

Green Building Policy – Public Engagement Summary

This summary document reviews the public engagement process, explains the engagement methods and participation rates, and presents summarized feedback received through each of the engagement methods. Finally, the last section of this document includes the Building Sector Virtual Workshop Mural board, and a copy of the survey used during the industry virtual consultation.

Engagement Activities and Participation

The principal method of sharing information and receiving feedback from the industry and key stakeholder was the Building Sector Virtual Workshop held on February 24, 2022, and the Green Building Policy Virtual Industry Consultation held from May 12 to 27, 2022. Further to the industry input, Council, and Council Committees (i.e. Advisory Design Panel) were engaged directly. In addition, information were share to the general public through the dedicated Green Building Policy webpage on the RMOW website.

Building Sector Virtual Workshop

The first industry engagement sought to collect input and advice on the proposed approach, proposed sections and performance areas. It was also intended to set clear expectations for the update timeline and to develop a common understanding of the proposed approach. For this first industry engagement, staff collaborated with external consultants, Integral Group, to facilitate break out discussions and record feedback.

The workshop included presentation from RMOW staff on the proposed approach to update the policy, including the proposed sections and their associated performance areas. The workshop also included facilitated discussions in break-out rooms using Mural. The workshop involved two breakout sessions that allowed for smaller groups of people to discuss the proposed sections and their associated performance areas. The small group sessions were designed to encourage discussion and ask for individual feedback in order to refine the development of the policy.

Advisory Design Panel

Staff made a presentation to Advisory Design Panel to introduce the project, provide background information, present the proposed update framework to the policy, an overview of the update process and timeline, and explain the industry engagement process and opportunities for further engagement and feedback. Staff requested feedback from the ADP based on the proposed update approach, proposed content, sections and performance areas, and challenges or opportunities municipal staff should consider when designing/updating the policy.

Green Building Policy Virtual Industry Consultation

Following the Building Sector Virtual Workshop and the presentation to Advisory Design Panel, staff have prepared a first draft update to the Green Building Policy to engage further with members of the industry and the community. This engagement activity was conducted simultaneously on the Green Building Policy and Demolition Waste Diversion Bylaw because of the interconnectedness of the two projects.

To collect feedback from participants, staff used Whistler’s community engagement portal (engage.whistler.ca). Participants were asked to review the draft policy, and provide feedback on the scope, objectives, proposed requirements, and targets and metrics. To provide feedback, participants were offered two options, either using the Green Building Policy feedback form available online or scheduling a meeting with municipal staff to discuss the ins and outs of the updated Green Building Policy. The objective of this consultation was to collect qualitative feedback from the industry with open questions where participants can contribute by making suggestions or other comments.

Participation

The table below presents a summary of the engagement activities and participation.

Table 1 Industry and Community Engagement Activities Summary

Activity	Details	Results
Report and Presentation to Council <u>Level of engagement:</u> Consult – Involve	On January 25, 2022 staff reported and presented a policy overview with the proposed performance areas, timeline and engagement strategy to Council.	Council directed staff to proceed with an update to Green Building Policy G-23 and an associated stakeholder and community engagement
Website <u>Level of engagement:</u> Inform	A landing page was developed to be a central location to share ongoing information about the policy update and public engagement activities/opportunities. Webpage updates are on-going to provide the community with up-to-date information.	Total page visits: 45 Unique page visits: 38 Average time on page: 3 minutes 43 sec
Building Sector Virtual Workshop <u>Level of engagement:</u> Consult – Involve	The virtual workshop was held on February 24, 2022 from 10 a.m. to 12 p.m. Staff and consultant team (Integral Group) presented the proposed policy update and presented a policy overview with the proposed performance areas, timeline and engagement strategy for discussion and input by the building and development industry.	In total, 19 members of the construction and development industry attended the building sector virtual workshop, as well as 2 RMOW staff and 3 Integral Group staff to facilitate break out discussions and recording feedback. Two moderated break-out sessions were held using Mural to discuss and gain input on the proposed policy update.
Presentation to Advisory Design Panel (ADP) <u>Level of engagement:</u> Consult – Involve	On March 23, 2022 staff introduced the proposed policy update and presented a policy overview with the proposed performance areas, timeline and engagement strategy for discussion and input by the ADP.	ADP was supportive of the proposed approach to update the policy. ADP recommended staff to undergo a second stakeholder engagement activity using a first draft version of the policy to collect feedback on the specific details, guidelines, and metrics of the policy.
Green Building Policy Virtual Industry Consultation <u>Level of engagement:</u> Consult – Involve	Staff used Whistler’s community engagement portal (engage.whistler.ca) to collect feedback. This online engagement tool was open from May 12 to May 27, 2022. To advertise the activity, staff published two ads in the Pique News Magazine, and information announcing the consultation and methods to participate were shared on RMOW social media streams.	Total page visits: 68 12 visitors filled the Green Building Policy Feedback Form 8 visitors downloaded the draft policy 1 visitor downloaded the staff report to Council

Summarized Feedback

Building Sector Virtual Workshop

The feedback received during this first round of engagement is summarized in the table below:

Table 2 Summary of Feedback received during Building Sector Virtual Workshop

Section	Performance Area	Summary of comments received
Energy and Emissions	On-site Renewables	<ul style="list-style-type: none"> • Limited carbon benefit. May not need to be a priority –the money could be better spent elsewhere. BC Hydro electricity is already very clean. • Economic benefits. Solar equipment can offset costs and GHGs associated with multiple fuel sources.* <ul style="list-style-type: none"> ○ There are very few in Whistler now and are mostly driven by altruistic reasons. • Resilience. Solar PV has resilience benefits during power outages. • Resource. CHBA Webinar – 'Residential Solar PV Systems Demystified' found that solar installations are much better than people realize, and there is a lot of misinformation where people think solar is not as good as it is, both for building self-sufficiency, as well as GHG reductions, etc.
	Energy and Emissions Performance	<ul style="list-style-type: none"> • Domestic hot-water systems. If we look at countries like Sweden and even the UK (recently), the use of instantaneous domestic hot water (instead of storage type) allows the use of lower temperatures – 50 °C (without compromising safety, i.e. legionella concerns). This helps (e.g. higher heat pump efficiency), especially in the context of district energy systems. • Performance targets. The BC Energy Step Code has different energy metrics for different climate regions. When Whistler targets the same step code levels as lower mainland regions, we build homes that consume more energy. Whistler is being given an advantage in this. We can and should aim higher. E.g. <ul style="list-style-type: none"> ○ In Whistler, Zone 6: <ul style="list-style-type: none"> ▪ Step 3 = 50kWh/m2 ▪ Step 5 = 25kWh/m2 ○ In North Vancouver, Zone 4: <ul style="list-style-type: none"> ▪ Step 3 = 30kWh/m2 ▪ Step 5 = 15kWh/m2 • Clarify requirements for LCES. Clarify if the Step Code requirement is downgraded if an LCES is implemented. • Natural gas and resilience. For fully electric buildings it can be expensive to upgrade backup generator capacity so natural gas for heating during power outages might be desirable.* <ul style="list-style-type: none"> ○ Fossil gas furnaces will not work during a power outage. ○ High-end clients are more resistant to getting rid of gas. • Electricity grid capacity. Concern about electrical grid capacity especially with an increasing need for cooling throughout the summer. Will the utilities be able to keep up? • Cost-saving opportunity. It is simple to meet high-performance requirements by electrifying. It is less expensive to build net-zero energy Part 3 buildings than code minimum for capital costs (and also result in significant operational savings). Mechanical systems can be significantly downsized for buildings with efficient envelopes (see Zebx Case studies). <ul style="list-style-type: none"> ○ Need to pay attention to hot water - these tend to be high energy and carbon. Addressing these systems can result in significant cost savings. ○ Meredith at www.thinkbright.ca/ is building homes that exceed the requirements for Step 5, and we are right in the middle of the market on \$/ft2 cost: "We do great planning, we run an integrated design process. Tiny mechanical rooms, with smaller cheaper systems, so we can put more money into high-performance hot water. We're not spending money on cantilevers and bump-outs, or inefficient space. There is no cost premium to build Step 5. There is just bad designs"

		<ul style="list-style-type: none"> • Affordability. Affordability is still a big question so finding the sweet spot between energy efficiency and affordability. The costs are always passed down to buyers. Consider how this will impact different building types. <ul style="list-style-type: none"> ○ For Part 9 buildings there is still a cost premium for net-zero energy buildings. • Embodied carbon. Consider the interaction between embodied and operational carbon (e.g. C. Magwood study - showing the interaction between embodied and operational emissions). <ul style="list-style-type: none"> ○ Chris Magwood's research last year studying 40 Step Code houses in Nelson showed no correlation between embodied carbon and Step Code performance. <ul style="list-style-type: none"> ▪ The highest embodied carbon house was a Step 3 house ▪ The two Step 5 houses in the study were both below the average embodied carbon of the study ▪ The lowest embodied carbon house in the study was a Step 4 house • Opportunity cost. We need to consider the "opportunity cost" when we allow low emission / high energy construction (ie. Part 9 Step 3 w. LCES). Our low carbon electricity can be exported to areas that have high emissions. We should not waste it on inefficient designs.
	Passive Design Strategies	<ul style="list-style-type: none"> • Sun study. All modern 3D BIM software used to design houses can run a "Sun Study" to see the path of the sun and shadows at different times of the year. This analysis should form part of the permit submission requirements to demonstrate that free solar energy heating is utilized in the winter, and the shading can avoid excessive solar heating in the summer. • Basic passive design strategies. Consider how old-school passive design strategies (e.g. building siting, orientation, and form) can be quantified through the review process.* • Incentives. Incentivize passive design strategies. <ul style="list-style-type: none"> ○ Consider allowing internal bedrooms if passive ventilation and daylighting is provided, to allow for housing more occupants.
	Other	<ul style="list-style-type: none"> • BC Energy Step Code Implementation. Green Building Policy will need to be aligned with the BCESC Implementation Roadmap but may build on this for Rezoning Projects. • Increase Requirements to meet climate targets. All IPCC scenarios that avoid catastrophic impacts of climate change assume negative emissions by 2050 - buildings are a credible method to achieve this. An all-electric Passive House with carbon-negative building materials will achieve this. Whistler should be developing local capacity to achieve this outcome in all our buildings to show leadership.
Building Materials	Demolition and Construction Waste Management	<ul style="list-style-type: none"> • Capacity. Limited space to hold construction waste materials, but new construction waste is generally benign and not that challenging to sort. <ul style="list-style-type: none"> ○ New bin supplier in Pemberton may improve the waste diversion situation. • Cost. Local waste hauler has something of a monopoly. Waste rates are very high; even for dumpsters, it is still cheaper to throw into a dumpster and take it to Vancouver. • Reuse. Consider deconstructability - can recoup some costs via salvage instead of demolition. <ul style="list-style-type: none"> ○ We should be recovering the lovely wood in our older houses when they are "Demolished". This is highly valuable lumber which is being wasted. ○ On one addition project in Whistler, the builder salvaged all the studs during demolition, and reused for the addition. It was reduced costs and materials. It can be done, but many contractors don't think with this sustainable mindset. ○ Every house torn down wastes 80 trees, every new house takes 120 trees. It takes 20 years for a tree planted today to grow to the size where it is taking an appreciable quantity of carbon from the atmosphere

		<ul style="list-style-type: none"> ○ "Tearing down" should only be permitted where densification is occurring. Tearing down a house to build a similar size house is 100% waste. ● Prefabrication. For construction waste: a design for deconstruction; encourage prefabrication, modular building materials. ● Deconstructed homes -repurpose buildings if you can. Solid waste on construction sites. Using wall panels on next projects to reduce waste. Use offsite framing waste. Reduce material in the building.
	<p>Low-Emitting Materials</p>	<ul style="list-style-type: none"> ● Capacity. Limited space to hold construction waste materials, but new construction waste is generally benign and not that challenging to sort. <ul style="list-style-type: none"> ○ New bin supplier in Pemberton may improve the waste diversion situation. ● Cost. Local waste hauler has something of a monopoly. Waste rates are very high; even for dumpsters, it is still cheaper to throw into a dumpster and take it to Vancouver. ● Reuse. Consider deconstructability - can recoup some costs via salvage instead of demolition. <ul style="list-style-type: none"> ○ We should be recovering the lovely wood in our older houses when they are "Demolished". This is highly valuable lumber which is being wasted. ○ On one addition project in Whistler, the builder salvaged all the studs during demolition, and reused for the addition. It was reduced costs and materials. It can be done, but many contractors don't think with this sustainable mindset. ○ Every house torn down wastes 80 trees, every new house takes 120 trees. It takes 20 years for a tree planted today to grow to the size where it is taking an appreciable quantity of carbon from the atmosphere ○ "Tearing down" should only be permitted where densification is occurring. Tearing down a house to build a similar size house is 100% waste. ● Prefabrication. For construction waste: a design for deconstruction; encourage prefabrication, modular building materials. ● Deconstructed homes -repurpose buildings if you can. Solid waste on construction sites. Using wall panels on next projects to reduce waste. Use offsite framing waste. Reduce material in the building.
	<p>Embodied Carbon</p>	<ul style="list-style-type: none"> ● Specific Materials: Encourage cellulose, straw and hempcrete. Straw is the most carbon-negative material (128 kgCO₂e for 10m² @ R10) <ul style="list-style-type: none"> ○ Encourage Straw demonstration project in Whistler to provide inspiration - much like the Lost Lake Passivhaus ○ Create straw as insulation from material supplied local farms. ○ Cellulose insulated panels are available in prefabricated panels by BC Passive House and TAG Panels. ○ Chris Magwood's research also showed that 6 material choices contributed 80% of the embodied carbon and if those 6 materials were switched, a house could go from the highest to near the lowest embodied carbon. ● Material availability. Need a realistic policy - consider what materials are locally available (i.e. hempcrete not yet available; cellulose has some limited use). <ul style="list-style-type: none"> ○ Encourage growth of local suppliers of carbon-negative building materials. ● Optimum value framing. Lightweight platform frame construction lowest impact building method and is well-established. Optimum value framing has the benefit of providing a straight run for mechanical in the buildings. This saves substantial material. <ul style="list-style-type: none"> ○ There was a comment From Rod Nadeau [above] that he built an Underground parking structure without using a typical concrete podium style design and in reality, it was problematic. <ul style="list-style-type: none"> ▪ Lack of concrete meant that an excessive amount of still was needed in the structure

		<ul style="list-style-type: none"> ▪ Extra drywall (3 to 4 layers) to achieve the required fire separation. ▪ Drywall in all the individual parking stalls has been replaced by wood and plywood so that homeowners can screw and fix storage solutions to the walls rather than fixing it directly to concrete (the wood is against the building code regulations). ▪ The ICF walls are cheaper to build as the labour can be largely unskilled vs. good quality concrete crews. ▪ The wood frame and drywall was much slower and didn't really work in our climate and weather circumstances. <ul style="list-style-type: none"> • Cost. Concrete is very expensive in Whistler. ICF forms to reduce concrete. <ul style="list-style-type: none"> ○ Reducing embodied carbon can also result in significant cost savings. ○ Cost premiums related to some preferable building materials ○ RMOW should incentive the use of innovative building materials to reduce the risk/cost of progressive projects. ○ Projects are handcuffed by additional costs and process challenges when pursuing innovative building materials. • Panelization. SFD and multi-family largely use offsite panelization which reduces wasted materials. <ul style="list-style-type: none"> ○ MURB- framed using offsite forms and crews allow a greater level of efficiency. The alignment of frames, studs and walls increases coordination, reduces waste, and speeds up building. • Transportation Emissions. Using locally produced materials will reduce emissions associated with transportation. Whistler is surrounded by an abundance of natural resources. • Performance-based approach. Don't limit to specific materials or standards; take a more outcome-focused approach. • Compliance. Tracking building materials is very challenging. Consider how Whistler could feasibly do this. <ul style="list-style-type: none"> ○ How have other municipalities approached new/innovative building materials/products - a third-party review? is this an added cost to the project? • Cost: Chris Magwood research: Low embodied carbon materials are often cheaper than high carbon materials
	Certified Wood	<ul style="list-style-type: none"> • Carbon benefits. Using plant-based materials can sequester carbon. Whistler should encourage wood where possible; all new buildings should be sequestering carbon. • Resilience. Wood as local and low-carbon, but need to balance with seismic considerations. <ul style="list-style-type: none"> ○ Moving away from wood exteriors due to maintenance, fire risk, etc. Alternatives are concrete, composite panel (looks like wood but not wood). • Mass Timber. Work toward the use of encapsulated mass timber. This may require changes with municipal approvals of newer building materials/products.
	Other	<ul style="list-style-type: none"> • Permitting. The permitting times are already long • Industry Capacity. Subcontractor availability is limited because of the housing shortage in Whistler <ul style="list-style-type: none"> ○ There is limited availability of trades. This is a challenge to meet timelines.
Green Mobility	EV Charging Infrastructure	<ul style="list-style-type: none"> • Electric Capacity: EV chargers' main issue is BC Hydro capacity. EV chargers may take much of the amps available, and this is a challenge for the existing Electrical Code. * <ul style="list-style-type: none"> ○ Need to consider how to reduce demand from chargers at any given time to reduce draw. ○ If limited amperage, how do you split up the power demand? ○ BC Hydro is working towards increasing capacity. This is not going to happen quickly. ○ Clarity around EV charging infrastructure and load sharing to reduce the electrical capacity of project/ dealing with BC Hydro. • Increased customer demand. The customer demands are trending up for EV charging and bicycle parking - RMOW bicycle culture also pushes this

		<ul style="list-style-type: none"> ○ We put a level 1 plug at all the parking spaces in the new buildings, and 10% are level 2 chargers. ○ Consider installing infrastructure now but not full chargers until needed. ● Clear requirements. Provide clarity around the level of EV Infrastructure required/ encouraged
	Short/Long-term Bicycle Parking	<ul style="list-style-type: none"> ● Utilizing stacked bicycle storage system with hydraulic pistons to store more bikes (7 bikes within footprint of 3).
	End of Trip Facilities	<ul style="list-style-type: none"> ● Encourage end of trip wash facilities
	Car Share Parking Provision	<ul style="list-style-type: none"> ● Encourage car share. Encourage car share spots in parkades. <ul style="list-style-type: none"> ○ Need to encourage local EV to carshare company (underway) ● Car share doesn't work at the condo level, it needs to be a community-based system.
	E-Bikes	<ul style="list-style-type: none"> ● Encourage use. E-bikes are the way to go for sustainable transport in Whistler <ul style="list-style-type: none"> ○ Focus on e-bikes as a lower cost option that will be adopted before EVs ● Parking. Create specialized requirements for e-bike parking. <ul style="list-style-type: none"> ○ Ensure space and consideration for e-bikes ● Address the need e-bike charging stations.
	Other	<ul style="list-style-type: none"> ● Clear Trails. Clear the Valley Trail from Rainbow to Emerald so it can be used for active transport (i.e., biking). This is Isolating part of the community. Alternatively, build a dedicated bike lane on the highway. * <ul style="list-style-type: none"> ○ Having a lit Valley Trail is a big opportunity to encourage green mobility. ● Reduce parkade storage space. MURB add in-suite locker room within building storage. Don't add these into the garage because of the embodied carbon. ● Consider strategies to reduce traffic. RMOW should push Green Mobility to manage challenges with traffic – City of Vancouver policies are a good point of comparison. ● Increase green mobility amenities. EV charging, bicycle parking, and end-of-trip facilities are all common in Lower Mainland, not as common in the Valley. Municipalities are beginning to update expectations around these amenities ● Parking minimums. Whistler is making it too easy for cars. Remove parking minimums.
Sustainable Site Design	Habitat and Ecosystem	<ul style="list-style-type: none"> ● Clear Trails. Clear the Valley Trail from Rainbow to Emerald so it can be used for active transport (i.e., biking). This is Isolating part of the community. Alternatively, build a dedicated bike lane on the highway. * <ul style="list-style-type: none"> ○ Having a lit Valley Trail is a big opportunity to encourage green mobility. ● Reduce parkade storage space. MURB add in-suite locker room within building storage. Don't add these into the garage because of the embodied carbon. ● Consider strategies to reduce traffic. RMOW should push Green Mobility to manage challenges with traffic – City of Vancouver policies are a good point of comparison. ● Increase green mobility amenities. EV charging, bicycle parking, and end-of-trip facilities are all common in Lower Mainland, not as common in the Valley. Municipalities are beginning to update expectations around these amenities ● Parking minimums. Whistler is making it too easy for cars. Remove parking minimums.
	Low-Maintenance / Multi-seasonal Landscaping	<ul style="list-style-type: none"> ● Enforcement: Rezoning document outlines expectations but often comes down to details; need to enforce intentions. <ul style="list-style-type: none"> ○ Create landscape bonds for stronger enforcement of what was proposed at DP stage ○ Plant species selection is often excluded through the course of the project. ● Snowmelt strategies: Snow management - do we allow snowmelt systems or is there a more sustainable opportunity? <ul style="list-style-type: none"> ○ Flat roof design to hold the snow load - structural design must meet these loads anyway. ○ Rough-in for snowmelt (heated sidewalks and driveways, heat tracing on the roof) typically provided at a minimum

		<ul style="list-style-type: none"> ○ South-facing portions of the site will have less demand for snowmelt strategies • Energy demand of snowmelt strategies is likely captured as a plug load and will need to be considered as energy performance requirements increase.
	Trees and Landscape Plants	<ul style="list-style-type: none"> • Fire Proofing: Challenges with competing objectives, i.e., coordinating wildfire strategies with habitat generation requirements. * <ul style="list-style-type: none"> ○ Deciduous trees are more fire-resistant - and when they drop their leaves in winter, they can allow additional passive heating of houses. As opposed to the confers that currently surround our neighbourhoods, which are a high fire risk, and keep homes shaded and cold in the winter. * • Passive cooling. Saving trees on-site can reduce heat build-up around buildings yet doesn't show up in any green checklist but is a very legitimate way to reduce the need for Air-Con etc. • Future Climate Impacts: Need to think about future climate and what species can be supported. • Research by Prof. Sally Aitken at UBC has shown how trees are migrating North. Does this change the meaning of what we think of as 'native'? For example, Mountain Hemlock is no longer suitable for this climate. How can designers understand what the present and future species mix of our region is? Can RMOW lead in this area
	Urban Heat Island Mitigation	<ul style="list-style-type: none"> • N/A
	Other	<ul style="list-style-type: none"> • Cost: These costs get passed on to consumers - this can have an impact on affordability balancing out these two priorities. • Density vs. landscaping requirements. Focus on density and adding public green space, rather than site-level requirements. Urban areas close to transit vs. rural areas WUI. Urban areas trade-offs of density for landscaping. We don't want to encourage urban sprawl. This increases car use and carbon. Density and land use planning is critical for sustainable communities. • Solar heat. Maximize solar resources on site. • Enforcement. It's difficult to have a 'checkbox' approach for this topic - requires a comprehensive approach to site design, possibly a site-specific approach to performance requirements and compliance. <ul style="list-style-type: none"> ○ Who is administering the wildfire management and sustainable site design requirements, because no one at the RMOW appears to know which policy should govern? • Build on work in other municipalities. Important to consider in new construction projects. Try and build on what other municipalities have put in place while keeping in mind local context.
Water Conservation & Rainwater Management	Integrated Potable Water Management Approach	<ul style="list-style-type: none"> • Opportunity. Lots of opportunities to reduce water consumption <ul style="list-style-type: none"> ○ There is generally no resistance to low-flow plumbing. ○ QLD Australia has a culture of water conservation, including short showers, water meters, many homes have a water tank. We could learn from other similar bioregions. • Water treatment. Reduce water consumption to reduce water treatment that you have to build. • Greywater systems. Greywater systems are still really difficult. There are no provisions in the plumbing code. • P3 vs P9. Water conservation approaches may need to be different for single-family homes vs hotels vs commercial buildings
	Rainwater and Stormwater Runoff	<ul style="list-style-type: none"> • Site capacity. Site capacity can pose issues with rainwater management. • Green roofs. Larger scale projects and project owners sometimes are more risk-averse when approaching green infrastructure like green roofs due to concerns around long-term maintenance, proprietary products to get a warranty. <ul style="list-style-type: none"> ○ Big melts and large rain events seem to be managed by integrated rainwater mgmt. strategies (green roofs) ○ Multi-family developments have needed to provide rainwater management plan with diversion strategies including green roofs with

		<p>retention trays, Brentwood boxes (submerged containers for stormwater retention).</p> <ul style="list-style-type: none"> ○ Green infrastructure may not be the 'low hanging fruit' for water conservation. ● Native Species. Prioritize native species to help build the soil to hold water. ● Daylighting. Prioritize daylighting and avoid tanking/burying all infrastructure, e.g. amenity channels, ponds <ul style="list-style-type: none"> ○ SW catchment ponds can be turned into amenities ○ Challenges with typing into tributaries; often need to vacuum sediment out of channels, presents operational challenges ○ Consider permaculture principles ○ May need to confer or clarify authority to RMOW to allow access for maintenance of watercourses; would need to see this in a plan? ● Build on work in other municipalities. City of Vancouver is leading on rainwater management.
	Pervious Surfaces	<ul style="list-style-type: none"> ● Freezing. Impervious services don't work well when they freeze over in the winter. Stormwater management works well on some sites not on others. ● Design guidance. Provide guidance on design (i.e. do you use 10 year or 25 year storm events to design your system?)* ● You don't want to make the condition worse. You can infiltrate your site. Rainwater collection is a good idea. ● Green pervious surfaces. When soil health is improved through healthy biodiversity, the ground will hold more water <ul style="list-style-type: none"> ○ Grass base for parking is a possible solution for single-family homes but also commercial, and municipal projects. ○ Consumer demands push for lush, green landscapes
	Other	<ul style="list-style-type: none"> ● Administration/delays. Wanting to bring in more outside professionals - don't want to bring in additional delays to the process. A lot of this is caused by the continuous need to review everything. If the road is paved with obstacles. <ul style="list-style-type: none"> ○ Rezoning application is already really slow in Whistler. ● Strata design guidelines. There may be challenges with strata design guidelines
Solid Waste	Operational Waste Reduction and Management	<ul style="list-style-type: none"> ● Staging Space. Ensure there is enough space in the building to recycle everything that is recyclable. * Larger multi-family project facilities need to be sized to accommodate appropriate waste bins <ul style="list-style-type: none"> ○ Staging area needs to be relatively convenient but not by the front door. Also consider the bear problem. ○ Even the City of Vancouver requirements for staging space haven't been enough. ○ They often don't need as much staging space as required. There is often constrained space for staging. GFL trucks are big trucks. Now asking for a turnaround on site for GFL truck. Consider how convenient do you make it for GFL vs those who live in the building. ○ Whistler recycling is privately contracted, and it is not comingled. GFL is the only operator right now. ○ Ground floor exclusion might be a way to incentivize better staging for waste management. ● RMOW recycling constraints. Operationally we are constrained by the recycling that is available in the communities. <ul style="list-style-type: none"> ○ Communal garbage facilities seem to be successful but sizing and pick-up schedules could use some work to reduce overflow. ○ Transfer facilities could improve service – 24-hour access, pick up service ○ Single-family level has increased waste separation and recycling demand. Composting is challenging due to mess and transport to transfer facility due to bear-safe. ○ I have tried garburator or not and find the garburator is preferred given the practical ability to dispose of organics with most homes or complex don't have storage and therefore need to go to the transfer station. ● Aesthetic. If overflowing and dirty, won't be used.

		<ul style="list-style-type: none"> ○ Make waste sorting facilities nice: natural lighting, space, ventilation, etc. so people use them • Cross-contamination. Cross-contamination is highly problematic in most current garbage rooms and different separation bins exist in every single complex... no consistency. • Enforcement. Enforcement is a key issue. • Encourage repair/reuse. Option to encourage tool/stuff share spaces? Workshop spaces to repair rather than dispose of items? Suitable for larger projects • We have put bike/ski tuning rooms into our multifamily buildings > these allow people to take better care of their equipment
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Advisory Design Panel

On March 23, staff introduced the project to the Advisory Design Panel. Members of the panel were presented the same content that was presented during the Building Sector Virtual Workshop. The ADP received information about the project and noted the following:

- Flexibility and performance-based requirements are the key.
- Ensure due diligence to ensure policy will result in positive results and not just look good on paper.
- Staff needs to be clear on what the outcomes we want to achieve are and what the intent behind each requirement is.
- Consider affordability. Higher density is one of the few ways that we can increase affordability.
- Grey water systems drive up the cost of plumbing, however we should be collecting water and storing it for landscaping. This is currently not a criteria for development in Whistler.
- Staff needs to make sure that the RMOW has the internal capacity to enforce and review the requirements of the policy.
- Ensure trades and builders are able to implement the construction techniques. There are good trades that can handle the requirements to meet various Step Codes.
- ADP members suggested staff reduce parking minimum to also tackle the congestion issue.
- It is recommended to keep the Green Building Policy checklist simple to get positive results.
- Requirements for landscaping should focus on the type of site and the type of development, and retain as much of the existing landscape as possible and use drought tolerant planting and native species.
- Landscaping requirements should require collection of stormwater and storing for irrigation purpose and re-use.

Finally, ADP recommended not rushing this policy, as it could have many implications down the road and passed the following motion:

“That the Advisory Design Panel Committee supports the Green Building Policy update with the above comments, including a recommendation of having a pilot project come through the policy before it is fully adopted and implemented.”

ADP also suggested staff to undergo a second round of engagement with the industry using a first draft with more precise and detailed requirements.

Green Building Policy Virtual Industry Consultation

Following the presentation to ADP, a virtual industry consultation was held in May 2022 to collect more specific feedback using the first draft of the policy. Staff used Whistler’s community engagement portal (engage.whistler.ca) to engage with members of the industry. All participant that took time to provide feedback did so using the feedback form available on the webpage. The feedback form was organized around the six sections of the draft policy. Participants had to answer to a majority of open ended questions with regards to the different performance areas and proposed requirements presented in the draft policy. A blank version of the survey is provided below. In total, 12 participants took the time to answer the survey. The feedback received through the survey is summarized below:

Sections	Summarized Feedback
Energy and Emissions	<ul style="list-style-type: none"> • A majority of participant (5) strongly agree that requiring a low carbon energy system and to increase the BC Energy Step Code requirement will help new buildings decrease their energy requirements and associated GHG emissions, and lower the share of energy supplied by non-renewable sources. • All participant agree that passive design strategies are a good way to minimize heating and cooling loads. However, some participants specified that passive design could be hard to implement depending on the location of the project. • When asked what additional innovations could be contemplated to improve energy performance and management in new buildings, participants suggested the following: <ul style="list-style-type: none"> ○ Encouraging solar panels and geothermal ○ Better building envelope ○ Public education ○ Increase density and reduce parking minimum is a good way to help reduce construction cost and protect affordability. • One participant suggested to add incentive within the policy to help reduce construction costs to assist with the increased cost in energy performance. • With regards to the requirement “no natural gas connections”, one participant said that most renewable energy systems require some sort of traditional heating for backup and peaking energy. • The main risk allowing gas backup is that the low carbon system is poorly designed or poorly operated and therefor the boiler runs more than necessary. RMOW should consider other options for preventing this situation (e.g. peer review of LCES designs). • One participant said there is a need to clarify the wording with regards to district energy system as they can be 100% powered by natural gas, diesel, coal, etc. • Participants also raised concerns with regards to the electric grid capacity to meet the demand for full electrification. The ability of the BC Hydro infrastructure in Whistler to support all the buildings having large electric boilers is likely not possible.
Building Materials	<ul style="list-style-type: none"> • Participants were divided with regards to the demolition waste management requirement. Some participant (5) said it is reasonable to require a minimum 80% diversion rate for demolition waste and that they are likely already achieving this target. The other participants (5) said that the effort required is too high and costs too much making this requirement too much of a burden for applicants. • Most participant were familiar with Life Cycle Assessment and the basics of embodied carbon. However, participant raised concerns about the increase in construction cost if we were to require this for every project. Some participants said that the public and the industry needs more education on this subject. • Most participant agreed that certified wood, and building materials that are locally sourced, low carbon and/or plant-based are an effective way to reduce carbon impacts of new construction. However, most of them are also saying that it is unrealistic considering the local supplies and the costs of such materials. One participant said that the LEED standard pursued this and the administrative cost was so high that it outweighed the environmental benefits. • Participants pointed that the different existing building codes (i.e. NBC, BCBC, etc.) are currently an obstacle to using innovative materials. • Participants also suggested to minimize the use of concrete in new building.
Sustainable Site Design	<ul style="list-style-type: none"> • Most participants (7) agree that native, drought-tolerant and low maintenance trees and landscape plants will help reduce the watering needs and improve the resiliency of the landscaping.

	<ul style="list-style-type: none"> • Some participants are proposing to encourage water storage on-site to meet watering needs without restricting the type of landscaping allowed. The RMOW could allow irrigation and avoid water restrictions if water storage on-site is properly implemented. • The majority of participant said that the heat island mitigation requirement is irrelevant as Whistler doesn't experience this type of phenomenon.
Green Mobility	<ul style="list-style-type: none"> • All participant agree that EV-ready is preferable to fully-installed EV chargers, as it lower the cost of construction and provide flexibility for the future as technology is constantly evolving and there is a lot of different kinds of chargers. Better to leave the choice to the user/owner. • The majority of participants (7) agree that the proposed bicycle parking requirements will help improve active transportation conditions. • Participants highlighted the fact that bicycle parking need to be secure as theft can be a big problem. Participants also noted that it could be better to have the bike storage within each unit as this is what the market prefers. • Participants suggested to add electrical outlet for every bicycle parking space in order to encourage e-bike. • Some participant suggested the RMOW should encourage end of trip facilities (e.g. shower and locker rooms) and active transportation amenities (e.g. bicycle repair station).
Water Conservation and Rainwater Management	<ul style="list-style-type: none"> • Most participants agree with the proposed water conservation and rainwater management measures of the policy. • One participant said that the focus should be on water storage and rainwater collection. • Other participant are raising concerns of increase building costs that could affect the affordability. • There was general concerns with regards to the "water shortage" issue in Whistler. Some participant said it was a non-existent problem in Whistler, therefore the proposed measures could be perceived as an "overkill". • There was a general consensus that Low Impact Development measures are an appropriate approach to maximize onsite infiltration.
Solid Waste	<ul style="list-style-type: none"> • Participants said that the space provided for solid waste in multifamily development needs to be large enough to accommodate the growing number of distinct waste/recycling streams. • Development in general all need better waste management facilities to make it easy and convenient for people to get rid of waste. • Contractors and staff need to be trained, project need to have and respect a waste management plan that is linked with a pay upfront fees structure. RMOW need to enforce monitoring and penalties to the contractors and home owner.
Additional comments	<ul style="list-style-type: none"> • Building size, especially in single-family, is one of the biggest factors in energy use, embodied energy/carbon and general site-based environmental impact. Consider reducing the allowable size of all residential buildings and only allow larger buildings if the most stringent requirements are met. • The RMOW need to be mindful of the costs associated with implementing some requirements of the policy. Housing is already as unaffordable as ever. The RMOW need to come up with low cost solutions to make sure to not add cost and hardships to builders and homeowners. • Allow the industry to innovate by providing a performance based framework and be less prescriptive

Engagement Tool – Mural Board from the Building Sector Virtual Workshop

The following section is an image of the mural board that was used during the breakout sessions at the Building Sector Virtual Workshop on February 24, 2022.

Engagement Tool – Online Survey

The following section is a copy of the blank questionnaire that was available online from May 12 to May 29, 2022.

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Engage Whistler

Feedback: Green Building Policy

This form will take approximately 20 minutes to complete and will be open until May 27, 2022.

The goal is to solicit feedback on the proposed Green Building Policy's sections, performance guidelines and metrics that can be found in the Green Building Policy Guidebook.

Please provide your comments/suggestions. You are not required to provide comments on every metric if you do not feel it is necessary. When providing your comments/suggestions, please consider:

- Local skills and resources
- Available technologies and strategies
- Market readiness
- Cost and/or feasibility
- Monitoring and verification
- Challenges and/or opportunities

The personal information collected in this survey is under the authority of Section 26(e) of the Freedom of Information and Protection of Privacy Act for the purpose of gathering feedback on the specific proposed guidelines, requirements and metrics of the Green Building Policy. The personal information collected includes your personal opinions and your IP address. By completing this survey you consent to your responses being collected by a third party, Bang the Table, which stores data on a server located in Canada and provides it to the Resort Municipality of Whistler (RMOW). Your personal information will be stored securely by the RMOW. Your personal information will not be shared outside the RMOW for any purpose and will be deleted one year after the completion of the project. A summary report including your information may be included in a future Council Report. If you have questions about how your personal information is being collected, used or shared please contact Louis-Felix T.-Renaud at lrenaud@whistler.ca

This survey is anonymous. Please do not include any confidential or identifying personal information in your responses about yourself or a third party.

Energy and Emissions

This section focuses on buildings and their energy performance. It will be aligned with the updated RMOW's Building Bylaw and reference the Energy Step Code in order to reduce the total building energy demand and target net zero energy consumption. The guidelines of this section focus on innovative strategies (i.e. passive design strategies) to decrease energy requirements and associated greenhouse gas emissions, and lower the share of energy supplied by non-renewable sources.

The policy proposes to require a low carbon energy system and to increase the BC Energy Step Code requirement one step higher than what is prescribed by the existing RMOW Building and Plumbing bylaw for projects going through a rezoning. Based on your experience, will this requirement help new buildings decrease their energy requirements and associated GHG emissions, and lower the share of energy supplied by non-renewable sources? **Check the appropriate box.**

Questions	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Answer					

Are passive design strategies a good way to minimize heating and cooling loads in Whistler? If not, why?

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Engage Whistler

Can you suggest additional innovations, other than what is proposed, to improve energy performance and management in new buildings?

Please share any other comments about the proposed Energy and Emissions section below:

Building Materials

The goal of this section is to reduce solid waste generated during demolition and construction. It also addresses the use of environmentally-friendly materials and techniques.

The Demolition Waste Management requirement is designed to increase diversion of demolition waste from the landfill, and to encourage recycling and material salvage where possible.

Based on your experience, do you think a minimum 80% diversion rate for demolition waste is a reasonable target in Whistler? If not, why?

The Demolition Waste Management requirement will be informed by the proposed demolition waste diversion bylaw.

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By recommending a Life Cycle Assessment for every building, the RMOW aims to improve awareness and assessment of the environmental impacts of embodied carbon and emissions.

What is your level of familiarity with embodied emissions and Life Cycle Assessment?

Based on your experience, is maximizing the use of certified wood, locally sourced, low carbon and/or plant-based building materials an effective way to reduce carbon impacts of new construction? If not, why?

Please share any other comments about the proposed Building Materials section below:

Sustainable Site Design

This section focuses on the preservation, restoration, and enhancement of the site and surrounding areas. It encourages landscaping strategies promoting biodiversity and enhancing the natural spaces surrounding the built environment, supporting and reinforcing existing

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Engage Whistler

Development Permit Area guidelines, and mitigating the impact of development activities on the natural environment.

By requiring only native, drought-tolerant and low maintenance trees and landscape plants, the RMOW aims to reduce the watering needs and improve the resiliency of the landscaping.

In your opinion, will requiring this type of landscaping help achieve the desired outcomes? If not, why?

The Urban Heat Island Mitigation requirements are meant improve human comfort and energy efficiency in the surrounding areas.

In your opinion, do you think that the proposed requirement will help mitigate the heat island effect?

Please share any other comments about the proposed Sustainable Site Design section below:

Green Mobility

This section focuses on scaling up electric vehicle (EV) charging infrastructure, reducing car dependency, encouraging alternative transportation modes and pedestrian friendly design.

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Engage Whistler

By requiring a minimum number of EV charging infrastructures and EV-ready parking spaces in new construction, the policy aims to accelerate the transition to electric vehicles and improve air quality.

Based on your experience, is requiring EV-ready parking stalls preferable to fully-installed EV chargers? Please explain your answer.

Bicycle parking requirements are intended to reduce reliance on private automobiles and make cycling safe, convenient and enjoyable.

In your opinion, are the bicycle parking requirements contained in the policy sufficient to help improve active transportation conditions within the RMOW? If not, why?

At the building scale, what innovations do you think could be implemented through the policy to make active transportation more attractive, safe and convenient?

Please share any other comments about the proposed Green Mobility section below:

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Engage Whistler

Water Conservation and Rainwater Management

The goal of this section is to reduce the use of potable water for indoor and outdoor water uses, as well as rainwater management. Reducing potable water use, harvesting, and re-using stormwater, and managing the quantity and quality of stormwater are all performance areas of this section.

What do you think of the water conservation and rainwater management measures proposed in the policy? In your opinion, will they lead to the desired outcome? If not, why?

In your opinion, does prohibiting a permanent irrigation system and mandating a water collection/reuse system a good way to reduce outdoor potable water consumption? If not, why?

Based on your experience, are Low Impact Development measures the appropriate approach to maximized onsite infiltration? If not, why?

Please share any other comments about the proposed Water Conservation and Rainwater Management section below:

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Please share any other comments about the proposed Water Conservation and Rainwater Management section below.

Solid Waste

This section focuses on reducing the solid waste generation during operational phases of the development.

What innovations do you think could be implemented to improve operational waste reduction and management?

Please share any other comments about the proposed Solid Waste section below:

Do you have any additional comments, ideas, questions or concerns that you would like to share with the project team?

Note: This survey is public. Please do not include any confidential or identifying personal information in your responses about yourself or a third party.