

2020 CLIMATE ACTION BIG MOVES STRATEGY



EXECUTIVE SUMMARY

The Climate Action Big Moves Strategy focuses on climate change mitigation priorities that will accelerate climate action in Whistler and achieve significant greenhouse gas (GHG) reductions. It builds on the work of the 2016 Community Energy and Climate Action Plan (CECAP) and supports the Official Community Plan (OCP). This strategy provides the guiding framework to prioritize CECAP actions, incorporate new opportunities, and align the community-wide efforts needed to achieve significant emissions reductions.

The Climate Action Big Moves are focused on the transportation, buildings and waste sectors. The vast majority of Whistler's emissions are from vehicle transport and the built environment. Personal transport within Whistler is the biggest source of GHG emissions, accounting for 54% of total emissions in 2019. Emissions have declined by 6% in the buildings sector since 2007 but they still account for 38% of Whistler's emissions, with natural gas from commercial buildings representing 24% and from residential buildings 11% of the total. While the waste sector is Whistler's best performing sector reducing emissions by 90% since 2005, it is still included in this strategy for consistency with others using the Big Moves approach and to recognize that more can be done.

It is an ambitious strategy and will get us closer but not all the way to achieving our current GHG reduction targets and the 2030 IPCC target of reducing our GHG emissions by 45% compared to 2010 levels. We must stay alert and nimble to incorporate new opportunities, as progressive thinking and initiatives will be needed in the coming years to close the shortfall, including additional support and tools from other levels of government to help further action at the municipal level.

2030 Target

Even with the increased urgency to address climate change, we are unfortunately not on track to achieve our existing climate targets which are set at achieving reductions of 33% by 2020, 80% by 2050, and 90% by 2060 – all below 2007 levels. As we increase our efforts, we need a target that is in the nearer term to motivate action and increase accountability.

The recommended 2030 target for Whistler is a 50% GHG reduction below 2007 emissions, meaning that by 2030, emissions are capped at 66,500 t-CO₂e. This target is in line with IPCC recommendations of achieving 45% reduction below 2010 levels and is even more proactive than the target set by the Province of British Columbia, i.e. 40% reduction below 2007 levels. Achieving 50% reduction below 2007 levels means reducing 2019 emissions by 65,000 t-CO₂e in just ten years – a formidable challenge. Whistler's Climate Action Big Moves outlined below are ambitious and it is estimated that, if successfully achieved, they will achieve a 34% reduction from 2007 emissions – 70% of the way to the 50% reduction target. To close the gap, additional action at the municipal, provincial and federal levels will be needed in the next decade.

The Big Moves

The need to accelerate Whistler's climate action is clear, and the Big Moves and corresponding key initiatives are the priorities we need to focus on.

1. Move beyond the car

By 2030, 50% of all trips in Whistler are by transit and active transport

- Increase transit options and usage
- Enable more active transportation
- Develop compact and low carbon neighbourhoods

2. Decarbonize passenger and commercial transport

By 2030, 50% of all vehicle km travelled are from zero-emission vehicles

- Scale up EV infrastructure for visitors and residents
- Support the shift to EVs through awareness and outreach initiatives
- Facilitate electrification of private and public fleets

3. Reduce visitor travel emissions

By 2030, Whistler demonstrates leadership in redefining tourism in a low carbon world

- Work with partners to define low carbon tourism
- Strengthen partnerships with resort and tourism industry
- Purchase high quality carbon offsets

4. Build zero emission buildings

By 2030, all new buildings achieve the top step in B.C.'s Energy Step Code, use only low carbon heating systems, and embodied carbon emissions drop by 40%.

- Advance BC Energy Step Code implementation
- Develop a roadmap for GHG emission limits
- Increase capacity building, education, and RMOW leadership

5. Make existing buildings better

By 2030, reduce emissions from residential buildings by 20% and from large commercial buildings by 40%.

- Advance retrofit incentives and remove barriers
- Focus on large commercial building retrofits
- Increase capacity building, education, and RMOW leadership

6. Close the loop and shift toward lower carbon consumption

By 2030, reduce waste sector emissions by 95% and reduce embodied emissions from products and services.

- Increase landfill diversion from commercial and multi-unit residential buildings
- Divert construction waste
- Advance waste reduction and sustainable consumption

INTRODUCTION

Purpose

This strategy focuses on climate change mitigation priorities that will accelerate climate action in Whistler and achieve significant greenhouse gas (GHG) reductions. It builds on the work of the Community Energy and Climate Action Plan (CECAP) and supports many of the goals, objectives and policies contained in the RMOW's Official Community Plan (OCP) adopted in June 2020.

Climate change mitigation priorities are articulated by the 'Big Moves' and associated key initiatives. In addition, an ambitious reduction target for 2030 commits us to accelerated action. With Whistler unable to meet its 2020 target, and the next target not applying for another 30 years, a closer term target is needed to better assess Whistler's climate performance and to increase accountability. Successful implementation of this strategy will get us 70% of the way to the 2030 target; therefore, it will need to be expanded in the coming years to close the shortfall, and doing so will require additional support and tools from other levels of government to enable further municipal action.

Background

Whistler showed early leadership on climate as one of the first signatories to the BC Climate Action Charter, then implementing many significant actions such as landfill gas flaring, in-vessel composting, green building policies, and improved transit. In 2016, the municipality developed the Community Energy and Climate Action Plan (CECAP).

With over 130 actions, the CECAP provides a comprehensive list of climate initiatives. It covers mitigation and adaptation measures in a wide variety of sectors and focus areas to ensure Whistler does its fair share to combat climate change and to prepare for the inevitable changes that will occur. More recently, Whistler's Vision and OCP include a strong commitment to advancing climate action through a number of goals, objectives and policies relating to energy use and climate mitigation, land use, buildings, transportation and more.

Since 2016, the need to address climate change has become even more urgent. A recent Intergovernmental Panel on Climate Change report with new warnings and a more demanding target and timeline has heightened public concern. We are experiencing global climate strikes, and communities around the world are declaring climate emergencies – all indications that the time to act in a very focused, strategic and collaborative way is now.

Climate Big Moves were first introduced by the City of Vancouver and the Community Energy Association (CEA). The goal is to inform and drive significant climate action and set B.C. communities on a trajectory towards a low carbon future. Over the past 2 years, Big Moves have been adopted by an increasing number of local governments across the province to drive GHG reduction.

The need to accelerate Whistler's climate action is clear, and this Climate Action Big Moves Strategy prioritizes what needs to be done, at a minimum, in our community. The strategy provides the guiding framework to prioritize CECAP actions, incorporate new opportunities, and align the community-wide efforts needed to achieve significant emissions reductions.

Beyond reducing our emissions and mitigating climate change, there are additional benefits to climate action that will help to improve many aspects of life in Whistler and move us closer to the community vision described in the updated OCP. Most importantly, the Big Moves strategy seeks to enhance

climate equity and aims to ensure that all of Whistler’s residents can participate in and benefit from the proposed key initiatives.

FIGURE 1: BACKGROUND ON WHISTLER'S CLIMATE ACTION AND STRATEGY DEVELOPMENT



Partnerships

While the key initiatives within each Big Move speak to the municipality’s role, partnerships and community-wide involvement will be needed to ultimately achieve them. The municipality can encourage, support and sometimes incentivize, but all of Whistler will need to come together to achieve this Climate Action Big Moves strategy. Further, we will need the other levels of government supporting this critical and urgent effort with policies, funding and additional municipal tools.

OUR CURRENT SITUATION

Reduction Targets

Whistler's current climate targets are set at achieving reductions of 33% by 2020, 80% by 2050, and 90% by 2060 – all below 2007 levels. Even with Whistler's leadership and the CECAP, Whistler is not currently on track to achieve its climate commitments.

In 2019, GHG emissions increased by 4% compared to 2018 and were just 1% below 2007, making the 2020 target impossible to achieve. Whistler is also not on track to achieve the CECAP and Official Community Plan total energy use target. Whistler's energy consumption in 2019 remained 10% higher than 2007 compared to a targeted 10% below 2007 usage. While Whistler is better positioned than many communities to work toward the CECAP 2060 target of 100% renewable energy, the climate urgency may require at least a short-term acceptance of other types of low carbon energy that are still useful sources for specific applications such as freight, aviation, heavy machinery, marine transport, fleets and industrial heat.

Whistler is not the only community in British Columbia or Canada unable to meet its climate targets. With the climate crisis worsening in recent years, and most communities unable to meet their commitments, new approaches are being put forward. This includes the recent movement to declare climate emergencies to increase urgency and to introduce a series of Big Moves on climate action to create a more focused climate mitigation effort.

Sector Emissions

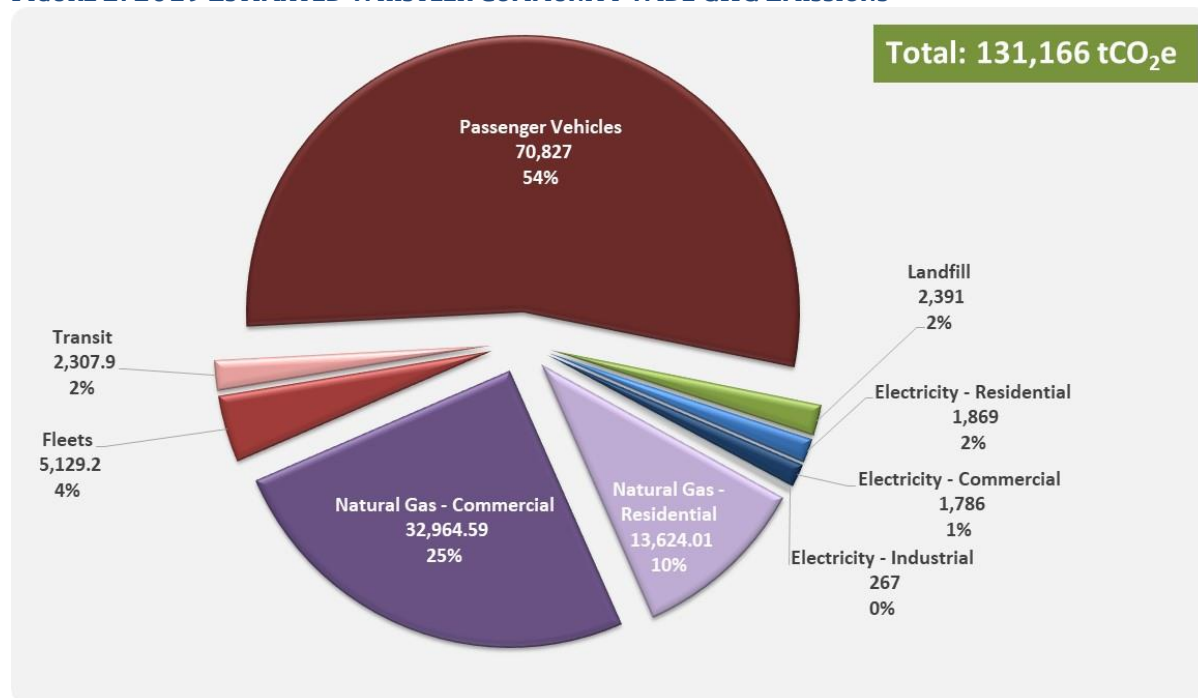
The vast majority of Whistler's emissions are from vehicle transport and the built environment. As such, to make effective progress towards Whistler's climate commitments, actions must focus on these two aspects of our community. Below is a brief description of the current situation in these two areas, as well as the waste sector.

Transportation: Personal transport is Whistler's biggest source of GHG emissions, accounting for 54% of the community's total. Importantly, it is also the only major sector in which emissions have been increasing, with emissions growing by 12% since 2007. It explains 85% of the total gap towards Whistler's 2020 climate targets. It is important to note that Whistler only measures transport related emissions that occur within its municipal boundaries and does not account for inter-community travel.

Buildings: Buildings account for 38% of Whistler's emissions, with natural gas usage in commercial buildings representing 25% and in residential buildings 10% of the total. Emissions have declined by 6% in this sector since 2007. However, it is important to note that much of the GHG improvements have come from one-time, non-repeatable circumstances, including the declining GHG intensity of hydroelectricity and Whistler's shift from propane to natural gas. Recently, natural gas connections have increased due to declining costs, with residential connections up by 25% and commercial consumption up by 21% in the past 5 years, creating a barrier to long-term progress.

Waste: Waste is Whistler's best performing sector with emissions declining by 90% since 2005 due to the gas capture and destruction at Whistler's past landfill, as well as increasing organics diversion. These initiatives significantly reduce methane emissions from landfills which are the primary source of GHG emissions related to waste.

FIGURE 2: 2019 ESTIMATED WHISTLER COMMUNITY WIDE GHG EMISSIONS



WHISTLER'S BIG MOVES

Whistler's Big Moves articulated in this section were informed by the City of Vancouver's Climate Emergency Response, the Community Energy Associations' Climate Leaders Playbook, as well as Whistler's CECAP and specific climate challenges associated with being a world class resort destination.

Adopting Climate Action Big Moves and the key initiatives within each will allow Whistler to more effectively focus our efforts to reduce GHG emissions where they matter most. The Big Moves frame and prioritize Whistler's CECAP and its comprehensive list of 130+ actions while creating space for new opportunities to be incorporated.

The Big Moves will allow the RMOW and our partners to better concentrate our efforts and resources where we can have the biggest impacts. Importantly, the Big Moves create a vision for what a low carbon future looks like in Whistler's two biggest emitting sectors, enabling collaboration and inspiring accelerated action.

With 90% of Whistler's emissions from vehicle transport and natural gas usage in the built environment, this Climate Action Big Moves strategy focuses five of the six proposed Big Moves on these two sectors. A Big Move focused on waste and sustainable consumption is also included to further Whistler's already significant reductions in this area, and to address emissions from consumption and lifestyle choices.

With over three million annual visitors pre-covid, tourism is the economic foundation to the community's success. In the transition to a low carbon future, the nature of tourism and travel will need to evolve and adapt. Recognizing this, a Big Move on tourism travel emissions is included, with

the goal and initiatives purposely set at a high level such that Whistler can begin to explore what this low carbon transition will look like, and how it can be achieved for Whistler’s tourism-based economy.

Transportation: The Way We Move

Big Move #1: Move beyond the car

Goal By 2030, 50% of all trips in Whistler are by transit and active transport

Personal vehicles are by far Whistler’s largest source of GHG emissions, accounting for 54% of Whistler’s total emissions. Moving beyond car-based transport to active transport and increased transit use is a key opportunity to reduce transport related emissions. Averaging out summer and winter 2019 survey results, 67% of full-time residents make most of their trips to work in cars, while 33% travel to work primarily using transit or active transport¹.

A shift towards more transit and active transportation is also a shift towards more climate equity. Ongoing investments in Whistler’s transit systems for a reliable and affordable service allows low-carbon transportation choices for all Whistler residents. In addition, further expanding the transit system beyond Whistler for effective regional transit will allow for low carbon commuting to and from Whistler.

Walking and cycling are increasingly seen as a viable opportunity to get around Whistler. Further investments in safe and well-maintained active transport infrastructure is needed to increase their share of travel, especially by addressing gaps in current connections. Supporting the adoption of e-assist transport choices – such as e-bikes – must also be prioritized through infrastructure investments and continued policy support.

How we design our community has major implications on how we get around Whistler. Designing and creating compact and complete developments that are well connected to transit and active transport infrastructure is critical to ensuring that Whistler transitions from a predominantly car-based town, to one in which most trips are done by active transport and transit use.

Key initiatives

Public Transit:

1. Increase transit service by keeping fares affordable to make transit the preferred personal transport option
2. Enable shorter trip times by infrastructure improvements such as queue jumper, bus acceleration lanes, or dedicated bus lanes
3. Continually improve accessibility, inclusiveness, and the overall travel experience for public transit
4. Continue to improve transit stop infrastructure such as shelters, benches, and accessibility.
5. Engage with the Provincial government and continue to collaborate with neighbouring communities on regional transit

Active Transport:

¹ Whistler currently doesn’t have data on non-work trips. In other cities and communities, these trips generally make up 75-80% of all trips. Typically, a lower percentage of these non-work trips are made with transit or active transport.

6. Prioritize development and maintenance of active transport infrastructure such as closing gaps in the Valley Trail Network
7. Scale up use of e-bikes and other e-mobility devices and address barriers to progress

Land use considerations:

8. Incentivize the development of compact neighbourhood nodes, and ensure new development is connected to transit and active transport infrastructure
9. Continued commitment to ensuring that Whistler is made up of increasingly complete and compact neighbourhoods

Estimated GHG reductions by 2030	Between 4,200 tCO ₂ e and 6,300 tCO ₂ e below 2019 Between 3% and 5% reduction below Business as Usual
Links to existing work	Whistler Transportation Action Plan 2018 – 2028, E-mobility device policy, OCP, CECAP
RMOW Divisions and Key Partners	<ul style="list-style-type: none"> • Lead: RMOW Transit and Transportation Demand Management • Support: Environmental Stewardship, Planning, Infrastructure Services (Roads) • Partnerships: Transportation Advisory Group (TAG), BC Government, Municipalities within the Sea to Sky Corridor, BC Transit, Translink

Big Move #2: Decarbonize passenger and commercial transport

Goal By 2030, 50% of all motor-vehicle km travelled are from zero-emission vehicles

Passenger transportation is the only major sector that has seen an increase in GHG emissions and increases in personal vehicle travels account for 85% of the total gap towards meeting Whistler’s 2020 climate targets. Transit and larger commercial fleets account for another 6% of emissions making transportation account for 60% of Whistler’s emissions.

Electric and low carbon vehicles are growing quickly in market share and have reached almost 10% of new vehicle sales in BC in 2019. This is ahead of BC’s new Zero Emissions Vehicle mandate and the highest level in North America, beyond even California. With prices continuing to decline, and price parity for EVs expected as early as 2022, the adoption of electric vehicles has the potential to further grow.

To achieve the Big Move of 50% of all motor-vehicle kilometer travelled (vkt) by zero emission vehicles will require that, by the end of the decade, nearly all new light-duty vehicles will need to be zero emissions. It will also require that highly used vehicles - such as taxis, ride hailing and business fleets - lead the adoption of zero emission vehicles, with almost all vehicles zero emissions by 2030.

This Big Move can also effectively influence GHG emissions outside the RMOW’s borders. A main barrier to broad EV adoption is for drivers to know they can find reliable and convenient charging at the places they visit. With over 3 million annual visitors, 70% of whom arrive by car, Whistler

can have an outsized impact by enabling electric transport beyond the municipal borders. It is also a key opportunity to reduce tourism related GHG emissions and thereby Big Move 3.

Success for this Big Move will require a comprehensive approach that provides accessible and reliable public charging, provide business incentives to accelerate the shift to low carbon fleets, and increasingly require supportive parking policies and zero-emission zones.

Key initiatives

1. Expand public EV charging network for residents and visitors
2. Incentivize residential (single-family and multi-unit) building EV charging installations by providing top-ups to provincial incentives or by adopting ZEV-ready building requirements
3. Support the shift to EVs through awareness and outreach initiatives for residents, commuters and visitors
4. Strategically increase parking costs to discourage the use of single occupancy vehicles
5. Electrify private and public fleets to take on a leadership role and establish Whistler as an EV-friendly community
6. Host webinars and other outreach events to inform fleet operators on Medium and Heavy-Duty fleet electrification
7. Work with BC Transit to move to zero emissions transit fleet

Estimated GHG reductions by 2030	Between c tCO ₂ e below 2019 Between 12% and 14% reduction below Business as Usual
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Links to existing work	Whistler Transportation Action Plan 2018 – 2028, OCP, CECAP
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RMOW Divisions and Key Partners	<ul style="list-style-type: none"> • Lead: Environmental Stewardship • Support: Transit and Transportation Demand Management, TAG, Planning, Building Department, Infrastructure Services • Partnerships: BC Hydro, Whistler Blackcomb, Municipalities within the Sea to Sky Corridor, Whistler Housing Authority, taxi/transportation suppliers
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Big Move #3: Reduce visitor travel emissions

Goal	By 2030, Whistler demonstrates leadership in redefining tourism in a low carbon world
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Our resort community is successful because of our vibrant tourism amenities that attract visitors from around the world. Emissions associated with tourist travel to and from Whistler are estimated significantly higher than Whistler’s total community emissions. While the vast majority of these emissions occur outside of Whistler’s municipal boundaries, they should be considered since they are a result of Whistler’s success and because there are increasing expectations for the tourism industry to address travel emissions.

Achieving significant GHG emissions reductions related to tourism travel presents a big challenge for the tourism industry as a whole, Whistler included. As such, this Big Move and most of the associated key initiatives are high level to help stimulate discussion and engagement and allow for learning and research to inform stronger next steps.

Key initiatives

1. Partner with the tourism sector to define tourism in the future low carbon world and to show leadership in marketing a low-carbon vacation destination
2. Promote Whistler’s businesses that are leading on climate action
3. Partner with resort organizations to create marketing and communication about the benefits of longer duration travel and fewer annual trips
4. Partner with resort organizations and regional partners to encourage alternatives to personal vehicles travelling to and within Whistler, for example through marketing and communication
5. Partner with car rental agencies to make EVs available for visitors
6. Partner with resort organizations to encourage high quality/gold standard greenhouse gas offset purchases and carbon neutral vacations used as a short-term approach until direct reductions in the emissions related to travel can be achieved

Estimated GHG reductions by 2030 NA

Links to existing work OCP

RMOW Divisions and Key Partners

- Lead: Environmental Stewardship
- Support: Economic Development, Cultural Planning and Development, Transit and Transportation Demand Management, Planning
- Partnerships: Municipalities within the Sea to Sky Corridor, Tourism Whistler, WhistlerBlackcomb, Destination BC, Economic Development

Buildings: Where we live

Big Move #4: Build zero emission buildings (zero-carbon operations & low embodied² carbon materials)

Goal By 2030, all new buildings achieve the top step in B.C.'s Energy Step Code, use only low carbon heating systems, and embodied carbon emissions drop by 40%.

While buildings that already exist today will be responsible for the vast majority of building sector emissions by 2030, it is still important to build new buildings to a high energy and climate standard. Local governments have greater authority for how new construction is developed. And many newly constructed buildings will still be around far beyond mid-century, when Whistler must be near zero emissions.

Whistler has shown early leadership by requiring highly energy efficient buildings. In 2019, Whistler adopted Energy Step Code level 3 to 4 for Part 9³ buildings, higher than most other communities in B.C. and Canada. Moving forward, Whistler must broaden the coverage of Energy Step Code to Part 3 buildings, and set a path to adopt the top step of Energy Step Code by or before 2030, which will reduce energy consumption by approximately 80% below current energy code. While highest efficiency buildings might be initially more costly to build, the return over the building life cycle is positive and can be seen as a step toward addressing housing affordability during the occupancy of the building.

Despite prioritizing high energy efficiency in new buildings, the BC Energy Step Code does not currently regulate the use of non-renewable energy sources nor GHG emissions from new buildings. Energy benchmarking and GHG limits need to be addressed through further regulation in tandem with incentives that prioritize low carbon cooking, space heating and hot water heating systems to ensure maximum greenhouse gas reductions in new buildings.

While the B.C. Step Code and low carbon systems address emissions from building operations, the embodied carbon emissions of materials in new buildings can be significant - typically equivalent to and sometimes more than two times greater than operational emissions. Whistler has also seen an increase in greenhouse gas intensive construction practices, such as heating of uninsulated construction projects in the winter, further increasing the emissions footprint of many new buildings.

Lowering embodied emissions will mean shifting to lower carbon materials (e.g. mass timber, lower carbon cement), eliminating spray foam with high carbon blowing agents, less underground parking and living space that is cement-intensive, and increased re-use of materials.

Key initiatives

1. Adopt progressively higher steps on the BC Energy Step Code to address new building envelope improvements.

² Embodied carbon: greenhouse gas emissions associated with the resource extraction, processing, manufacturing, and transporting of building materials and the building construction process.

³ The B.C. Building Code regulates building in two main categories: simple buildings and complex buildings, commonly called Part 9 and Part 3 buildings. In general, a single-family home is a good example of a Part 9 building while a shopping mall is an example of a Part 3 building.

2. Collaborate with the Province on low carbon performance requirements and GHG emission limits for new buildings
3. Incentivize low carbon energy systems within new buildings by using regulatory tools such as allowing for higher density or lower step code
4. Provide financial incentives/rebates for testing air tightness during and after construction
5. Promote capacity building opportunities and develop outreach campaigns for step code and low carbon energy systems for the building industry, home buyers, and realtors
6. Discourage carbon-based heating of outdoor spaces such as patio heaters, fossil fuel burning fire pits, heated driveways, outdoor hot tubs and saunas, etc. through policy and/or permit changes
7. Encourage low carbon design (efficient use of materials and optimized spaces), low carbon material use (e.g. mass timber, lower GHG-intensive cement, recycled materials), and low carbon construction practices (e.g. limited construction site heating) of new buildings.
8. Develop roadmap to require embodied carbon calculations for Part 3 buildings as part of permit submissions
9. Build RMOW staff capacity related to embodied carbon emissions
10. Demonstrate RMOW leadership when it comes to new municipal building construction with the goal to develop guidance and inspiration
11. Streamline the municipal building permit process to minimize administrative burden for property owners, developers and RMOW staff due to the additional GHG related tasks.

Estimated GHG reductions by 2030	Between 4,200 tCO ₂ e and 6,300 tCO ₂ e below 2019 in 2030 Between 3% and 5% reduction below Business as Usual in 2030 *
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Links to existing work	Green building policy, OCP, CECAP
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RMOW Divisions and Key Partners	<ul style="list-style-type: none"> • Lead: Building Department • Support: Environmental Stewardship • Partnerships: BC Energy Step Code, Canadian Homebuilders Association, Whistler Housing Authority
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*Accounts for reductions from a Business as Usual scenario that includes operations emissions of new buildings, not the embodied carbon of building materials. Estimated reductions are based on replacing buildings and reducing the expected new emissions from operating new buildings.

Big Move #5: Make existing buildings better

Goal	By 2030, reduce emissions from residential buildings by 20% and from large commercial buildings by 40%.
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Reducing emissions from existing buildings is especially challenging. While technical solutions are available, from replacing individual building components such as windows or updating furnaces, to comprehensive overhauls of the whole building, few if any jurisdictions have successfully scaled up strong action that materially reduces emissions from the existing buildings sector.

Local governments in British Columbia have limited jurisdiction over requirements for existing building retrofits. In addition, markets currently do not adequately value investments in energy efficiency, in part due to absence of transparent data on energy performance and utility costs at the time of sale. Considering these challenges, Whistler should pursue a wide range of initiatives that can facilitate investments in building energy efficiency.

While the existing buildings sector is acknowledged to be one of the tougher sectors to achieve greenhouse gas reductions, a significant opportunity lies in Whistler’s commercial buildings. Natural gas usage in commercial buildings account for over 70% of the buildings sector GHG emissions in Whistler, with a disproportionate amount coming from the largest energy-using buildings, mostly large hotels. These large buildings have more technical opportunities to reduce emissions, offer economies of scale and learning, and are better suited to value the long-term benefits from energy efficiency and lower utility and carbon costs. Annual spending in 2019 on energy use by commercial buildings alone is \$22 million dollars.

Energy upgrades to the RMOW’s Meadow Park Sports Centre have reduced emissions by over 60% and also provide an attractive rate of return. Focusing on large buildings to advance proven and new technologies will be a critical strategy for reducing emissions from Whistler’s existing buildings.

Key initiatives

1. Address the barriers to retrofitting by supporting energy assessments to identify the best retrofit opportunities, costs and benefits
2. Develop a retrofit toolkit for home- and business owners, including best practice examples, incentives and rebates, information on certified trades/installers or quality assurance standards for low carbon heating systems and energy efficiency
3. Incentivize energy efficiency and low carbon heating system retrofits through financial incentives such as municipal top ups and through outreach campaigns
4. Discourage carbon-based heating of outdoor spaces (e.g. patio heaters, fossil fuel fire pits, heated driveways, etc.) through policy and/or permit changes
5. Work with operators and managers of larger commercial buildings (especially hotels) to advance this Big Move in their building(s) by sharing information on best practices and benchmarking
6. Support strata councils and property management companies with resources to accelerate transition to energy efficient retrofits.
7. Collaborate with the Province on the proposed retrofit code
8. Advance a system of voluntary and mandatory energy benchmark reporting across Whistler's large energy consumers
9. Demonstrate RMOW leadership for municipal building efficiencies and GHG emission reductions by identifying retrofit opportunities in all corporate buildings, developing a timeline and implementing.

Estimated GHG reductions by 2030	Between 13,200 tCO _{2e} and 19,700 tCO _{2e} below 2019 in 2030
	Between 13% and 15% reduction below Business as Usual in 2030 *

Links to existing work	Green building policy, OCP, CECAP
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RMOW Divisions and Key Partners	<ul style="list-style-type: none"> • Lead: Planning or Building Department
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- Support: Environmental Stewardship, Facility Construction Management, Corporate and Community Services (for existing buildings)
- Partnerships: BC Government, BC Hydro (for incentive programs), Canadian Homebuilders' Association, Whistler Housing Authority

*3% - 5% reductions come from residential buildings, and 8% -10% come from commercial buildings.

Consumption: The way we consume

Big Move #6: Close the loop and shift toward lower carbon consumption

Goal	By 2030, reduce waste sector emissions by 95% and reduce embodied emissions from products and services.
<p>In many communities in British Columbia, the waste sector represents one of the largest contributors to GHG emissions but is one of the least expensive reduction opportunities. In many ways, Whistler has already done much of the heavy lifting related to waste with emissions from the sector declining by 90% compared to 2005 due to landfill gas capture and destruction and increasing organics diversion to thirty percent. While this progress is encouraging, many challenges remain and more can be done. These include finding long-term sustainable solutions for landfill waste, securing customers for plastic recycling, increasing organic waste diversion from commercial operations and multi-unit residential buildings and addressing construction waste.</p> <p>While good progress has been made on the waste side of the equation, the embodied carbon in the products we purchase accounts for two to three times our total community emissions. GHG accounting practices mean that these emissions are accounted for in the countries where they are produced, yet consumers have direct control over purchasing decisions, including lower carbon diets, environmentally certified products, product sharing, and less greenhouse gas intensive travel, among others.</p>	
Key initiatives	
<ol style="list-style-type: none"> 1. Improve organic waste reduction and landfill diversion from commercial operations and multi-unit residential buildings 2. Reduce construction waste focusing on organic materials such as waste wood 3. Continue to reduce all streams of waste 4. Use low carbon fuels for waste-related transportation to reduce transport emissions 5. Demonstrate RMOW leadership by embedding GHG emissions considerations into municipal procurement practices 6. Engage with residents, visitors and local business to advance sustainable consumption.⁴ 	
Estimated GHG reductions by 2030	Between 1,145 tCO ₂ e and 2,000 tCO ₂ e below 2019 in 2030
	Between 1% and 2% reduction below Business as Usual in 2030 *

⁴ <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

Links to existing work Solid Waste Management Strategy, OCP, CECAP

RMOW Divisions and Key Partners

- Lead: Infrastructure Services
- Support: Environmental Stewardship, Facility Construction Management, Corporate and Community Services
- Partnerships: BC Government, AWARE

*Reductions are just from lower landfill transport and lower transport of waste. It does not include indirect emissions from more sustainable consumption, which are much higher, but primarily occur outside Whistler.

OUR 2030 TARGET

Whistler has current official climate targets of a 33% reduction by 2020, 80% reduction by 2050 and 90% by 2060 (all below 2007). With Whistler unable to meet its 2020 target, and the next target not applying for another 30 years, a medium-term target is needed to better assess Whistler’s climate performance and to increase accountability.

Recommended 2030 target: 50% GHG reduction below 2007 emissions (i.e. by 2030, annual emissions do not exceed 66,500 t-CO₂e)

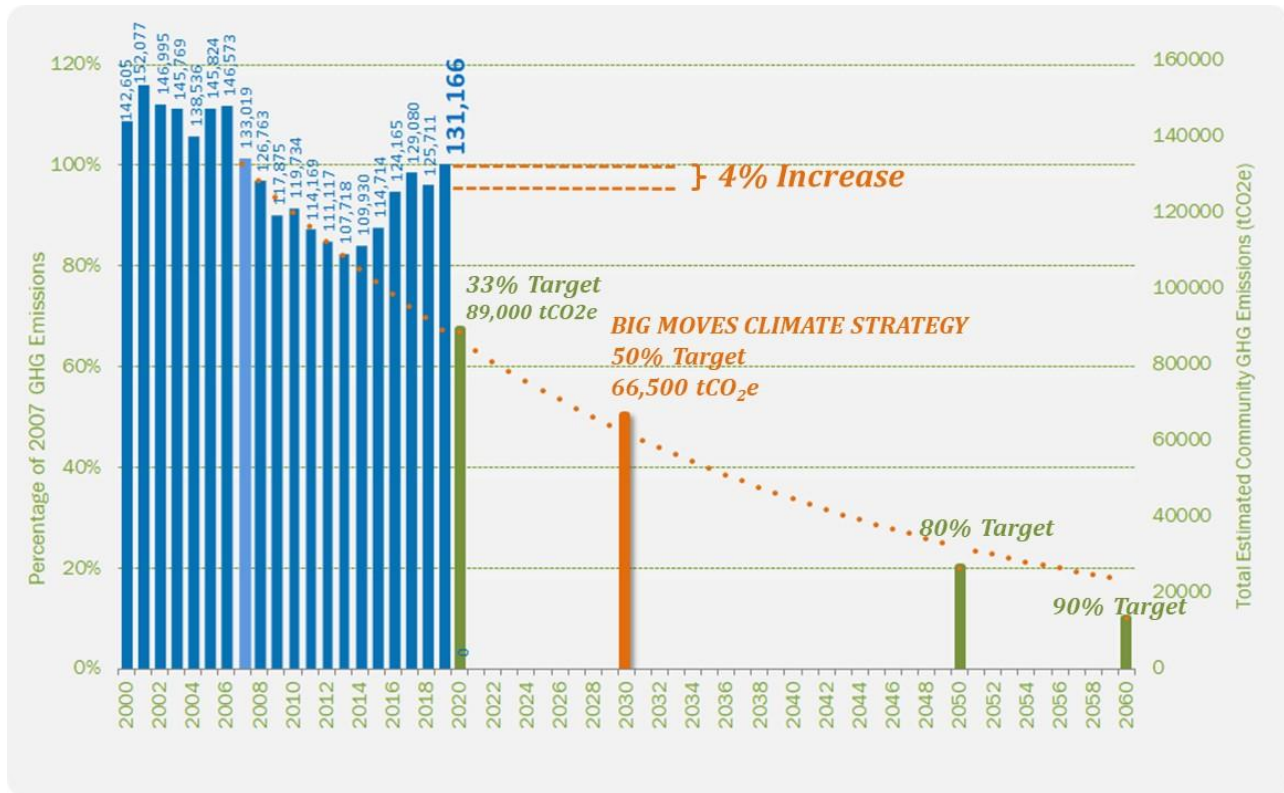
This target is in line with IPCC recommendations of achieving 45% reduction below 2010 levels and is even more proactive than the target set by the Province of British Columbia, i.e. 40% reduction below 2007 levels. Most importantly, this target will set Whistler on track to meeting our 2050 targets by mid-century. Applying this target to our 2019 emissions would mean lowering those annual emissions by 65,000 t-CO₂e or around 2 tCO₂e per person in just ten years.

Limiting Whistler’s annual GHG emissions to 66,500 t-CO₂e by 2030 is a formidable challenge. However, with successful implementation of the Big Moves and related key initiatives – and with strong action by and support from the provincial and federal governments – we will get most of the way there as outlined in the next section. Additional action and tools will be needed soon to provide additional opportunities for reducing GHG emissions, so the RMOW will continue to advocate for such.

What is realistic?

Both the City of Vancouver and the Community Energy Association whose works have informed the above Big Moves have set 2030 targets of 50% reduction (below 2007 for City of Vancouver). This is in line with IPCC recommendations to help stabilize climate change at no more than 1.5 C above pre-industrial levels. Given the challenges with meeting Whistler’s 2020 targets and the limited tools available to local governments, reducing emissions by 50% in just ten years is a stretch goal for Whistler even with extremely ambitious action. The City of Vancouver has substantial additional jurisdiction and tools at hand that the RMOW does not have, such as being able to set GHG intensity measures in its building code, or specifying the type of heating and hot water equipment that can be installed in new and existing buildings. Until Whistler has similar jurisdictional authority to more effectively address emissions within Whistler, we focus on achievable short-term targets while advocating for the legal tools needed to ultimately close the gap to achieving our ambitious 50% target.

FIGURE 3: WHISTLER'S CLIMATE TARGETS



Estimated Impact of the Big Moves

Whistler’s Big Moves are ambitious and it is estimated that, if successfully achieved, they will reduce emissions by 45,300 tCO₂e compared to 2019, resulting in 2030 emissions of around 86,000 tCO₂e, which is 70% of the way to the 50% reduction target.

Figure 4 shows the estimated impact of each Big Move by 2030. Note that while the proposed target is based on 2007 emissions, reductions for each Big Move are calculated based on 2019 data which is the last emission inventory year prior to implementing the Big Moves. In addition, GHG emission reductions in percentage are calculated using a Business as Usual (BAU) scenario following the Community Energy Association’s (CEA) Climate Action Planner tool⁵.

All emission reduction estimations are given as a range due to the high uncertainty and necessary assumption for these calculations. The lower and upper limit of the emission reduction ranges are based on a conservative and optimistic climate action scenarios that assume that trends on technology, funding availability, Provincial and Federal action, and public interest and pressure to decelerate or accelerate, respectively.

⁵ <https://www.communityenergy.ca/climate-action-planner/>

FIGURE 4: GHG EMISSION REDUCTION POTENTIAL OF EACH BIG MOVE UNTIL 2030

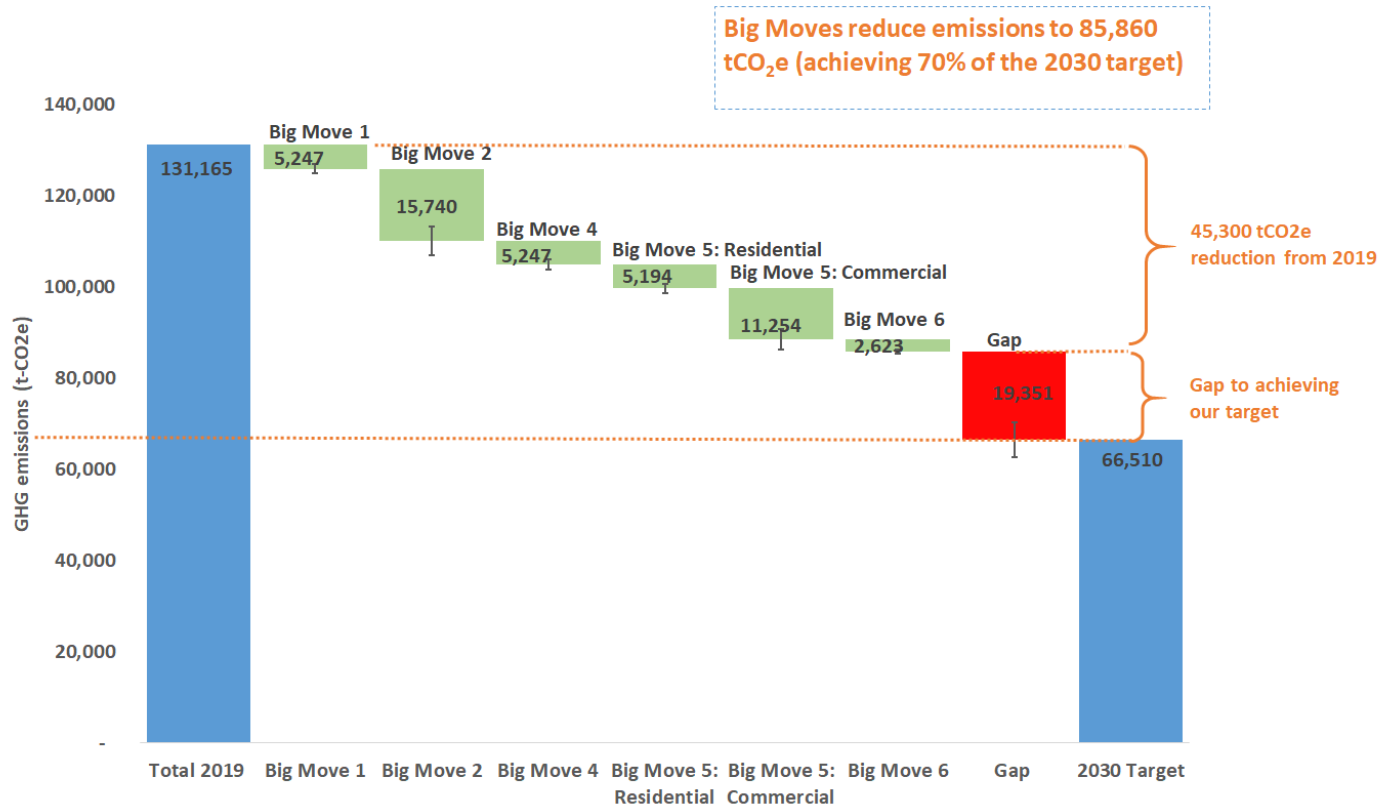


TABLE 1: GHG EMISSION REDUCTION POTENTIAL OF EACH BIG MOVE UNTIL 2030

Big Move	Reductions below 2019 (t-CO ₂ e)	Reductions from BAU* (%)
1. Move beyond the car By 2030, 50% of all trips in Whistler are by transit and active transport	4,200 – 6,300	3% - 5%
2. Electrify passenger and commercial transport By 2030, 50% of all vehicle km travelled are from zero-emission vehicles	12,600 - 18,900	12% - 14%
3. Reduce visitor travel emissions By 2030, Whistler demonstrates leadership in redefining tourism in a low carbon world	NA	NA
4. Build zero emission buildings By 2030, all new buildings achieve the top step in B.C.'s Energy Step Code, use only low carbon heating systems, and embodied carbon emissions drop by 40%.	4,200 – 6,300**	3% - 5%
5. Make existing buildings better By 2030, reduce emissions from residential buildings by 20% and from large commercial buildings by 40%.	13,200 - 19,700 ***	13% - 15%
6. Close the loop and shift toward lower carbon consumption	1,145 - 2,000 ****	1% - 2%

By 2030, reduce waste sector emissions by 95% and reduce embodied emissions from products and services.

Total Reductions from BAU by 2030*	36,200 – 54,400	32% - 41%
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* While the 50% reduction target is based on 2007 emissions, reduction calculations below for each Big Move are based on a Business as usual scenario using 2019 data as starting point. 2019 is the most recent data available at this time.

**Accounts for reductions from building operations in a business as usual scenario, not the embodied carbon of building materials. Estimated reductions are based on replacing buildings and reducing the expected new emissions from operating new buildings.

*** 3% - 5% reductions come from residential buildings, and 8% -10% come from commercial buildings.

****For Big Move 6, the reductions cited are just from lower landfill transport and lower transport of waste. It does not include other indirect emissions from more sustainable consumption, which are likely much higher, but primarily occur outside the RMOW boundary.

IMPLEMENTATION, MONITORING, AND ACCOUNTABILITY

A robust implementation and monitoring plan is critical to ensure that the Climate Action Big Moves Strategy becomes effectively operationalized. The RMOW will lead by example on climate in its own planning and projects, as well as aligning its land use, community and transportation planning processes to deliver the climate targets. Successful implementation of this strategy will include the following planning priorities:

- A comprehensive 5-year multi-departmental implementation and financial strategy will be developed for the proposed Big Moves and the related Key Initiatives. When developing the strategy, the available regulatory, financial and advocacy tools within the RMOW will be assessed and financial impacts (costs and savings) for RMOW residents and businesses will be taken into account. Local actions within direct RMOW authority will be prioritized in the 5-year financial plan to reflect RMOW's commitment to act on climate change; the implementation plan will be finalized by summer 2021 and presented to Council in together with the annual Energy and GHG performance report.
- Whistler's annual Energy and GHG Inventory Report will continue to be used as a key monitoring tool. Progress towards achieving the Climate Action Big Moves goals will be combined with the report on the annual GHG emissions and energy performance report. Note that the CECAP mitigation actions are incorporated into the Big Moves strategy and it is recommended that future reporting share progress on the Big Moves implementation;
- Accountability will be ensured by embedding climate action into municipal decision making in alignment with the OCP goal 10.1. A GHG impact tool will be developed to inform on climate strategy alignment of proposed RMOW projects and processes, and to embed climate action into the annual RMOW budget process;
- An RMOW staff Climate Innovator Working Group will be formed with the purpose to provide a vehicle of communication between departments on actions that strategically support the implementation of the Climate Action Big Moves Strategy and its specific objectives;
- The Carbon Neutral Operations Plan will be updated to align RMOW action with the Big Moves strategy and demonstrate RMOW leadership;
- The Green Building Policy will be updated to align RMOW action with Big Moves 4 and 5;
- The RMOW procurement policy will be updated to include climate and social procurement guidelines to demonstrate RMOW commitment to developing, and embedding social and environmental/climate values articulated in the OCP into procurement processes.
- The 2030 target outlined above will be included as one of the metrics tracking progress towards the vision in the Official Community Plan; and
- Strategic partnerships will be formed to lobby the provincial government for additional municipal to implement climate – and environment-related regulations and bylaws

APPENDIX A – RELATED CECAP ACTIONS

This strategy provides the guiding framework to prioritize CECAP actions, incorporate new opportunities, and align the community-wide efforts needed to achieve significant emissions reductions.

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TABLE 2: CECAP ACTIONS AS THEY RELATE TO THE BIG MOVES STRATEGY

Big Move	Related CECAP Actions
Big Move #1: Move beyond the car	<u>Public Transit:</u>
	6.1.2.1 - Work with regional passenger carriers and provincial regulatory bodies to encourage greater frequency and more affordable choices for regional bus travel
	6.1.2.2 - Support the expansion, promotion and increased convenience of mass transportation services between Vancouver and Whistler
	6.1.2.8. - Strategically expand transit system service levels and frequency where possible and affordable.
	<u>Active Transport:</u>
	6.1.3.1 - Prioritize the recommendations of and regularly update the Whistler Transportation Cycling Plan and the Whistler Recreational Cycling Plan in planning for the pedestrian and bicycle network
Big Move #2: Decarbonize passenger and	6.1.4.5 - Explore opportunities to structure local incentives to support electric vehicle use within and to/from Whistler.(i.e. preferred or reduced parking fees for electric vehicles)
	<u>Land use considerations:</u>
	6.1.1.1 - Continued commitment to ensuring that Whistler is made up of increasingly complete and compact neighbourhoods
	6.1.1.4 - Ensure that whenever possible, new development or significant redevelopment is concentrated in existing neighbourhoods or settled areas that are well-served by transit, pedestrian and cycling routes, amenities and services; and are characterized by increased residential density.
	6.1.1.6 - Proposals for significant new development or redevelopment should be required to quantify future GHG emissions and energy consumption impacts (including transportation-based) and incorporate measures to minimize and/or mitigate projected increases.
	6.1.4.1 - Support the development of, and increased access to, reduced-carbon mobile fuel options such as natural gas, appropriate biofuels, and electrical charging stations across the community.

<p>commercial transport</p>	<p>6.1.4.2 - RMOW to aggressively advance the average fleet GHG and energy efficiency of the municipal vehicle fleet</p> <p>6.1.4.4 - Integrate electric and/or lower carbon fuel vehicles into existing private and public fleets (transit/delivery/taxis/shuttles).</p> <p>6.1.4.9 - Invest in electric vehicle integration across municipal fleet.</p> <p>6.1.4.11 - Develop a social marketing initiative to drive the use and purchase of more efficient vehicles</p>
<p>Big Move #3: Reduce visitor travel emissions</p>	<p>NA</p>
<p>Big Move #4: Build zero emission buildings</p>	<p>6.2.2.1 - Support the trades, sub-trades, developers and building community with programs and initiatives designed to increase the uptake of energy efficient residential building designs, programs and technologies in Whistler.</p> <p>6.2.2.3 - Explore the feasibility for requiring energy modeling for new residential buildings and significant renovations at building permit phase</p> <p>6.2.2.4 - Maintain and update the RMOW Green Building Policy to require higher energy performance standards during rezoning for new residential buildings.</p> <p>6.2.2.8 - Explore the feasibility of requiring energy modeling for new commercial buildings and significant renovations at building permit phase.</p> <p>6.2.2.9 - Support the trades, sub-trades, developers and building community with programs and initiatives designed to increase the uptake of energy efficient commercial building designs, programs and technologies in Whistler.</p> <p>6.2.2.10 - Update the RMOW Green Building Policy to modernize the framework, and ensure that opportunities to increase energy performance outcomes are identified and leveraged during permit approval and rezoning processes (commercial, institutional and residential).</p>
<p>Big Move #5: Make existing buildings better</p>	<p>6.2.1.4 - Profile a deep energy retrofit as an example of what can be done to promote energy efficient retrofits in existing homes.</p> <p>6.2.1.6 - Advance opportunities to reduce the direct heating of outdoor areas (i.e. heated driveways, heated stairs, patio heaters, outdoor gas fireplaces).</p> <p>6.2.1.9 - Develop and implement a social marketing campaign with incentives to increase audits, uptake of incentive programs and associated energy efficiency performance improvements.</p> <p>6.2.1.10 - Support and improve staff training on energy efficiency practices across hotel operations (start-up practices, etc).</p> <p>6.2.1.11 - Advance a system of voluntary and mandatory energy benchmark reporting across Whistler's large energy consumers (leverage NRCAN Portfolio Manager updates into Canada)</p> <p>6.2.1.12 - Promote increased awareness of Energy Performance Contracting and other energy efficiency opportunities for commercial sector properties.</p>

**Big Move #6:
Close the loop
and shift
toward lower
carbon
consumption**

6.4.1.2 - Support the expansion of local compost diversion programs (marketing, education, pricing, infrastructure, etc.)

6.4.1.3 - Evaluate opportunities to require new development or significant redevelopment to incorporate meaningful measures to minimize solid waste during design and construction, deconstruct rather than demolish, and encourage alternative and evolving methods of waste diversion during building operation.

6.4.1.4 - Continue moving towards the Zero Waste goal endorsed in 2005, and update the municipal solid waste strategy to advance zero-waste goals, planning and actions.

6.4.1.5 - Support and promote the increased use of the Sustainable Events Guide and monitor performance outcomes for all key events.

6.4.1.6 - Evaluate and support implementation of efficient and convenient methods of collecting solid waste, recyclables and compost for people utilizing preferred methods of transportation.

6.4.1.7 - Encourage the private sector to develop and/or participate in innovative, cost-effective and environmentally sustainable solid waste and recycling programs in support of achieving our Zero Waste goal.

6.4.2.1 - Support the creation of a 'sharing economy' working group to explore the best opportunities for sharing locally available skills and equipment as a means of increasing affordability, reducing new consumption and decreasing local waste production

6.4.2.2 - Encourage the use of the Re-Build-It Centre and Re-Use it Centre for the reuse of building materials, products and to support community services.

6.4.2.3 - Promote opportunities for education and learning related to food production and associated GHG and environmental impacts.

6.4.2.4 - Promote and facilitate opportunities to shorten food supply chains and that support less GHG intensive food growing and menu choices.

APPENDIX B – RELATED OCP GOALS AND POLICIES

TABLE 3: OCP CHAPTERS AND GOALS AS THEY RELATE TO THE BIG MOVES STRATEGY

Big Move	Related OCP content
Big Move #1: Move beyond the car	Chapter 11 – Transportation: all associated Objectives and Policies
Big Move #2: Decarbonize passenger and commercial transport	<p>10.2. Goal: Substantially reduce GHG emissions from vehicles and transportation.</p> <p>11.3. Goal: Minimize GHG emissions created by the transportation system</p> <p>11.7. Goal: Ensure the transportation system respects Whistler’s natural environment, minimizes climate impacts and improves the livability of the resort community.</p>
Big Move #3: Reduce visitor travel emissions	<p>6.5. Goal: Support sustainable diversification compatible with the tourism economy.</p> <p>6.6. Goal: Support a vibrant, growing and successful local business community.</p> <p>7.4. Goal: Air quality is protected.</p> <p>10.1. Goal: Municipal decision-making is well-structured to achieve energy efficiency goals and GHG reduction targets.</p>
Big Move #4: Build zero emission buildings	<p>5.4. Goal: Reduce the environmental and energy impacts of residential neighbourhoods to improve the quality of life and sustainability of the resort community.</p> <p>10.1. Goal: Municipal decision-making is well-structured to achieve energy efficiency goals and GHG reduction targets.</p> <p>10.3. Goal: Substantially reduce GHG emissions from buildings and infrastructure.</p>
Big Move #5: Make existing buildings better	<p>10.1. Goal: Municipal decision-making is well-structured to achieve energy efficiency goals and GHG reduction targets.</p> <p>10.3. Goal: Substantially reduce GHG emissions from buildings and infrastructure.</p>
Big Move #6: Close the loop and shift toward lower carbon consumption	7.4. Goal: Air quality is protected.

	<p>10.1. Goal: Municipal decision-making is well-structured to achieve energy efficiency goals and GHG reduction targets.</p> <p>10.4. Goal: Substantially reduce GHG emissions associated with solid waste management.</p> <p>12.3. Goal: Move progressively toward zero waste.</p>
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Additional Benefits

<p>Improved health and community connections: walking, biking, transit access and neighbourhood design leading to improved health and more social interaction.</p>	<p>11.2. Goal: Integrate the transportation system with land use planning to minimize the need for travel by motor vehicle.</p> <p>11.7. Goal: Ensure the transportation system respects Whistler’s natural environment, minimizes climate impacts and improves the livability of the resort community.</p> <p>11.7. Goal: Ensure the transportation system respects Whistler’s natural environment, minimizes climate impacts and improves the livability of the resort community.</p> <p>11.7.2. Objective: Build and maintain transportation infrastructure and services that positively impact community livability.</p>
<p>Healthier homes: warm and comfortable buildings, sound-proofing, and natural materials</p>	<p>5.4. Goal: Reduce the environmental and energy impacts of residential neighbourhoods to improve the quality of life and sustainability of the resort community.</p>
<p>Cost savings: reduced energy costs related to buildings and vehicles.</p>	<p>10.2. Goal: Substantially reduce GHG emissions from vehicles and transportation.</p> <p>10.3. Goal: Substantially reduce GHG emissions from buildings and infrastructure.</p>
<p>Community resilience: reduced energy demand leading to reduced exposure to fluctuating energy prices, increasingly diverse local energy supplies</p>	<p>10.5. Goal: Increase the resilience of Whistler’s infrastructure, natural environment and socio-economic assets from the potential impacts of a changing climate.</p>
<p>Local jobs: building on existing clean tech operations, attracting new businesses and more intensive focus on better building construction</p>	<p>6.5. Goal: Support sustainable diversification compatible with the tourism economy.</p> <p>6.6. Goal: Support a vibrant, growing and successful local business community.</p>