's work starts at 9 ☐ Potentially partner with major employer to coordinate bus schedule to line up with shift schedules. Example Teck has bus timed for shift work ☐ Adams Lake Band subsidizes one route	BC Transit SD83 Major employers CSA First Nations
Public outreach campaign for new AAA *(active transportation)* routes and alternative zero emission e-mobility	2021	☐ Education: Driver and rider awareness ☐ Short term task: Define safe routes to school ☐ Develop drop off area/plan for parents at schools ☐ Long term task: build routes ☐ SD83 eliminated cross boundary students so in theory students are in walking distance of school. However, children cannot safely ride in all areas	SD83 CSA ICBC
c) Zone for Zero			
Land use suite (OCP update)	Completed Phase 3 2022 for OCP update	Discussion ☐ OCP review scheduled for 2022 ☐ Salmon Arm has progressive policies in place: Development cost charges, parking regulations, "Urban Containment Policy" Discussion ☐ Create walkable neighbourhoods, decrease distance to travel for food, allow for daily destinations. Uptown /downtown. Pedestrian zones to add vibrancy and plan public realm portion ☐ To exclude property from Agricultural Land Reserve (ALR) is difficult, as it now requires local government application based on growth strategy instead of application by user ☐ CSA needs land bank assessment. Only 2.5% of land left for development. OCP does not have minimum density requirements, only maximum density requirements. Designs can be four plexes rather than MURBs	CSA CSRD IH Arts and Culture

		- Subdivision standards have bike lanes/bus stops. Cannot retrofit roads easily. Direct capital contributions allow wider right-of-ways for bikes, etc. Cul de CSAs have higher resale but need green space, connectivity and cooperation. Include greenway strategy for pedestrians - Small subdivision of 2 lots does not implement planning process. Suggest advanced road plans from Council as connection negotiation tool - Kelowna example: infill challenge. Working with developers to encourage development in specific areas, and infilling where possible keeping aesthetic of the neighbourhood. Winners build their design. City learned where need to tweak zoning bylaws to encourage infill. Kelowna has an aggressive land purchasing strategy to control how land used - Civic pride idea: Art installation campaign for shade in downtown and at festivals. Partner with Arts and Culture committee - Energy Efficiency, Water Conservation and GHG reduction DPA for Multi family, commercial and industrial. - DCC reduction for GHG reduction targets - Density bonusing for GHG reduction/Step Code targets Parking regulations ideas - Downtown business: Concentric circle campaign for walkability, pedestrians have "More chance to shop!" campaign, could use adage "It's not that far" - Reduce number of free staff parking stalls DSA *(CSA tried but experienced no effect)* - Senior home parking: culture will shift to less vehicles, in meantime parking oversubscribed - Overall: Shift culture to make parking less convenient *(aware this could conflict with DPC mandate and parkade plans)* - CSRD parking stalls at 17m^2,too small for recreation / tourist vehicles - Add charging stations for neighbourhood - Need long term parking vision - In Kamloops, blocking off a portion of streets and turning into a public space worked. Also, low-speed traffic Zoning bylaw amendment ideas: - Drive through restaurants: Eliminate, promote healthy food, walkability, and reduce idling - Gas station zone: Currently congestion at City gas stations, promote scarcity of gas stations/discourage in City centre, move to a commercial district out of downtown, consider a highway amenity travel zone, include EV charging infrastructure - For commercial vehicles, "Flying Js" or pull in by scales rather than on the side of the road. Industrial Park on Hwy 97 is good, but nothing on Hwy 1	

		Regional Planning - Partner with CSRD to reduce traffic and sprawl in rural areas - Introduce building permits at CSRD - Rural sprawl is problem due to cheaper services - Building in silos (e.g. subdivisions) is not efficient	
New Action: Commercial Vehicle Emissions	No (Idea)	- Highway 1 data, emissions are accounted to where vehicle is registered - Traffic lights on highway increase emissions - Consider truckers needs: where to stop, no idling, rest areas and convenience, partner with First Nations to find area in town for trucks to wait when roads closed	MOTI
New Action: Need for Better Data	No (Idea)	- GHG is global indicator. Measuring/evaluating progress re: GHGs not understood - Cell phone data available to identify who lives in area for periods longer than 3 months. Example: Revelstoke determined 15,000 winter residents and 8000 residents) - Odometer readings needed for accurate vehicle kms - ICBC data on accidents - Population health data - Traffic stats: 16,000 to 26,000 vehicles/day on road in Salmon Arm - Seasonal homes skew community GHG stats	Province ICBC Communications IH
2) Zero Emission Buildings			
a) Step up New Buildings			
Promote / Education on the BC Energy Step Code and supplement with incentives targeting zero-emissions heating systems	2020 Maybe for Phase 1 Ongoing	Background: - Submitted notice of consultation to the Province on Step Code already. September 11, 2019. (Step 1 implementation can be no sooner than 6 months after this date.) - FortisBC New Home program leaflets distributed at the permit desk to builders of new homes - Environmental Advocacy Committee could advocate programs: Focus on relieving income disparity with programs for low-income families (e.g. Energy savings kits and incentives for new furnaces, hot water tanks, etc.), leverage social assets, e.g. volunteerism around community Opportunities: - Several builders in town already using Energy Advisors and report cost savings in certain areas of homes, e.g. insulation - Builders breakfast consultation Nov 27, 2019 - Builder sits on Environmental Advisory Committee (EAC) - BC Hydro has incentive offer for making Step Code a regulation - Rezoning requirement / density bonus a possibility	CSA EAC FBC BCH

		▯ There is an Energy Advisor in the community Barriers: ▯ Concerns about regulating Step Code before the BC Building Code update in 2022 ▯ Climate Action Reserve fund too small for builder incentives and not role of fund/ nor under consideration Next steps: ▯ Consultation is the key ▯ Builders breakfast on November 27 initial way to gauge building industry interest ▯ Consider making Step Code a rezoning policy / density bonus. When there is an application for more density than zoning currently allows, then a Step Code step higher than currently required by the BC Building Code could be required. Easier with Part 3 buildings than Part 9	
Support the building industry through the transition to high-performance low carbon construction	2020 In progress	▯ City has interest: Supporting training opportunities; co-funding training or providing free venue space; Targeting training to builders, building officials, and realtors ▯ Builders Breakfast, funded by FBC and hosted with CSRD held November 2019	CSA FBC CSRD
b) Retrofit Existing Buildings			
Review a retrofit program, and investigate financing mechanisms to enable deep energy retrofits	2020 (phase 1)	Opportunities: ▯ The EAC could help. Members connected in the community. Education is part of their Terms of Reference. Members could act as ambassadors for FortisBC, BC Hydro, and Province of BC programs ▯ CEA's experience with energy efficiency programs has shown that trusted local connections are far more effective in encouraging participation than leaflets from an outside utility / organisation ▯ Example: Nelson has a program that supports seniors with energy saving and volunteer "handyman" for installation: "Seniors Energy Efficiency Program" ▯ Example: Cool North Shore (Vancouver) had success with "block parties" on energy efficiency, and borrowing a thermal imaging camera from the Fire Department ▯ If possible, obtain earned media in local publications. The AM, the Salmon Arm Observer, and Market News. The City writes regular articles in the Market News ▯ The Annual Home Show is another education avenue ▯ Create another Eco Fair, depending on volunteer capacity ▯ The City has been improving the energy efficiency of its buildings. Promote those savings to the public as an example of what is possible	Province FBC BCH CEA EAC

		Barriers: - There is no scope for providing incentives from the City Next steps: - CEA to provide information on all programs to the City, to provide to the EAC. Especially the income qualifying programs (Energy Saving Kits (ESK) and Energy Conservation Assistance Program (ECAP) - CEA to provide information on the case study of the senior in Kamloops who benefitted from the ECAP program	
Reduce barriers to heat-pump adoption	2022 (partial adoption of Phase 1)	Next steps: - Find opportunities for education - Find opportunities to remove barriers as identified	CSA BCH/FBC
Coordinate with the provincial government to establish retrofit requirements	2020	Opportunities: - Timing is dependent on Provincial program - Could support the volunteer-led retrofit action. Next steps: - Staff to attend seminars. Education budget in the City	Province CSA EAC
Grow public and builder knowledge and support for retrofits	2020	Next steps: - Covered by/combined with retrofit action - Discuss retrofits and Step Code with Shuswap Construction Industry Professionals (SCIP) - Suggest SCIP have an award for sustainable construction in their regular awards program	Province CSA EAC SCIP
3) Close the Loop on Waste			
a) Divert organic waste			
Divert organic waste	Done to Phase 3 2021 for Phase 4/5	Background: - CSRD program turns yard & garden waste into compost, which is resold to community. - Done: Have curbside pick up for food waste - Farmers use organic waste internally for compost - Currently low participation from MURBs and industry - Before program, diversion of solid waste from landfill was at approximately 30%, with recycling. Now with the organics diversion it is at approximately 70%. Not clear what percentage of organics being diverted from landfill - Wood waste going to landfill, even if contaminated (e.g. nails & paint), and is chipped and utilised Opportunities: - RecycleBC has funding to help MURBs	CSRD CSA FBC RecycleBC CEA awards

		□ In future, CSA open to any centralised anaerobic digestion facility led by FortisBC or another entity Next steps: □ Still some work to do with MURBs and industry □ The City of Salmon Arm and Columbia Shuswap Regional District should consider applying to CEA's Climate & Energy Action Awards for their success in delivering a rural organics diversion program □ The City of Salmon Arm should look at the local offset credits option with the Province's *Green Communities Carbon Neutral Framework Option 1: Project Profile Organic Waste Composting*, to help it work towards carbon neutrality in its corporate operations	
Public education campaign for organic waste diversion	Done/ ongoing	Background: □ Support existing programs and try to create new programs. Continue to add materials for diversion. Already have "Share Sheds" program □ City of Salmon Arm spent the last year educating on curbside pickup of organics. The community is now on board. □ Sold 200 backyard composters last year, but many people with backyard composters are starting to use the centralised facility because it is more convenient Next steps: □ Education is always ongoing □ The EAC can help to pass on information when people have questions	CSRD CSA
b) Capture Value from Waste (improve Landfill gas collection)			
Capture value from biogenic methane	Done	Background: □ Salmon Arm landfill collects the gas and sells to FortisBC. FBC upgrades the gas and injects into distribution network as renewable natural gas (RNG) □ CSA sells the carbon credits it generates to the Province for approx. $100k per year □ Discussion on central anaerobic digestion facility as a project driven by FortisBC	CSA FBC

4) Organizational			
Organizational structure for climate action (City Administration)	2020	Next steps: - EAC could be committee on climate change. It has had GHGs as a standing item for a number of years. GHGs could potentially become a subcommittee of the EAC - Find way to blend EAC and staff activity. Perhaps through staff climate action cross-departmental working group. Share learnings with the EAC - Investigate Council report template: How decisions will impact/affect GHG targets under the Climate Action Plan. Include a formal declaration of energy management commitment as part of departmental decisions. Some projects awarded based on energy savings and management - City currently has climate action reserve fund funded through the CARIP grant. Possible to augment this through a climate action revolving fund. Examples: Vernon, Summerland - City could investigate ways for the public to put funds in to a particular project. The City can provide tax receipts for donations. There is a history in the community of providing charitable funds to support public projects. Picking a visible climate action project for funds could be a good way to achieve results.	CSA EAC
Hire, or internally develop a community climate & energy manager / specialist	No	- Actions in this plan to be covered by existing resources: Existing departments, and under job descriptions - City could reconsider this if a funding opportunity appears in future. Example: Revelstoke FCM MCIP funded staff position	
Long-term, deep community engagement (culture change)	Ongoing	Background: - Not all community members convinced about climate change - Celebrate: Plastic bag ban in Salmon Arm. People have bought in - Celebrate: curbside organics collection and the solar projects Next steps: - The EAC can adopt this role - Consider community events like the Eco Fair - Share more about what HAS been done, rather than what CAN'T be done - Suggestion that direct planning / sharing of information within municipal structure and relaying to the community would be very helpful - Find neighbourhood champions. City improving with social media. City endorsements of initiatives goes a long way and helps spread word	EAC CSA CEA (for award application re plastic bag ban)

5) Sequestration			
Investigate / collaborate on carbon capture & sequestration (Tree Bylaw and Development Permits)	2020	Next steps / Discussion: ☐ Keep informed on ways to do this, from CEA, Province of BC, and Pacific Institute for Climate Solutions (PICS) ☐ City could implement a tree seedling program to encourage the planting of trees, like Neighbourhoods by the City of Kelowna ☐ Agricultural land could be a viable option for sequestration. Communicate with agricultural sector/ Agricultural Land Commission (ALC) ☐ CSA planning to use biosolids for landfill closure ☐ MURBs are presently wood-frame ☐ May be opportunity to address this through a Development Permit Area and Tree removal bylaw	Province CSA CEA PICS ALC
6) Supportive Actions (Actions to Build Supports for Big Moves)			
Expand urban tree canopy (Tree Bylaw)	2020	☐ Celebrate Salmon Arm support of this ☐ OCP related policy on Creeks and Streams: daylighting, protecting, tree preservation ☐ City has new tree removal bylaw (exempt under 1 acre parcels - and allows right to farm). ☐ Opportunity to investigate amended bylaw and compensate to take down tree ☐ 2 arborists / urban foresters on staff ☐ Canada tree grant to plant trees in Blackburn Park ☐ Example: Nanaimo has a subdivision fee for any tree removal. Fund supports new plantings by residents. Partners with local nurseries for residents to purchase trees. Tangible benefit to people. Adaptation and resiliency considerations, how it helps a community adapt to extreme weather and strategic locations for refuge ☐ MOTI has tree cutting policy: considers scenery, shade on road, utilities and awareness Discussion ☐ Supports mitigation/adaptation and resiliency ☐ Strategic tree placement: slope considerations, Livable city, act as air conditioner ☐ Include public art for shade with tree canopy – umbrellas/sails. Example: Quebec City installs umbrellas between downtown streets as a canopy	MOTI CSA IH First Nations
Support solar photovoltaic systems	Done	☐ No real barriers identified / demonstration ☐ Ensure safety standards with installation. Example: Kelowna	
Encourage water conservation	2021 Ongoing	☐ Education ongoing ☐ Water meter ready bylaw for new construction in place. New buildings have meter pits (rough-ins), but metres are not installed. No meters on existing houses. Need more metering ☐ Could add water timers	CSA CSRD

		☐ CSA – Annual phase 1 restrictions in place each spring ☐ Enforcement issue. Practice to provide educational materials to offenders. Fine is $50/day on repeaters ☐ Neighbours tend to expose/inform on household watering use ☐ For water ambassadors, prefer retired RCMP/commissionaire over students due to confrontations ☐ Subdivision servicing bylaw: required to create 6" topsoil. Partnership with organics. i.e., Ogogrow ☐ Strong riparian policies in place for creeks and streams	
Support local food production	2020 Ongoing	Celebrate achievements: ☐ Showcase local agriculture: downtown business install planter boxes for fresh mint / parsley "healthy breath mints" ☐ Local Food Posters with food sources ☐ Have food action alliance – food hub ☐ Use school grounds for summer month food production and partnership with farmers ☐ Seed swaps ☐ Install planter box at restaurants for mint and parsley (healthy breath 'mints') ☐ Edible products in landscape ☐ Fall fair society and 4H club – promote grow own food ☐ Food gleam organizations and second harvest	Food Alliance IH Fall Fairs SD83