Community Climate Action Plan

Executive Summary

Climate change is happening, and local governments play an important role in reducing greenhouse gas emissions. The need to respond to climate change is urgent.

In 2019, the District of Squamish declared a climate emergency and resolved to create a Community Climate Action Plan to guide Squamish toward a low carbon future.

WHAT WE **KNOW**

- The Intergovernmental Panel on Climate Change (IPCC) warns that we must limit global warming to 1.5 degrees Celsius (°C) if we are to avoid significant negative impacts.
- Average global temperatures have already increased by 1°C (since pre-industrial times) and will exceed 1.5°C in the next 10 to 30 years if we do not take urgent action to reduce greenhouse gas emissions.
- To keep warming under 1.5°C global emissions must be lowered by 45% by 2030 and be net-zero by 2050.

OUR **VISION**

"In 2030, emissions in the District of Squamish will be reduced by at least 45% from 2010 levels, and we will be on track to achieve net-zero emissions by 2050".

This Plan focuses on how we can collectively reduce greenhouse gas emissions in Squamish. There are many co-benefits associated with climate action including: creating vibrant walkable communities, conserving natural spaces, reducing waste, and improving our air and water quality. Co-benefits and climate change adaptation (or adjusting to the impacts of climate change), although not usually discussed in this report, must be carefully considered as we implement all Strategies and Actions. This Plan also focuses on greenhouse gas emissions within the community (see Baseline). Although local governments have little control over other sources of emissions related to the community, we need to think carefully about ways to reduce all emissions if we are going to limit global warming to 1.5°C.

HOW WE DEVELOPED **THE PLAN**

This is a community plan that reflects extensive input and collaboration with stakeholders, subject-matter experts and residents.

- Established a volunteer Climate Leadership Team consisting of local experts to identify opportunities and barriers to action at key stages in Plan development
- Created a community-wide emissions inventory.
- Summarized actions already occurring within the municipality.
- Engaged larger stakeholder focus group.
- Gathered feedback from the broader community through a public open house and community survey.

Figure A: The Community Open House Event.

THE **BASELINE**

The 2017 baseline inventory focuses on greenhouse gas emissions that occur within District of Squamish boundaries, or from electricity that is used within municipal boundaries. It does not include emissions from land use change or forestry, indirect emissions (e.g., emissions that occur elsewhere in the production of products that are consumed in Squamish), or potential emissions from large industry.

The total greenhouse gas emissions for the community are approximately 97,000 tonnes of CO_2 equivalent (CO_2e) per year, or 4.8 tonnes per person. The majority of these emissions come from gasoline and diesel fuel used in transportation, natural gas that's used to heat buildings and organic materials breaking down in landfill waste. (Figure B)

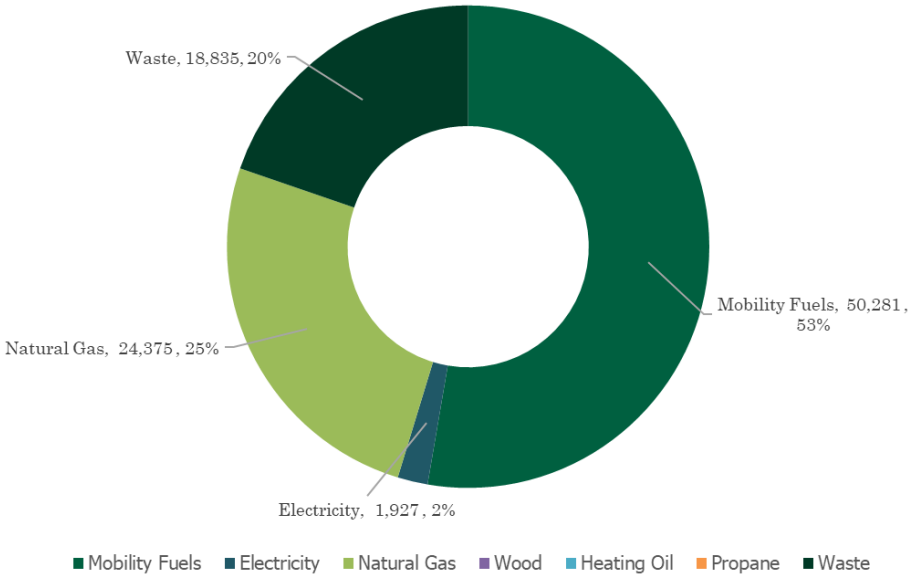

Figure B: Proportion of Greenhouse Gas Emissions by Sector in Squamish.

BIG MOVES STRATEGIES & ACTIONS

To guide District of Squamish actions to align with limiting warming to 1.5°C, six **Big Moves** have been established. The following pages overview each of the Big Moves, including:

- A **Vision** for the future, **Considerations** of current emissions, and a **Projected outcome** for emissions reduction by 2030.
- A sampling of Strategies for each Big Move, along with an example Action for each Strategy.
  - Most Strategies have several Actions, and not all Strategies are included in the executive summary.
  - Actions are classified as green, blue or black, similar to ski or bike trails.

EASY MODERATE DIFFICULT

  - The Actions relate to:
    - Directing measures that the District has control over;
    - Incentivizing and encouraging actions;
    - Educating others; and/or
    - Partnering with other groups or levels of government.

THE ACTIONS OUTLINED IN THIS PLAN WILL REDUCE EMISSIONS BY

38,300

Tonnes CO_2e by 2030

1 CLOSE THE LOOP ON WASTE: divert organics, capture landfill gas, reduce waste

Vision

Our community diverts all organics and recovers value from waste.

Considerations

Waste accounts for 20% of community emissions (19,000 tonnes CO2e). (3rd largest source)

Projected Reduction (2030)

Through implementation of landfill gas collection/ flaring system and increased organics diversion this Big Move will result in a reduction of

20,000 Tonnes CO_2e

compared to business as usual.

STRATEGY	EXAMPLE ACTION
Capture and flare landfill gas, and further research options for utilization (capture and convert methane gas to energy)	Continue with implementation plan for landfill gas flare project.
Divert organic waste from the landfill	Education and engagement about organics collection including the source separation requirements of the Solid Waste Utility Bylaw.

2 SHIFT BEYOND THE CAR: active transportation and transit

Vision

Active transportation and transit are preferred modes of travel to and within Squamish.

Considerations

Transportation accounts for 52% of community emissions (50,000 tonnes CO2e). (largest source)

Projected Reduction (2030)

Through doubling the number of trips taken by active transportation and transit this Big Move will result in a reduction of

2,500 Tonnes CO_2e

compared to business as usual.

STRATEGY	EXAMPLE ACTION
Improve urban form (compact communities enable active transportation and transit)	Support and incentivise high density infill development along the core transit networks, around neighbourhood nodes and in mixed use areas.
Improve active transportation (enhancing connectivity, safety, and convenience)	Augment existing Active Transportation infrastructure budget to make biking and walking safer and more accessible.

3 DECARBONIZE TRANSPORTATION zero or low carbon passenger, medium and heavy-duty vehicles

Vision

It's easy to own and use electric vehicles in Squamish. Infrastructure supports electrified (or low-carbon) cars, buses, fleets and larger vehicles.

Considerations

Transportation accounts for 52% of community emissions (50,000 tonnes CO2e). (largest source)

Projected Reduction (2030)

Through a combination of decarbonizing 50% of passenger and 10% commercial/fleet vehicles, this Big Move will result in a reduction of

12,000 Tonnes CO_2e

compared to business as usual.

STRATEGY	EXAMPLE ACTION
Enhance public EV charging infrastructure (EV use is fully supported in Squamish)	Develop community EV charging infrastructure. Consider other actions, such as integrated transportation hubs.
Support the use and purchase of passenger EVs (residents are enabled to own and use EVs)	Develop an EV communications strategy that includes outreach to builders/ developers, electrical trades, local businesses, and the general public.

4 DECARBONIZE EXISTING BUILDINGS
Retrofits and Upgrades

Vision

Energy retrofits and conversions to low-carbon energy systems occur in all types of buildings in Squamish.

Considerations

Buildings account for 29% of community emissions (28,000 tonnes CO2e). (2nd largest source)

Projected Reduction (2030)

Through a combination of 40% of private residences completing energy retrofits residences and 6% installing zero-carbon energy systems this Big Move will result in a reduction of

1,700 Tonnes CO_2e

compared to business as usual.

STRATEGY	EXAMPLE ACTION
Improve corporate building efficiencies (benchmark, assess and reduce energy use in corporate facilities)	Implement energy efficiency retrofits, reduce GHG emissions at corporate facilities and meet corporate reduction targets.
Enable and incentivize improvements for single family and multi-family residential owners (homes, condos, apartments, etc.)	Implement a financing/ loan program for the implementation of energy efficiency improvements and/or emissions reductions that is connected to the property, not the property owner.

5 CONSTRUCT BETTER BUILDINGS
zero and near-zero emissions structuresvehicles

Vision

New buildings in Squamish are energy efficient and use low carbon energy sources for space and water heating.

Considerations

Buildings account for 29% of community emissions (28,200 tonnes CO2e). (2nd largest source)

Projected Reduction (2030)

Through implementation of the BC Energy Step Code this Big Move will result in a reduction of

2,100 Tonnes CO_2e

compared to business as usual.

STRATEGY	EXAMPLE ACTION
Enable and incentivize efficient new buildings	Develop program roadmap for transition to the highest Step applicable for all buildings.
Enable and incentivize low-carbon energy sources in new buildings	Support or encourage wood-based building materials, or other materials that store carbon.

6 OTHER ORGANIZATIONAL ACTIONS

Vision

Beyond the first five moves Squamish will ready the organization, continue to learn, and lay foundations for deep reductions.

Considerations

These actions will help the District to implement this Plan.

Projected Reduction (2030)

Greenhouse gas emissions reductions were not modelled for this Big Move.

STRATEGY	EXAMPLE ACTION
Establish a financial commitment to climate action	Incorporate greenhouse gas emissions considerations into purchasing policies.
Align business development activities to support climate actions	Support growth of local business, home-based workforce development and local startups with incubation, acceleration programming and shared resources.

RESULTS OF STRATEGIES & ACTIONS

Figure C shows the projected greenhouse gas emission reductions for the six Big Moves, assuming that the Strategies and Actions are implemented to their full extent.

It is estimated that the Actions outlined in this Plan will reduce emissions by 38,300 tonnes CO_2e per year by 2030, which is 38% below 2010 levels. Therefore, the District will have a shortfall of approximately 6,200 tonnes CO_2e (or 7%) from meeting the 2030 1.5^{0}C target.

The biggest reductions come from capturing landfill gas, decarbonizing passenger vehicles and diverting organic waste. The gap largely exists because the District lacks the authority to deal with some sectors. These targets also do not include indirect emissions, which are larger than community emissions. Future Plans may be updated to incorporate a wider range of emissions into the scope.

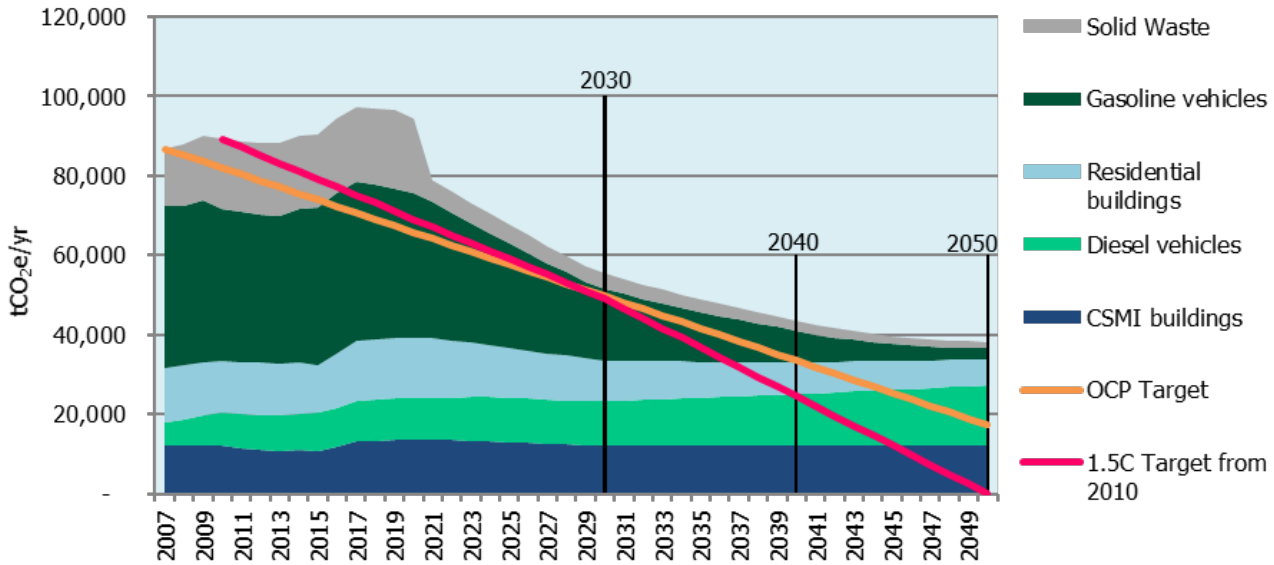

Figure C: Projected Emissions Reductions by Sector if Community Climate Action Plan is Implemented.

NEXT STEPS & CONCLUSIONS

Although the District of Squamish has not yet outlined enough measures to hit our target, this is NOT a plan to fail.

This is a Plan that acknowledges that this is an ambitious and challenging task. We are going to have to capitalize on opportunities, adopt new technologies, work with other organizations to break down barriers and push ourselves to learn more and to do more. This Plan is an important step, but it needs to be regularly revisited, adapted and updated. Progress on emissions reductions will be reported yearly, and the Plan should be updated in 3-5 years. As we move closer to 2030, we must also begin to focus toward the 2050 targets with full consideration of technological, cultural or legislative landscape changes. Another important consideration is equity. It is crucial that all District of Squamish residents can participate in and benefit from climate action initiatives. Not everyone contributes to climate change equally, both on a global and a community scale.

The citizens and businesses of Squamish have the biggest role in lowering emissions. Success depends on our individual choices about how to get around, where to live, and how to handle food and yard material. To engage citizens and businesses, the Plan will necessarily depend on ongoing, sustained engagement to help all residents understand what their choices are, and how those choices impact the direction of the community and the world.