

Whistler Annual Greenhouse Gas Inventory and Climate Action Progress Report

2022 Annual Report

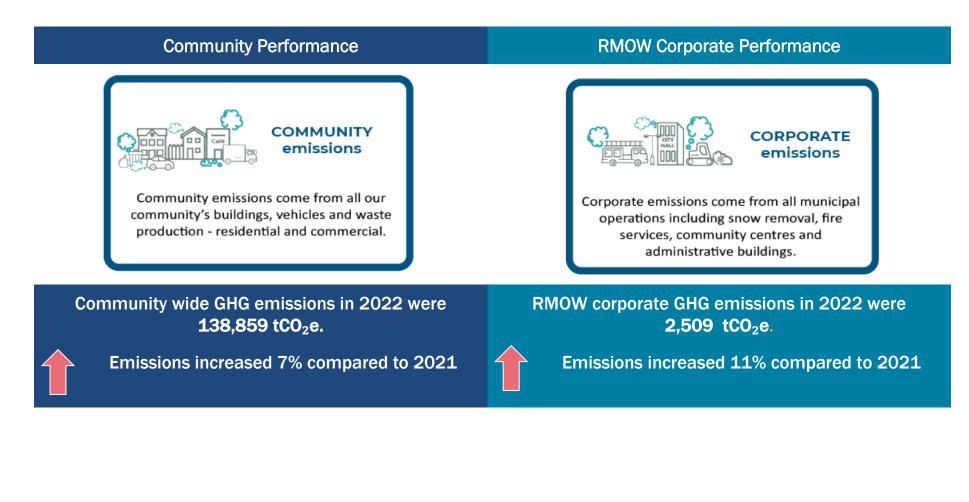
Resort Municipality of Whistler whistler.ca



Table of Contents

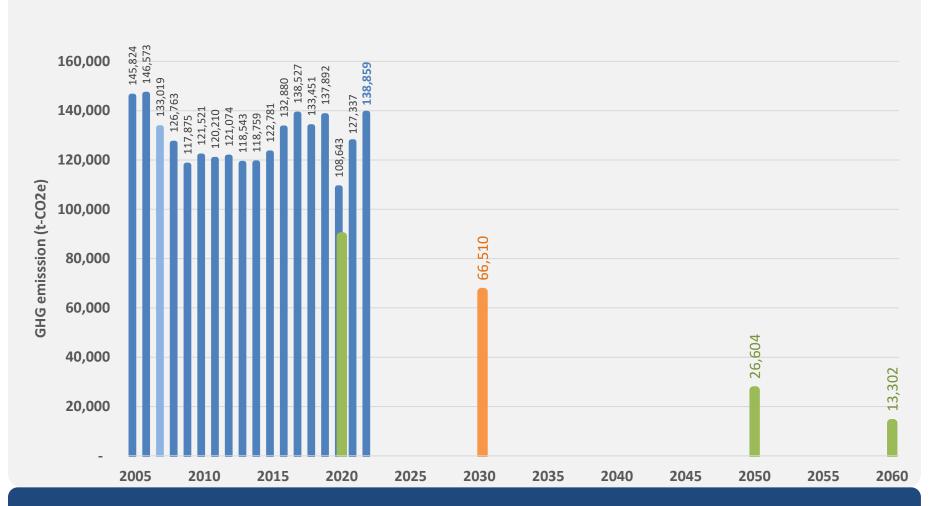
1.	2021 Climate Action summary	2
	Big Moves Indicators – Progress Towards Our Goals	
3.	2021 Community GHG and Energy Inventory	7
4.	2021 RMOW Corporate Energy and GHG inventory	10
5.	Mitigation – Progress Report	13
6.	Adaptation - Progress Report	32
7.	Appendices	40

1. 2022 CLIMATE ACTION SUMMARY



2. BIG MOVES LEAD INDICATORS - PROGRESS TOWARDS OUR GOALS

		2019 Starting Point	Current	2030 Target	% Change from las year	t % Change from 2019	Are we on Track?
	Community GHG Emissions in tCO2e	137,727	138,859	65,500	7% increa from 202		
	RMOW GHG Emissions in tCO2e	2,360	2,509	1,100	11% increa from 202		
	Passenger Vehicle Emissions in tCO ₂ e	70,827	73,827	35,400	11% increa from 202		
×	GHG per Population Equivalent in tCO ₂ /PE	3.8	3.8	2.5	-14% decrea from 202		
	Building GHG Emissions from Natural Gas in tCO2e	46,589	48,979	33,000	5% increa from 202		
Õ	Waste to Landfill in tons/year	12,000	11,500	TBD	4% increa from 202		



WHISTLER - Total Estimated Community GHG Emissions

The community of Whistler has committed to community level GHG reductions of 33% by 2020, 80% by 2050, and 90% by 2060 relative to a base year of 2007 (green bars). 2022 emissions are currently 4% above 2007, and 56% above the 2020 target. In 2020, Whistler adopted the Climate Action Big Moves Strategy which sets a new target for the near term of 50% reduction below 2007 levels by 2030 to motivate action and increase accountability (orange bar).

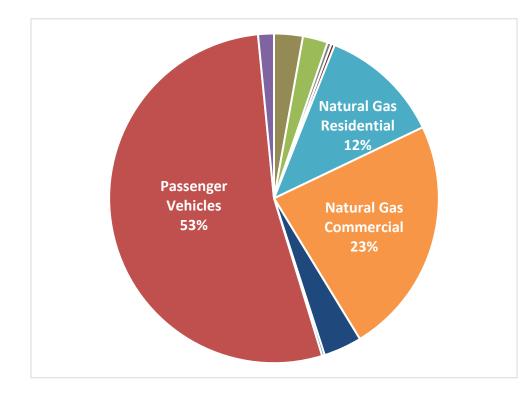
COUNCIL DECISIONS RELATED TO CLIMATE CHANGE IN WHISTLER

	Q1/Q2 2022	Q3/Q4 2022	Q1/Q2 2023	Q3/Q4 2023
REPORTS	CECAP quarterly report	 2021 Annual Whistler GHG Inventory and Climate Action Progress Report Big Moves Climate Action Implementation Plan adopted 	 Bi-annual Big Moves Climate Action Implementation Plan Progress Report 	 2022 Annual Whistler GHG Inventory and Climate Action Progress Report
BIG MOVE 1	 E-bike demonstration project (with BCAA) Return to Transit and Transit Loyalty Program Re-allocation of transit service hours approved 	BC Transit Future Action Plan adopted	E-bike share program awarded to BCAA (Evolve) and launched	Active Transportation Plan
BIG MOVE 2	Whistler EV strategy adopted	Day Lot price increases and year-round pay parking in Day Lots adopted		
BIG MOVE 4		Green Building Policy adopted	 Building bylaw amended to adopt higher steps of BC Energy Step Code and Zero Carbon Step Code Council resolution for Codes Acceleration Fund application 	
BIG MOVE 5	Clean BC communities fund application for MPCS retrofit work		 Green and Inclusive Community Buildings Program application for MPCS retrofit work 	

BIG MOVE 6	 Solid waste amendment bylaw (tipping fees) 		 Zero Waste Action Plan update 	
ADAPTATI ON 1	Community Wildfire Resiliency Plan adopted	COVID-19 Resilience Infrastructure Stream wildfire funding application	RFP for Whistler Wildfire Defense Plan	Amendments to Wildfire DPA planned
ADAPTATION 2	 UBCM Emergency Preparedness grant applications Water User Fee and Regulation amendment bylaw UBCM Strengthening Communities' Services grant application UBCM Extreme Heat Risk Mapping, Assessment & Planning grant application 		 Rainbow Park planned upgrades presented 	Recreation Trail Strategy planned
ADAPTATION 3	 Lakes management options presented 			Priority Habitat Framework

3. 2022 COMMUNITY GHG AND ENERGY INVENTORY

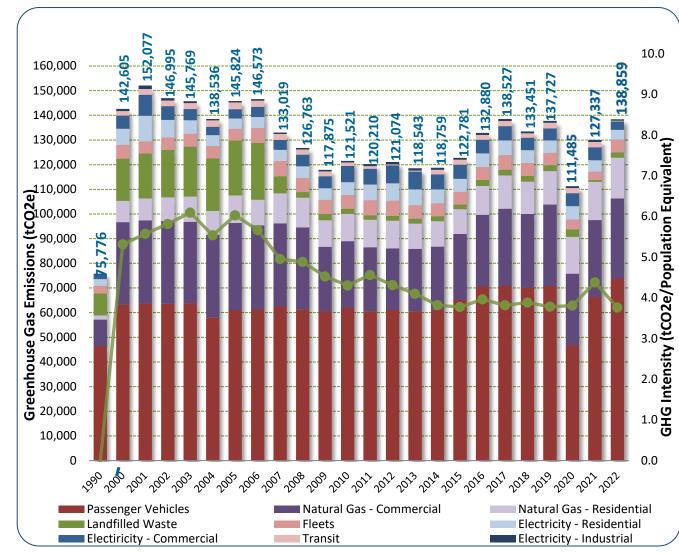
2022 Estimated Whistler Community GHG



Source	tCO2e	%
Passenger Vehicles	73,827	53%
Natural Gas - Commercial	32,442	23%
Natural Gas - Residential	16,537	12%
Fleets	5,205	4%
Electricity - Residential	3,924	3%
Electricity - Commercial	3,400	2%
Landfill	2,156	2%
Electricity - Industrial	550	0%
Propane	462	0%
Transit	355	0%

Community GHG emissions for 2022 are estimated to total 138,859 tCO₂e, which is a 7% increase compared to 2021 and 4% higher than 2007 (133,019 tCO₂e). It is also a 1% increase from 2019 (137,727 tCO₂e). Passenger vehicle emissions account for 53% of Whistler's community-wide GHG emissions, followed by natural gas for space and water heating in buildings which accounted for 35% of Whistler's total community-wide emissions in 2022.

Total Emissions: 138,859 tCO₂e

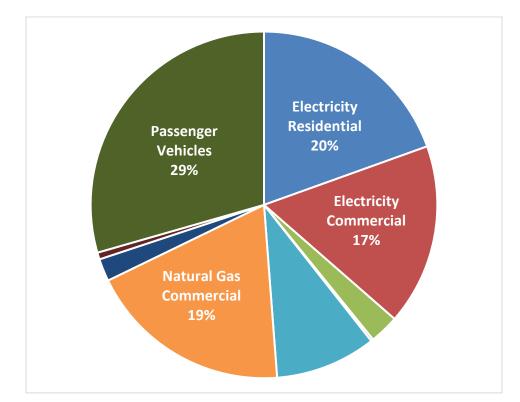


Estimated Whistler Community-Level Greenhouse Gas Emissions (1990,2000-Present)

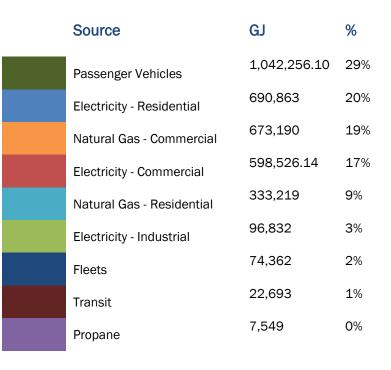
This figure shows a breakdown of Whistler's community-level GHG emissions since 2000 to present. Whistler's 2022 total community wide GHG emissions are approximately 7% higher than 2021 emissions, 1% above 2019 emissions, and 4% above 2007 emissions. The main reason for this overall increase in GHG emissions is an increase in passenger vehicle emissions and natural gas consumption. Vehicle emissions increased by 11% in 2022 compared to 2021. In 2020 and 2021, passenger vehicle activity was significantly lower due to the COVID-19 pandemic and related restrictions. However, in 2022 we see passenger vehicle activity returning, to prepandemic levels. Natural gas emissions are 5% higher than 2021 levels and 5% higher than 2019 levels.

The 2022 GHG emissions per population equivalent (PE)¹ decreased by 14% to 3.76 tCO₂e/PE compared to 2021 (4.38 tCO₂e/PE). This is a result of PE returning to pre-pandemic levels. More information on Whistler's population equivalent and other monitoring data can be found on the <u>whistler monitoring webpage</u>.

¹ The nature of Whistler being a tourism community means the number of people in Whistler on any given day is generally far greater than the population counts provided Canada Census or BC Statistics estimates. The total Population Equivalent is an estimate of the total number of people in Whistler on an average annualized basis. The indicator is often used in 'per capita' measures to normalize the data and make it comparable to other communities.



2022 Estimated Whistler Community Energy Use



The total community energy consumption in Whistler in 2022 was 3.54 M GJ. This was a 4% increase compared to 2021 (3.41 M GJ) and a 13% increase from 2007 (3.1 M GJ). It is also a 3% increase compared to 2019 (3.43 M GJ). Electricity is the most prevalent type of energy consumed in Whistler at 38% of the total consumption followed by vehicle fuels (31%) and natural gas (28%).

Total Energy: 3,539,489 GJ

2021 RMOW CORPORATE ENERGY AND GHG INVENTORY 4.

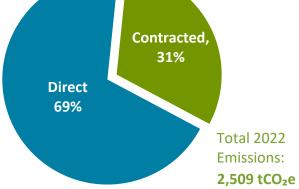
Total corporate GHG emissions in 2022 were 2,509 tCO₂e. These emissions are broken down into direct emissions (those controlled by the RMOW) and contracted emissions (those controlled by contractors that the RMOW hires). The RMOW's direct emissions represent 69% of total corporate emissions at 1.727 tCO₂e. This is a 4% increase from 2021 (1.665 tCO₂e). The increase in direct emissions is due to an increase in natural gas consumption at RMOW buildings and facilities. Contracted emissions represent 31% of total corporate emissions at 782 tCO2e. This is a 32% increase from 2021 (592 tCO₂e). Changes in contracted emissions is caused by the type of contracted work being completed. In 2022, more of the contracted work completed for the RMOW was associated with the operation and maintenance of traditional services when compared to 2021, resulting in higher contracted emissions.

The charts below depict RMOW's corporate GHG emissions by service area.

Direct Corporate GHG Emissions

Contracted.

2022 RMOW Corporate GHG Emissions in tCO₂e

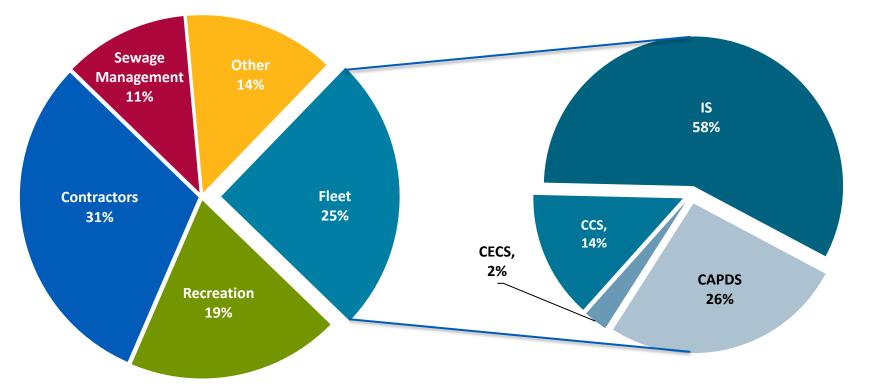


- RMOW Fleet (includes fuel consumption for RMOW operated fleet vehicles, 1. excluding school buses and RCMP which are captured in community emissions) represents 25% of corporate emissions in 2022, or 628 tCO₂e. This is down 4% when compared to 2021 due to a decrease in diesel consumption. Looking at fleet usage by RMOW division, we clearly see that Infrastructure Services (IS) utilizes fleet vehicles the most. This division includes roads crews, solid waste, water utility, sewer utility and facility construction and maintenance operations.
- 2. Recreation (includes natural gas and electricity for Meadow Park Sports Center and Olympic Plaza) represents 19% of corporate emissions in 2022, or 481 tCO₂e. This is a 34% increase when compared to 2021. This increase is due to an increase in natural gas consumption at Meadow Park Sports Center.
- 3. Sewage Management (includes the operation of the wastewater treatment plant and associated facilities such as pump stations, lift stations etc.) represents 11% of corporate emissions in 2022 or 282 tCO₂e. This is a 19% decrease from 2021, due to a decrease in natural gas consumption at the wastewater treatment plant.

Contracted GHG Emissions

1. Solid Waste Management (includes solid waste management transportation) makes up almost half of contracted emissions. These emissions are a result of solid waste being transported in and around Whistler to the Whistler Transfer Station and then to the Cache Creek Landfill in Cache Creek, BC. Emissions related to solid waste increased from 252 tCO₂e in 2021 to 373 tCO₂e in 2022, which is consistent with the increased volume of waste in to landfill in 2022.

2. **Other contractors** (includes other contracted traditional services such as operational work related to water, sewer, roads or parks and recreation) represents the other half of contracted emissions. This year, emissions from these contractors increased by 20%, due to more contracted work conducted for the RMOW relative to 2021.



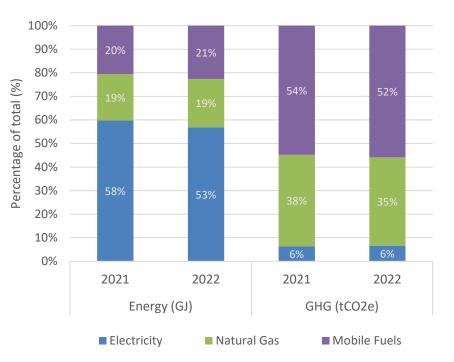
2022 RMOW Corporate GHG Emissions in tCO₂e by Service Area

RMOW divisions: IS – Infrastructure Services, CAPDS – Climate Action, Planning and Development Services, CECS – Community Engagement and Cultural Services, CCS – Corporate Services and Public Safety

GHG Emissions by Energy Type

Different energy types contribute to GHG emissions differently, which is determined by an emissions factor. In BC electricity has a very low emissions factor, whereas other fuels such as natural gas and mobile fuels (diesel and gasoline) have much higher emissions factors. The figure to the right shows the percentage distribution of the RMOW energy consumption and related GHG emissions in 2022 compared to 2021. This figure highlights that while electricity makes up over half of the energy consumed by the RMOW, it only amounts to 6% of our corporate GHG emissions. However, natural gas which makes up roughly 20% of energy consumed amounts to over 50% of corporate GHG emissions. Mobile fuels also make up roughly 20% of energy consumed, which in 2022 represent 35% of total corporate emissions.

2021 vs 2022 Percentage Distribution of RMOW Energy Consumption and GHG Emissions by Energy Type



5. MITIGATION – PROGRESS REPORT

BIG MOVE 1: MOVE BEYOND THE CAR

Indicators

Community 2030 Goal	Indicator	Data Source	Starting point 2019	Ar 2020	nnual progress 2021	2022	Target 2030	Likelihood of achieving target
50% of all trips in Whistler are by transit and active	Annual transit ridership	Transit Data	3.2 M	1.4 M	1.5 M	2.5 M	4.5 M	MEDIUM
transport	Proportion of residents traveling to work via public transit, walking or biking ²	Community Survey	41%	48.5%	50%	53%	50%	HIGH
RMOW Corporate Goal 50% below 2019 by 2030	GHG emissions from RMOW fleet transport in tCO2e	Annual Report	680	747	652	628	340	MEDIUM

 2 The proportion of residents travelling to work includes commuting trips by car-pooling which makes up about 8% of the total

When you see this symbol, it highlights an action or milestone that offers significant impact to reaching our goals.

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2022 WHISTLER ANNUAL GHG EMISSIONS INVENTORY AND CLIMATE ACTION PROGRESS REPORT

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Action Highlights & Milestones Q1/Q2 2023

Public Transit & Shared Transportation

Key Initiative		Milestone / Progress Highlight	Responsible
1.1	Increase public transport use by keeping fares affordable and service frequent and efficient through finalizing and implementing the BC Transit Future Action Plan and its outlined coordinated approach to make transit a preferred choice for personal transport.	 BC Transit Future Action Plan developed with BC Transit; adopted by Council Sept 6, 2022. Completed Route 10 Transit Service Review which also included an online survey. Recommendations from the Review to optimize transit service are being implemented; starting with added service to Route 10 for summer 2023 and more changes to come in the fall. Added May Long, Thanksgiving and Truth and Reconciliation Day as free transit days. All Grade 7 and high school students in Whistler all receive free transit passes. 	Transit and Transportation Demand Management
1.2	Shorten trip times through phased implementation of actions and infrastructure improvements such as queue jumper, bus acceleration lanes, or dedicated bus lanes as identified in the Transit Future Action Plan. Implementation phases are: 1. Gain understanding of critical locations and causes for delays. 2. Improve key intersections and locations. 3. Tackle more difficult to improve sections.	Highway 99 Bus Priority Report in development with BC Transit and Ministry of Transportation and Infrastructure. Aiming for completion by end of 2023.	Transit and Transportation Demand Management
1.3	Engage with the Provincial government and continue to collaborate with neighbouring communities on efficient and affordable regional transit.	Work ongoing to engage Province and neighbouring communities.	Transit and Transportation Demand Management
1.4	Continually improve accessibility, inclusiveness and the overall travel experience of public transit.		Transit and Transportation Demand Management

Key Initiative		Milestone / Progress Highlight	Responsible
1.5	Continue to improve transit stop infrastructure such as shelters, benches, and accessibility.	Village Gate Blvd bus shelter accessibility expansion completed in 2022. Work ongoing to identify high priority bus stop upgrades for upcoming workplan.	Resort Parks Planning
1.6	Implement affordable and accessible vehicle sharing programs.		Climate Action

Key Initiat	ive	Milestone / Progress Highlight	Responsible
1.7	Prioritize development and maintenance of safe and accessible active transportation infrastructure, such as closing gaps in the Valley Trail Network, considering new connections that support commuting by bike, increasing secure bike parking, encourage installation of end of trip facilities and improving route safety.	 RMOW Active Transportation sub-committee continues to work on Active Transportation Plan. Purchased subscription to Streetlight data to inform Active Transportation Plan and Big Moves Goals. The secure bike parking area in the underground Library parking lot was reopened (converted two motor vehicle stalls) for summer 2023. Covered staff bike parking at Municipal Hall expanded and sufficient power to charge e-bikes provided. Three gaps in the Valley Trail Network have been prioritized and are advancing through preliminary design stages. Mount Fee Road extension added to the Valley Trail. RMI funding allocated to Valley Trail Network safety improvements, including Highway 99 at Bayshores. 	Transit and Transportation Demand Management
1.8	Scale up use of e-bikes and other e-mobility devices and address barriers to progress (E.g., Implement e-bike share program, improve route safety, add secure bike parking and e-bike charging infrastructure).	Community e-bike share program awarded to BCAA (Evolve) after successful pilot in 2022. Program launched May 2023. New staff e-bikes purchased including: - 2 for Municipal Hall staff - 1 for Parks Planning - 2 for Resort Operations - 1 for Festival, Events and Animation - 3 for Recreation and Meadow Park Sports Center - 4 replacement bikes for Bylaw RMOW worked with AWARE to host spring GoByBike Week.	Transit and Transportation Demand Management

Active Transport

Mile	estone		Milestone / Progress Highlight	Responsible	
1.9		Continued commitment to ensuring that Whistler is made up of increasingly complete and compact neighbourhoods.		Planning	
1.10	D	Ensure the development of compact neighbourhood nodes, by only considering development within the WUDCA ³ and prioritizing development in existing neighborhoods with access to transit, employment, and services.	Infill housing included in New Housing Action Plan. Northlands rezoning application under review, including public consultation. Plans include a walkable neighbourhood to address connectivity and Valley Trail gaps.	Planning	
			Cheakamus Crossing Phase 2 still underway.		

Land Use Consideration

³ Schedule A (Whistler Land Use Map and Designations) establishes the Whistler Urban Development Containment Area (WUDCA), which focuses Whistler's urban development within the Whistler valley corridor between Cheakamus Crossing and Function Junction to the south, and Emerald Estates to the north, and is consistent with Whistler's Settlement Area Map (Map 1b) of the RGS. Within this corridor, the OCP seeks to maintain a comprehensive network of natural areas, open space and parks that separate and provide green buffers between developed areas. Residential accommodation, visitor accommodation, commercial, light industrial, institutional and community facilities are directed to be located primarily within the WUDCA. More information here: https://www.whistler.ca/ocp/introduction-and-planning-context



Indicators

Community 2030 Goal	Indicator	Data Source	Starting point	Α	nnual progress	5	Target	Likelihood of achieving target
			2019	2020	2021	2022	2030	
50% of all motor-vehicle km travelled are from zero-emission vehicles	# of ZEV's registered in Whistler	ICBC	77	121	123	132	3,300	MEDIUM
RMOW Corporate Goal								
50% below 2019 by 2030	100% of light duty fleet electrified by 2030	RMOW internal data	0	0	0	3%	100%	MEDIUM
	GHG emissions from RMOW fleet transport in tCO2e	Annual Report	680	747	652	628	340	MEDIUM



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Action Highlights & Milestones

Key Initiative		Milestone / Progress Highlight	Responsible	
2.1	Expand accessible and affordable public EV charging network for residents and visitors as laid out in the Whistler EV Strategy.	Clean BC Communities Fund being used to install 41 Level 2 and DCFC chargers between 2023 and 2025. RFPs are in development for Level 2 chargers at the following locations: - Day Skier Lot 4 - Meadow Park Sports Center - Bailey Park Final design and procurement for Level 3 chargers at the following locations: - Surface Lot A - Day Skier Lot 3 EV charger at Public Works Yard moved to WAG public parking.	*	FCM / Climate Action
2.2	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.	Green Building Policy adopted Dec 2022. The update of this policy contains guidelines and requirements for EV charging infrastructures in new multi-family and mixed-use buildings. Provincial incentives have increased and aligned municipal rebates are available for EV readiness and EV-ready plans for MURBS.	*	Climate Action / Planning
2.3	Electrify private and public fleets to take on a leadership role and establish Whistler as an EV-friendly community.	EV Infrastructure Assessment completed for Public Works Yard. Recommendations from Assessment for budget consideration in 2024. Parks Operations Team continuing to replace equipment with lower carbon options, such as electric leaf blower, electric trimmer and e-bikes to reduce vehicle use.	*	Central Services and Fleet / FCM / Climate Action
2.4	Work with BC Transit to move to a zero-emissions transit fleet.			Transportation Demand Management

2.5	Support the shift to low carbon transportation options (E.g., EVs) through awareness, partnerships and outreach initiatives for residents, businesses, commuters and visitors.	Strata Property Act Amendments moved forward on May 11, 2023, to improve strata ability to address EV charging requests. EV Charging Guide for Apartments and Condo published on Whistler.ca	Climate Action
2.6	Host webinars and other outreach events to inform fleet operators on medium and heavy-duty fleet electrification		Climate Action
2.7	Strategically increase parking costs to discourage the use of single occupancy vehicles.	Starting April 16, 2023, year-round pay parking has been adopted in the Day Skier Lots 1 – 5. Starting April 3, 2023, hourly and daily rates were increased throughout the village.	Day Lot Operating Committee



BIG MOVE 3: REDUCE VISITOR TRAVEL EMISSIONS

Indicators

Community 2030 Goal	Indicator	Data Source	Starting point	A	Annual progress		Annual progress Target Lik		Likelihood of achieving target
			2019	2020	2021	2022	2030		
Whistler is a low carbon visitor destination	GHG emissions per population equivalent	Annual Report	3.6	3.68	4.27	3.90	2.5	Low	
accunation	Total landfilled waste in kg per population equivalent	RMOW data / Wastech	325	374	368	318	65	Low	



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Action Highlights & Milestones

Key Ini	iative	Milestone / Progress Highlight	Responsible
3.1	Partner with the tourism and outdoor recreation sectors to define tourism and outdoor recreation in the future low-carbon world and to show leadership in facilitating and marketing a low-carbon vacation destination.	Formed RMOW internal Smart Tourism working group Whistler 101 series – episode titled Climate Change released	Climate Action / Economic Development
3.2	Partner with resort organizations and regional partners to encourage alternatives to personal vehicles travelling to and within Whistler, for example through marketing and communication, to achieve at least 50 per cent of international visitors arriving by bus or shuttle.		Climate Action
3.3	Promote Whistler's businesses that are leading on climate action.		Climate Action / Economic Development
3.4	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.	Quantification of GHG emissions related to visitation for 2024 budget consideration	Climate Action
3.5	Partner with resort organizations to create marketing and communication about the benefits of longer duration travel and fewer annual trips.		Climate Action / Economic Development
3.6	Partner with car rental agencies and shuttle bus companies to make EVs available for visitors, support the electrification of shuttle busses, and incentivize bus travel and capacity.	Community e-bike share program awarded to BCAA (Evolve)	Climate Action

Indicators

Community 2030 Goal	Indicator	Data Source	Starting point	А	nnual progres	S	Target	Likelihood of achieving target
			2019	2020	2021	2022	2030	
All new buildings achieve the top step in B.C.'s Energy Step Code	% new Part 9 buildings at highest BCESC step	RMOW building department records	0	1	1	0	100%	MEDIUM
	% of new Part 3 buildings at highest BCESC step	RMOW building department records	0	0	0	0	100%	LOW
	GHG emissions from buildings ⁴ in tCO ₂ e	Annual Report	50,500	55,400	54,700	57,315	40,000	MEDIUM



⁴ GHG emissions from buildings include all GHG emissions related to natural use (residential and commercial) as well as electricity use (residential, commercial, and industrial).

2022 WHISTLER ANNUAL GHG EMISSIONS INVENTORY AND CLIMATE ACTION PROGRESS REPORT

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Action Highlights & Milestones

Key Ir	itiative	Milestone / Progress Highlight		Responsible
4.1	Adopt progressively higher steps on the BC Energy Step Code to address new building envelope improvements and regulate GHG emissions from new buildings by either incentivizing low carbon energy systems or by adopting the Province's GHG targets within the buildings code.	 Green Building Policy adopted by Council, December 2022. Building and Plumbing Bylaw amendment adopted by Council May 2023. New Step Code requirements effective Jan 1, 2024: Step 4 for Part 9 buildings (Step 5 with in-ground basement floor area exclusion) Step 3 for Part 3 residential Step 2 for Part 3 commercial (effective May 1, 2023) Zero Carbon Step Code adopted to limited GHG emissions from new Buildings. Strong Carbon Performance (EI-3) required for all new buildings effective Jan 1, 2024. 	$\stackrel{\bigstar}{\swarrow}$	Climate Action / Building / Planning
4.2	Collaborate with the Province on low carbon performance requirements and GHG emission limits for new buildings.	Building and Plumbing Bylaw amendment adopted by Council May 2023. Zero Carbon Step Code adopted to limited GHG emissions from new Buildings. Strong Carbon Performance (EI-3) required for all new buildings effective Jan 1, 2024.	\checkmark	Climate Action / Building
4.3	Promote capacity building opportunities and develop outreach campaigns for step code and low carbon energy systems for the building industry, home buyers, and realtors.	Renewed Provincial and municipal rebates/incentives for low carbon energy systems (new/retrofit). Building sector info session held on Step Code and Zero Carbon Step Code implementation plan April 5, 2023.		Climate Action
4.4	Discourage carbon-based heating of outdoor spaces such as patio heaters, fossil fuel burning fire pits, heated driveways, outdoor hot tubs, pools and saunas, etc. through policy and/or permit changes.			Climate Action / Planning
4.5	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	Collaboration with District of Squamish and Community Energy Association to develop embodied carbon roadmap for BC communities; Embodied Emissions Tool completed in May 2023.		Climate Action

	construction practices (E.g., limited construction site heating) of new buildings.		
4.6	Build RMOW staff capacity related to embodied carbon emissions.		Climate Action
4.7	Demonstrate RMOW leadership when it comes to new municipal building construction with the goal to develop guidance and inspiration.	Design is underway for new energy efficient building as part of South Whistler Water Supply Project. Building energy efficiency study is n draft form.	Facility Construction Management
4.8	Streamline the municipal building permit process to minimize administrative burden for property owners, developers and RMOW staff as relates to additional GHG related tasks and requirements.	 Building sector info session held on Step Code implementation plan April 5, 2023 Applied for Codes Acceleration Fund to receive funding to support implementation and capacity building for Step Code and Zero Carbon Step Code. Council Resolution for application April 18, 2023 Zero Carbon Step code does not add additional steps in the permitting process Building department reviewing entire permitting process 	Building Department
4.9	Provide financial incentives/rebates for testing air tightness during and after construction.		Building Department / Climate Action
4.1	 Develop a roadmap to require embodied carbon calculations for Part 3 buildings as part of permit submissions. 	Carbon Life-Cycle Assessments included in Green Building Policy adopted Dec 2022.	Climate Action

BIG MOVE 5: MAKE EXISTING BUILDINGS BETTER

Indicators

Community 2030 Goal	Indicator	Data Source	Starting point		Annual progres	S	Target	Likelihood of achieving tar
2030 G081			2019	2020	2021	2022	2030	
20 in 2022 homes switch from fossil fuel heating to a heat pump, 61 per year	# of heat pump incentives accessed (goal 20 for 2022, 61 per year thereafter)	Retrofit Assist	0	0	1	1	500	MEDIUM
thereafter	Natural gas use from residential buildings in 1000 GJ	Annual Report	273	300	312	333	218	LOW
	Natural gas use from commercial buildings in 1000 GJ	Annual Report	661	580	626	673	400	Low
RMOW Corporate Goal								
50% below 2019 by 2030	GHG emissions from RMOW buildings in tCO2e	Annual Report	1,110	1,278	1,008	1,103	555	Low

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Action Highlights & Milestones

Key Initia	ative	Milestone / Progress Highlight		Responsible
5.1	Develop and implement a program that supports energy efficiency and low carbon heating system	Retrofit Assist pilot program focused on heat pump installations with limited uptake completed in May 2023.		Climate Action
	retrofits in single family homes. The program is to address barriers to retrofits, support energy assessments to identify the best retrofit opportunities, identify financial incentives, and provide municipal top ups.	Retrofit Assist program relaunched in June 2023, with expanded offerings to include:		
		-Concierge style support for all home energy retrofits		
		-Dedicated energy advisor		
		-Homeowner and contractor engagement	X	
		-Eligible homes include single family homes and multi-family dwellings with separate meters		
		Two Builder Breakfasts led by Squamish Energy Manager to educate builders on home retrofit rebate programs and Retrofit Assist.		
		Strategy to mitigate noise related to heat pumps being developed by Planning Department in collaboration with District of Squamish		
5.2	Collaborate with the Province on the proposed retrofit code.			Climate Action
5.3	Demonstrate RMOW leadership for municipal building efficiencies and GHG emission reductions by identifying retrofit opportunities in all corporate buildings, developing a timeline and implementing.	An application was submitted for the Green and Inclusive Community Buildings grant for Meadow Park Sports Center energy efficiency upgrades. Currently waiting to hear about outcome.	\bigstar	Facility Construction Management
		A grant for \$18,500 was acquired from Fortis BC for the Energy Assessment conducted at Meadow Park Sports Center.		
		Automated HVAC system for Municipal Hall in progress and on track for completion by end of year.		

		Spruce Grove Ball Field light replacement project to replace existing energy intensive lighting with LEDs underway. Retrofit of an existing Wastewater Treatment Plant building to provide additional office space is underway and on track for completion by fall 2023. Energy efficiency upgrades include a heat pump for cooling and LED lighting.	
5.4	Develop education and outreach materials such as a retrofit toolkit on energy efficiency retrofits and low carbon energy systems for home and business owners as well as contractors and other retrofit stakeholders.		Climate Action
5.5	Discourage carbon-based heating of outdoor spaces (e.g., patio heaters, fossil fuel burning fire pits, heated driveways, outdoor hot tubs, pools and saunas, etc.) and identify policy and/or a regulatory mechanism to regulate outdoor heating.		Planning Department
5.6	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.	BC Hydro Implementation Offer grant of \$8,250 was received in February 2023. Workshop to engage hotel sector in development with Prism Engineering and BC Hydro for Fall 2023.	Climate Action
5.7	Support strata residents, councils, and property management companies to implement energy efficiency and low carbon heating system retrofits. Explore the option to expand the retrofit program from single family homes to multi-unit buildings and other building types.		Climate Action
5.8	Advance a system of voluntary and mandatory energy benchmark reporting across Whistler's large energy consumers.	RMOW is participating in the BC Hydro Local Government Benchmarking project. The goal of this project is to identify a path forward for local BC municipalities to require benchmarking of local buildings. The project was kicked off with peer leadership group of local municipalities led by a consultant in May 2023.	Climate Action



BIG MOVE 6: CLOSE THE LOOP AND SHIFT TOWARD LOWER CARBON CONSUMPTION

Indicators

Community 2030 Goal	Indicator	Data Source	Starting point	An	inual progress		Target	Likelihood of achieving target
			2019	2020	2021	2022	2030	
Reduce waste sector emissions by	Waste diversion rate	RMOW Solid Waste	45%	43%	49%	47%	95%	MEDIUM
95% Zero waste	Tonnes of waste to landfill	Wastech	12,000	12,000	11,000	11,500	2,400	LOW
targets	GHG emission from waste sector	Wastech/ RMOW data	2,391	2,934	690	2,156	TBD	Нідн
RMOW Goal					-	-	-	-
	RMOW will monitor internal waste diversion	TBD	TBD	TBD	TBD	TBD	TBD	TBD



When you see this symbol, it highlights an action or milestone that offers significant impact to reaching our goals.

Action Highlights & Milestones

Key I	nitiative	Milestone / Progress Highlight		Responsible
6.1	Continue commitment to implement Whistler's Zero Waste Plan with its goal to move progressively toward Zero Waste in a cost-effective, efficient and environmentally sound manner, and substantially reduce GHG emissions associated with waste management, and embodied in products.	Presented update on Zero Waste Action Plan to Council, April 2023. Solid waste communications plan developed. This includes Zero Waste Tip in Whistler Today social media posts regarding proper disposal of materials and operational updates.		Solid Waste
6.2	Improve organic waste reduction and landfill diversion from commercial operations and multi-unit residential buildings.	RFP released to hire Green for Life to assess waste management rooms attached to food service businesses. This assessment is on track for completion in Fall 2023 and will identify any waste management rooms that are not in compliance.	\checkmark	Solid Waste
6.3	Reduce construction waste focusing on organic materials such as waste wood.	Potential demolition bylaw in research & stakeholder engagement phase. Project with TM buildings and Unbuilders paused and search for homeowner participation continues. Green Building Policy adopted by Council contains guidelines and requirements to reduce the demolition and construction waste sent to landfill. The updated policy also aims at reducing the solid waste generation during operational phases through guidelines and requirements that will encourage better waste diversion.	\checkmark	Solid Waste
6.4	Demonstrate RMOW leadership by embedding GHG emissions and waste considerations into municipal operations and procurement practices. Conduct regular interval audits and reporting to understand RMOW progress towards meeting and beating the 80 per cent waste diversion goal as outlined in the Zero Waste Plan.			Solid Waste/ Finance
6.5	Engage with residents, visitors and local businesses to advance sustainable consumption, to support locally reusable products and packaging, a local shared economy, and other local carbon reduction projects.			Solid Waste

- 6.6 Develop a renewable energy strategy focused on exploring potential renewable energy production opportunities and partnerships.
- 6.7 Use low carbon fuels for waste-related transportation to reduce transport emissions.

Solid Waste

Climate Action

6. ADAPTATION - PROGRESS REPORT

ADAPTATION GOAL 1: Minimize wildfire threats to human health and safety, private property,

infrastructure, wildlife, and natural assets.

Action Highlights & Milestones

Key In	itiative	Milestone / Progress Highlight	Responsible
A1.1	Implement the Community Wildfire Resiliency Plan (CWRP) in collaboration with relevant partners.	Education – Weekly FireSmart social media posts and FireSmart and Fuel thinning communications strategy under development with FireSmart Supervisor and Communications team.	Environmental Stewardship / Protective Services
		Community planning – OCP Wildfire DPA targeted for review in late 2023.	
		Interagency Cooperation – Wildfire Working Group meets monthly with rotational chair on different topics including Highway 99 fuel thinning, FireSmart Rebate and Whistler Fire Rescue Services RFP for Wildfire Defense Plan.	
		Training – BC Wildfire and Whistler Fire Rescue led WSPP-115 Structure Protection Training and Wildfire training session	
		Emergency planning – Emergency plans under revision with an emphasis on evacuation plans. Whistler Alerts notification system with public communication plan for this summer.	
		Vegetation management – Fuel thinning at Riverside in the Cheakamus neighbourhood completed and work in the Rainbow neighbourhood underway. Largest areas of fuel thinning at Rainbow being completed manually by Lil'wat Nation.	7

A1.2	Continue to implement Wildfire Protection
	Development Permit Areas through the OCP.

Ongoing, existing exception will be reviewed as part of the amendments to the Wildfire DPA in the Planning Department 2023 workplan. Cheakamus crossing Phase II buildout with include Wildfire DP approvals. Planning Department



ADAPTATION GOAL 2: Increase the resilience of built assets, infrastructure and services to endure

extreme weather and environmental events.

Action Highlights & Milestones

Key Initiative		Milestone / Progress Highlight	
A2.1	Review and improve stormwater management plans to ensure capacity and resilience in consideration of anticipated climate changes.	Design work to replace aging stormwater culverts will consider climate change and anticipated impacts to flows, etc.	Engineering, / Environmental Stewardship
		Municipal Natural Asset Management roadmap development completed (see A2.7 for additional details).	l.
A2.2	Update flood hazard plans in consideration of anticipated climate changes, such as storm frequency and intensity.	Modelling on the 21 Mile Creek confluence area for flood mitigation. UBCM CEPF grant funding of \$145,000 received for this work.	Flood Protection Systems / Planning
		Flood hazard plans for Fitzsimmons Creek to incorporate climate change modelling.	
A2.3	Update plans and policies to protect the quality and quantity of Whistler's potable water and fire-fighting water supply from potential	Updates to the irrigation and once-through cooling bylaws are being planned.	Roads & Drainage / Emergency Planning / Parks & Village
	contamination and drawdown related to the anticipated impacts of climate change (i.e., extreme rain/snow events and longer hotter drier summers).	Review of the existing 21 Mile Creek Watershed Protection Plan has been completed. Next steps include implementation of recommendations provided in that review.	Ops
		Water shortage and contamination updates published on Whistler website, social media etc. Emergency operations plan approved by Vancouver Coastal Health for contaminated water events.	
		Replacing boulevard ornamental planting beds with more drought resistant, low maintenance plants and converting from spray to drip irrigation to conserve water and improve resilience to warmer summer temperatures.	

A2.4	Develop strategies to improve public safety measures related to the potential impacts of extreme rain/snow events, extreme heat events, and wildfire and smoke events (E.g., transportation/service disruption, emergency preparedness).	 Heat map under development and will be used to identify risk areas and populations for the Heat Response Plan and related policies. Heat and Air Quality Response Plans include a communications plan for hot weather events. Three village fountain / water bottle stations currently out to RFP for construction / installation. Additional misting stations are being added to several parks over the summer. Additional air filtration is being installed at the Whistler Public Library to provide safe, healthy indoor public space during wildfire smoke events. 	*	Roads & Drainage / Emergency Planning / Parks & Village Ops
A2.5	Develop strategies to increase the resilience of recreation trails and other outdoor recreation assets to better endure extreme rain/snow events.	Development of the Recreation Trails Strategy is ongoing. The Strategy includes new environmental suitability guidelines as a key component to help minimize wildlife/human conflict, reduce impacts to wildlife and to help protect natural areas. The Strategy also considers climate resilience in trail planning, design and maintenance.		Resort Parks Planning / Parks & Village Ops
A2.6	Facilitate and promote community economic diversification opportunities as a means to increase Whistler's climate resilience (E.g., cultural tourism development, learning & education opportunities, weather-independent tourism/recreation offerings).	Current work is underway to introduce the Whistler Sessions Scenarios more thoroughly within the RMOW. Community briefing sessions held at the Whistler Public Library in May 2023, with more to come in Q3/Q4 2023. Proposed plans for Rainbow Park incorporate climate resilience (e.g., withstand flooding and recover from flooding more quickly than current park conditions, adding shaded areas and increased opportunities for people to access the lake to cool off)		CAO / Economic Development / Parks Planning
A2.7	Integrate climate change considerations into the corporate asset management system.	Municipal Natural Asset Management roadmap development completed. Next steps to hire a consultant to: -Understand the level of service of our main natural assets - infrastructure services (e.g., flooding) and non-infrastructure (tourism, recreation) -Value these services -Identify risks to these natural assets	*	Finance / Environmental Stewardship

-Develop actions the municipality can take to minimize the risks to the highest valued services

ADAPTATION GOAL 3: Protect, support and increase the resilience of local ecosystems, natural assets

and biodiversity

Action Highlights & Milestones

Key In	itiative	Milestone / Progress Highlight		Responsible
A3.1	Develop policy, planning and legislative strategies to protect and restore local ecosystem health and support continued provision of natural infrastructure services.	*	Environmental Stewardship, Planning	
		Ongoing input on development referrals. Climate and Environment and Planning teams continue to collaborate on improving environmental Development Permit Area processes re: effectiveness, clarity, and efficiency.		
		An internal multi-departmental Tree Cutting Process Working Group has been formed to address gaps and issues related to RMOW tree cutting processes and regulations, including adequate protection for trees in riparian and sensitive ecosystem areas.		
		Preliminary development of an internal planning tool is underway to help integrate environmental and climate considerations into Parks Planning projects.		
A3.2	Continue to monitor ecosystem health and biodiversity.	The 2022 Ecosystems and Species Monitoring Program Report was received and the 2023 monitoring program is underway by Snowline Ecological Research. Overall results show that the status of species and ecosystems monitored are mostly stable as of 2022, with a few inconclusive results showing possible declining trends, which are currently being monitored for further data in 2023. For 2022, basic climate indicators show worsening trends, including shorter duration of winter ice on Alta Lake and longer summer/fall low-water periods in 21 Mile Creek. Negative impacts of the 2022 drought (summer season) along the River of Golden Dreams corridor	*	Environmental Stewardship

Y

	 were mostly offset by beaver dams, showing how important this key local species is to create and maintaining habitat areas and managing natural water flows. The 2022 monitoring program report also provided additional information on the local Northern Goshawk population, a Red-listed (BC)/Threatened (Federal) species at risk. Recent surveys have shown that Whistler's old growth forests throughout the valley provide critical habitat for their breeding. 2022 Species and Ecosystems at Risk Report has been completed and posted on website. The 2022 report represents the most comprehensive assessment to date of species at risk within the RMOW. It addresses 299 species at risk and integrates information form local scientific efforts including Whistler's BioBlitz. This report is now linked in directly to the Development Permit process to support best available local information for applicants and Qualified Environmental Professionals. Amendment to the existing Pesticide Use Regulation Bylaw is being presented to Council in July to update content and improve clarity, to effectively support the continued minimization of toxins in the community. Fuel thinning monitoring program is underway to study impacts of fuel thinning on local ecosystems and habitat, to help inform and guide future best practices.
A3.3 Prevent and minimize invasive species.	ne spread ofRMOW continues to partner and improve collaboration with the Sea to Sky Invasive Species Council (SSISC) on invasive species management, including staff training, education and invasive species inventory and removal. A new Fee for Service agreement with SSISC for 2023 is enabling more effective efforts and integration with RMOW teams to minimize the risk/impacts of invasive species to local biodiversity and the community. Ongoing implementation of the Invasive Species Management Plan continues. RMOW is increasing internal efforts to manage invasive species on municipal lands, collaborating with SSISC to more effectively prioritize control efforts (E.g., focus on environmentally sensitive and high vector areas).Landscape, park, and roads staff have gone through invasive species training. A prioritized site list is being used for more effective invasive species on most environmentally sensitive lands and/or high vector locations).Implementation/enforcement of the Environmental Protection Bylaw invasive

2022 WHISTLER ANNUAL GHG EMISSIONS INVENTORY AND CLIMATE ACTION PROGRESS REPORT

		developed to guide regulatory enforcement process with respect to the management of invasive species.		
A3.4	A3.4 Manage the Cheakamus Community Forest in a way that prioritizes and supports healthy, biodiverse and	Ongoing Ecosystem Based Management implementation.		Environmental Stewardship
climate resilient forests.		The Cheakamus Community Forest hired an Executive Director to support effective administration of planning and operations.		
A3.5	Support environmental integration and education opportunities.	With Climate Action as an RMOW strategic priority and a focus area in the RMOW Corporate Plan, departmental workplans will include elements related to climate action.	\checkmark	Environmental Stewardship, Corporate Planning
		Monthly meetings of the internal Climate Innovation Working Group continue to promote learning, cross-departmental efficiencies and internal support of this BM CAIP as we work towards RMOW's climate goals.		
		The Environmental Stewardship Team continues to positively collaborate with groups like AWARE and The Whistler Naturalists on local environmental issues and initiatives.		



When you see this symbol, it highlights an action or milestone that offers significant impact to reaching our goals.

7. APPENDICES

- A Summary of Corporate Carbon Neutral Commitment Verified Emission Reductions (VERs)
- **B** SUMMARY OF RMOW 2021 TRADITIONAL SERVICES GHG INVENTORY

APPENDIX A: SUMMARY OF 2022 CORPORATE CARBON NEUTRAL COMMITMENT

Verified Emission Reduction (VERs): The RMOW has purchased and retired Verified Emission Reduction credits equal to its entire corporate carbon footprint for every year between 2010 and 2022 inclusive, a summary is provided below:

Year	VERs	Project	Certification Standard	Registry	Vendor
2010	1,145 tonnes	Mare Monastir Wind Farm, Turkey	Gold Standard – project reference: GS368	GS APX Registry	Offsetters Clean Technology Inc.
2010	1,145 tonnes	Sun Select Aldegrove Biomass Boiler, British Columbia	ISO 14064-3 and CDM additionality tool	Markit Registry	Offsetters Clean Technology Inc.
2011	1,063 tonnes	Mare Monastir Wind Farm, Turkey	Gold Standard – project reference: GS368	Markit Registry	Offsetters Clean Technology Inc.
2011	1,063 tonnes	Sun Select Aldegrove Biomass Boiler, British Columbia	ISO 14064-3 and CDM additionality tool	Markit Registry	Offsetters Clean Technology Inc.
2012	973 tonnes	Mare Monastir Wind Farm, Turkey	Gold Standard – project reference: GS368	Markit Registry	Offsetters Clean Technology Inc.
2012	974 tonnes	Sun Select Aldegrove Biomass Boiler, British Columbia	ISO 14064-3 and CDM additionality tool	Markit Registry	Offsetters Clean Technology Inc.
2013	1,617 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2014	1,805 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2015	1,751 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2016	1,810 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest

2017	2,385 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2018	2,177 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2019	2,360 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2020	2,641 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2021	2,257 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest
2022	2,509 tonnes	Cheakamus Community Forest, British Columbia	BC Emission Offsets Regulation using the BC Forest Carbon Offset Protocol	Markit Registry	Cheakamus Community Forest

Since 2013 the RMOW has purchased VERs from the Cheakamus Community Forest (CCF) to offset 2013 - 2022 corporate emissions. More information about the project can be found on the Cheakamus Community Forest (CCF) website (<u>https://www.cheakamuscommunityforest.com/</u>)

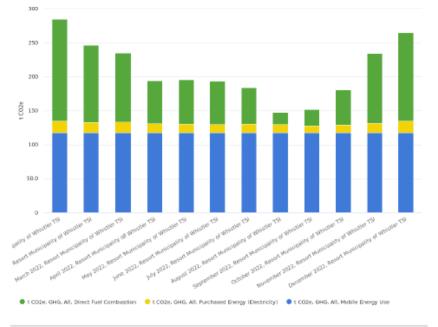
RMOW staff are confident in the benefits of supporting a local offset project, the co-benefits associated with the project approaches, and the independent, third-party rigor that is being applied to the CCF project. Consistent with our commitments in both the UBCM Climate Action Charter, and the RMOW Carbon Neutral Plan, the RMOW remains committed to achieving carbon neutrality with respect to all corporate operations. All RMOW departments have been charged internally for the costs associated with the RMOW carbon neutrality commitments. All departments continue to use the price signals that these costs imply (\$25/tCO₂e) to improve financial decision making and preference cost-effective projects and initiatives that are capable of continuously reducing carbon emissions and decreasing carbon costs across corporate operations. Note that consistent with Provincial policy, the carbon neutral commitment of the RMOW includes an estimate of the contracted emissions associated with 'traditional services of local government' (e.g., any contracted snow clearing in the Village, solid waste collection contracts etc.)

APPENDIX B: SUMMARY OF RMOW 2022 TRADITIONAL SERVICES GHG INVENTORY



2022 BC Traditional Services GHG Inventory

Reporting Entity:	Resort Municipality of Whistler
Reporting Year:	Calendar Year 2022
Inventory Scope:	BC Traditional Services Inventory "TSI"
Quantification Methodology:	2020 B.C. Best Practices Methodology for Quantification GHG Emissions, Local Governments & Public Sector Organizations
System Support:	SoFi GHG Reporting by GHG Accounting Services
Data collection:	Resort Municipality of Whistler
Data Entry:	Data Upload and Manual Entry Client
	Total TSI GHG Inventory: 2,509 t CO ₂ e



Total Energy Consumption by Energy Type for Traditional Services Inventory:

	Resort Municipality of Whistler TSI
Natural Gas Stationary [GJ]	18,604
Propane [I]	4,750
Electricity [kWh]	14,330,520
Gasoline [I]	118,682
Diesel [l]	431,141
Propane [I]	2,060
Gasoline – Car [I]	6,120

Category 1:

		Resort Municipality of Whistler TSI			
					t CO2e, GHG, Category 1
Direct Fuel Combustion	18,724	930	0.018712	0.01726	935

Category 2:

		Resort Municipality of Whistler TSI
		Category 2
Purchased Energy (Electricity)	14,330,520	165

Category 3:

	Resort Municipality of Whistler TSI				
Mobile Energy Use	20,719	1,385	3.06	21.0	1,409

Biogenic GHG Emissions:

	Resort Municipality of Whistler TSI		
			t Bio CO2e, GHG, All
Direct Fuel Combustion			
Mobile Energy Use		52.0	52.0
Total		52.0	52.0

Totals by Service Delivery:

Delivered Directly	Contracted Services	Total
1,727	782	2,509

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1 Page

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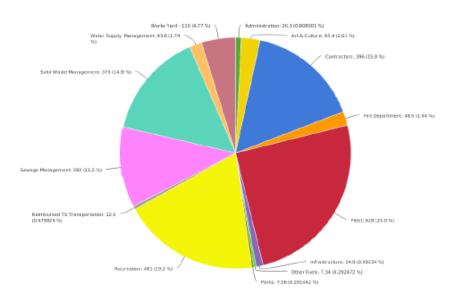
2022 WHISTLER ANNUAL GHG EMISSIONS INVENTORY AND CLIMATE ACTION PROGRESS REPORT

Summary:

	2022	
Resort Municipality of Whistler TSI	2,509	2,509

Energy t CO2e, GHG, All, 2022

Overview by Service Areas:



Top GHG Emitters:

	t COze, GHG	%
Total Resort Municipality of Whistler TSI	2,509	100
Fleet	628	25.0
Recreation	481	19.2
Contractors	396	15.8
Solid Waste Management	373	14.9

3 Page

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