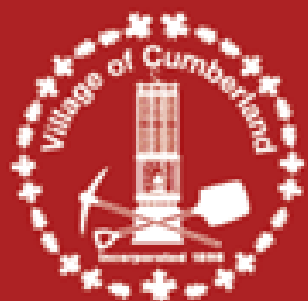


Climate Action Plan (CAP) Project Overview and Draft Actions



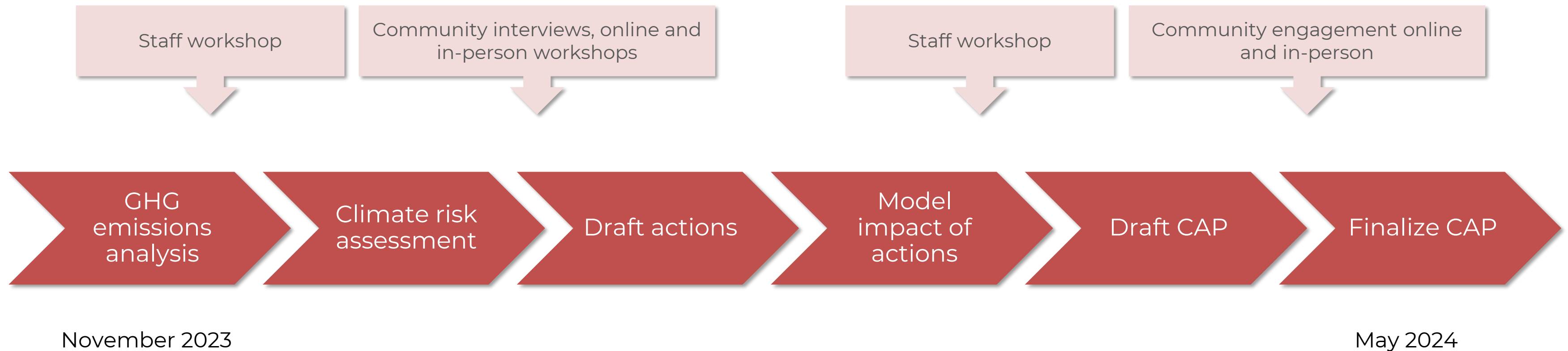
THE VILLAGE OF
CUMBERLAND

April 11, 2024
4:00 PM PST

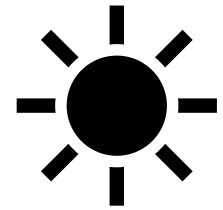
AGENDA

- Project overview
- Top climate risks and emissions sources
- Key actions in CAP (draft)
- Funding opportunities
- Next steps
- Q&A and discussion

ABOUT THE PROJECT



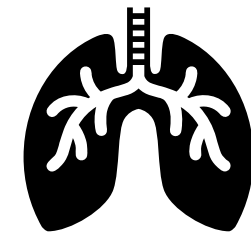
CLIMATE CHANGE



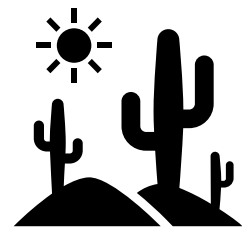
30 more hot days
above $> 30^{\circ}\text{C}$



80mm
max 1-day total
precipitation



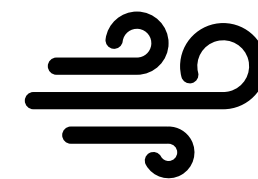
Increasing risk to
health from wildfire
smoke



Longer dry spells



Increasing wildfire
risk



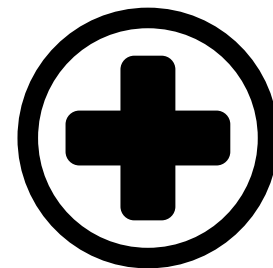
25-45% increase in
severe wind gusts, 15%
increase in wind
intensity

TOP CLIMATE RISKS



Infrastructure

- **Strain on cooling systems** during extreme heat
- **Risk of heat damage to charging and refueling stations** and road buckling



Health

- **Heat-related illness** including heat stress, heat exhaustion, heat stroke and dehydration
- **Respiratory health risks** from smoke and associated poor air quality due to local or nearby wildfires



Environment

- **Damage to forest, parks and recreational areas** from wildfire
- Extreme heat may **adversely affect trees and vegetation** that is not heat-tolerant
- Warmer temperatures may promote the growth of algal blooms, **disrupting the water supply**

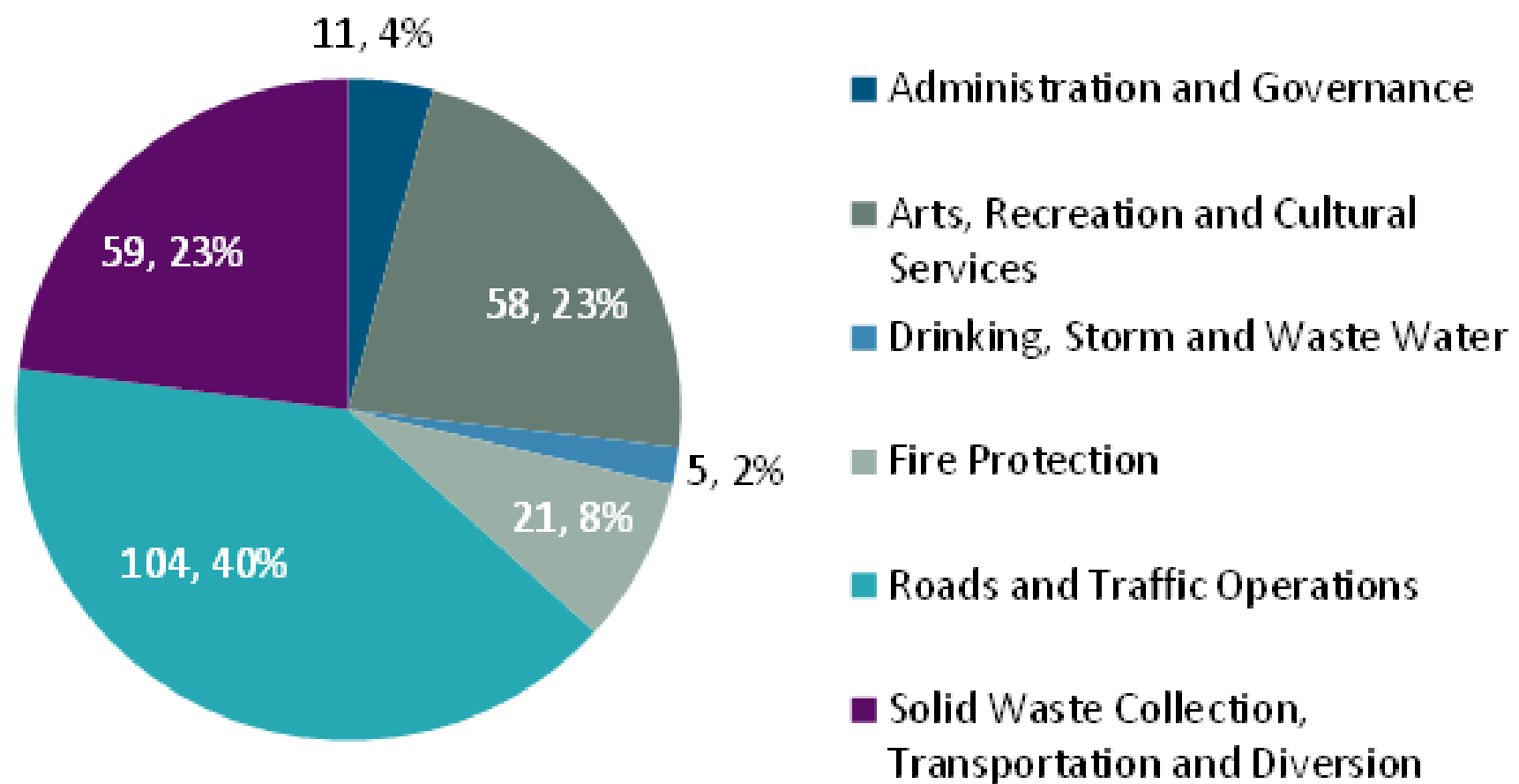


Services

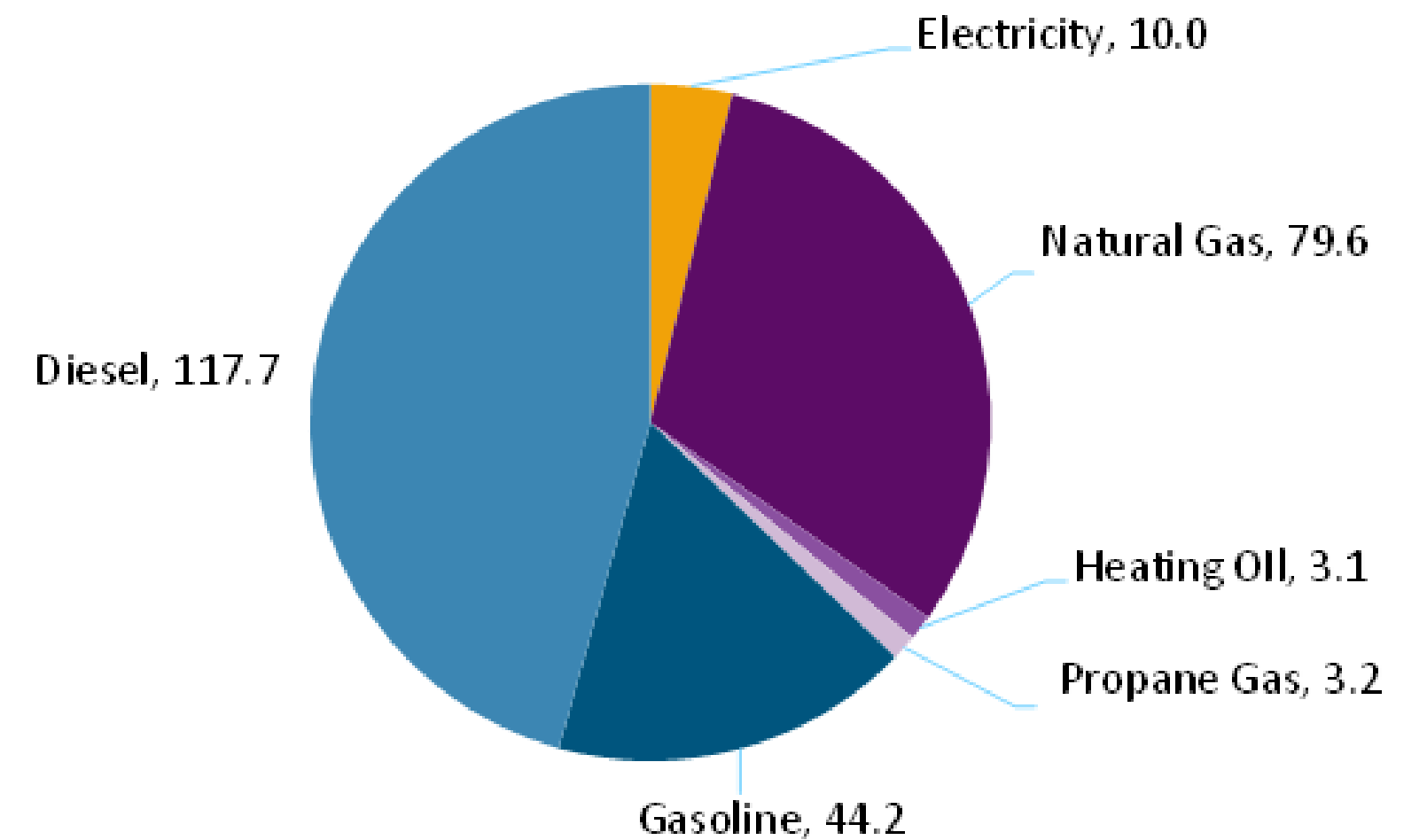
- Adverse impact of extreme heat on **outdoor recreation spaces and users**
- Disruption to **tourism** from wildfire

CORPORATE EMISSIONS

2022 Emissions by Classification (tCO₂e)

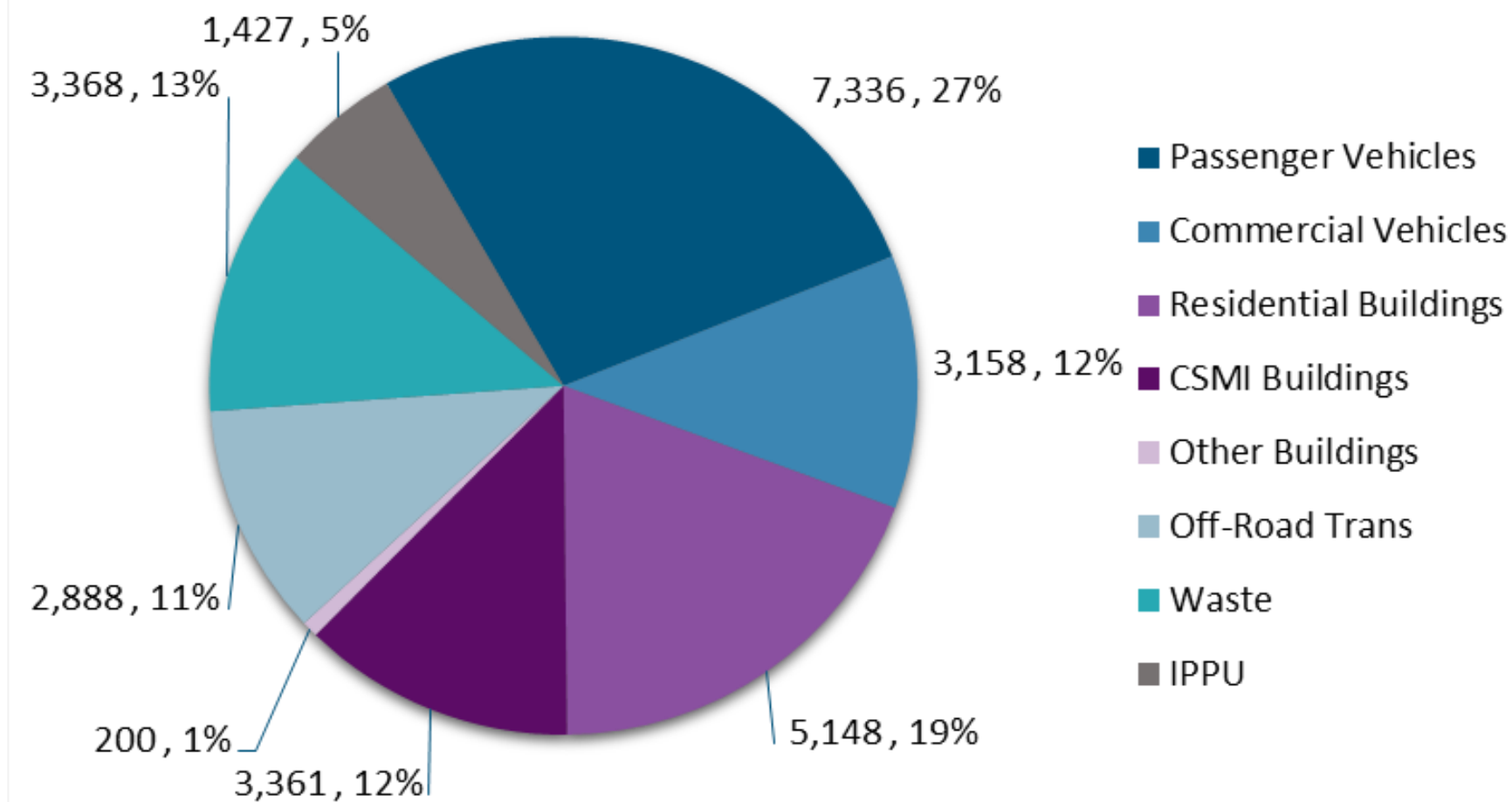


2022 GHG Emissions by Source (tCO₂e)



COMMUNITY EMISSIONS

Community Emissions, 2021 (tCO₂ e)



Total in 2021

~26,900 tCO₂e

Top 3 sources in 2021

1. **Passenger vehicles:** 7,336 tCO₂e, 27%
2. **Residential buildings:** 5,148 tCO₂e, 19%
3. **Waste:** 3,368 tCO₂e, 13%

- CSMI = Commercial and small-medium industrial buildings –
- IPPU = Industrial Process & Product Use. Based on Cumberland's proportion of BC's emissions.
- Off-road - can include, as applicable, ATVs, boats, aircraft

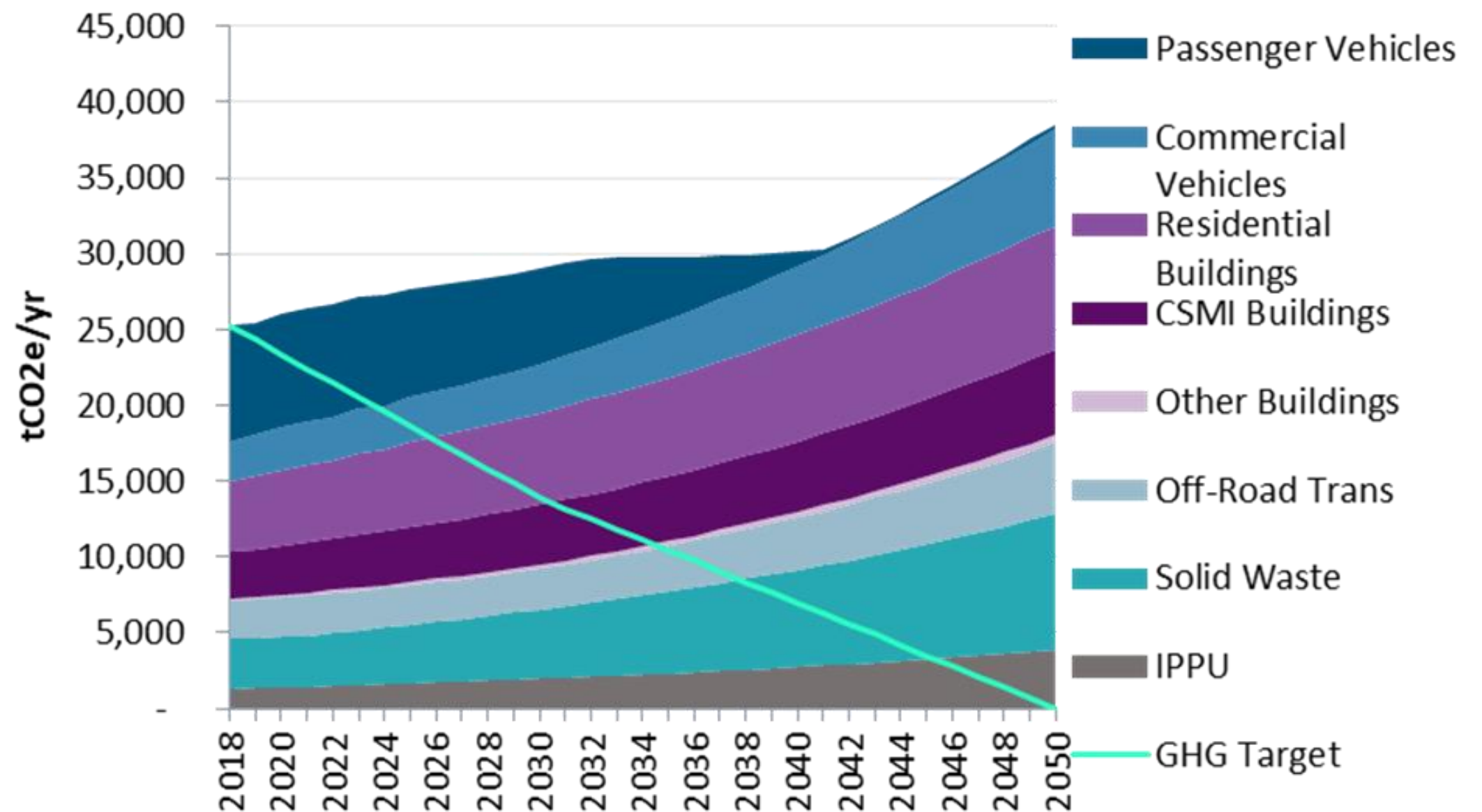
CORPORATE & COMMUNITY TARGETS

45%
reduction by 2030

100%
reduction by 2050

from 2018 levels

Community business as usual GHG by sector, tCO₂ e/year



- CSMI = Commercial and small-medium industrial buildings –
- IPPU = Industrial Process & Product Use. Based on Cumberland's proportion of BC's emissions.
- Off-road - can include, as applicable, ATVs, boats, aircraft

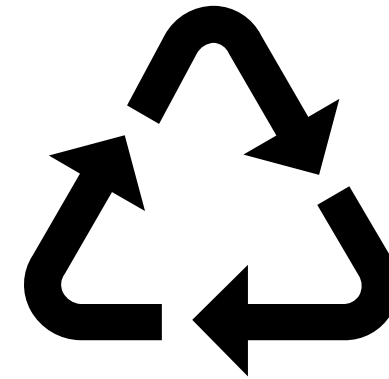
CLIMATE ACTION PLAN



**BUILDINGS &
ENERGY**



**TRANSPORTATION &
LAND USE**



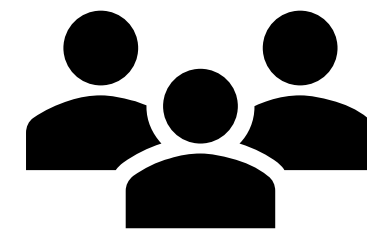
WASTE



**PARKS &
ENVIRONMENT**



**COMMUNITY &
HEALTH**



GOVERNANCE

KEY ACTIONS



BUILDINGS & ENERGY

Develop and implement a **decarbonization roadmap** for Village buildings and infrastructure. (B1) (M, A)

Increase Cumberland's participation in the **Home Energy Navigator Program**. (B2) (M, A)

Adopt the **Zero Carbon Step Code** by the end of 2024 and update associated policy and bylaws to require new buildings, facilities and infrastructure to be energy efficient and zero carbon. (B3) (M, A)

Require all new infrastructure and buildings be designed to be **resilient to future projected climate conditions**. (B3) (A)



TRANSPORTATION & LAND USE

Implement a **Green Fleet Policy** and create a strategy to guide the transition to zero-emissions fleet vehicles and/or renewable transportation fuels. (T1) (M)

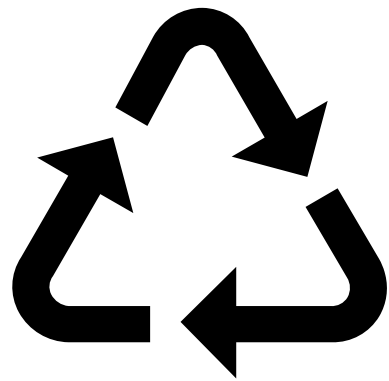
Expand availability of **EV charging stations**. (T2) (M)

Adopt a standard requirement for **EV charging stations in multi-unit residential buildings (MURBs)**. (T2) (M)

Continue to encourage **development within the existing urban area**, prioritizing complete communities with access to active transportation infrastructure and transit. (T4) (M, A)

M = mitigation
A = adaptation

KEY ACTIONS



WASTE

Partner with CV Waste Management Centre to support **waste reduction initiatives**, waste-to-energy opportunities, and to measure and report on waste diversion. (W1) ([M](#))

Investigate opportunities to require **collection of recycling and compost for businesses and multi-family units** (apartments) and update relevant bylaws. (W1) ([M](#))



PARKS & ENVIRONMENT

Update DPAs and bylaws to **require natural assets, green infrastructure, and permeable areas where possible**, including requiring climate-resilient plantings such as street trees. (P2) ([M](#), [A](#))

Partner with landowners and community organizations to undertake **stewardship initiatives to support the restoration, health and connectivity of natural systems**. (P1) ([M](#), [A](#))

Adopt a **Tree Protection Bylaw** to increase tree retention on private property. (P1) ([M](#), [A](#))

KEY ACTIONS

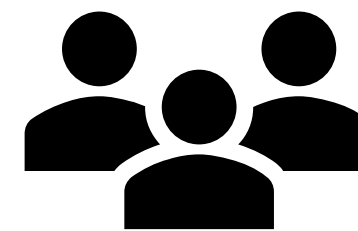


COMMUNITY & HEALTH

Collaborate with Island Health, community service providers and regional partners to develop **programs focused on climate change and health**, prioritizing support for vulnerable populations. (C1) (A)

Update Wildland-Urban Interface DPA to **reduce wildfire risk** and support community preparedness such as FireSmart training. (C1) (A)

Complete and implement **Drought Response Plan** and incorporate measures to address the influence of climate change on drought, dry conditions and water availability. (C1) (A)

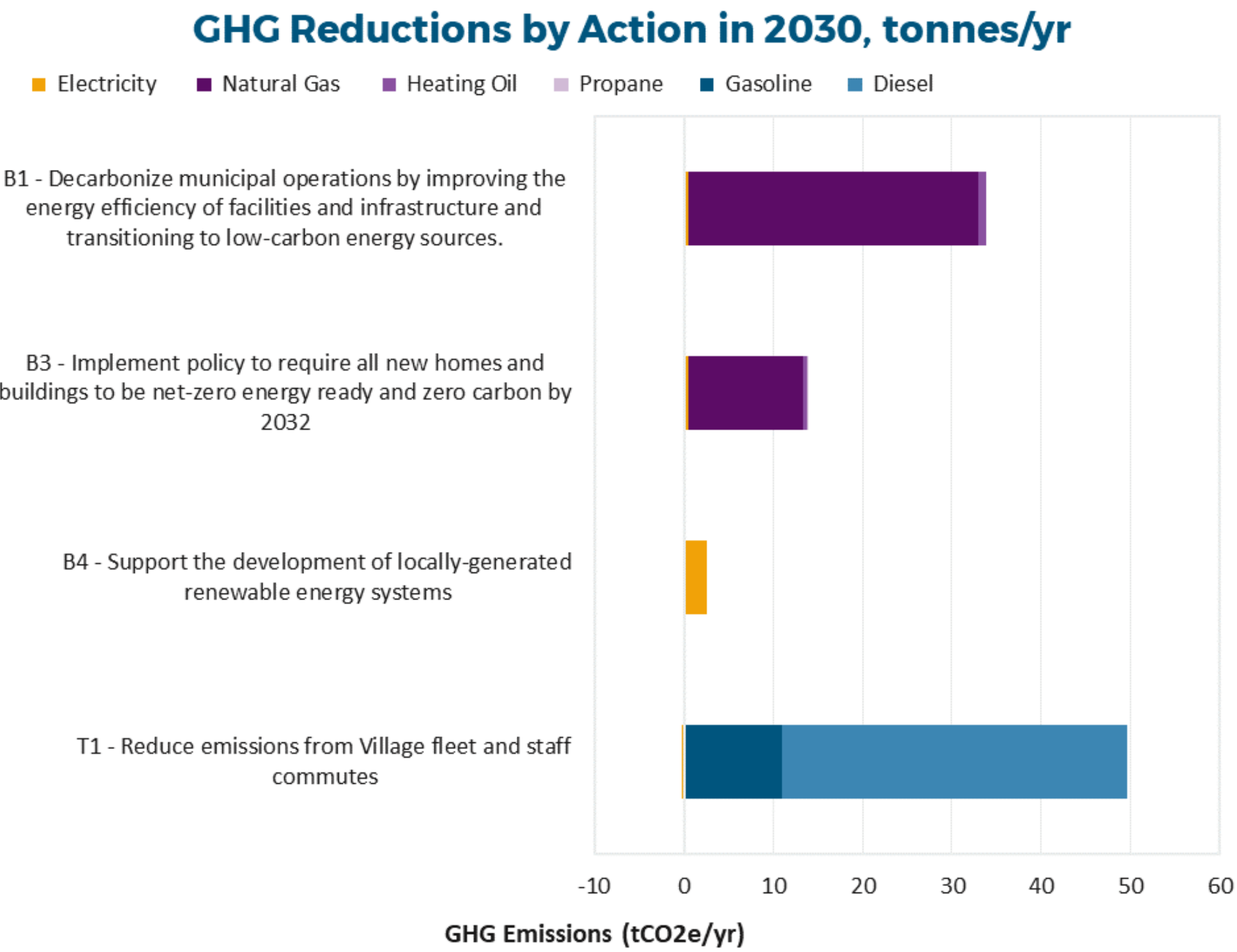


GOVERNANCE

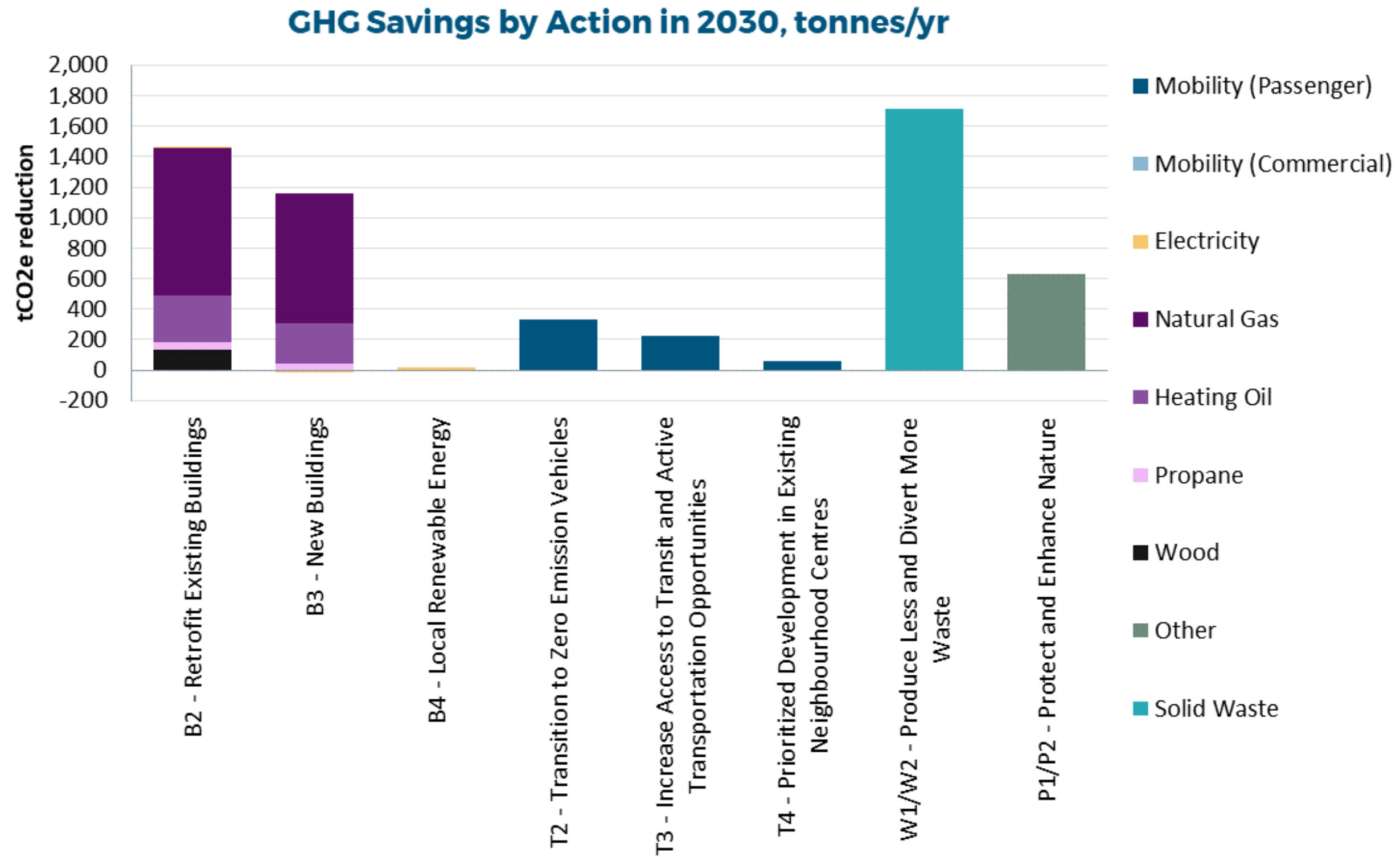
Review and update the Village's Climate Change Implications framework for decision-making to **align with updated mitigation targets and resilience priorities**. (G1) (M, A)

Partner locally to run a **neighbourhood climate action pilot**. Use a planned retrofit project to educate residents on ways to reduce emissions, increase resilience, and incorporate nature into a property. (G2) (M, A)

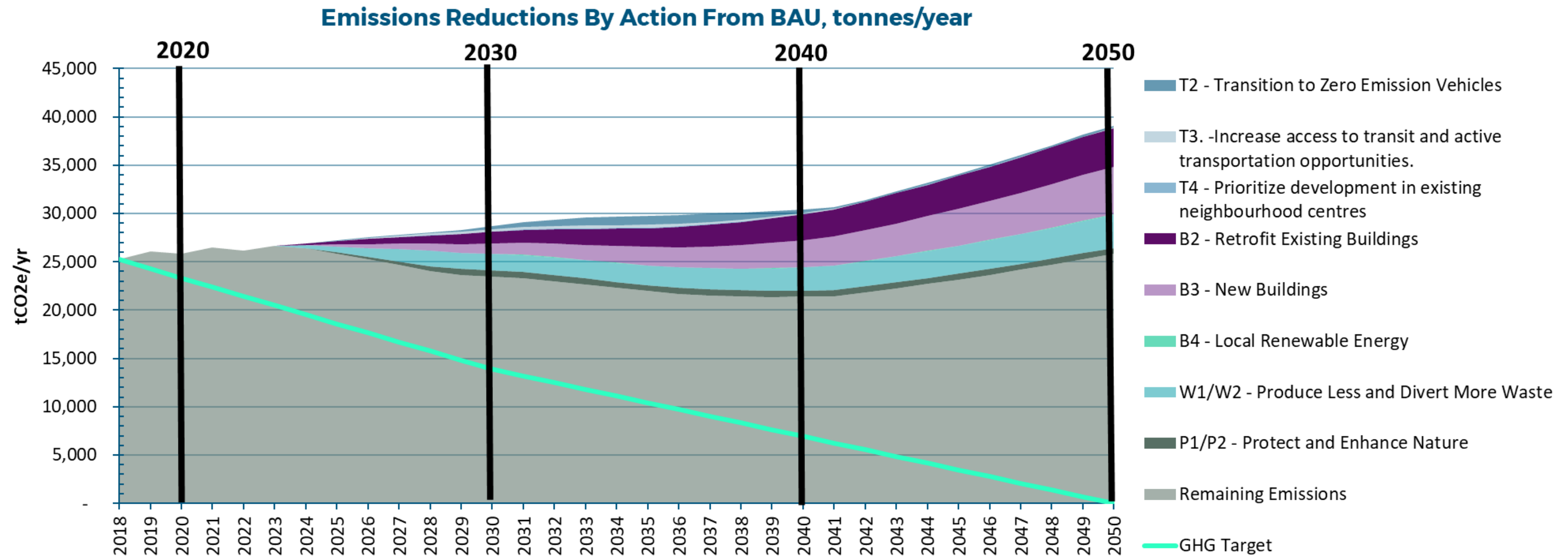
CORPORATE ACTION IMPACTS



COMMUNITY ACTION IMPACTS



TARGET VS. PLAN IMPACT



FUNDING



- Study: GHG reduction pathway feasibility
- Capital project: GHG impact retrofit
- Capital project: GHG reduction pathway retrofit
- Business case: Community Energy Systems
- Study: Community Energy System
- Capital project: Community Energy Systems
- Capital project: Construction of new sustainable municipal and community buildings
- Study: New construction of municipal and community buildings



- Better Homes: Loans and rebates for home retrofits and heat pumps, low interest loans
- Better Buildings: incentives for commercial buildings, Commercial New Construction Program
- Go Electric: rebates for organizations and for individuals to transition to EVs

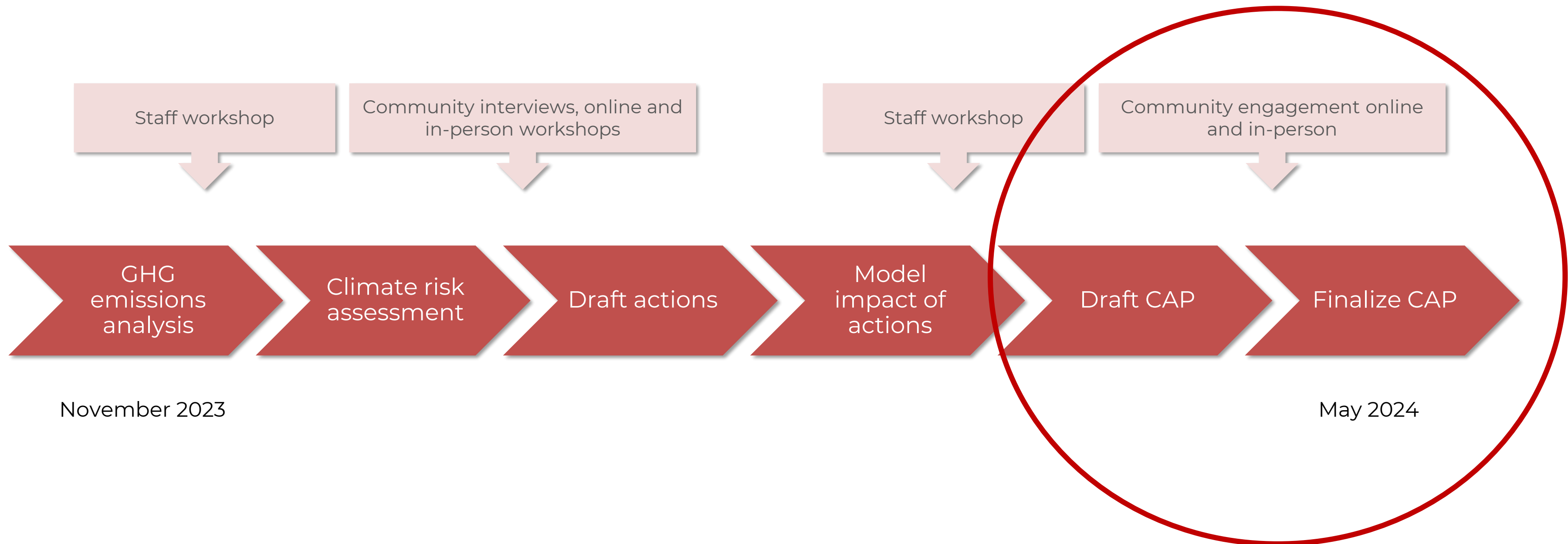


- Strategic energy management: Industrial
- Strategic energy management: Commercial
- Social housing retrofit support program



- Disaster Risk Reduction-Climate Adaptation Funding

NEXT STEPS



QUESTIONS AND DISCUSSION

THANK YOU FOR YOUR
PARTICIPATION!

APPENDIX A: FULL LIST OF DRAFT ACTIONS

BUILDINGS & ENERGY

Goal	Draft actions
B1. Decarbonize municipal operations by improving the energy efficiency of facilities and infrastructure and transitioning to low-carbon energy sources.	<p>[3] Develop and implement a decarbonization roadmap for Village buildings and infrastructure (such as water treatment facilities, streetlights) to decarbonize and adapt to climate change. This includes the completion of energy audits and feasibility studies, and should result in a prioritized list of retrofits and replacements with a 5-year budget plan and details on timing. [Corporate]</p> <p>[28] Educate Village staff and the community on energy conservation measures at Village facilities (such as keeping doors and windows closed when air conditioning is on). [Corporate]</p>
B2. Support retrofits of existing homes and buildings by providing education, resources, and incentives for energy efficiency improvements and switching to low-carbon energy sources.	<p>[29] Help the community access financial support for retrofits by promoting funding such as the Canada Greener Homes interest-free loan program and the CleanBC Better Homes Low Interest Financing Program. [Corporate and Community]</p> <p>[new - 43] Increase Cumberland's participation in the Home Energy Navigator Program to help residents complete home energy upgrades and access rebates. [Corporate and Community]</p>

BUILDINGS & ENERGY

Goal	Draft actions
B3. Implement policy to require all new homes and buildings to be net-zero energy ready and zero carbon by 2032.	<p>[1] Adopt the Zero Carbon Step Code by the end of 2024 and update associated policy and bylaws to require new buildings, facilities and infrastructure to be energy efficient and zero carbon (Zero Carbon Step Code EL-4) by 2032. This policy would affect Village-owned infrastructure and community-wide buildings and infrastructure. [Corporate and community]</p> <p>[2] Prohibit or limit new fossil fuel gas connections via accelerated adoption of Zero Carbon Step Code EL-4 or by implementing a DPA on a separate timeline. [Corporate]</p> <p>[7] Require all new infrastructure and buildings be designed to be resilient to future projected climate conditions in alignment with expected lifespan of asset and relevant variables. Optimize siting and orientation to maximize energy efficiency and resilience. [Corporate]</p> <p><i>NOTE: Updates to the BC building code come into effect March 8, 2024 and include some specifically relevant updates, including: Adopting cooling requirements to provide one living space that does not exceed 26 degrees Celsius.</i></p> <p>[31] Work with regional partners, First Nations and local businesses to support resource-sharing and capacity-building for high-performance construction and low carbon resilient energy systems [Community]</p>

BUILDINGS & ENERGY

Goal	Draft actions
B4. Support the development of locally-generated renewable energy systems.	<p>[44] Conduct a corporate renewable energy study which assesses, for example, opportunities for solar panels, or using anaerobic digestion in the wastewater system to generate energy. [Corporate]</p> <p>[45] Based on the outcomes of the decarbonization roadmap and feasibility studies, implement low carbon heating retrofits (i.e., heat pumps) for Village buildings. [Corporate]</p> <p>[46] Incorporate solar panels on Village buildings where feasible (based on a study), to increase resilience and diversify local energy. [Corporate]</p> <p>[30] Work with the CVRD and neighbouring communities, First Nations, the Province, and BC Hydro to explore feasibility of local renewable energy production . Examples include using coal mine shafts as possible heat source for Village buildings, or opportunities for new non-profit, community-owned renewable energy projects and organizations (such as community solar gardens). [Corporate and Community]</p> <p>[47] Work with regional and provincial partners to provide education and support to the community to accelerate switching to low carbon heating sources (i.e., heat pumps). [Corporate and community]</p>

TRANSPORTATION & LAND USE

Goal	Draft actions
T1. Reduce emissions from Village fleet and staff commutes.	<p>[5] Implement a Green Fleet Policy and create a strategy to guide the transition to zero-emissions fleet vehicles and/or renewable transportation fuels. The strategy should reduce overall vehicle use and lower emissions from associated tools and equipment.</p> <p>[48] Reduce emissions from existing fossil fuel fleet by implementing energy-focused fleet maintenance (e.g., tire pressure, fuel and air systems), conducting fuel efficient driver training, and enforcing the corporate anti-idling policy. [Corporate]</p>
T2. Support the transition to zero emission vehicles in the community including passenger, commercial and industrial fleet.	<p>[33] Adopt a standard requirement for EV charging stations in multi-unit residential buildings (MURBs). Update Multi-family Development Permit Area requirements as part of OCP update to include greater EV charging requirements. [Corporate]</p> <p>[42] Expand availability of EV charging stations for public use and identify charging stations as a desired amenity in the Official Community Plan policies. [Corporate and community]</p> <p>[34] Explore switching to electric garbage trucks. [Corporate and community]</p>

TRANSPORTATION & LAND USE

Goal	Draft actions
T3. Increase access to transit and active transportation opportunities.	<p>[32] Through the Transportation Master Plan, encourage lower carbon transportation such as carshare, biking, e-bikes and e-scooters, and encourage alternative transportation links within Comox Valley and regionally. [Corporate and community]</p> <p>[10] Promote the use of CVRD public transit such as by providing transit passes at discounted rates or free for vulnerable populations and providing free transit to community events. [Corporate]</p>

TRANSPORTATION & LAND USE

Goal	Draft actions
T4. Prioritize development in existing neighbourhood centres and, wherever possible, concentrate development near existing and proposed walking, cycling and transit networks.	<p>[4] Continue to encourage development within the existing urban area, prioritizing complete communities with access to active transportation infrastructure and transit.</p> <p>[8] Provide education and/or incentives (e.g. reduced application fees) to encourage secondary suites or renovations to add new secondary suites. <i>NOTE: Zoning Bylaw already permits secondary suites in all single family dwellings, plus ADU's in some areas.</i></p> <p>[9] Expand availability of affordable (below-market price, subsidized) housing units through retrofits, prioritizing opportunities to retrofit existing buildings through and/or infill. Work with partners such as BC Housing to add affordable housing units at the time of Village building replacements.</p> <p>[49] Protect trees and natural areas and minimize the development of forests and natural areas slated for development, for example, through the Tree Protection Bylaw.</p>

WASTE

Goal	Draft actions
W1. Produce less waste and divert more waste from entering the landfill.	<p>[35] Partner with CV Waste Management Centre to support waste reduction initiatives, waste-to-energy opportunities, and to measure and report on waste diversion.</p> <p>[21] Investigate opportunities to require collection of recycling and compost for businesses and multi-family units (apartments). Update relevant bylaws (Solid Waste Collection Bylaw) and DPA guidelines.</p> <p>[19] Support regional compost education programs, promote local organics collection, and support Cumberland's Foodshare program.</p>
W2. Reduce the use of non-renewable resources and materials, promote recycling and reuse, and support circular economy approaches.	<p>[36] Encourage deconstruction techniques rather than demolition for new builds.</p> <p>[20] Help advance circularity by promoting Comox Valley Waste Management programs such as "Repair Café's".</p>

PARKS & ENVIRONMENT

Goal	Draft actions
P1. Protect and enhance nature in Cumberland.	<p>[11] Partner with landowners and community organizations to undertake stewardship initiatives to support the restoration, health and connectivity of natural systems.</p> <p>[33] Minimize the use of herbicides or pesticides across lawns and landscaped properties.</p> <p>[40] Promote water storage barrels/rainwater catchment in yards for water reuse.</p> <p>[52] Adopt a Tree Protection Bylaw to increase tree retention on private property.</p>

PARKS & ENVIRONMENT

Goal	Draft actions
P2. Increase the use of nature-based solutions and green infrastructure to enhance climate change adaptation and mitigation and support biodiversity.	<p>[12] Inventory, assess, and develop a strategy to maintain and protect natural assets and ecosystem services (e.g., Town of Gibsons)</p> <p>[50] Review Village landscaping guidelines and practices to optimize the use of green infrastructure. Prioritize solutions that are biodiverse and suitable for future climate conditions including increased heat and wildfire risk.</p> <p>[51] Incorporate more green infrastructure into existing properties and retrofits, for example natural infrastructure to support stormwater management and reduce runoff. Initiatives may include: restoring wetlands, solar-powered cross-walk lights, native drought-resistant planting, xeriscaping, rain gardens, bioswales, urban/street trees, green boulevards, amended soils, permeable pavement, and green roofs.</p> <p>[13] Update DPAs and bylaws to require natural assets, green infrastructure, and permeable areas where possible, including requiring climate-resilient plantings such as street trees.</p>

COMMUNITY HEALTH & WELLBEING

Goal	Draft actions
C1. Increase community preparedness and resilience to climate change and extreme weather.	<p>[14] Work with regional partners and Island Health to assess extreme heat vulnerabilities and implement extreme heat response measures.</p> <p>[15] Collaborate with Island Health, community service providers and regional partners to develop programs focused on climate change and health, prioritizing support for vulnerable populations.</p> <p>[17] Support community-wide activities and programs that facilitate social connection, information sharing, climate awareness, and climate response activities amongst Village residents at the neighborhood scale.</p> <p>[41] Update Wildland-Urban Interface DPA to reduce wildfire risk and support community preparedness such as FireSmart training.</p> <p>[26] Complete and implement Drought Response Plan and incorporate measures to address the influence of climate change on drought, dry conditions and water availability.</p>

GOVERNANCE

Goal	Draft actions
G1. Embed climate action into decision-making and policies to ensure all Village department work plans and capital and operating budgets are aligned with the corporate emissions reductions targets.	<p>[22] Review and update the Village's Climate Change Implications framework for decision-making to align with updated mitigation targets and resilience priorities. Develop supporting processes and metrics such as key performance indicators (KPIs) and guidelines/standardization, building on work done by other municipalities.</p> <p>[23] Review Sustainable Procurement policy to include climate change mitigation and adaptation.</p> <p>[37] When updating strategic plans and associated policies, incorporate climate change measures that address top climate risks and align with GHG reduction targets.</p> <p>[27] Assign a dedicated staff person to report on implementation of CAP actions (e.g. annually).</p>

GOVERNANCE

Goal	Draft actions
G2. Collaborate with community partners and residents to support education and actions that increase climate resilience, protect natural areas, and reduce emissions.	<p>[24] Attract climate-focused research, start-ups, and technology innovation.</p> <p>[25] Continue to collaborate with local partners and other municipalities through networks focused on green communities, food security, water security, emergency preparedness, to facilitate resource-sharing, pooling funding, and collaboration on climate resilience and mitigation projects.</p> <p>[16] Implement a communications campaign to increase awareness of Climate Action Plan and to empower personal action.</p> <p>[18] Partner locally to run a neighbourhood climate action pilot. Use a planned retrofit project to pilot a neighbourhood level climate action program that educates residents on ways to reduce emissions, increase resilience, and incorporate nature into a property.</p>