



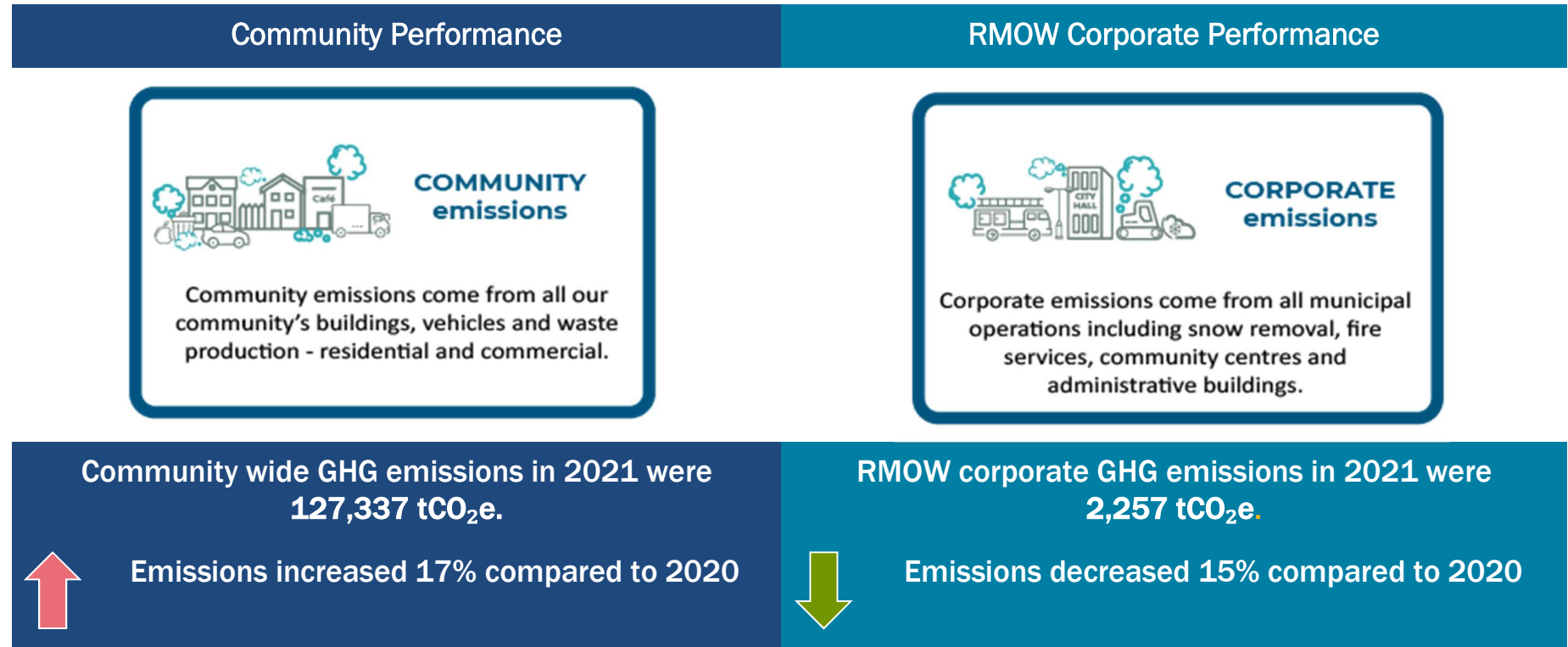
Whistler Annual Greenhouse Gas Inventory and Climate Action Progress Report

2021 Annual Report





















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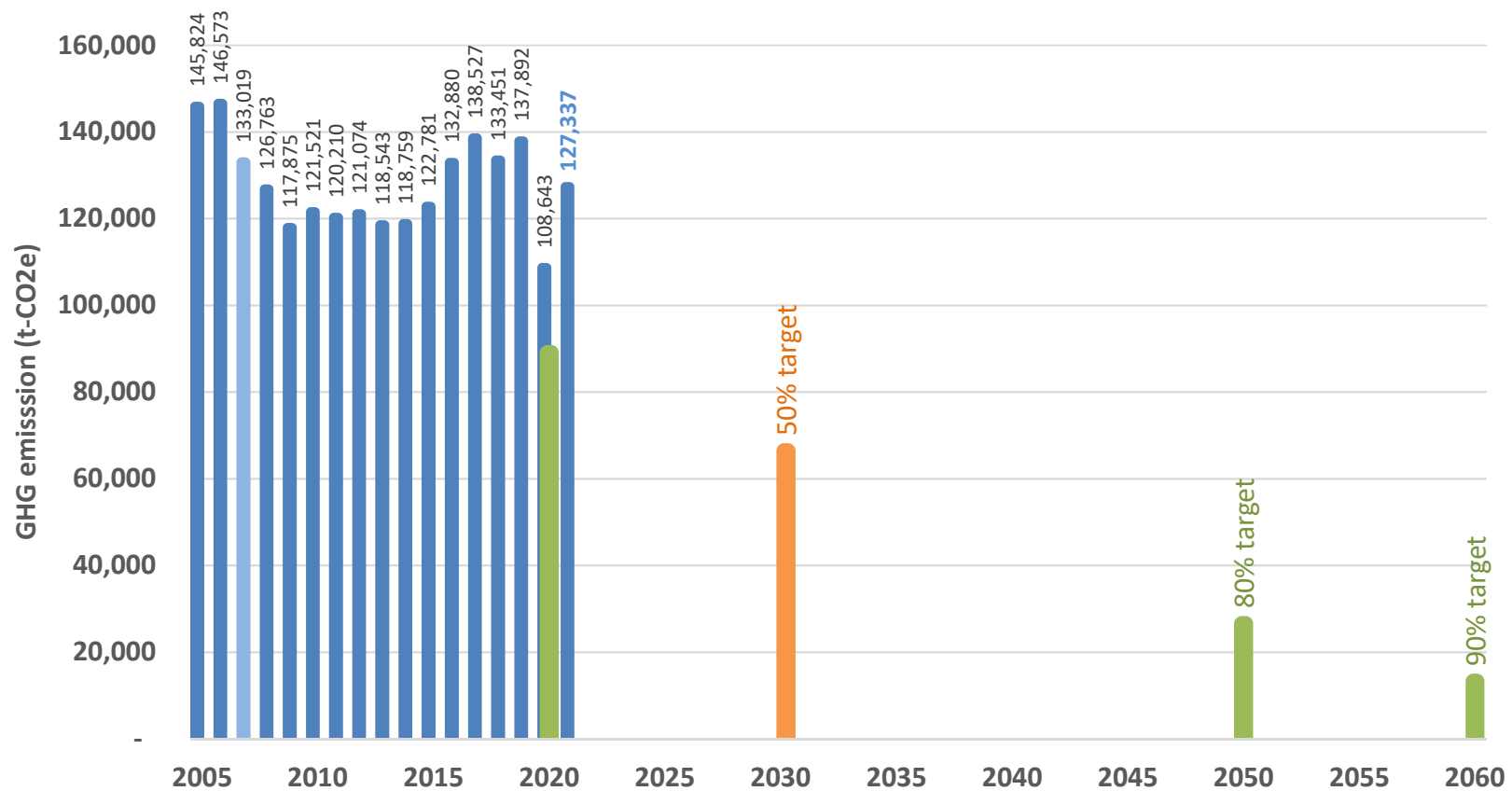
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1. 2021 CLIMATE ACTION SUMMARY



2. BIG MOVES LEAD INDICATORS – PROGRESS TOWARDS OUR GOALS

	2019 Starting Point	Current	2030 Target	% Change from last year	% Change from 2019	Are we on Track?
 Community GHG Emissions in tCO ₂ e	137,727	127,337	65,500	 17% increase from 2020	 8% decrease from 2019	
 RMOW GHG Emissions in tCO ₂ e	2,360	2,257	1,100	 15% decrease from 2020	 4% decrease from 2019	
 Passenger Vehicle Emissions in tCO ₂ e	70,827	66,288	35,400	 42% increase from 2020	 6% decrease from 2019	
 GHG per Population Equivalent in tCO ₂ /PE	3.6	4.27	2.5	 16% increase from 2020	 18% increase from 2019	
 Building GHG Emissions from Natural Gas in tCO ₂ e	46,589	46,769	33,000	 7% increase from 2020	 No change from 2019	
 Waste to Landfill in tons/year	12,000	11,000	TBD	 No change from 2020	 8% decrease from 2019	



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). 2021 emissions are currently only 4% below 2007, and 43% 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).

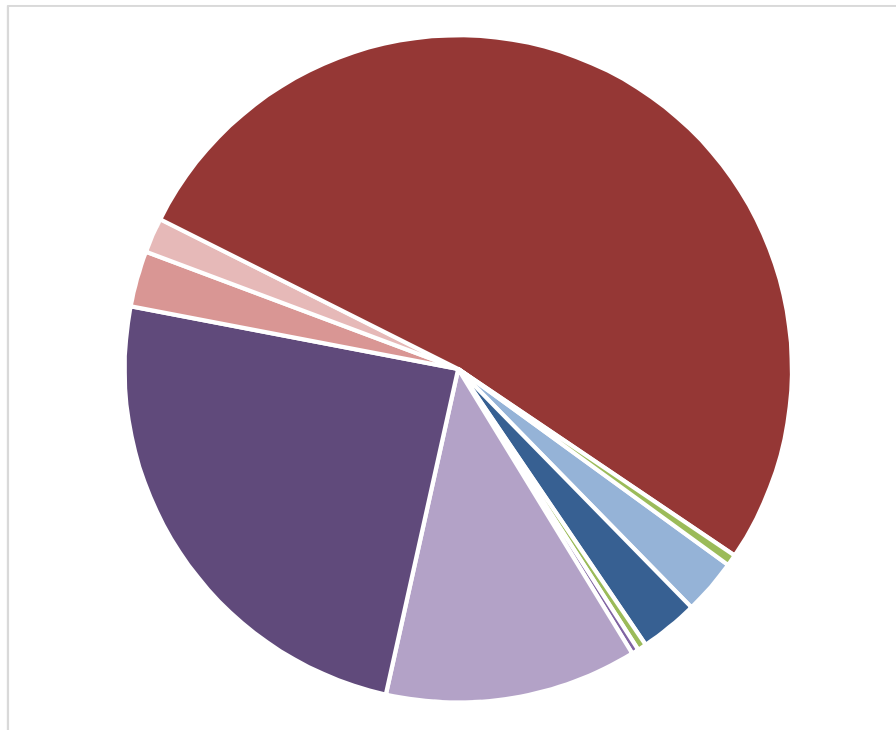
COUNCIL DECISIONS RELATED TO CLIMATE CHANGE IN WHISTLER

	Q1/Q2 2021	Q3/Q4 2021	Q1/Q2 2022	Q3/Q4 2022
GENERAL	<ul style="list-style-type: none"> CECAP quarterly report 	<ul style="list-style-type: none"> 2020 Whistler Energy & GHG Report Big Moves next steps outlined CECAP quarterly report 	<ul style="list-style-type: none"> CECAP quarterly report 	<ul style="list-style-type: none"> Big Moves Climate Action Implementation Plan for adoption
BIG MOVE 1	<ul style="list-style-type: none"> Grant application approved for Active Transportation Plan Whistler Parks Summer Experience Plan approved¹ 4500 Northlands rezoning application process approved 	<ul style="list-style-type: none"> Draft BC Transit Future Action Plan approved for continuation Council endorsed funding for 5,000 additional annual Whistler Transit service hours Whistler Parks Summer Experience Final Report recommendations approved 	<ul style="list-style-type: none"> E-bike demonstration project (with BCAA) for August-October 2022 Return to Transit and Transit Loyalty Program Re-allocation of transit service hours approved (re: summer service to winter service) 	<ul style="list-style-type: none"> BC Transit Future Action Plan to be presented for adoption Active Transportation Plan presented for adoption E-bike share program RFP to be approved for summer 2023
BIG MOVE 2	<ul style="list-style-type: none"> Clean BC Communities fund allocation for EV Network Expansion EV charging station user fee strategy adopted Emotive grant application for Whistler EV strategy 		<ul style="list-style-type: none"> Whistler EV strategy adopted 	
BIG MOVE 4		<ul style="list-style-type: none"> <i>Help Cities Lead</i> campaign endorsed Embodied Carbon project approved 	<ul style="list-style-type: none"> Green Building Policy update initiated 	<ul style="list-style-type: none"> Building bylaw update to adopt BC Energy Step Code for Part 3 buildings Green Building Policy update for adoption

¹ The Whistler Parks Summer Experience Plan includes bike valet expansion, park shuttles, equipment storage, user pay parking at lake-side parks

BIG MOVE 5		<ul style="list-style-type: none"> Retrofit Assist approval to implement pilot Cheakamus Crossing District Energy System expansion 	<ul style="list-style-type: none"> Clean BC communities fund application for MPCS retrofit work 	
BIG MOVE 6		<ul style="list-style-type: none"> Zero Waste Action Plan adopted Streetscape waste program 	<ul style="list-style-type: none"> Solid waste amendment bylaw (tipping fees) 	
ADAPTATION 1	<ul style="list-style-type: none"> COVID-19 Resilience Infrastructure Stream wildfire funding application 	<ul style="list-style-type: none"> FireSmart Economic Recovery Fund grant application 	<ul style="list-style-type: none"> Community Wildfire Resiliency Plan adopted 	<ul style="list-style-type: none"> COVID-19 Resilience Infrastructure Stream wildfire funding application
ADAPTATION 2	<ul style="list-style-type: none"> UBCM Community Emergency Preparedness Fund & Emergency Management BC National Disaster Mitigation Program grant applications 	<ul style="list-style-type: none"> Community Emergency Preparedness Fund EOCC grant application UBCM Strengthening Communities' Services grant application Community Resiliency Investment Program grant application 	<ul style="list-style-type: none"> 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 Municipal Natural Asset Management initiative 	
ADAPTATION 3		<ul style="list-style-type: none"> Alta Lake Road sewer extension local area service bylaw 	<ul style="list-style-type: none"> Lakes management options presented 	

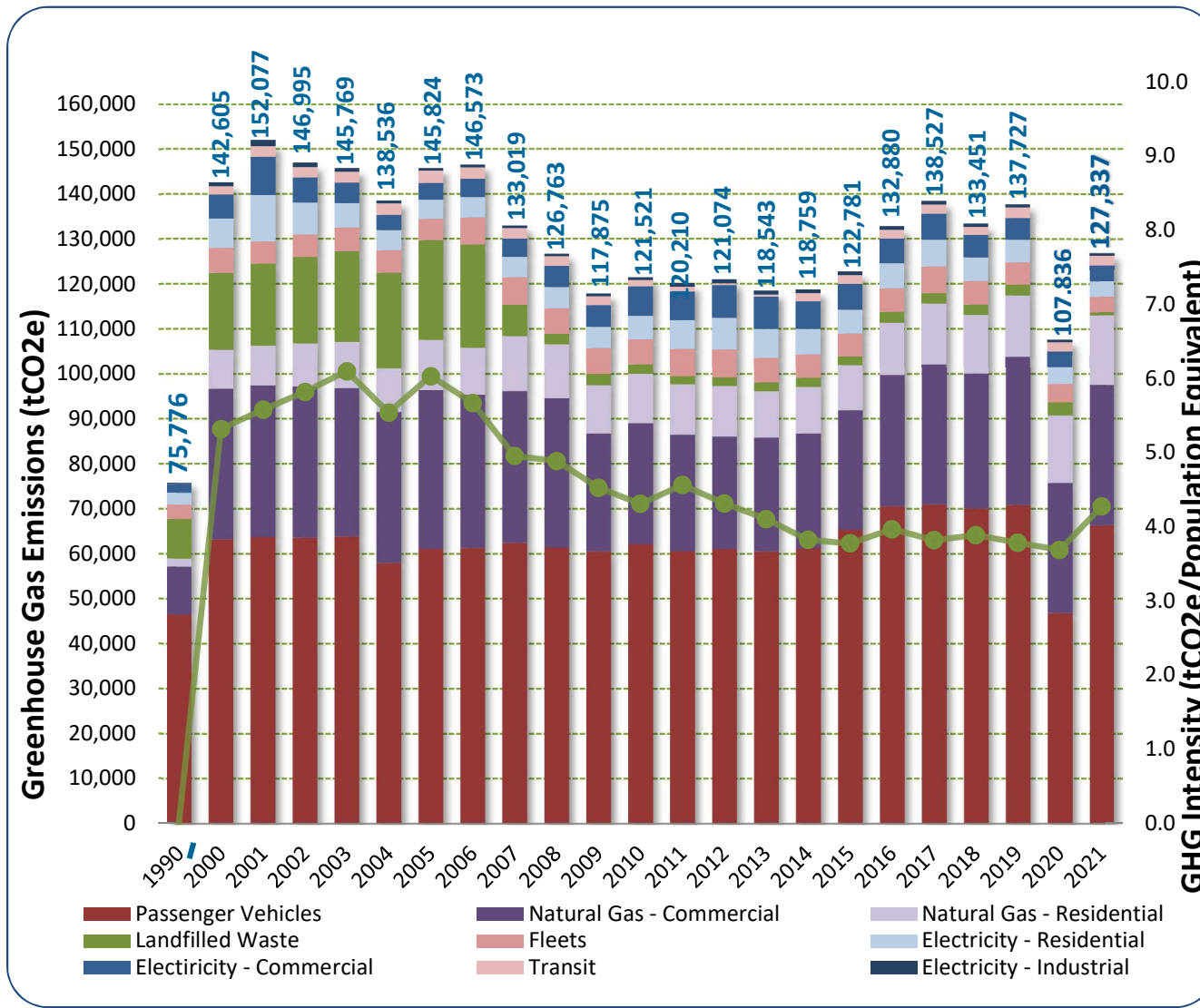
3. 2021 COMMUNITY GHG AND ENERGY INVENTORY



Type	tCO ₂ e	%
Passenger Vehicles	66,288	52%
Landfill	690	1%
Electricity - Residential	3,414	3%
Electricity - Commercial	3,601	3%
Electricity - Industrial	538	0%
Propane	433	0%
Natural Gas - Residential	15,542	12%
Natural Gas - Commercial	31,227	24%
Fleets	3,453	3%
Transit	2,151	2%

Community GHG emissions for 2021 are estimated to total 127,337 tCO₂e, which is a 17% increase compared to 2020 and 4% lower than 2007 (133,019 tCO₂e). Passenger vehicle emissions account for 52% of Whistler’s community-wide GHG emissions, followed by natural gas for space and water heating in buildings which accounted for 36% for Whistler’s total community-wide emissions in 2021.

Total Emissions:
127,337 tCO₂e

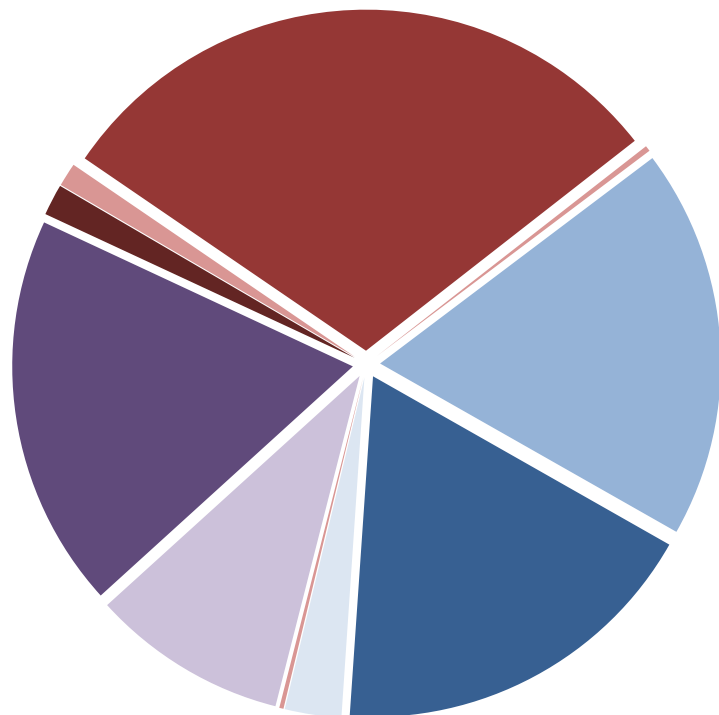


This figure shows a breakdown of Whistler’s community-level GHG emissions since 2000-present. Whistler’s 2021 total community-wide GHG emissions are approximately 17% higher than 2020 emissions, 8% below 2019 emissions, and 4% below 2007 emissions. The main reason for this overall increase in GHG emissions is an increase in passenger vehicle kilometers driven in Whistler and a resulting 42% increase in GHG emissions compared to 2020 (46,830 tCO₂e). In 2020, passenger vehicle activity was significantly lower due to the COVID-19 pandemic and related restrictions.

The 2021 GHG emissions per population equivalent (PE)² increased by 23% to 4.27 tCO₂e/PE compared to 2020 (3.45 tCO₂e/PE). More information on Whistler’s population equivalent and other monitoring data can be found on the [whistler monitoring webpage](#).

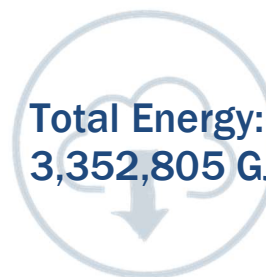
² The nature of Whistler being a tourism community means the number of people in Whistler on any given day is generally far greater than the population counts provided Canada Census or BC Statistics estimates. The total Population Equivalent is an estimate of the total number of people in Whistler on an average annualized basis. The indicator is often used in 'per capita' measures to normalize the data and make it comparable to other communities.

2021 Estimated Whistler Community Energy Use



Type	GJ	%
Passenger Vehicles	1,002,813	30%
Landfill	9,140.8	0%
Electricity - Residential	620,306	19%
Electricity - Commercial	598,833	18%
Electricity - Industrial	89,430	3%
Propane	7,084.5	0.2%
Natural Gas - Residential	311,633	9%
Natural Gas - Commercial	626,131	19%
Fleets	49,974	1%
Transit	37,458	1%

The total community energy consumption in Whistler in 2021 was 3.35 M GJ. This was a 12% increase compared to 2020 (2.98 M GJ) and a 1% increase compared to 2019 (3.33 M GJ). Electricity is the most prevalent type of energy consumed in Whistler at 40% of the total consumption followed by vehicle fuels (30%) and natural gas (28%).



**Total Energy:
3,352,805 GJ**

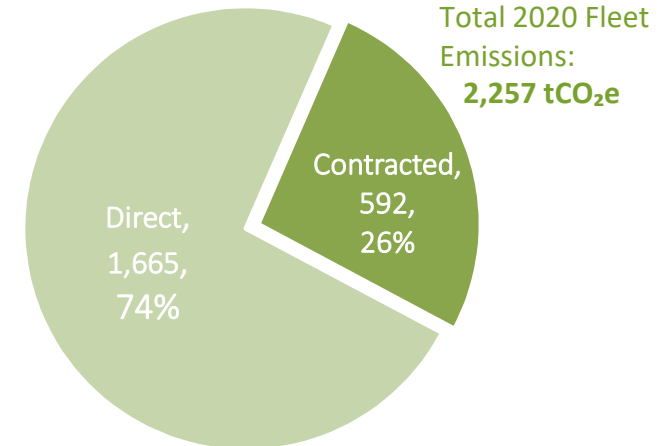
4. 2021 RMOW CORPORATE ENERGY AND GHG INVENTORY

Total corporate GHG emissions in 2021 were 2,257 tCO₂e. Direct corporate GHG emissions were 1,665 tCO₂e, which represents a 23% decrease from 2020 (2,360 tCO₂e). Contracted emissions were 592 tCO₂e, which is a 23% increase from 2019. The decrease in direct emissions can be mainly attributed to a significantly lower electricity emission factor provided by this year's provincial methodology guidance. In addition, corporate fleet fuel use and RMOW fleet related GHG emissions decreased by 13%, mainly due to a decrease in heavy duty diesel usage in the IS fleet.

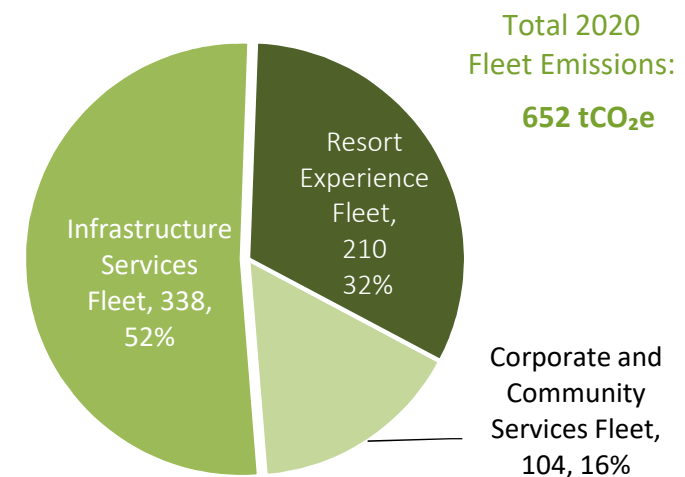
On a division-by-division basis, the relative emissions footprint of direct corporate operations is primarily associated with the following three divisions (see figure below):

1. **Infrastructure Services** ("IS", which includes roads crews, solid waste systems, the water utility as well as the sewer utility) represented 52% of RMOW GHG emissions related to total directly delivered services in 2021 and decreased by 18% compared to 2020. This decrease can be mainly attributed to a lower natural gas consumption at the waste water treatment plant (WWTP) compared to 2020 when operational challenges related to the Covid 19 pandemic resulted in an unusually high natural gas use at the facility. In addition, GHG emissions related to the IS fleet decreased by 19% compared to 2020, mainly due to a decrease in heavy duty diesel fuel consumption (see fleet details in Figure below).
2. **Resort Experience** ("REX", which includes village maintenance operations, horticulture, turf, and irrigation crews, parks and trails, and facility construction and maintenance operations) represented 32% of RMOW GHG emissions related to total directly delivered services in 2021 and decreased by 11% compared to 2020. Most RMOW buildings, except for the Meadow Park Sport Centre (MPSC) and the WWTP, fall under Resort Experience and the decrease in GHG emissions is mainly attributed to lower GHG emissions from electricity use in buildings due to a significantly lower electricity emission factor with 9.7 tCO₂e/GWh in 2021 compared to 40.1 tCO₂e/GWh in 2020. In addition, REX fleet related emissions decreased by 11% due to a reduction in diesel use compared to 2020 (see fleet details in Figure below).

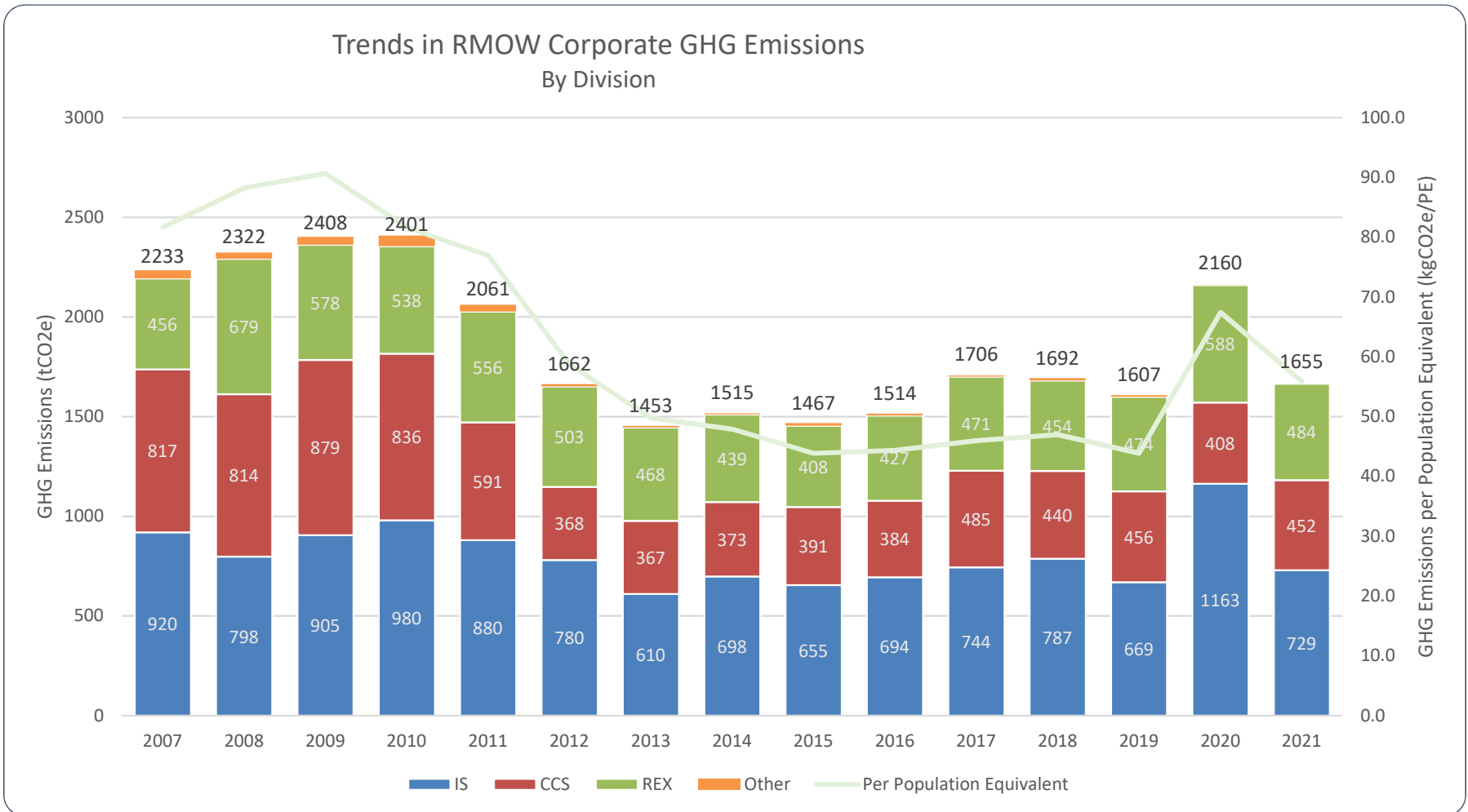
2021 Corporate Emissions



2021 RMOW Corporate Fleet GHG Emissions in tCO₂e By Division

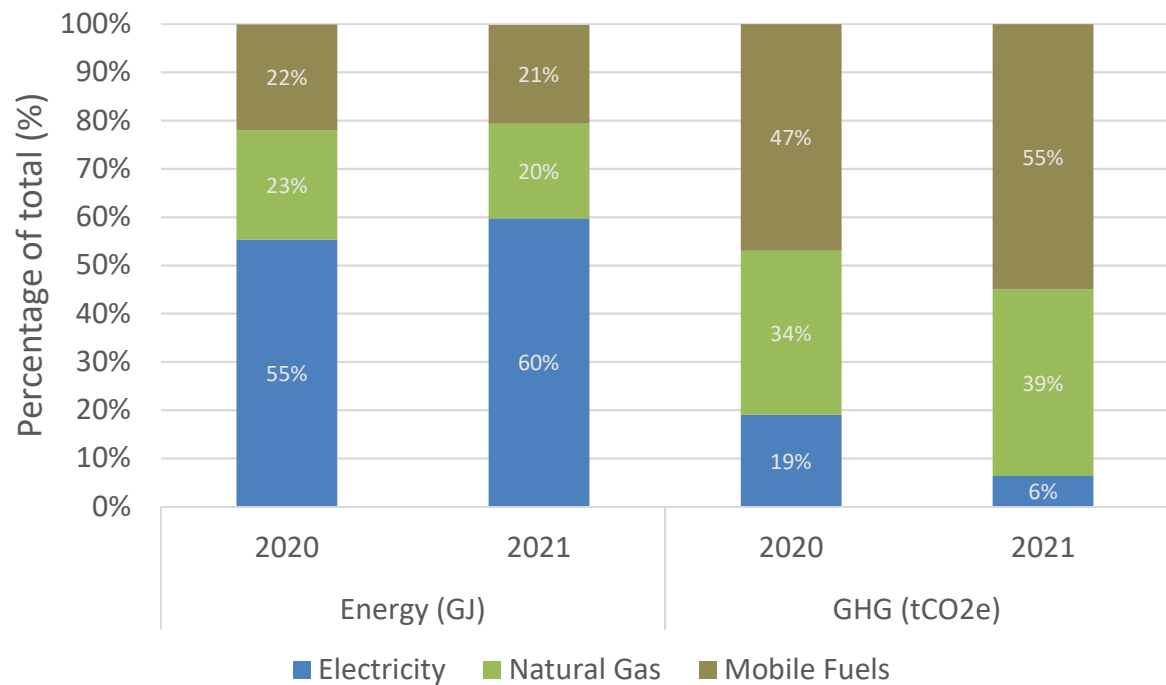


3. **Corporate and Community Services** (“CCS”, including bylaw, fire, Meadow Park Sports Centre, and other recreation programs) represented 16% of RMO GHG emissions related to total directly delivered services in 2021 and increased by 8% compared to 2020. This increase resulted from a 11% increase in energy usage at the MPSC resulting in a 32% increase in natural gas related GHG emissions in 2021.



The figure at right shows the percentage distribution of the RMOW energy consumption and related GHG emissions in 2021 compared to 2020. Electricity makes up the greatest portion of total energy consumed across municipal operations in 2021 at 60% of total consumption, followed by mobile fuels (21%) and natural gas (20%). Despite a 5% increase in electricity consumption from 2020, electricity contributed only with 6% to the 2021 RMOW GHG emissions which is a 13% decrease compared to 2020 mainly due to a significantly lower electricity emission factor with 9.7 tCO₂e/GWh in 2021 compared to 40.1 tCO₂e/GWh in 2020³. Mobile fuels make up the greatest portion of RMOW GHG emissions with 55% followed by natural gas with 39%.

2020 vs 2021 RMOW Corporate Percentage Distribution of Emissions and GHG emissions by energy type



³ Emission factors are updated annually as provided by Provincial Methodology for Quantifying GHG Emissions: <https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2021-best-practices-methodology.pdf>

5. MITIGATION – PROGRESS REPORT



BIG MOVE 1: MOVE BEYOND THE CAR



Indicators

Community 2030 Goal	Indicator	Data Source	Starting point	Annual progress			Target	Likelihood of achieving target
			2019	2020	2021	2030		
50% of all trips in Whistler are by transit and active transport	Annual transit ridership	Transit Data	3 M	1.4M	TBD	4.5 M		
	Proportion of residents traveling to work via public transit, walking or biking	Community Survey	41%	48.5%	50%	50%		
RMOW Corporate Goal								
50% below 2019 by 2030	GHG emissions from RMOW fleet transport in tCO ₂ e	Annual Report	680	747	652	340		





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

Action Highlights & Milestones

	Key Initiative	Milestone / Progress Highlight	Responsible	
Public Transit & Shared Transportation	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; on track to go to Council for adoption in September 2022. 	Transit and Transportation Demand Management
			The BC Transit Planning Team started an optimization exercise for all BC transit systems which includes reviewing all routes and seasons to determine whether hours can be moved from lower performing routes and times to better meet customer needs within the existing quota of service hours.	
	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.	Terms of Reference drafted for a study related to the Transit Future Action Plan, with Council endorsement targeted in 2022.	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.	RMOW staff received formal notification from BC Transit that the Province of BC will be matching Federal dollars to provide the Whistler Transit System with an additional \$2.1 million in Safe Restart funds.	
	1.4	Continually improve accessibility, inclusiveness and the overall travel experience of public transit.		Transit and Transportation Demand Management
1.5	Continue to improve transit stop infrastructure such as shelters, benches, and accessibility.	Construction began on Village Gate Blvd bus shelter accessibility expansion in May 2022, targeted for completion in summer 2022.  Some upgrades to Gondola Transit Exchange bus shelters completed in May/June 2022.	Resort Parks Planning	

1.6	Implement affordable and accessible vehicle sharing programs.	Planning for car share program is now underway.	Climate Action
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Active Transport

Key Initiative	Milestone / Progress Highlight	Responsible
1.7	<p>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.</p> <p>Active Transportation Plan is on track for Council adoption in 2022. RMOW Active Transportation sub-committee continues to work on Active Transportation Plan (includes cycling and pedestrian infrastructure). </p> <p>The secure bike parking area in the underground Library parking lot was reopened (converted two motor vehicle stalls) for the period March 22 to October 14, 2022.</p> <p>Contract awarded for summer season Bike Valet services.</p> <p>Pilot project explored for 2-way bikeway on Village Gate Blvd; under consideration for summer 2023.</p> <p>RMOW worked with AWARE to host spring GoByBike Week.</p> <p>The update of RMOW's Green Building Policy will contain guidelines and requirements for end-of-trip facilities, short and long term bicycle parking for multi-family and mixed-use buildings in order to encourage and facilitate active transportation.</p>	Transit and Transportation Demand Management
1.8	<p>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).</p> <p>Green Building Policy is drafted to include e-bike charger requirements; targeting Council adoption in September 2022.</p> <p>E-bike pilot program (with Evo) confirmed for August-October 2022. </p>	Resort Parks Planning

Land Use Consideration	Milestone	Milestone / Progress Highlight	Responsible
	1.9	Continued commitment to ensuring that Whistler is made up of increasingly complete and compact neighbourhoods.	
1.10	Ensure the development of compact neighbourhood nodes, by only considering development within the WUDCA ⁴ and prioritizing development in existing neighborhoods with access to transit, employment, and services.	Northlands rezoning application under review, including public consultation. Cheakamus Crossing Phase 2 still underway.	Planning

⁴ 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>



BIG MOVE 2: DECARBONIZE PASSENGER AND COMMERCIAL TRANSPORTATION





Indicators

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



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

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.	Grant received from Clean BC Communities Fund for the expansion of the Sea to Sky EV charger network in collaboration with the District of Squamish, Village of Pemberton and Lil'wat Nation. The funding will be used to install 41 Level 2 and DCFCs over the next 4 years.	Environmental Stewardship, 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.	<p>The Whistler EV Strategy was adopted by Council on June 7, 2022. </p> <p>Green Building Policy is drafted, on track for Council adoption in fall 2022. The update of this policy contains guidelines and requirements for EV charging infrastructures in new multi-family and mixed-use buildings.</p> <p>Provincial incentives have increased and aligned municipal rebates are available for EV readiness and EV-ready plans for MURBS.</p>	Climate Action / Planning
2.3 Electrify private and public fleets to take on a leadership role and establish Whistler as an EV-friendly community.	<p>Telematics are installed & collecting data on RMOW fleet.</p> <p>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. </p>	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.	Emotive funding was received in Q2 2022, for a collaboration with the District of Squamish to support residents in stratas via education and outreach. The project will be delivered in Q3/Q4 2022. 	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.	Parking costs are strategically evaluated and adjusted each year by the day lot operating committee.	Day Lot Operating Committee



BIG MOVE 3: REDUCE VISITOR TRAVEL EMISSIONS




Indicators

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



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Action Highlights & Milestones

Key Initiative	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.	Script framework complete for the new Whistler 101 “Climate Change” episode.	 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.		Climate Action
3.5 Partner with resort organizations to create marketing and communication about the benefits of longer duration travel and fewer annual trips.	RMOW is playing a key role in the collaborative development & execution of the “Don’t Love it to Death” campaign (launching July 12, 2022) with Destination BC and partners.	 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.	E-bike demonstration project with BCCA approved for August-October 2022.	 Climate Action



Indicators




Community 2030 Goal	Indicator	Data Source	Starting point	Annual progress			Target	Likelihood of achieving target
			2019	2020	2021	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	100%	MEDIUM	
	% of new Part 3 buildings at highest BCESC step	RMOW building department records	0	0	0	100%	LOW	
	GHG emissions from buildings ⁵ in tCO ₂ e	Annual report	50,500	55,400	54,700	40,000	MEDIUM	



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⁵ GHG emissions from buildings include all GHG emissions related to natural use (residential and commercial) as well as electricity use (residential, commercial, and industrial).

Action Highlights & Milestones





Key Initiative	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.	<p>Green Building Policy is on track for Council adoption in fall 2022.</p> <p>Step Code adoption for Part 3 (multi-unit) buildings and the RMOW approach to incentivize the installation of low carbon energy systems in all new buildings in Whistler is still being planned. External stakeholder engagement is completed and feedback was implemented into the RMOW plans. Discussions are currently underway on how to best align with the impending Provincial plan to incorporate GHG standards into the BC Building Code and offer local governments to implement voluntary GHG Intensity (GHGI) limits for new buildings.</p>	Climate Action
4.2 Collaborate with the Province on low carbon performance requirements and GHG emission limits for new buildings.	<p>RMOW participated in two engagement opportunities to provide input on the proposed GHGi requirements proposed by the Province.</p> <p>Council endorsed the <i>Help Cities Lead</i> advocacy campaign.</p>	 Climate Action
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.	<p>Renewed Provincial and municipal rebates/incentives for low carbon energy systems (new/retrofit).</p> <p>Integral was engaged to do best practice research and provide recommendations on incentivizing LCES as part of Step Code and building bylaw changes.</p>	 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.		Planning Department
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 construction practices (E.g. limited construction site heating) of new buildings.	<p>Collaboration with District of Squamish and Community Energy Association to develop embodied carbon roadmap for BC communities; new project website launched and podium discussion on importance of embodied carbon is scheduled for LMLGA 2022.</p> <p>Green Building Policy is on track for Council adoption in fall 2022.</p>	 Climate Action

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.		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 Department
4.9	Provide financial incentives/rebates for testing air tightness during and after construction.		Building Department / Climate Action
4.10	Develop a roadmap to require embodied carbon calculations for Part 3 buildings as part of permit submissions.	Green Building Policy is on track for Council adoption in fall 2022.	Climate Action



BIG MOVE 5: MAKE EXISTING BUILDINGS BETTER





Indicators

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



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Action Highlights & Milestones

Key Initiative	Milestone / Progress Highlight	Responsible
<p>5.1 Develop and implement a program that supports energy efficiency and low carbon heating system 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.</p>	<p>The Retrofit Assist program was launched in May 2022. The Retrofit Assist service guides homeowners in making a plan, connecting to an Energy Advisor and contractors while explaining the details of financing, rebates and incentives. </p> <p>A Residential Retrofit Strategy framework was completed by the CEA in collaboration with the District of Squamish to provide guidance to the RMOW on approaches to expanding the supports for local industry and homeowners in completing home energy retrofits beyond heat pumps. </p>	Climate Action
<p>5.2 Collaborate with the Province on the proposed retrofit code.</p>	<p>Grant Application submitted to the Clean BC Communities fund for a deep energy and emissions retrofit of Meadow Park Sport Centre </p>	Climate Action
<p>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.</p>	<p>The Meadow Park Sports Center energy study was completed by AME consulting. The study revealed a number of opportunities for mechanical system upgrades and energy efficiency improvements. A grant application to Fortis BC was submitted to address some of the proposed mechanical upgrades intended to reduce gas consumption. A grant application to the Clean BC Communities Fund is planned to be submitted in May 2022. This application will seek funding to significantly improve the building energy performance during the planned envelop upgrades. </p>	Facility Construction Management
<p>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.</p>		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.	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.	Climate Action



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

Indicators

Community 2030 Goal	Indicator	Data Source	Starting point	Annual progress			Target	Likelihood of achieving target
			2019	2020	2021	2030		
Reduce waste sector emissions by 95%	Waste diversion rate		45%	43%	49%	95%		
	Tonnes of waste to landfill		12,000	12,000	11,000	2,400		
	Zero waste targets	GHG emission from waste sector		2,391	2,934	690	TBD	
RMOW Goal								
	RMOW will monitor internal waste diversion		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 Initiative	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.	Waste bins in the village have been consolidated to have 4 streams at each location: garbage to landfill; food and compostables; coffee cups; and bottles and cans. Collecting coffee cups separately from other recyclables will ensure that bottles and cans can be recycled.	Solid Waste
6.2 Improve organic waste reduction and landfill diversion from commercial operations and multi-unit residential buildings.		Solid Waste
6.3 Reduce construction waste focusing on organic materials such as waste wood.	Potential demolition bylaw in research & stakeholder engagement phase. The Green Building Policy update is underway and will contain 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.	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.	Climate Action
6.7	Use low carbon fuels for waste-related transportation to reduce transport emissions.	Solid Waste

6. ADAPTATION - PROGRESS REPORT





ADAPTATION GOAL 1: Minimize wildfire threats to human health and safety, private property, infrastructure, wildlife, and natural assets.

Key Initiative	Milestone / Progress Highlight	Responsible
<p>A1.1 Implement the Community Wildfire Resiliency Plan (CWRP) in collaboration with relevant partners.</p> <ul style="list-style-type: none"> a) Education - Ensure that Whistler residents are aware of how to FireSmart their property and encourage high-risk properties to apply FireSmart measures. b) Community planning - Incorporate FireSmart guidance into the RMOW's community planning and policy frameworks. c) Development considerations - Provide for the resilience of new developments in the RMOW through community land use and development-related plans and bylaws. d) Interagency cooperation - Seek the collaborative effort of multiple stakeholders within the RMOW to undertake wildfire risk reduction/resiliency tasks. e) FireSmart training & cross-training - Further train relevant individuals in the RMOW to better understand wildfire disciplines and wildfire management planning objectives, to achieve a safe and effective wildfire response. f) Emergency planning - Prepare the RMOW to holistically respond to a wildfire emergency and/or the threat of wildfire. g) Vegetation management - Continue to remove hazardous vegetation and create resilient forests within the community, at the forest interface, and at the landscape level. 	<p>The CWRP was approved by Council on April 5, 2022.</p> <ul style="list-style-type: none"> a) Education - FireSmart programs ongoing with increased staff resources. c) Community planning - OCP Wildfire DPA targeted for review in late 2022. d) Interagency Cooperation - Wildfire consultant 3-year contract secured. Planning underway for interagency collaboration. RMOW continues to participate in the SLRD FireSmart Resiliency Committee with a wide range of corridor stakeholders. g) Vegetation management - Landscape-level fuel thinning ongoing (spring/summer 2022 projects include Taluswood and Rainbow areas). A fuel management prescription has been prepared for the 16 Mile FSR and external funding is being sought to implement. <p>The CWRP includes a recommendation to develop a monitoring plan that measures forest impacts for RMOW wildfire thinning projects. RMOW wildfire consultants will develop the monitoring plan and provide to the CCF.</p>	<p>Environmental Stewardship / Protective Services</p>
<p>A1.2 Continue to implement Wildfire Protection Development Permit Areas through the OCP.</p>	<p>Ongoing, with periodic reviews to improve implementation and alignment with other policies.</p>	<p>Planning Department</p>



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	Responsible
A2.1 Review and improve stormwater management plans to ensure capacity and resilience in consideration of anticipated climate changes.	<p>Research and project planning phase begun for updating the Whistler Integrated Stormwater Management Plan.</p> <p>Priority Habitat Strategy RFP closed; consultants have been selected and have begun this project.</p>	 Engineering, Environmental Stewardship
A2.2 Update flood hazard plans in consideration of anticipated climate changes, such as storm frequency and intensity.		Flood Protection Systems, Planning
A2.3 Update plans and policies to protect the quality and quantity of Whistler's potable water and fire-fighting water supply from potential contamination and drawdown related to the anticipated impacts of climate change (i.e. extreme rain/snow events and longer hotter drier summers).	<p>Irrigation and once-through cooling Bylaw updates are being planned (for finalizing in 2023).</p> <p>Exploring a move to non-potable water source for Meadow Park irrigation.</p> <p>Planning to explore replacement of Meadow Park water play area to recirculate water.</p>	Roads & Drainage, Emergency Planning, Parks & Village Ops
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.	An Extreme Weather Response Plan is currently in development.	 Roads & Drainage, Emergency Planning, Parks & Village Ops

transportation/service disruption, emergency preparedness).

A2.5	Develop strategies to increase the resilience of recreation trails and other outdoor recreation assets to better endure extreme rain/snow events.	Park and trail design and maintenance standards are currently being updated. Development of the Recreation Trails Strategy is underway, currently in stakeholder engagement phase. Work continues for the development of design for a snow-making system for Lost Lake Loop XC ski trails to extend the ski season, to double as firefighting infrastructure.	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).	Development of the Recreation Trails Strategy is underway, currently in stakeholder engagement phase. Ongoing discussions with Squamish Nation and Lil'wat Nation regarding the Fire & Ice Aspiring Geopark initiative, as the project aims to promote a deeper respect for the land and a greater understanding of Indigenous values and culture. Snow play area was maintained at Whistler Olympic Plaza during the winter.	Economic Development
A2.7	Integrate climate change considerations into the corporate asset management system.	Municipal Natural Assets Management Plan initiative presented to Council for support in July.	Finance, Engineering
A2.8	Promote and support proactive community climate awareness and efforts to increase resilience.	"Small Steps for Big Moves" social media campaign is still underway. This campaign will conclude in August, after 12 months of climate-focused posts focused on raising awareness and promoting individual calls to action. RMOW is collaborating with AWARE on potential future project ideas.	







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

Action Highlights & Milestones

Key Initiative	Milestone / Progress Highlight	Responsible
A3.1	<p>Develop policy, planning and legislative strategies to protect and restore local ecosystem health and support continued provision of natural infrastructure services.</p> <p>RFP for development of a Priority Habitat Strategy was awarded; consultants have begun the project.</p> <p>Finalized RMOW pesticide & rodenticide policy; currently implementing in RMOW facilities. Research ongoing regarding municipal restrictions on public rodenticide use.</p> <p>Green Building Policy is on track for Council adoption in fall 2022.</p>	<p>Environmental Stewardship, Planning</p>
A3.2	<p>Continue to monitor ecosystem health and biodiversity.</p> <p>Ecosystems Monitoring Program is ongoing.</p> <p>Annual update of local species at risk moved to bi-annual.</p> <p>Currently developing a monitoring plan for the Cheakamus Community Forest to determine impacts/effectiveness of wildfire fuel-thinning work in creating more resilient forests.</p>	<p>Environmental Stewardship</p>
A3.3	<p>Prevent and minimize the spread of invasive species.</p> <p>Update of the Invasive Species Management Plan is currently in progress.</p> <p>Implementation/enforcement of the Environmental Protection Bylaw invasive species restrictions is ongoing.</p> <p>RMOW continues to partner with SSISC on invasive species management, including staff training, education and invasive species inventory and removal. The recent</p>	<p>Environmental Stewardship</p>

	<p>establishment of a Fee for Service agreement with SSISC will further enable this organization’s important work, in support of RMOW’s habitat and biodiversity protection goals.</p> <p>May was Invasive Species Action Month in BC; RMOW featured a series of social media posts to raise awareness.</p>	
A3.4	<p>Manage the Cheakamus Community Forest in a way that prioritizes and supports healthy, biodiverse and climate resilient forests.</p> <p>The CCF Board held a strategic planning session in July, which included discussions around implementation of Ecosystem Based Management and supporting the climate resiliency of the Community Forest.</p>	<p>Environmental Stewardship</p> 
A3.5	<p>Support environmental integration and education opportunities.</p> <p>“Small Steps for Big Moves” social media campaign is still underway. This campaign will conclude in August, after 12 months of climate-focused posts focused on raising awareness and promoting individual calls to action.</p> <p>The Climate Action Coordinator and has been working closely with managers to develop a comprehensive internal work plan with specific action items to support the implementation of this BM CAIP, aligning with departmental budgets and plans.</p> <p>Monthly meetings of the internal Climate Innovation Working Group continues to promote learning, cross-departmental efficiencies and internal support of this BM CAIP as we work towards RMOW’s climate goals.</p> <p>The Environmental Stewardship Team continues to positively collaborate with groups like AWARE and The Naturalists on local environmental issues and initiatives.</p>	<p>Environmental Stewardship, Corporate Planning</p> 



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 2020 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 2020 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.
	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.
	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.
	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

Since 2013 the RMOW has purchased VERs from the Cheakamus Community Forest (CCF) to offset 2013 - 2021 corporate emissions. More information about the project can be found on the Cheakamus Community Forest (CCF) website (<https://www.cheakamuscommunityforest.com/>)

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.)

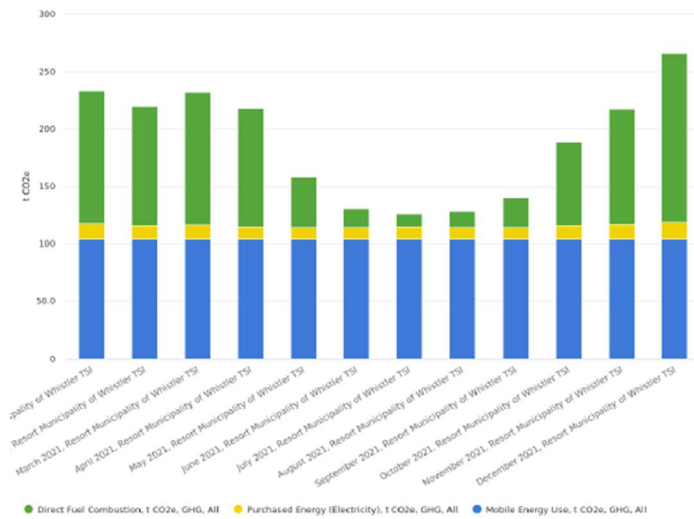
APPENDIX B: SUMMARY OF RMOW 2020 TRADITIONAL SERVICES GHG INVENTORY



2021 BC Traditional Services GHG Inventory

Reporting Entity: Resort Municipality of Whistler
Reporting Year: Calendar Year 2021
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: 2,257 t CO₂e



Total Energy Consumption by Energy Type for Traditional Services Inventory:

Resort Municipality of Whistler TSI	
Natural Gas Stationary [GJ]	17,367
Propane [l]	2,007
Electricity [kWh]	14,661,820
Gasoline [l]	108,636
Diesel [l]	373,560
Propane [l]	604
Gasoline – Car [l]	4,949

Category 1:

Resort Municipality of Whistler TSI					
	GJ, Energy	t CO ₂	t CH ₄	t N ₂ O	t CO ₂ e, GHG, Category 1
Direct Fuel Combustion	17,418	864	0.017413	0.015849	869

Category 2:

Resort Municipality of Whistler TSI	
	t CO ₂ e, GHG, Category 2
Purchased Energy (Electricity)	142

Category 3:

Resort Municipality of Whistler TSI					
	GJ, Energy	t CO ₂	t CH ₄	t N ₂ O	t CO ₂ e, GHG, Category 3
Mobile Energy Use	18,125	1,210	2.35	32.8	1,246

Biogenic GHG Emissions:

Resort Municipality of Whistler TSI			
	t Bio CH ₄	t Bio CO ₂	t Bio CO ₂ e, GHG, All
Direct Fuel Combustion		45.5	45.4
Mobile Energy Use			
Total		45.5	45.5

Totals by Service Delivery:

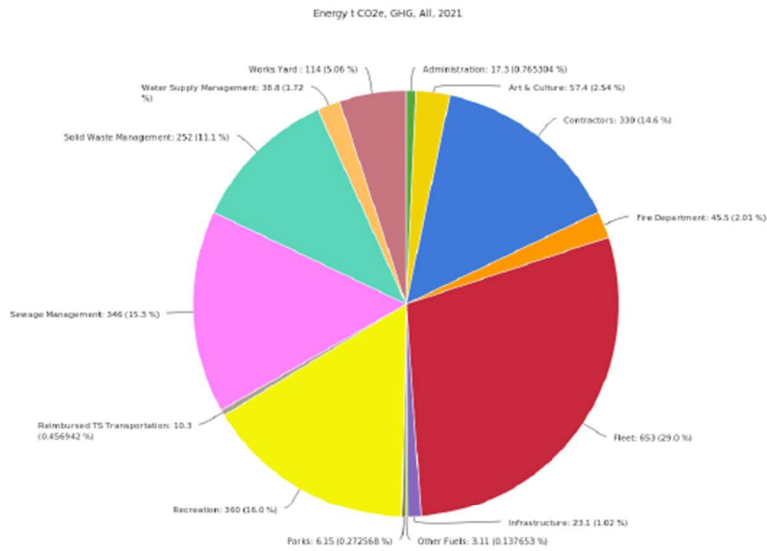
	Delivered Directly Energy Inventory t CO ₂ e, GHG, All	Contracted Services Energy Inventory t CO ₂ e, GHG, All	Total
2021	1,665	592	<u>2,257</u>



Summary:

	2021	
	Energy Inventory	Total
	t CO ₂ e, GHG, All	
Resort Municipality of Whistler TSI	2,257	2,257

Overview by Service Areas:



Top GHG Emitters:

	t CO ₂ e, GHG	%
Total Resort Municipality of Whistler TSI	2,257	100
Fleet	653	29.0
Recreation	360	16.0
Sewage Management	346	15.3
Contractors	330	14.6