

Scope Area	Action Level	Primary Action Link	Action ID	Action	Action Type	Responsibility	UBC Lead	Key Partners	Timeline	Related Plan/Policy	Status	Emissions Impact	Adaptation Impact	Community Connection	Health & Wellbeing	Accessibility	Affordability	Climate Leadership	Academic Connection	Other Equity Considerations	Notes
New Construction	Primary	NC-1	NC-1	Strengthen building performance requirements to achieve net-zero, resilient new construction																	
New Construction	Sub-action	NC-1	NC-1.1	Undertake a study to support development of resiliency requirements (cooling and air quality), adoption of BC Step Code energy and carbon targets, and cooling energy efficiency performance targets in REAP.	Research / external study	UBC	C+CP - Green Buildings		Quick start (1-2 years)	REAP		Foundational	Foundational								CAF (code acceleration fund) study funding covers this work. Will also partner with City of Vancouver. Look to minimize risks of individual/portable air conditioners through comfort requirement. Look at global examples of comfort regulations. Align any CEDI or comfort targets with future climate projections. Stay technology agnostic where possible within REAP (but maybe some prescriptions needed - e.g. natural ventilation)
New Construction	Sub-action	NC-1	NC-1.2	Adopt the BC Zero Carbon Step Code, Zero Carbon Performance Step (EL-4) (2025 timeline target)	Regulation	UBC	C+CP - Green Buildings		Quick start (1-2 years)	REAP - 2025 update		High	N/A								Look at Singapore example - for emissions reporting to improve compliance. Commissioning reports for occupancy.
New Construction	Sub-action	NC-1	NC-1.3	Adopt Step 4 of the BC Energy Step Code for energy efficiency in advance of Provincial requirement	Regulation	UBC	C+CP - Green Buildings		Near term (3 - 5 years)	REAP		Low	Low								Provincial policy would make this base code for 2032. Imperative to achieve higher energy efficiency becomes less important once have decarbonized energy source. CAF (code acceleration fund) study outcomes will inform timing.
New Construction	Sub-action	NC-1	NC-1.4	Review and update REAP building resiliency requirements (cooling and air quality) and cooling energy efficiency targets to address future climate conditions.	Regulation	UBC	C+CP - Green Buildings		Quick start (1-2 years)	REAP		N/A	Medium								CAF (code acceleration fund) study will support these REAP updates. Sizing for future climate conditions safeguards against future retrofits.
New Construction	Sub-action	NC-1	NC-1.5	Review and update REAP on-site energy production and back-up power credits	Regulation	UBC	C+CP - Green Buildings		Near term (3 - 5 years)	REAP		Low	Low								At what scale, building/site scale, or at the neighbourhood level. Consider technologies mature in the near term, as well as potential future options. Explore opportunity from EV in MURB parking garages (car-to-grid). Is there an opportunity for battery storage? What are the impacts from diesel generators?
New Construction	Sub-action	NC-1	NC-1.6	Update building adaptation and resilience measures in REAP	Regulation	UBC	C+CP - Green Buildings		Near term (3 - 5 years)	REAP		N/A	Medium								Look to address climate impacts identified through UBC VRA process. Look to apply learnings from institutional buildings resilient building project based on Provincial resilience measures.
New Construction	Sub-action	NC-1	NC-1.7	Explore and develop potential performance requirements for refrigerant usage in mechanical systems.	Research / external study	UBC	C+CP - Green Buildings		Near term (3 - 5 years)	REAP		Foundational	N/A								Explore potential quick start items for next iteration of REAP. Will require exploring implications for building-level and NDES systems. Product supply chain is very different for different scale of system. Consider implications of the Kigali amendment. Important when move to whole building life cycle emissions targets. Resources: https://vancouver.ca/files/cov/refrigerant-impact-ghgi-study.pdf https://issuu.com/deepgreenengineering/docs/refrigerants___environmental_impacts__elementa/46
New Construction	Sub-action	NC-1	NC-1.8	Establish REAP pre-condition restricting combustion based fireplaces in new construction.	Regulation	UBC	C+CP - Green Buildings		Quick start (1-2 years)	REAP	Not Started	Low	N/A								Link to REAP indoor air quality requirements. We presently have protection from wildfire smoke via filtration, but there are worse impacts from indoor impacts of natural gas equipment. There is also a financial benefit to developers to not have to bring NG infrastructure to buildings. 1% of natural gas usage globally is due to methane leakage in domestic settings.
New Construction	Sub-action	NC-1	NC-1.9	Review policy for natural gas equipment in new construction (e.g. stoves)	Research / external study	UBC	C+CP - Green Buildings	UNA UBC Properties Trust	Near term (3 - 5 years)	REAP	Not Started	Low	N/A								Include plan to canvass neighbourhood development community to understand current market demand for natural gas amenities among private developers and also is there a value to a carbon neutral certification. Link to REAP indoor air quality requirements. We presently have protection from wildfire smoke via filtration, but there are worse impacts from indoor impacts of natural gas equipment. There is also a financial benefit to developers to not have to bring NG infrastructure to buildings. It's very costly to do this just for 'cooking'. 1% of natural gas usage globally is due to methane leakage in domestic settings. Consider adding optional credits for cooking equipment, and explore pathway to mandatory compliance.
Existing Buildings	Primary	EB-1	EB-1	Enable retrofits to achieve net-zero, resilient existing buildings																	
Existing Buildings	Sub-action	EB-1	EB-1.1	Advocate to Provincial government to adopt policies, programs, and regulations that support net-zero, resilient building retrofits	Advocacy	UBC	C+CP - Green Buildings	Province of BC BC Hydro	Quick start (1-2 years)		Initiated	High									E.g. 2030 equipment energy efficiency requirements, strata depreciation report, strata concierge program, equity incentives. Province considering enabling local gov to adopt 2030 equipment efficiency requirements ahead of 2030 UBC neighbourhoods disproportionately have a voice.
Existing Buildings	Sub-action	EB-1	EB-1.2	Undertake retrofit design study to provide detailed information on retrofit design strategies and life-cycle costs.	Research / external study	UBC	C+CP - Green Buildings	UBC PT BC Housing BC Hydro	Quick start (1-2 years)		Significant Progress	Foundational	Foundational								Explore passive design measures to supplement active cooling systems. Review and integrate Vancouver Coastal Health's climate ready buildings work.
Existing Buildings	Sub-action	EB-1	EB-1.3	Develop regulatory pathway to enable retrofit permitting requirements for decarbonization and resilience	Regulation	UBC		UBC Properties Trust	Near term (3 - 5 years)		Not Started	Foundational	Foundational								This is a critical piece to enable decarbonization pathway and what will allow us to set permitting requirements at time of equipment replacement. Need work to understand what form this needs to take.
Existing Buildings	Sub-action	EB-1	EB-1.4	Implement permitting requirements for low carbon-only equipment replacement for domestic hot water and space heating systems or connection to low carbon Neighbourhood District Energy System. (2030 timeline target)	Regulation	UBC			Long term (6 years +)		Not Started	High	High								Applies to equipment replacements at end-of-life. Low carbon definition needs to limit/restrict fossil fuel equipment to peaking usage (for NDES and for in-building systems). Energy performance for space heating should exceed COP of 1. Build up capacity and incentivize early adoption in lead up to implementing permitting requirement (Provincial Strata Act) Look at pre-condition requirement for a whole building electrical capacity assessment.
Existing Buildings	Sub-action	EB-1	EB-1.5	Identify incentive opportunities for heat-pump and electrification retrofits	Policy / Planning	UBC		UNA BC Hydro	Quick start (1-2 years)		Initiated	Foundational	Foundational								State of Washington existing building regulation - have resources for low income homes, so even when regulations are in place (and other incentives are no longer available) need to consider how to support these equity deserving groups. Consider availability for both whole building and in-suite retrofits. Need to continue advocacy to Province to ensure financial incentives are available to all residential tenancy types. Financial, as well as other incentives (e.g. process support)
Existing Buildings	Sub-action	EB-1	EB-1.6	Explore potential permit process streamlining and other incentives to encourage accelerated adoption of net-zero, resilient, healthy retrofits.	Policy / Planning	UBC			Near term (3 - 5 years)		Not Started	Foundational	Foundational								Review what types of incentives might be possible (e.g. timelines, process streamlining) and explore options for implementation.

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Existing Buildings	Sub-action	EB-1	EB-1.7	Explore approaches to transition existing natural gas fireplaces to low carbon solutions	Policy / Planning	UBC		UNA	Near term (3 - 5 years)		Not Started	Low	N/A								City of Vancouver, Condo Homeowners Association - will be partners on this. Need to look at existing buildings with these systems - is there alternate heating in these spaces? BC Hydro - currently discussing option for incentives for electric replacement of gas fireplaces Consider a demonstration project, with story telling as well Whole building replacements might be needed to meet requirements for CleanBC incentives, but might be tricky to implement without displacing large groups of people.
Existing Buildings	Sub-action	EB-1	EB-1.8	Implement streamlined in-suite heat pump permitting requirements	Regulation	UBC		UNA	Quick start (1-2 years)		Moderate Progress										Consider impacts on tenants/people living in spaces
Existing Buildings	Sub-action	EB-1	EB-1.9	Develop plan for accelerating cooling retrofits in existing buildings.	Policy / Planning	UBC		UBC PT	Near term (3 - 5 years)		Not Started	N/A	Medium								Strong alignment to address key risks from UBC VRA. Action needed to support NCAP target on % units with cooling. Want to move faster here than on decarbonization retrofits. Not all buildings have amenities/common spaces. e.g. subsidized access to portable air conditioning units for vulnerable residents. Neighbourhood building window design will be challenging in many cases. Need supports to help set up this equipment, explore a community/volunteer-led program to install portable cooling equipment.
Existing Buildings	Sub-action	EB-1	EB-1.10	Compile summary of global policy and regulations supporting zero-carbon, resilient retrofits.	Research / external study	UBC		Sustainability Hub SEEDS	Quick start (1-2 years)		Not Started	Foundational	Foundational								SEEDS or Sustainability Scholar project.
Existing Buildings	Sub-action	EB-1	EB-1.11	Develop materials to support strata councils and building owners to complete building retrofits	Resource development	UNA		UBC	Quick start (1-2 years)		Not Started	Foundational	Foundational								Include development of a design guide and supporting decision tools to support strata councils going through the process as part of their deferred maintenance programs. Look for outcomes from CoV Implementation Offer Study (Brady F, cooling focus), Ashley (decarb retrofit focus). Ensure materials encompass life cycle impacts (e.g. ongoing maintenance differences) Alignment in materials between UNA and UBC - need to have the same resources/info sheets.
Existing Buildings	Sub-action	EB-1	EB-1.12	Require electricity capacity studies in existing buildings as a pre-condition for providing permits for equipment retrofits.	Regulation	UBC		UBC PT	Near term (3 - 5 years)		Not Started	Foundational	N/A								Strata buildings would be covered under proposed amendments to Strata Act, but need to look at non-Strata buildings
Existing Buildings	Sub-action	EB-1	EB-1.13	Develop demonstration projects to provide examples of retrofit approaches ahead of mandatory requirements	Pilot / demonstration project	UBC		UBC PT BC Hydro	Near term (3 - 5 years)		Not Started	Low	Low								Explore 'storytelling' with community members who go through the process. Look to partner with academic researchers.
Existing Buildings	Sub-action	EB-1	EB-1.14	Develop retrofit plan.	Policy / Planning	UBC	C+CP - Green Buildings	UBC PT	Near term (3 - 5 years)		Initiated	Foundational	Foundational								Informed by results of retrofit design study. Include coordination with other local governments and organizations (e.g. City of Vancouver, MBAR) to support the transition to low carbon, resilient retrofits.
New Construction	Primary	NC-2	NC-2	Create tiered embodied carbon performance targets for new construction																	Do these actions make it more challenging for lower income individuals to move into the neighbourhoods?
New Construction	Sub-action	NC-2	NC-2.1	Undertake a study to support the development of tiered embodied carbon targets.	Research / external study	UBC	C+CP - Green Buildings		Quick start (1-2 years)	REAP	Not Started	Foundational	N/A								Supported by Climate Acceleration Fund (CAF) study. Study will include cost implications of embodied carbon targets alongside other performance requirements (e.g. energy efficiency, low carbon). Development industry should be engaged in discussions on cost implications. Depending on outcomes of study, consider adopting an interim embodied carbon performance target. Identify a tiered target schedule for REAP. Consider how fundamental design change at the neighbourhood urban design level (e.g. no underground parkades) can support embodied carbon reductions. Include research in materials not currently covered by embodied carbon targets (e.g., MEP).
New Construction	Sub-action	NC-2	NC-2.2	Develop and update embodied carbon accounting and reporting requirements.	Policy / Planning	UBC	C+CP - Green Buildings		Quick start (1-2 years)	UBC Whole Building Life Cycle Assessment Guidelines REAP	Not Started	Foundational	N/A								Supported by CAF study, including development of reporting templates. Includes updates to UBC Whole Building Life Cycle Assessment Guidelines Ensure alignment with City of Vancouver, reporting template (which is set to become national standard - through Treasury Board federal gov) <--CaGBC also looking to adopt this standard Data collection and monitoring - need to explore this (ref CoV) <--need to have raw data shared, not just LCA summary report, as well as assumptions How do we set boundaries? Are some pieces pushed off site? MEP? How do we incent including more elements? Have these items allowed to contribute to overall reduction target OR REAP optional credit? Need to build up industry capacity to deliver on more holistic embodied carbon accounting in future.
New Construction	Sub-action	NC-2	NC-2.3	Adopt 10% embodied carbon reduction requirement compared to baseline building and develop tiered target schedule for REAP. (2025 timeline target)	Regulation	UBC	C+CP - Green Buildings		Quick start (1-2 years)	REAP - 2025 update	Not Started	Low	N/A								Include 10% reduction as a precondition and tiered optional targets in the 2025 update to REAP. Consider optional credits for proven prescriptive design strategies, or even parallel approach (prescriptive or reduction vs baseline) -->prescriptive steps would likely negate the need for LCA accounting - saving paperwork
New Construction	Sub-action	NC-2	NC-2.4	Explore adopting a total carbon footprint target for new construction and study the long term pathway to net zero embodied carbon in buildings	Research / external study	UBC	C+CP - Green Buildings	UBC PT UBC Sustainability Hub	Near term (3 - 5 years)	REAP	Not Started	Foundational	N/A								CAF study will include study on relationship between embodied and operational emissions. MEP also needs to be included before a total carbon footprint target is formally adopted in regulation. Net zero embodied target informed by World Green Building Council Net Zero Carbon Buildings commitments (By 2030, all new buildings, infrastructure and renovations will have at least 40% less embodied carbon with significant upfront carbon reduction, and all new buildings are net zero operational carbon. By 2050, new buildings, infrastructure and renovations will have net zero embodied carbon, and all buildings, including existing buildings must be net zero operational carbon.)
New Construction	Sub-action	NC-2	NC-2.5	Adopt 40% or greater embodied carbon reduction requirement (2030 timeline target)	Regulation	UBC	C+CP - Green Buildings		Long term (6 years +)	REAP	Not Started	Medium	N/A								Target for adoption - 2030 Target may be adjusted based on results of study into feasibility on whole building carbon targets, as well as improvements to accounting practices. Aligns with World Green Building Council net zero vision.
New Construction	Primary	NC-3	NC-3	Support industry adoption of improved embodied carbon performance.																	
New Construction	Sub-action	NC-3	NC-3.1	Showcase successful projects that demonstrate how to achieve low embodied carbon projects	Research / external study	UBC	C+CP - Green Buildings	UBC Sustainability Hub	Near term (3 - 5 years)		Not Started	Foundational	N/A								PT has some example, as well as Institutional projects Virtuoso project - structural mass timber Look to showcase industry capacity to deliver proposed embodied carbon targets. Tie into embodied carbon research being done through Sustainability Hub.

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New Construction	Sub-action	NC-3	NC-3.2	Update prescriptive standards for building materials.	Research / external study	UBC	C+CP - Green Buildings		Quick start (1-2 years)		Not Started	Foundational	N/A								Focus on high impact materials (e.g. concrete, bitumen layer in the roof, insulation etc.). This would support development of potential prescriptive requirements for some building materials (could supplement building level targets). Review across common building archetypes (there will be differences).
New Construction	Sub-action	NC-3	NC-3.3	Utilize submitted lifecycle assessment (LCA) data to support embodied carbon studies.	Research / external study	UBC	C+CP - Green Buildings	UBC Sustainability Hub	Near term (3 - 5 years)		Not Started	Foundational	N/A								
Existing Buildings	Primary	EB-2	EB-2	Explore embodied carbon performance targets for existing building projects																	
Existing Buildings	Sub-action	EB-2	EB-2.1	Review potential approaches to develop embodied carbon standards for building deconstruction and retrofits.	Research / external study	UBC	C+CP - Green Buildings	UBC PT	Near term (3 - 5 years)		Not Started	Foundational	N/A								Consider impacts on tenants and other residents with less agency or means to take action.
New Construction	Primary	NC-4	NC-4	Improve awareness and processes of UBC's Residential Environmental Assessment Program (REAP) process																	Improve process (toolkits, clarity) improve regulatory process to ensure buildings comply with REAP requirements.
New Construction	Sub-action	NC-4	NC-4.1	Review and develop improvements to REAP process.	Policy / Planning	UBC	C+CP - Green Buildings	UBC PT	Quick start (1-2 years)	REAP	Initiated	Foundational	Foundational								Currently exploring process to add a mid-construction review to try to avoid issues at occupancy. When adding more requirements, we should consider the time allowed for these processes to target sufficient time to commission. Consider applying institutional standards (there is a envelope commissioning requirement add on).
New Construction	Sub-action	NC-4	NC-4.2	Develop clear guidelines to share with developers on upcoming policy in future REAP iterations	Resource development	UBC	C+CP - Green Buildings	UBC PT	Quick start (1-2 years)	REAP	Not Started	Foundational	Foundational								UBC PT shares relevant UBC policy info with developers when leases are brought to market, it would be helpful to provide more clarity on NCAP policy that will impact future buildings.
New Construction	Sub-action	NC-4	NC-4.3	Develop communication materials for REAP that target building owners and community members.	Resource development	UBC	C+CP - Communications	UNA	Near term (3 - 5 years)	REAP	Not Started	Foundational	Foundational								
Transportation & Mobility	Primary	TM-1	TM-1	Support sustainable transportation through neighbourhood design																	
Transportation & Mobility	Sub-action	TM-1	TM-1.1	Prioritize curb space to support sustainable modes where possible in amended and future neighbourhood plans.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Foundational	N/A								E.g. car share, ZEV Explore how to implement in existing neighbourhood areas.
Transportation & Mobility	Sub-action	TM-1	TM-1.2	Designate curb space to support essential pick-up, drop-off, and delivery activities in amended and future neighbourhood plans.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Foundational	N/A								e.g. induce high turnover to enable short trips, carpooling, services, and deliveries Include considerations for low carbon deliveries, such as adequate space for electric cargo bikes. Explore how to implement in existing neighbourhood areas.
Transportation & Mobility	Sub-action	TM-1	TM-1.3	Preserve adequate rights-of-way for potential future transit and active transportation infrastructure in amended and future neighbourhood plans.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Foundational	N/A								Plan for additional walking and cycling capacity needs of corridors connecting to/from rapid transit stations
Transportation & Mobility	Sub-action	TM-1	TM-1.4	Explore retrofits to existing neighbourhoods to support rights-of-way for future transit and active transportation infrastructure.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Near term (3 - 5 years)	Transportation Plan	Not Started	Foundational	N/A								Informed by updated standards for new neighbourhood areas.
Transportation & Mobility	Sub-action	TM-1	TM-1.5	Investigate alternative approaches to supplying resident, customer and visitor parking that meets interim needs while enabling adaptive reuse if/when parking demand declines.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Near term (3 - 5 years)	Transportation Plan	Not Started	Foundational	N/A								UBCPT exploring options to provide adequate parking without impacting efforts to increase mode shift (e.g. temporary parking lots in future development sites). Explore establishing more stringent parking regulations/design limits in future when increased transit service and expanded active transportation networks are in place.
Transportation & Mobility	Primary	TM-2	TM-2	Support sustainable, low carbon goods delivery																	Look at work at regional scale - partner with TransLink.
Transportation & Mobility	Sub-action	TM-2	TM-2.1	Investigate policy changes and/or pilot programs that encourage the use of low carbon devices (e.g. cargo bikes) for local / last mile deliveries.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Near term (3 - 5 years)	Transportation Plan	Not Started	Low	N/A								Potential pilot could test and develop long-term enforcement and management policies for low carbon goods delivery programs. Based on results of pilot projects, look to implement findings/programs throughout neighbourhoods.
Transportation & Mobility	Sub-action	TM-2	TM-2.2	Explore opportunities to allocate flexible hardscape space in new developments suitable for use by low-carbon delivery vehicles (e.g. cargo bikes).	Policy / Planning	UBC	C+CP - Green Buildings	UBC Properties Trust	Quick start (1-2 years)	REAP	Not Started	Low	N/A								Consider space for bicycle couriers, including those with electric cargo bikes.
Transportation & Mobility	Sub-action	TM-2	TM-2.3	Design neighbourhood streets and cycling infrastructure to accommodate low carbon deliveries where possible in amended and future neighbourhood plans.	Policy / Planning	UBC	C+CP - Transportation		Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Low	N/A								Consider space for bicycle couriers, including those with electric cargo bikes.
Transportation & Mobility	Primary	TM-3	TM-3	Expand and enhance active transportation network to, from, and around the neighbourhoods for all ages and abilities																	
Transportation & Mobility	Sub-action	TM-3	TM-3.1	Incorporate accessibility measures into future and amended neighbourhood plans	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Low	Low								Prioritize safety and comfort of persons with disabilities and vulnerable road users - when we enhance their mobility everyone benefits. Use inclusive messaging that doesn't tie climate action to being able-bodied, active modes are not accessible to all.
Transportation & Mobility	Sub-action	TM-3	TM-3.2	Prioritize safe, efficient, and connected cycling infrastructure where possible in amended and future neighbourhood plans.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Medium	Low								
Transportation & Mobility	Sub-action	TM-3	TM-3.3	Prioritize and protect connected greenspaces in amended and future neighbourhood plans.	Policy / Planning	UBC	C+CP - Transportation	UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans Transportation Plan	Not Started	Low	Medium								To discuss - tension between cyclists vs other modes of active transportation on these routes.

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Neighbourhood Infrastructure	Sub-action	NI-2	NI-2.1	Coordinate and plan for future neighbourhood electricity demand among various stakeholders	Policy / Planning	UBC		BC Hydro UBC PT Corix	Quick start (1-2 years)		Initiated	Foundational	Foundational								Recommend a strategic electricity demand plan that incorporates expected impacts of NCAP actions (e.g. decarbonizations of NDES and building retrofits, EVs)
Neighbourhood Infrastructure	Sub-action	NI-2	NI-2.2	Develop policies to support energy demand management	Policy / Planning	UBC		BC Hydro UBC PT Corix	Quick start (1-2 years)		Not Started	Foundational	Foundational								e.g. EV charger load management requirements for new buildings/retrofits, smart thermostats
Neighbourhood Infrastructure	Primary	NI-3	NI-3	Explore embodied carbon performance targets for neighbourhood infrastructure projects																	
Neighbourhood Infrastructure	Sub-action	NI-3	NI-3.1	Review potential approaches to develop embodied carbon standards for neighbourhood infrastructure projects.	Research / external study	UBC		UBC PT Corix	Near term (3 - 5 years)		Not Started	Foundational	N/A								e.g. roads, sidewalks, energy infrastructure Define typical baseline conditions, understand current procurement practices, propose options for introducing performance targets. Consider impacts if elements are moved out of building and into other areas within the neighbourhood (e.g. DE, parking structures), defining boundaries will be critical.
Neighbourhood Infrastructure	Primary	NI-4	NI-4	Update Integrated Rainwater Management Plan to consider climate adaptation.																	
Neighbourhood Infrastructure	Sub-action	NI-4	NI-4.1	Include future climate projections in rainwater modelling.	Policy / Planning	UBC	C+CP - IRMP		Quick start (1-2 years)	IRMP	Significant Progress	N/A	Foundational							Modelling will help highlight vulnerable areas on campus allowing us to target interventions to these areas.	Climate science projections indicate reduced summer precipitation and increased precipitation in fall, winter, and spring.
Neighbourhood Infrastructure	Sub-action	NI-4	NI-4.2	Identify adaptive green rainwater infrastructure that responds to seasonal variability and future climate conditions	Policy / Planning	UBC	C+CP - IRMP		Quick start (1-2 years)	IRMP	Initiated	N/A	Medium								Landscaping and other natural systems offer important ecosystem services for flood regulation
Neighbourhood Infrastructure	Sub-action	NI-4	NI-4.3	Develop performance targets for rainwater management.	Policy / Planning	UBC	C+CP - IRMP		Quick start (1-2 years)	IRMP	Not Started										Optimize rainwater management at the source, to minimize downstream impacts and the need for grey infrastructure upgrades.
Ecology	Primary	ES-1	ES-1	Integrate ecosystem services throughout neighbourhood planning to address climate action.																	Ecosystem services are also included in UBC's updated Integrated Rainwater Management Plan, covered in Neighbourhood Infrastructure.
Ecology	Sub-action	ES-1	ES-1.1	Analyze baseline seasonal shading in neighbourhoods.	Research / external study	UBC		UNA UBC Properties Trust	Quick start (1-2 years)		Not Started	Foundational	Foundational								Maps should be developed with equity focus, looking for areas underserved by existing ecosystems. Allowing future planning to prioritize these areas.
Ecology	Sub-action	ES-1	ES-1.2	Explore and test nature based urban design solutions to address urban heat island effect and building cooling energy demand.	Research / external study	UBC	C+CP - Green Buildings		Quick start (1-2 years)	Neighbourhood Plans REAP	Initiated										Sustainability Scholar project - Summer 2024
Ecology	Sub-action	ES-1	ES-1.3	Explore planning and design tools, such as policies and guidelines, for amended and future Neighbourhood Plans to prioritize tree retention and increased tree planting in support of climate action.	Policy / Planning	UBC		UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans	Not Started	Low	Medium								Prioritize tree plantings for multiple climate action co-benefits (e.g., providing shade, carbon sequestration, air quality improvements) Target supports for climate action areas, including along active transportation routes, public transit infrastructure. Look to reduce urban heat island effect. Consider tree species and age, growth pattern, as well as location and future climate conditions.
Ecology	Sub-action	ES-1	ES-1.4	Explore and establish performance targets relating to neighbourhood shade coverage.	Policy / Planning	UBC			Near term (3 - 5 years)		Not Started	Foundational	Foundational								Form of targets to be determined through study, and based on baseline assessment data.
Ecology	Sub-action	ES-1	ES-1.5	Explore how to quantify biological carbon sequestration from natural systems to support overall net zero emissions targets.	Research / external study	UBC			Near term (3 - 5 years)		Not Started	Foundational	N/A								e.g. trees, grasslands, soils Explore quantitative methods to track sequestration, and how to accurately account for additional benefits from natural systems that could be included in community emissions monitoring (to balance remaining emissions). Study should explore which plants are optimal for sequestration.
Ecology	Sub-action	ES-1	ES-1.6	Identify opportunities to increase biodiversity and ecosystem services at site scale through future REAP updates	Policy / Planning	UBC	C+CP - Green Buildings	UBC Properties Trust	Quick start (1-2 years)	REAP	Not Started	N/A	Foundational								Neighbourhood Plans do have some parcel guidelines as well. Implement potential new requirements as optional to start.
Ecology	Primary	ES-2	ES-2	Develop climate resilient planting guidelines.																	
Ecology	Sub-action	ES-2	ES-2.1	Develop a planting and soils guideline for amended and future Neighbourhood Plans that reflects the local ecological context and that supports resilient plants for future climate conditions.	Policy / Planning	UBC		UNA UBC Properties Trust	Quick start (1-2 years)	Neighbourhood Plans	Not Started	N/A	Foundational								Plantings should consider climate adaptation benefits from ecosystem services, such as to reduce damage from extreme weather event, regulation of water flow, erosion prevention and maintenance of soil fertility. Consider plants that are suitable for projected future climate conditions. Consider the palette and how groups of plantings will work together. Composition is important, and guidelines should be looking at plantings that will support each other.
Ecology	Sub-action	ES-2	ES-2.2	Develop demonstration projects to pilot, monitor, and assess emerging approaches to climate resilient plantings and the soils that support them.	Pilot / demonstration project	UBC	C+CP - Planning & Design (landscape architecture)	UNA UBC Properties Trust	Near term (3 - 5 years)		Not Started	N/A	Low								Approaches should consider the balance between aesthetics and function looking to support a variety of landscapes. Look to find room for joy and experimentation. Assessment should gauge how people perceive the planting design following installation, including levels of comfort with different planting aesthetics (e.g., messy, manicured, etc)
Ecology	Sub-action	ES-2	ES-2.3	Explore policy to implement findings from climate resilient plantings demonstration projects.	Policy / Planning	UBC	C+CP - Planning & Design (landscape architecture)	UNA UBC Properties Trust	Near term (3 - 5 years)		Not Started	N/A	Medium								Influenced by monitoring and assessment data from demonstration projects.
Ecology	Sub-action	ES-2	ES-2.4	Review and update biodiversity credits to include climate resilient planting guidelines at site scale through future REAP updates	Policy / Planning	UBC	C+CP - Green Buildings	UBC Properties Trust	Quick start (1-2 years)	REAP	Not Started	N/A	Foundational								Neighbourhood Plans do have some parcel guidelines as well. Implement potential new requirements as optional to start.
Ecology	Sub-action	ES-2	ES-2.5	Develop resources to support climate resilience and biodiversity in community gardens.	Resource development	UNA			Quick start (1-2 years)		Not Started	N/A	Low								
Ecology	Primary	ES-3	ES-3	Support the UNA in developing sustainable landscape practices																	
Ecology	Sub-action	ES-3	ES-3.1	Support the UNA on sustainable landscaping practices.	Coordination	UBC		UNA	Quick start (1-2 years)		Not Started	N/A	Low								Explore landscaping equipment and maintenance practices to support a diverse range of landscapes.
Ecology	Sub-action	ES-3	ES-3.2	Collaborate and share information to support climate resilient replanting in the public realm.	Coordination	UBC		UNA	Near term (3 - 5 years)		Not Started	N/A	Low								Should include details on suitable plants for future climate, as well as maintenance recommendations. Informed by overall studies into climate resilient plantings approaches.
Ecology	Primary	ES-4	ES-4	Support development of UBC's Biodiversity Strategy																	
Ecology	Sub-action	ES-4	ES-4.1	Include future climate projections in scoping for Biodiversity Strategy.	Policy / Planning	UBC			Quick start (1-2 years)	Biodiversity Strategy	Not Started	N/A	Foundational								Strategy must consider impacts to biodiversity from our changing climate, and how to address them
Ecology	Sub-action	ES-4	ES-4.2	Develop actions to address climate impacts to natural systems in neighbourhoods	Policy / Planning	UBC		UNA UBC Properties Trust	Quick start (1-2 years)	Biodiversity Strategy	Not Started	N/A	Foundational								As part of overall adaptation planning work. This should address the higher risk climate impacts to natural systems identified through the UBC Vulnerability and Risk Assessment process. Actions will likely be implemented through both the upcoming Biodiversity Strategy and NCAP.

Scope Area	Action Level	Primary Action Link	Action ID	Action	Action Type	Responsibility	UBC Lead	Key Partners	Timeline	Related Plan/Policy	Status	Emissions Impact	Adaptation Impact	Community Connection	Health & Wellbeing	Accessibility	Affordability	Climate Leadership	Academic Connection	Other Equity Considerations	Notes
Climate Emergency Preparedness	Primary	CP-1	CP-1	Develop resources, programming, and infrastructure to enable response before, during and after extreme heat and other emergency climate events.																	Resources, programming, and infrastructure will also be beneficial for other (non-climate) emergency events (e.g. earthquake), as well as broader climate action planning for adaptation and mitigation.
Climate Emergency Preparedness	Sub-action	CP-1	CP-1.1	Develop resources to share information on emergency cooling spaces with residents.	Policy / Planning	UNA		UBC Emergency Management C+CP	Quick start (1-2 years)		Not Started	N/A	Low								Look for opportunities to integrate this work into Campus as a Living Lab Project: Resilience hubs for UBC campus communities Generate list of existing public spaces, commercial and neighbourhood buildings that can provide emergency cooling. e.g. indoor cooling centres, misting stations, spray parks, weather protected plazas, actively cooled buildings/rooms within buildings Also consider opportunity from commercial spaces (e.g. cafes, grocery stores, UBC hotel). List should also include spaces in the institutional parts of campus and make clear that anyone is able to access these spaces. Campus services has, 2 libraries available, open until midnight, as well as AMS Nest and they coordinate to ensure food also available. There is the option to open additional spaces when events occur. Look to gather information from community to supplement the list - 'where do you go during hot days' Think about programming during these events, so not just sitting in an empty room. Are there opportunities with spaces like UBC Botanical Gardens (under-tree cooling) or Museum of Anthropology? Explore opportunity of UBC Safe App. The push notification feature will be implemented when an extreme heat alert is issued by Environment and Climate Change Canada.
Climate Emergency Preparedness	Sub-action	CP-1	CP-1.2	Coordinate efforts to expand public spaces for emergency cooling.	Policy / Planning	UNA		UBC Emergency Management C+CP	Near term (3 - 5 years)		Not Started	N/A	Low								Look for opportunities to integrate this work into CLL Project: Resilience hubs for UBC campus communities Identify gaps in availability of emergency cooling spaces. Considering, what are opening hours of these spaces, are there times of the day where no spaces are available? Continue to coordinate with campus emergency management to provide aligned response to events. What would overnight spaces look like? UBC Emergency Management has a program to provide basic overnight necessities (e.g. cots)
Climate Emergency Preparedness	Sub-action	CP-1	CP-1.3	Explore options to accelerate resilient HVAC upgrades to Old Barn Community Centre.	Pilot / demonstration project	UNA		C+CP	Near term (3 - 5 years)		Not Started	Low	Medium								Look for opportunities to integrate this work into CLL Project: Resilience hubs for UBC campus communities Look for incentive funding to support this project. Next major building upgrade at this facility will be HVAC systems. Add goals to increase resilience/climate adaptation measures and decarbonize mechanical systems, including adding cooling and air filtration, as well as exploring on-site energy generation. Should provide demonstration on what HVAC retrofits can achieve in community spaces.
Climate Emergency Preparedness	Sub-action	CP-1	CP-1.4	Develop communications materials to educate and prepare residents for extreme heat and other climate emergency events.	Resource development	UNA		UBC Emergency Management C+CP	Quick start (1-2 years)		Not Started	N/A	Medium								Look for opportunities to integrate this work into CLL Project: Resilience hubs for UBC campus communities Other climate emergency events may include: air quality under wildfire smoke events, flooding, wind storms How to reach vulnerable members of the population? Let this be led by these members of the population - support them in the way they need to be. Look for develop consistent information that delivers clear information about options, but that doesn't encourage shaming those who need additional supports during heat events (e.g. for those who need A/C vs fans) Include specific information to support groups disproportionately at risk. For example, certain medications make people intolerant to heat (blood pressure medications, antihistamines, psychiatric medications). Include information to support navigating different occupancy scenarios (e.g. strata owner, tenants, advice for landlords - especially private rentals) Include information on safety risks, where to go/gather during events, where to get information during event. Build on existing UBC Emergency Preparedness Guide (https://ready.ubc.ca/wp-content/uploads/2023/10/UBC-Emergency-Booklet_UNA.pdf) Information on shelter-in-place, what that means, who's vulnerable, what activities are okay. How can you communicate with loved ones if major communication/power outage - especially for international students. Touch on nuance - when are fans okay, when do you need to seek something more.
Climate Emergency Preparedness	Sub-action	CP-1	CP-1.5	Review and look to strengthen UNA emergency event procedures.	Policy / Planning	UNA		UBC Emergency Management UBC Security UBC C+CP	Quick start (1-2 years)		Initiated	N/A	Foundational								Considering staff availability during emergency events (i.e. when non-local staff can't travel to site) UNA currently looking to hire more locally-located auxiliary staff for these periods. Additionally, looking for volunteers and coordinating training for them. UBC Emergency Management is providing training.
Climate Emergency Preparedness	Primary	CP-2	CP-2	Develop resources, programming, and infrastructure to enable response before, during and after local wildfire events.																	
Climate Emergency Preparedness	Sub-action	CP-2	CP-2.1	Review and ensure Fire Smart Principles are included in future and amended Neighbourhood Plans.	Policy / Planning	UBC			Quick start (1-2 years)	Neighbourhood Plans	Not Started	N/A	High								Focus on directions for wildland / urban interface.
Climate Emergency Preparedness	Sub-action	CP-2	CP-2.2	Explore options to incorporate FireSmart design into future REAP updates.	Policy / Planning	UBC			Quick start (1-2 years)	REAP - 2025 update	Not Started	N/A	Medium								Institutional resilient buildings project can help inform potential approaches.
Climate Emergency Preparedness	Sub-action	CP-2	CP-2.3	Explore options (e.g. infrastructure, landscaping) to address any existing neighbourhood areas with high risk for wildfire events at forest / urban interface.	Policy / Planning	UBC		UNA Metro Vancouver	Near term (3 - 5 years)		Not Started	N/A	High								Should also include a map of any areas at risk (e.g. Hampton Place built without a buffer between Pacific Spirit Park). Look to work with partners (Metro Van) to explore options to mitigate the risk (e.g. pruning)
Climate Emergency Preparedness	Sub-action	CP-2	CP-2.4	Develop communications materials to educate and prepare residents for local wildfire events.	Resource development	UNA		UBC C+CP UBC Emergency Management	Quick start (1-2 years)		Not Started	N/A	Medium								Including explanation of what current mitigation efforts are, and who's leading them. Build off of Emergency Planning events held fall 2023.
Climate Emergency Preparedness	Sub-action	CP-2	CP-2.5	Develop comprehensive local emergency response plan for local wildfire events	Policy / Planning	UBC	Emergency Management	UNA C+CP UEL MOTI Vancouver Fire Rescue Services BC Wildfire Service Metro Vancouver Watershed Fire Protection BC Hydro Water utilities - Metro Van and UBC Water	Near term (3 - 5 years)		Not Started	N/A	Foundational								Needs to be a comprehensive plan for the entire peninsula. Consider evacuation planning and transportation Consider water supply for fire suppression. Equipment needs to be in place to enable some fire suppression/water solutions (e.g. pumping from pool in aquatic centre) and access needs to be improved.

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Climate Emergency Preparedness	Primary	CP-3	CP-3	Strengthen social connectedness and resilience within neighbourhood communities																	
Climate Emergency Preparedness	Sub-action	CP-3	CP-3.1	Deliver emergency preparedness workshops that are rooted in social connectedness.	Programming	UNA		UBC Emergency Management C+CP	Near term (3 - 5 years)		Not Started	N/A	Low								Typically UNA and Emergency Management work closely together to advertise event.
Climate Emergency Preparedness	Sub-action	CP-3	CP-3.2	Develop toolkits and other resources to support community building focused on addressing climate action	Resource development	UNA		C+CP	Near term (3 - 5 years)		Not Started	N/A	Foundational								Refer to resources from Hey Neighbour Collective Evergreen materials, such as maps, videos, and other resources can be produced to help with social connectedness (e.g. maps on best places for a forest walk) Consider other items focused on climate action (e.g. managing climate anxiety, individual actions - 'Happy Climate' approach, carbon/ecological footprint calculators) Provide examples of other successful community-led initiatives (at UBC or elsewhere) that built resilience within neighbourhoods.
Climate Emergency Preparedness	Sub-action	CP-3	CP-3.3	Expand and develop programming to facilitate community-led initiatives	Programming	UNA		C+CP - Community Programs & Outreach	Near term (3 - 5 years)		Not Started	N/A	Foundational								Develop long-term programming that enables connection/interaction with neighbours. Supported by Connected Community Coordinator - joint UBC/UNA position focusing on low barrier, social connection opportunities in the neighbourhoods. Consider how to support community members looking to become 'connectors' that help lead these initiatives within the neighbourhoods. Support for community gardens in particular, which offer numerous climate action benefits while building social connection.
Climate Emergency Preparedness	Sub-action	CP-3	CP-3.4	Explore opportunities to streamline processes and increase resources, grants, supplies, and equipment for social connectedness activities.	Policy / Planning	UBC		C+CP - Community Programs & Outreach	Near term (3 - 5 years)		Not Started	N/A	Foundational								Look for opportunities to integrate this work into CLL Project: Resilience hubs for UBC campus communities Look for ways to integrate neighbourhood community members into broader campus life (e.g. Increase advertising of on-campus events through UNA communications channels). Review and streamline processes for permitting to allow community members ease of access to booking streets, parks, and other community spaces for community-led events.
Climate Emergency Preparedness	Sub-action	CP-3	CP-3.5	Study impact of social connectedness on climate emergency response.	Research / external study	UBC		UNA	Near term (3 - 5 years)		Not Started	N/A	Foundational								Look for opportunities to integrate this work into CLL Project: Resilience hubs for UBC campus communities
Net-Zero	Primary	NZ-1	NZ-1	Define pathway to net-zero community emissions																	
Net-Zero	Sub-action	NZ-1	NZ-1.1	Coordinate with institutional climate action plan team to align definitions and approach.	Coordination	UBC			Near term (3 - 5 years)		Not Started	Foundational	N/A								
Net-Zero	Sub-action	NZ-1	NZ-1.2	Explore options to integrate embodied carbon emissions into community emissions accounting.	Policy / Planning	UBC			Quick start (1-2 years)		Not Started	Foundational	N/A								
Net-Zero	Sub-action	NZ-1	NZ-1.3	Research sequestration options to achieve net-zero community emissions.	Research / external study	UBC			Near term (3 - 5 years)		Not Started	Medium	N/A								Explore potential of technology based options (e.g. carbon capture and storage) as well as potential of local ecosystems.