

ICABCCI

Integrated Climate Action
for BC Communities Initiative

LCR Tool

Low Carbon Resilience:

A Briefing for Mayors and Elected Officials

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Background

A low carbon resilience (LCR) lens coordinates and mainstreams adaptation, mitigation, and co-benefit strategies into policy, planning and implementation processes. **Deborah Harford**, Executive Director, ACT (the Adaptation to Climate Change Team), in the Faculty of Environment at SFU, and SFU Research Associate **Dr. Alison Shaw**, Principal, FlipSide Sustainability, co-developed ICABCCI (Integrated Climate Action for BC Communities Initiative) to produce action-based research that supports local governments in implementing effective, streamlined climate action. The research will be collated into guiding resources and an LCR Framework for Climate Action, to be used by local governments across BC and Canada and beyond.

This ICABCCI Tool provides an introduction to the concept of LCR and its benefits for local governments over the short and long-term and is specifically tailored for Mayors and elected officials.

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ICABCCI is an initiative of **ACT (the Adaptation to Climate Change Team)** in the Faculty of Environment at SFU.





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1. THE IMPORTANCE OF LOW CARBON RESILIENCE

The World Economic Forum's 2020 Global Risk Report named climate action failure as the number one global risk in terms of impact and the number two global risk in terms of likelihood. The need for climate action both in terms of mitigation (greenhouse gas emissions reduction) and adaptation (risk and vulnerability reduction) has never been greater.

Low carbon resilience (LCR) is a strategic policy and planning approach which uses climate criteria in planning and projects, identifies opportunities that reduce emissions and vulnerability and advances co-benefits. LCR appeals to citizens on multiple levels, is fiscally responsible, and is already benefiting communities and across Canada. Using an LCR approach to policy and planning can benefit your community as well.

LCR is a climate action approach that coordinates and mainstreams mitigation and adaptation and advances co-benefits in planning and all decision-making processes.

The Integrated Climate Action for BC Communities Initiative (ICABCCI) at ACT, SFU is working with local governments of all sizes and at all stages of climate action across BC to co-create and operationalize LCR approaches (see <https://act-adapt.org/icabcci/>). ICABCCI's 13 local government partners are applying an LCR approach in strategy, policy, planning, and operational management in areas such as asset management, water and stormwater management, investment and procurement, and land use and transportation.

Initial research suggests that applying an LCR lens:

1. Streamlines local government resources and capacity.
2. Embeds climate actions that help to achieve comprehensive policy and cross-departmental alignment.
3. Promotes climate action alongside other community development priorities such as economy, health, equity, and biodiversity.

With local and national governments around the world declaring climate change emergencies, and climate change impacts such as flooding and wildfires increasing damage and costs in the billions, climate change is now top of mind for many citizens, and community safety and resilience is the top issue for many local governments. This urgency is reinforced by calls for a green recovery for the COVID-19 crisis. Citizens want to build their communities and our nation up again, but they want governments to do so with environmental and social resilience and sustainability in mind. Canada's communities have significant exposure to climate

risks and are major sources of emissions through transportation and housing. As such, local governments are often faced with the critical stare of constituents interested in acting on climate change while facing the challenge of balancing multiple priorities. Using an LCR approach addresses both climate change causes and risks and can contribute to other community health, equity, economy, and biodiversity priorities, appealing to constituents on multiple levels.

2. LOW CARBON RESILIENCE EXPLAINED

The advantage of an LCR approach is that it embeds current and future risk and emissions reduction into decisions made now. Doing so provides an integrated, more coherent approach for how to build resilient communities under changing conditions, and ways to transition toward sustainability. For instance, strategic investments in natural assets can help reduce surface flooding risks by increasing absorption and retention sites for stormwater, expand vegetated areas that absorb rainfall and sequester carbon, avoid costly and emissions-intensive stormwater infrastructure expansion, improve air and water quality, and promote biodiversity. The green spaces created also benefit human health and community livability.

As shown in Figure 1 (see page 6), a crucial part of the LCR approach is to advance co-benefits, enabling local governments to create effective policies and plans that safeguard their citizens from the impacts of climate change, work towards meeting their greenhouse gas reduction goals and provide citizens with a more livable community, all at the same time.






























Economic Co-Benefits		
 Supports green job creation	 Diversifies local economy	 Reduces costs/ increases savings
 Fosters innovation and green, clean industries	 Supports clean energy transition	 Promotes a circular economy
 Reduces waste/ optimizes resources	 Reduces risks to property values	 Avoids community damages and costs over time
Environmental Co-Benefits		
 Enhances biodiversity	 Supports habitat creation	 Improved water retention and absorption
 Enhances pollutant capture	 Improves air quality	 Reduces extreme temperatures
 Improves water quality	 Increases carbon sequestration/storage	 Promotes regional connectivity
Social Co-Benefits		
 Enhances human health and well-being	 Supports local food security	 Limits tax increases
 Improves climate awareness and access to data and information	 Improves community livability and vitality	 Enhances local autonomy
 Advances equity and social inclusion	 Reduces congestion	 Improves public safety, disaster preparedness and response

Figure 1: LCR Co-Benefits - this legend and its symbols are designed to help local government staff and their service providers communicate the wide range of co-benefits that can be achieved when applying an LCR lens (ACT, 2019).

Adaptation and mitigation planning have the same core goal: to reduce the impacts of climate change and build overall community resilience by reducing and/or avoiding the impacts of projected climate change and transitioning to low carbon development. Yet these responses have typically been done in silos, drawing on different data, forms of expertise, funding, and departments. This has led to contradictory results that either do little to help the community adapt or contribute further to community emissions. For instance, some adaptation actions, such as the use of air conditioning during heat waves or building concrete infrastructure to manage stormwater, can increase emissions. On the flipside, emissions reduction actions can be subject to climate risks; for instance, locating energy-efficient buildings or public transit and/or EV infrastructure in areas that will see increased flood risks as the climate changes.

Considering both vulnerability and emissions alongside other community priorities streamlines planning and encourages collaboration, maximizing limited resources and capacity. The overall goal is to build community resilience and save money by reducing emissions and exposure to climate impacts and damages over time.

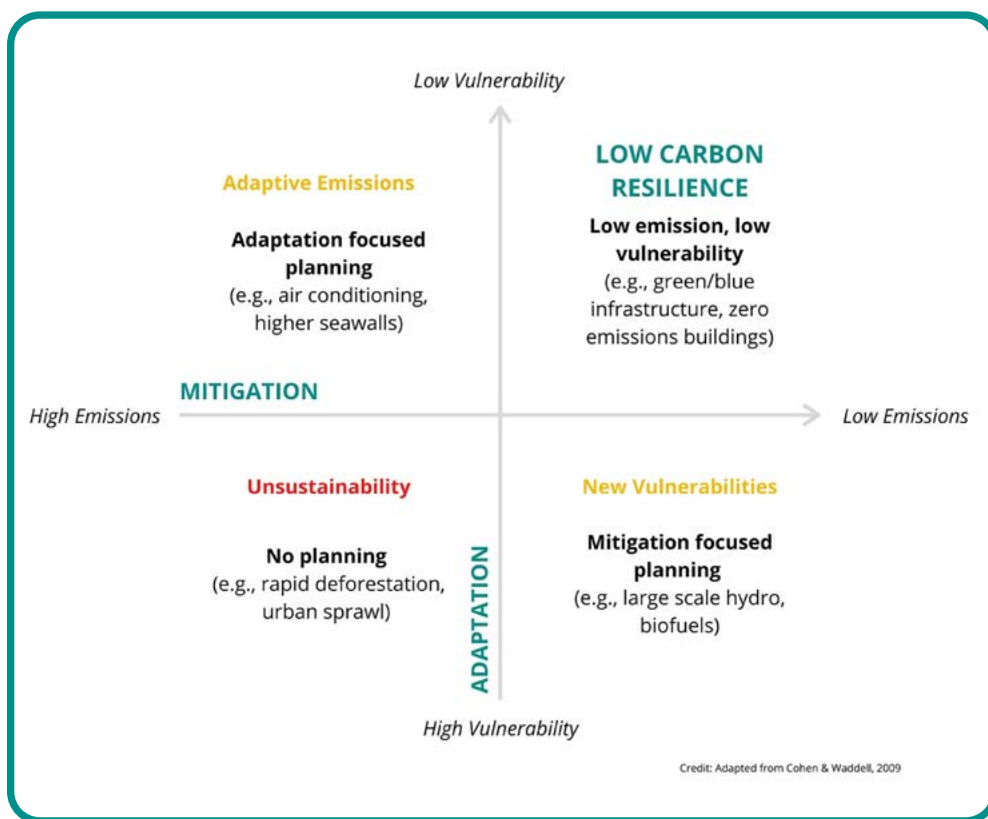


Figure 2: The LCR Pathway: This diagram illustrates the benefits of integrating adaptation and mitigation (top right quadrant) (adapted from Cohen & Waddell, 2009).



3. LCR INCREASES FUNDING OPPORTUNITIES

LCR is a fiscally responsible approach to policy and planning. An LCR approach enables local governments to integrate adaptation and mitigation processes that have typically been treated as separate and maximize the use of scarce planning resources while building capacity across the organization. The LCR approach includes criteria of reducing vulnerability and emissions, and building community resilience alongside important criteria like cost and feasibility. A key benefit of this approach is that it streamlines planning and decisions processes, enabling different departments to collaborate on planning, implementation, and funding proposals, making the best possible use of taxpayer money.

A number of funding opportunities are beginning to require proposals to account for LCR, and other levels of government are beginning to advance LCR thinking. For instance, Infrastructure Canada requires that proponents consider both resilience to changing climate conditions and emissions in proposals for infrastructure funding. The Province of BC, through BC Housing, is working with the City of Vancouver, the BC Non-Profit Housing Association and the Pembina Institute to develop buildings that are climate resilient and pollute less, while reducing heating costs for residents through energy efficiency.

Integrating climate strategies and accounting for the co-benefits of doing so is increasingly opening access to diverse funding opportunities related to infrastructure, health, disaster risk reduction, economic and social development, equity, and biodiversity and ecosystem health.

Drawing out and building on the connections between community priorities and LCR can contribute multiplier co-benefits, increase social license for projects, and enhance funding options.



4. LCR IN YOUR COMMUNITY

Communities are already benefiting from adopting LCR approaches and yours can too. As shown in Figure 3, the level of integration and the depth of LCR implementation can be tailored to meet your community wherever it's at.

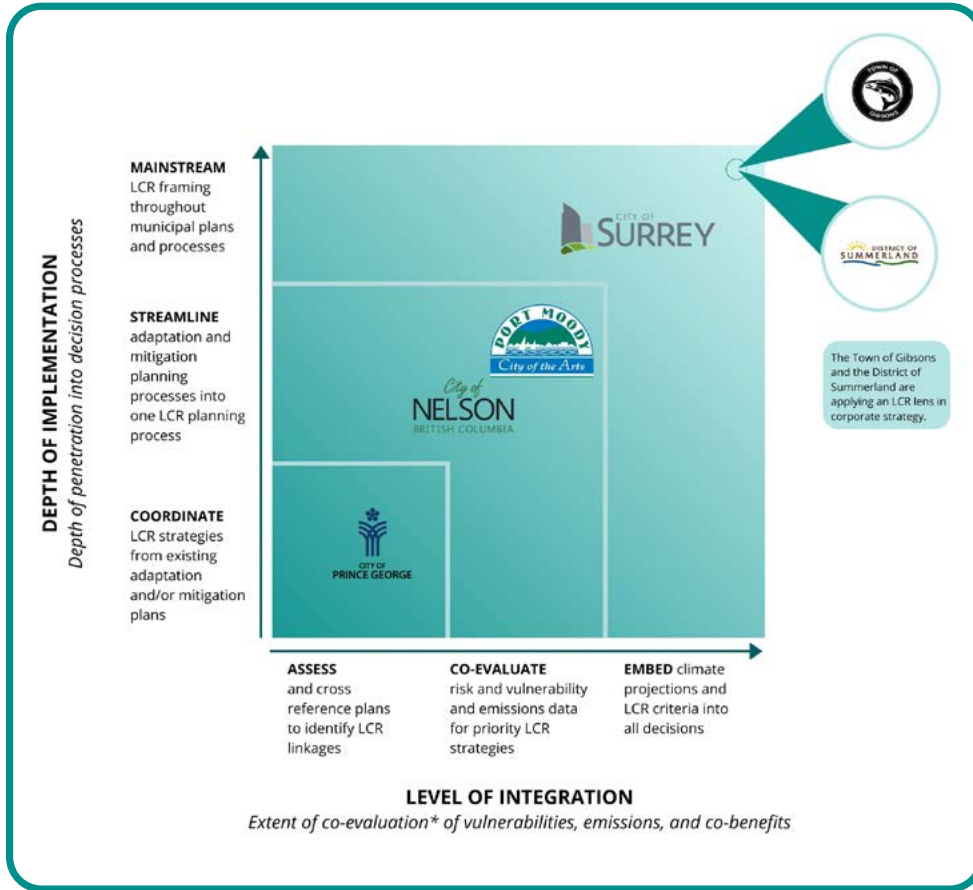


Figure 3: LCR Approaches in Sample ICABCCI Communities - six local governments in British Columbia.

Local governments across BC and Canada are at a variety of stages of action on adaptation and mitigation. ICABCCI recognizes that each community is unique. Some will want to begin by assessing their current plans in order to find LCR linkages, while others may be ready to start embedding LCR criteria into all decisions. Some may need to begin by creating opportunities for inter-departmental collaboration, while others may be ready to mainstream LCR framing throughout municipal plans and processes such as business prioritization, land-use and transportation planning. No matter what stage of action, there are LCR approaches that can be used to increase the efficacy and efficiency of your climate change adaptation and mitigation efforts while generating co-benefits for the community.



5. ACCESS LCR RESOURCES TODAY

LCR is a practical and coherent approach to planning and policy that will benefit your community both in the present and in years to come. By pursuing an LCR approach at appropriate times in your community, you are choosing a fiscally responsible approach that can and will appeal to your residents and citizens on multiple levels and has already proven beneficial to other communities in BC and elsewhere in Canada. ICABCCI is building out cases that prove both planning and outcomes-related LCR benefits for communities. Please visit our resources page at www.act-adapt.org/icabcci to help your community get started.



ACT Adaptation to Climate Change Team

ACT (the Adaptation to Climate Change Team) in the Faculty of Environment at SFU brings leading experts from around the world together with industry, community, and government decision-makers to explore the risks posed by top-of-mind climate change issues and to identify opportunities for sustainable adaptation.

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