

Climate Change

Long term weather trends over months, decades and longer is referred to as **climate**. Although climate naturally changes over long time scales, in the last 130 years the planet has experienced a 1°C increase in temperature. This is a very rapid rate of change that stresses natural and human-built systems.

Unlike earlier climate changes, we are increasingly certain that these more recent trends are primarily due to the human activities that release 'greenhouse gases' (GHGs) into our atmosphere. These emissions increase concentrations of gases that affect the atmosphere's ability to keep earth's climate within a relatively comfortable livable temperature range. Changing temperatures, and other climate-related changes such as sea level rise will impact our economy, infrastructure, development patterns, ecosystems, culture, and leisure activities over the long-term.

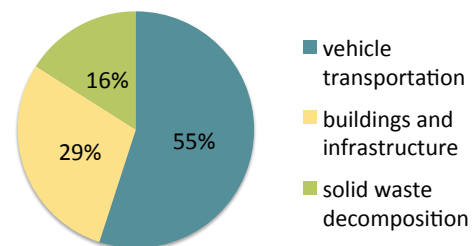
While there is much agreement on what is needed to reduce these GHGs and stop making the problem worse, it will take time to transition.

Climate change mitigation is about how communities can stop making the climate change problem worse. **Climate change adaptation** is about how communities might deal with the problems and/or capitalize on the opportunities caused by a changing climate.

Mitigation and adaptation are two key components of a comprehensive approach to addressing climate change. However, these components are not the domain of any specific level of government, department or agency but require considerable cooperation and integration.

How is Squamish contributing to the problem?

The bulk of our GHG emissions are from vehicle transportation. These emissions have increased by approximately 15% since 2007 as our population continues to grow and more and more people commute to work outside Squamish.



Squamish Community Energy & Emissions Inventory (2010)

Other emissions associated with Squamish residents' air travel and the production of consumables like food, clothing and other products are not included in these figures but all represent significant sources of emissions.

What changes can Squamish expect?

Estimated changes for the Squamish Lillooet Regional District around 2050 include ([PICS at Victoria University](#)):

- Annual rise in temperature of approximately 1.7 °C
- Annual increase in precipitation of approximately 6%
- Annual decrease in winter snowfall by approximately 15%

Over the next century, sea level rise is expected to rise at an accelerated rate, estimated anywhere from 0.6 m to a very extreme 2 metre rise ([Vancouver Climate Adaptation Strategy](#)).

Custom climate models for the Whistler area project:

- Increase in the frequency and intensity of heavy rains
- Longer, hotter and drier summers
- Milder winters and changes in the amount of snow

All of these trends require a change in thinking and behaviour. Good modeling of expected changes and adaptation planning will be required to ensure that Squamish is resilient and responsive as the climate changes.

What does the current OCP say?

- Reduce total greenhouse gas emissions per capita for regional energy systems to less than one tonne by 2030 (from 7.6 tonnes per capita in 2006).
- The current OCP includes a number of **mitigation** policies related to GHG reduction focused on community planning and design, building efficiency, operations, infrastructure, waste, and renewable energy.
- The current OCP includes a couple of **adaptation** policies such as working with partners to understand local impacts and develop strategies, and reviewing municipal flood hazard and utility plans to ensure extreme weather events are considered. Adaptation planning will be a key component of the new OCP.

Challenges

- Our emissions continued to rise up until 2010 but we don't have an annual inventory to track recent progress.
- Difficult to reduce overall emission levels with significant growth and development.
- Difficult to reduce emission levels within the existing built environment.

Opportunities

- Targets for GHG reductions are extremely ambitious but should help to inspire action.
- Community members and local initiatives such as the [Squamish Climate Action Network](#) are very involved.
- Growth and development provide opportunities to encourage efficient, walkable neighbourhoods, trail linkages and energy efficient buildings.
- Possibility for additional support from senior governments.
- Province now allows Development Permit Areas to promote energy/water conservation and GHG emissions.

For More Information

- [Downtown Squamish 2031 Transit Plan](#) (2009)
- [Transportation Options for the Squamish-Metro Vancouver Corridor](#) (2009)
- [Neighbourhood Energy Utility Feasibility Report](#) (2010)
- [District Wide Multi-Modal Transportation Study](#) (2011)
- [Transportation Action Plan](#) (2012)
- [Transit Service Effectiveness Review](#) (2012)
- [Climate Action Revenue Incentive Program](#) (2013)
- [Climate Actions Survey](#) (2014)
- [Carbon Neutral Progress Report](#) (2014)

Current Initiatives

There are a number of local initiatives underway:

- Partnership with Quest University to develop background information on local climate forecast.
- [Active Transportation Plan](#)
- [Sea to Sky Transit Future Plan \(BC Transit\)](#)
- [Integrated Flood Hazard Management Plan](#)
- [Mitigation strategies for the Cheekye Fan](#)
- Updating the [2010 feasibility study](#) for a downtown Neighbourhood Energy Utility
- Curbside pick-up for organics now offered, District reviewing expansion to multi-family areas.
- Mapping environmentally sensitive areas
- Revisions to the [Development Permit Area guidelines](#) for the protection of riparian areas