

**RESORT MUNICIPALITY OF WHISTLER**

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STAFF REPORT TO COUNCIL

PRESENTED: January 23, 2024
FROM: Climate & Environment
SUBJECT: RESORT MUNICIPALITY OF WHISTLER CORPORATE GREENHOUSE GAS REDUCTION PLAN

REPORT: 24-005
FILE: 0340-20

RECOMMENDATION FROM THE CHIEF ADMINISTRATIVE OFFICER

That the recommendation of the General Manager of Climate Action, Planning and Development Services be endorsed.

RECOMMENDATION(S)

That Council receive Information Report No. 24-005 regarding the Resort Municipality of Whistler Corporate Greenhouse Gas Reduction Plan.

PURPOSE OF REPORT

The purpose of this report is to share the Resort Municipality of Whistler (RMOW or Municipality) Corporate Greenhouse Gas Reduction Plan (Corporate GHG Reduction Plan), as attached in Appendix A. The plan sets a corporate greenhouse gas (GHG) emissions reduction target of 50 per cent by 2030 relative to 2007 baseline emissions and outlines four pathways and next steps to achieve this target.

☒ Information Report

☐ Administrative Report (Decision or Direction)

DISCUSSION

Background

Whistler's mountain resort community has a special dependence on weather patterns that deliver sufficient snowfall throughout the winter season, and summers that are free of wildfires and associated smoke. This intrinsic relationship to the weather has heightened awareness about Whistler's shared responsibility to manage our greenhouse gas (GHG) emissions—and the potential impacts on our community and our economy if we do not.

In 2009, the RMOW outlined the steps necessary to achieve its carbon neutrality commitments under the *BC Climate Action Charter* in the 2009 RMOW Carbon Neutral Operations Plan (Appendix B). This plan outlined how the RMOW would achieve carbon neutrality by 2010 and outlined targets to reduce RMOW corporate emissions levels until 2015. However, since 2009, the climate action landscape has changed significantly. We now know that globally we will not achieve less than two degrees Celsius of

warming by purchasing carbon offsets to be carbon neutral. We must do everything we can to reduce to zero GHG emissions, rather than relying on carbon offsets to get us there.

In 2020, Whistler adopted the [Climate Action Big Moves Strategy](#) (Climate Strategy), setting a 2030 target to reduce Whistler's community wide GHG emissions by 50 per cent below 2007 levels. While corporate GHG emissions are included in the community emissions, it is important to have a separate corporate emissions reduction plan to identify more specific actions to reduce the RMOW's organizational GHG emissions. Rational for this includes:

- **Agency:** the Municipality has direct control over most corporate activities and can therefore make significant progress in reductions.
- **Leading by example:** the Municipality can and should demonstrate climate leadership, showcasing how emissions can be reduced locally.
- **Good data:** the Municipality has been tracking corporate emissions for years, and therefore can readily identify opportunities for reductions and assess the effects of actions.

The purpose of the RMOW Corporate GHG Reduction Plan is to set a 2030 corporate GHG emissions reduction target that is aligned with Whistler's Climate Strategy. The plan targets a corporate GHG emission reduction of 50 per cent by 2030 relative to 2007 baseline emissions (2,233 tonnes of carbon dioxide equivalent (t CO₂e)). This means that by 2030, corporate GHG emissions will need to be 1,117 t CO₂e.

Analysis

To achieve this target, four pathways to reduce GHG emissions have been identified, targeting the largest sources of corporate emissions. These pathways include:

1. Fleet electrification;
2. Sewage management;
3. Recreation; and
4. Contracted services.

Each of these pathways contribute toward achieving the overall 50 per cent reduction target, with specific targets identified for each pathway. Efforts to achieve pathway targets have been separated into current efforts and enhanced efforts.

Current efforts: initiatives that are already included in staff workplans and in the 2024 budget. These efforts move corporate emissions towards the target but are not sufficient to achieve the overall target.

Enhanced efforts: initiatives that are required to further reduce GHG emissions beyond current effort initiatives to achieve the 50 per cent GHG reduction target. Enhanced efforts initiatives require additional feasibility studies and detailed costing to better inform decisions.

Below is a summary of each pathway. The RMOW Corporate GHG Reduction Plan (Appendix A) outlines these pathways in more detail.

Pathway 1: Fleet Electrification

The RMOW fleet represents the largest source of corporate GHG emissions with 747 t CO₂e in 2020, or 30 per cent of all corporate GHG emissions. To reach the 2030 corporate GHG emissions target, fleet emissions need to be reduced to 280 t CO₂e. This can be achieved by replacing light and heavy-duty fleet vehicles with zero emission vehicles (ZEV) at end of life. Table 1 outlines the starting point (2020 RMOW corporate GHG emissions) and anticipated 2030 emissions based on current effort and enhanced effort scenarios and the actions associated.

Table 1: Fleet electrification pathway scenarios and actions

Scenario	GHG Emissions	Actions
Starting Point	747 tCO ₂ e ¹	
Current 2030 Effort	607 tCO ₂ e ²	Replace light duty fleet following the <i>Balanced Scenario</i> , as outlined in the 2022 Light Duty Fleet Assessment.
		Install 36 Level 2 ZEV chargers at municipal facilities, as outlined in the 2023 Fleet Infrastructure Assessment.
Enhanced 2030 Effort	281 tCO ₂ e ³	Assess vehicle demand management data to correlate replacement requirements with future vehicle demand.
		Conduct a heavy-duty and off-road fleet assessment and replacement plan.

1 – 2020 GHG emissions for RMOW fleet.

2 – Assumes that 100% of light duty fleet vehicles are ZEVs by 2032 and heavy-duty fleet vehicles are still internal combustion engines.

3 – Assumes that 90% of light duty fleet vehicles are ZEVs and 65% of heavy-duty fleet vehicles are ZEVs by 2030.

Next Steps

- Implement the fleet procurement plan for light duty vehicles labelled as *Balanced Scenario* in the 2022 Light Duty Fleet Assessment (Appendix C).
 - The *Balanced Scenario* specifies that current light duty fleet vehicles are replaced at the end of life by a ZEV if the total cost of ownership premium is less than 25 per cent. All internal combustion engine light duty fleet vehicles are due for replacement within the next 10 years assuming end of life after 15 years or 320,000 km travelled.
- Install 36 ZEV chargers at Municipal Facilities, as outlined in the 2023 ZEV Infrastructure Assessment (Appendix D).
- Pursue the following actions to better understand costing and implementation of enhanced efforts:
 - Assess vehicle demand management data to correlate replacement requirements with future vehicle demand.
 - Conduct a heavy-duty and off-road fleet assessment for the remaining heavy-duty and off-road fleet. Develop a heavy-duty fleet procurement process based on recommendations from the assessment.

Pathway 2: Sewage Management

Sewage management is the second largest source of RMOW's corporate GHG emissions. In 2020, the Whistler Wastewater Treatment Plant (WWTP) comprised over 90 per cent of the sewage management related GHG emissions (408 t CO₂e). To reach the 2030 corporate GHG emissions target, sewage management emissions need to be reduced to 62 t CO₂e. This means that WWTP emissions must be reduced to 27 t CO₂e by 2030. This can be achieved by implementing energy efficiency measures and fuel switching. Table 2 outlines the starting point (2020 RMOW corporate GHG emissions) and anticipated 2030 emissions based on current effort and enhanced effort scenarios and the actions associated.

Table 2. Sewage management pathway scenarios and actions

Scenario	GHG Emissions	Actions
Starting Point	439 tCO ₂ e ¹	
Current 2030 Effort	331 tCO ₂ e ²	Implement energy efficiency measures outlined in 2022 WWTP Primary Building Energy Study.
Enhanced 2030 Effort	62 tCO ₂ e ³	Conduct a feasibility study to understand fuel switching opportunities for the WWTP Primary Building.
		Implement fuel switching measures identified in the feasibility study.

1 – 2020 GHG emissions for RMOW sewage management.

2 – Assumes that energy efficiency measures outlined in the 2022 WWTP Primary Building Energy Study are implemented by 2030.

3 – Assumes that energy efficiency measures outlined in the 2022 WWTP Primary Building Energy Study and fuel switching has occurred in the primary treatment building by 2030.

Next Steps

- Implement the energy efficiency measures outlined in the 2022 WWTP Primary Building Energy Study (Appendix E).
 - Eight energy conservation measures including installation of new energy efficient equipment and changes to existing systems.
- Pursue the following actions to better understand costing and implementation of enhanced efforts:
 - Work with the RMOW utilities group to understand fuel switching opportunities for the WWTP buildings and process requirements. Fuel switching opportunities include switching the natural gas used for heating and processing to a low carbon alternative such as electricity or the District Energy System.
 - Conduct a feasibility study for fuel switching measures at the WWTP.

Pathway 3: Recreation

Within Recreation Services (Dandelion Daycare, Lost Lake Passivhaus, Women's Centre, Olympic Plaza and Meadow Park Sports Centre (MPSC)), operation of MPSC represents almost 90 per cent of recreation related emissions (304 tCO₂e). To reach the 2030 GHG emissions target, recreation emissions need to be reduced to 60 t CO₂e. This means that MPSC emissions must be reduced to 21 t CO₂e. This can be achieved by implementing energy efficiency measures and fuel switching. Table 3 outlines the starting point (2020 RMOW corporate GHG emissions) and anticipated 2030 emissions based on current effort and enhanced effort scenarios and the actions associated.

Table 3. Recreation pathway scenarios and actions

Scenario	GHG Emissions	Actions
Starting Point	339 tCO ₂ e ¹	
Current 2030 Effort	105 tCO ₂ e ²	Acquire funding and implement energy efficiency measures labelled as <i>BDL-2</i> from the 2022 Clean Communities Fund Feasibility Study.
Enhanced 2030 Effort	60 tCO ₂ e ³	Conduct feasibility study to electrify remaining natural gas boiler plant.
		Acquire funding and implement electrification of remaining natural gas boiler plant.

1 – 2020 GHG emissions for RMOW recreation services.

2 – Assumes that all energy efficiency measures labelled as *BLD-2* from the 2022 Clean Communities Fund Feasibility Study are implemented by 2030.

3 – Assumes that all energy efficiency measures labelled as *BLD-2* from the 2022 Clean Communities Fund Feasibility Study are implemented and remaining natural gas boiler plant is electrified by 2030.

Next Steps

- Acquire funding to implement the energy efficiency measures labelled as *BLD-2* in the 2022 Clean Communities Fund Feasibility Study (Appendix F).
 - *BLD – 2* includes arena-side heat recovery, interconnection between arena and pool, envelope upgrade and an electric boiler for arena-side ventilation and top-up heating of the pool.
- Pursue the following actions to better understand costing and implementation of enhanced efforts:
 - Conduct a feasibility study to electrify remaining natural gas boiler plant.

Pathway 4: Contracted Services

Solid waste management makes up 40 per cent (186 t CO₂e) of contracted service emissions while other contractors represent 60 per cent (288 t CO₂e) of emissions. To reach the 2030 GHG emissions target, contracted service emissions need to be reduced to 145 t CO₂e. This can be achieved by developing a Contracted Services Low Carbon Policy that prioritizes low carbon contractors in the RMOW procurement process. Low carbon contractors are those that minimize their GHG emissions using ZEVs and other fuel saving measures. It could include prioritization of local contractors who do not have to travel to Whistler, thus reducing emissions. Table 4 outlines the starting point (2020 RMOW corporate GHG emissions) and anticipated 2030 emissions based on current effort and enhanced effort scenarios and the actions associated.

Table 4. Contracted services pathway scenarios and actions

Scenario	GHG Emissions	Actions
Starting Point	474 tCO ₂ e ¹	
Current 2030 Effort	523 tCO ₂ e ²	None
Enhanced 2030 Effort	146 tCO ₂ e ³	Contracted Services Low Carbon Policy

1 – 2020 GHG emissions for RMOW contracted services.

2 – Assumes that no efforts are made to prioritize low carbon contractors as there are no current efforts to reduce contracted emissions.

3 – Assumes that 75% of solid waste and other contractor fleets are electrified.

Next Steps

- Pursue the following actions to better understand costing and implementation of enhanced efforts:
 - Convene internal staff to develop a Contracted Services Low Carbon Policy.
 - Draft a Contracted Services Low Carbon Policy with accompanying decision-making matrix and bring to Council for approval.
 - Integrate Contracted Services Low Carbon Policy into procurement process.

Implementation

Implementation of the RMOW Corporate GHG Reduction Plan — including planning and executing— is the responsibility of many departments across the RMOW. A responsible department has been identified for each pathway as outlined in Table 5 below.

The responsible departments are accountable for the implementation of current efforts and planning and execution of the enhanced efforts. The Climate & Environment (C&E) department will support the responsible departments as needed.

The RMOW Corporate GHG Reduction Plan details a method of tracking and reporting on progress. This includes tracking of several key performance indicators and annual reporting to Council.

The plan also proposes an update to the internal carbon pricing structure to further incentivize departmental action. As a signatory of the *BC Climate Action Charter*, the RMOW purchases carbon offsets for its corporate emissions each year. Currently the Climate & Environment department purchases these offsets. The newly proposed structure allocates the cost of purchasing carbon offsets to the responsible departments identified in the plan and correlates the price of carbon to the quantity of annual emissions above or below the pathway target.

Table 5. Allocation of responsibility for pathway implementation

Pathway		Responsible Department (Implementation)	Responsible Department (Carbon Offsets)	Supporting Department
1	Fleet electrification	Central Services & Fleet	Central Services & Fleet	Climate & Environment
2	Sewage Management	Utilities	Utilities	Climate & Environment
3	Recreation	Facilities Construction & Maintenance	Recreation	Climate & Environment
4	Contracted services	Working group led by Climate & Environment	Capital Projects	Finance Facilities, Construction & Maintenance

POLICY CONSIDERATIONS

Relevant Council Authority/Previous Decisions

This report follows the information presented in [August 1, 2023, Information Report No. 20-083](#), Whistler Annual Greenhouse Gas Inventory and Climate Action Progress Report.

The pathways outlined in the RMOW Corporate GHG Reduction Plan directly support the [2020 Climate Strategy](#) both by reducing GHG emissions in Whistler and in leading by example. The GHG reduction goals outlined in the RMOW Corporate GHG Reduction Plan are aligned with the GHG reduction goals in the 2020 Climate Strategy.

There is no current policy governing RMOW's corporate GHG emissions. While the 2020 Climate Strategy does encompass corporate GHG emissions, the strategy does not outline specific corporate GHG reduction targets or pathways. The 2009 Carbon Neutral Operations Plan (Appendix B) is the most recent policy related to corporate GHG emissions, which identified corporate GHG reduction targets up until 2015.

2023-2026 Strategic Plan

The 2023-2026 Strategic Plan outlines the high-level direction of the RMOW to help shape community progress during this term of Council. The Strategic Plan contains four priority areas with various associated initiatives that support them. This section identifies how this report links to the Strategic Plan.

Strategic Priorities

☐ Housing

Expedite the delivery of and longer-term planning for employee housing

☒ Climate Action

Mobilize municipal resources toward the implementation of the Big Moves Climate Action Plan

☐ Community Engagement

Strive to connect locals to each other and to the RMOW

☐ Smart Tourism

Preserve and protect Whistler's unique culture, natural assets and infrastructure

☐ Not Applicable

Aligns with core municipal work that falls outside the strategic priorities but improves, maintains, updates and/or protects existing and essential community infrastructure or programs

Community Vision and Official Community Plan

The Official Community Plan (OCP) is the RMOW's most important guiding document that sets the community vision and long-term community direction. This section identifies how this report applies to the OCP.

Advancing climate action mitigation is strongly aligned with the OCP Goals listed below and all associated Objectives and Policies included within the Climate Action and Energy Chapter 10 of the current OCP.

6.5. Goal - Support sustainable diversification compatible with the tourism economy

8.6 Goal – Create and embed effective governance mechanisms and partnerships to create trust, responsibility and accountability.

10.1 Goal - Municipal decision-making is well-structured to achieve energy efficiency goals and GHG reduction targets.

10.2 Goal - Substantially reduce GHG emissions from vehicles and transportation.

10.3 Goal - Substantially reduce GHG emissions from buildings and infrastructure.

10.4 Goal - Substantially reduce GHG emissions associated with solid waste management.

11.4 Goal - Support the increased use of preferred modes of transportation for all travel purposes to reduce dependence on private motor vehicles.

BUDGET CONSIDERATIONS

Implementation of the RMOW Corporate GHG Reduction Plan will require staff time and have capital cost implications. It is important to note that the actions to carry out current efforts in 2024 are already included in the 2024 budget. However, similar budget considerations to incorporate anticipated current effort and enhanced effort costs for 2025 onward are not yet included in the Five-Year Financial Plan. Table 6 summarizes the incremental budget implications for current effort and enhanced efforts beyond 2024 to be included in the Five- Year Financial Plan.

Going forward, this plan provides the mandate for staff to continue implementing and budgeting for the current efforts. It also commits staff to pursuing the necessary studies to better understand costing and implementation of the enhanced efforts.

Table 6. Two-to-five-year incremental budget implications for implementation of current and enhanced efforts

Pathway	Current Efforts	Enhanced Efforts
	2-5 year incremental budget considerations	2-5 year incremental budget considerations
Fleet Electrification	\$423,000 ¹ (EVs and chargers)	\$20,000 ⁴ (heavy duty fleet assessment)
Wastewater treatment plant	\$125,000 ² (energy efficiency measures)	\$50,000 ⁴ (fuel switching study)
Meadow Park Sports Centre	Grant funded ³ (energy efficiency measures)	\$50,000 ⁴ (fuel switching study)
Contracted Services	NA	NA
TOTAL	\$547,000	\$120,000

1 – Balanced Scenario procurement for light duty vehicles outlined in 2022 Light Duty Fleet Assessment amounts to \$310,000 incremental cost over business as usual. Cost of EV charging installation after grant funding is \$113,000 as outlined in 2023 ZEV Infrastructure Assessment (Appendix D).

2 – Incremental cost of high efficiency equipment over standard efficiency equipment amounts to \$125,000 as outlined in the 2022 WWTP Primary Building Energy Study (Appendix E).

3 – No successful grant funding acquired as of writing this report. Without successful grant funding, other funding must be identified to implement energy efficiency measures. The estimated incremental capital cost of BLD-2 measures is \$5,700,000 as outlined in the 2022 Clean Communities Fund Feasibility Study (Appendix F).

4 – Estimated cost of feasibility study based on comparable study costs.

Cost implications for the implementation of enhanced efforts beyond the feasibility studies listed in Table 6 are not yet determined. Next steps have been identified to conduct the necessary feasibility studies to better understand these cost implications. Once costs for enhanced efforts are better understood, a source of funds will need to be identified. Without funds to commit to the implementation of the enhanced efforts, the targets outlined in this report will not be achieved. Therefore, the information resulting from further studies will inform how best to proceed with the enhanced efforts.

The proposed internal carbon pricing structure in the RMOW Corporate GHG Reduction Plan will shift the cost of purchasing carbon offsets from the Climate & Environment department budget to the budget of the four responsible departments listed in this report. The total cost of carbon paid by for by the RMOW will increase/decrease proportionally to the amount of GHG emissions emitted by the RMOW annually, as was previously the case. The RMOW Corporate GHG Reduction Plan provides a sample calculation.

LÍŁWAT NATION & SQUAMISH NATION CONSIDERATIONS

The RMOW is committed to working with the Lílwat People, known in their language as *L'il'wat7úl* and the Squamish People, known in their language as the *Skwxwú7mesh Úxwumixw* to: create an enduring relationship; establish collaborative processes for Crown land planning; achieve mutual objectives; and enable participation in Whistler's resort economy.

There is no direct intersection between the RMOW Corporate GHG Reduction Plan and the Lílwat and the Squamish People. Opportunities to identify mutual climate objectives, to collaborate and build relationships with Lílwat and Squamish People through climate action will be a fundamental part of climate mitigation and adaptation going forward.

COMMUNITY ENGAGEMENT

Level of community engagement commitment for this project:

☒ Inform ☐ Consult ☐ Involve ☐ Collaborate ☐ Empower

REFERENCES

Appendix A – RMOW Corporate GHG Reduction Plan
Appendix B – 2009 Carbon Neutral Operations Plan
Appendix C – 2022 Light Duty Fleet Assessment
Appendix D – 2023 ZEV Infrastructure Assessment
Appendix E – 2022 Wastewater Treatment Plant Primary Building Energy Study
Appendix F – 2022 Clean Communities Fund Feasibility Study

SUMMARY

The RMOW Corporate GHG Reduction Plan commits the RMOW to reducing its emissions by 50 per cent by 2030. The plan identifies four pathways to achieving this target. These include fleet electrification, sewage management, recreation, and contracted services. The strategy commits the RMOW to implementing specific measures to achieve this target, which are listed as next steps. Responsible departments are identified as those responsible for implementing the next steps for each pathway.

SIGN-OFFS

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