

ICABCCI

Integrated Climate Action
for BC Communities Initiative

Workshop 2 Summary Report

THURSDAY AUGUST 29,
1:30-3:00PM



ACT Adaptation to
Climate Change Team



Attendees:

17 peer-learning network participants: **Laura Sampliner/Mary de Paoli** (Port Moody), **Tami Rothery/Anonymous** (Summerland), **Michelle Gordon/Anonymous** (Slocan), **Hillary Elliot/Jason Clarke** (Silverton), **Iain Bourhill** (Colwood), **Emanuel Machado** (Gibsons), **Christopher Justice** (North Cowichan), **Maximillian Knweisser** (Whistler), **Sarah Dal Santo** (TWN), **Andrea Byrne** (City of Prince George), **Tamsin Mills** (City of Vancouver), **Scott Beeching** (Salmon Arm), **Erin Desautels** (City of Surrey)

Authors:

Alison Shaw, Ph.D., ICABCCI Research Lead, ACT, SFU

Kacia Tolsma, REM Masters Student; Research Assistant, ACT, SFU

Deborah Harford, Executive Director, ACT, SFU





- 4 The Climate Imperative**
- 6 Low Carbon Resilience**
- 7 ACT's ICABCCI Approach and Process**
- 9 LCR Planning Approach and Process**
- 10 First Wave Case Communities**
- 12 City of Port Moody
- 13 District of Summerland
- 14 City of Nelson
- 15 Villages of Slokan/Silverton
- 16 City of Colwood
- 17 Town of Gibsons
- 18 Key Takeaways from the Communities**
- 19 Next Steps for ICABCCI**

THE CLIMATE IMPERATIVE

The first imperative of ACT's Integrated Climate Action for BC Communities Initiative (ICABCCI) is to ensure that local governments have the resources to reduce vulnerability to climate change impacts (adaptation) and greenhouse gas emissions (mitigation) over time. As we move into unprecedented climate change, and associated seasonal and weather changes, local governments are on the front lines of responding to impacts and generating solutions. Integrating regional climate change projections into all relevant planning and decision processes must now be part of a community's strategic vision, risk management and reporting, and everyday practices, including in areas of asset management, land-use, corporate strategy, and capital investment planning. This is important to reduce current and future risk, ensure the safety and health and well-being of our communities, and accelerate innovation on future-proofing our communities.

Last year, 2018 was the fourth warmest year on record (Fig. 2). Municipalities across BC saw increased frequency and severity of wildfires, droughts, and floods that resulted in damage to critical infrastructure and property; wildfires alone in 2018 cost \$615 million (Fig. 3). This

number does not reflect the disruption to critical energy and water provision, livelihood and economic costs to residents and businesses, nor losses in biodiversity, ecosystem services, species, and cultural practices reliant on these systems. Simply reacting to these impacts, which are projected to be more frequent and severe, is not only costly and disruptive but is no longer acceptable. We know that proactively embedding climate action into capital investment and community planning helps climate-proof our communities, resulting in enhanced safety, significant cost savings, and many other co-benefits over the short and long run.

The second ACT ICABCCI imperative is to work with local governments to co-develop practical and streamlined low carbon resilience approaches that reduce both vulnerability and emissions in communities. Both adaptation and mitigation responses aim to minimize the impacts of climate change. Local governments are not only responding to climate impacts but collectively represent both a source of, and a critical force for, reducing greenhouse gas emissions. Local governments are sites of development, services, and activities that contribute local emissions to the global

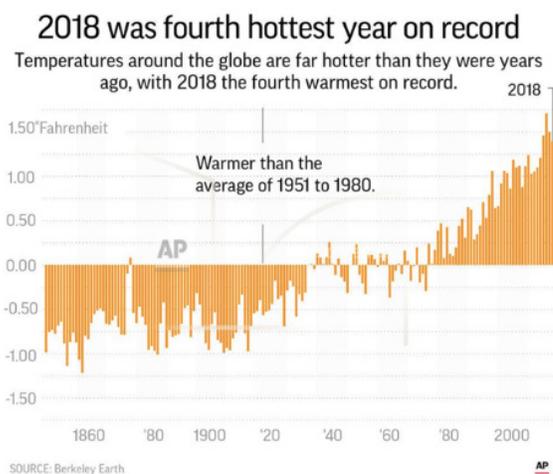
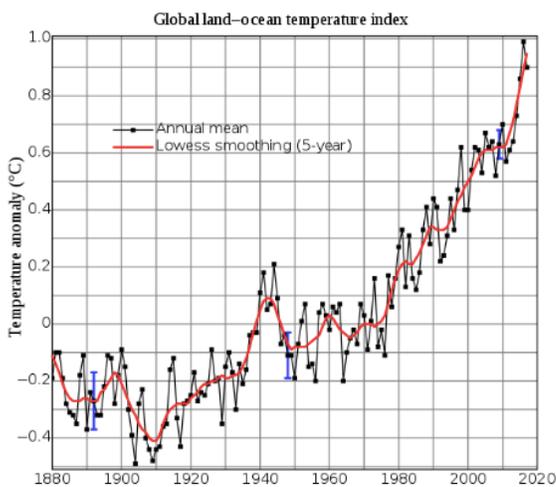


Figure 1. (left) Rising global temperatures with an overlay of five year averages. The blue uncertainty bar represents incomplete spatial sampling, (NASA, Goddard, n.d.).

Figure 2. (right) 2018 was the fourth hottest year on record, (Berkeley Earth, 2018).

Wildfire Season Averages

Year	Total Fires	Total Hectares	Total Cost (millions)	Average Hectares per Fire	Person-caused	Person-caused (%)	Lightning-caused	Lightning-caused (%)
2018**	2,117	1,354,284	\$615.0	639.7	535	(25.3%)	1,489	(70.3%)
2017	1,353	1,216,053	\$649.0	898.8	552	(40.8%)	773	(57.1%)
2016	1,050	100,366	\$129.0	95.6	564	(53.7%)	486	(46.3%)
2015	1,858	280,605	\$277.0	151.0	617	(33.2%)	1,237	(66.6%)
2014	1,481	369,168	\$297.9	249.3	664	(44.8%)	817	(55.2%)
2013	1,861	18,298	\$122.2	9.8	564	(30.3%)	1,297	(69.7%)
2012	1,649	102,122	\$133.6	61.9	708	(42.9%)	941	(57.1%)
2011	653	12,604	\$53.5	19.3	444	(68%)	209	(32%)
2010	1,672	337,149	\$212.2	201.6	680	(40.7%)	992	(59.3%)
2009	3,064	247,419	\$382.1	80.8	881	(28.8%)	2,183	(71.2%)
2008	2,023	13,240	\$82.1	6.5	848	(41.9%)	1,175	(58.1%)
Average*	1,666	269,702		161.9	652	(42.5%)	1,011	(57.3%)

Figure 3. Total wildfires nearly doubled in 2018, with a substantial increase in lightning-caused vs. person-caused; despite an increase in extent (total hectares) of damage, costs of wildfires in 2017 were higher at \$649 million (BC Gov't 2018).

atmosphere, they therefore play a critical role in minimizing vulnerability to projected impacts, and collectively, reducing local emissions impacts on the global atmosphere.

In 2016, scientists warned that we had crossed a critical threshold of 400 parts per million (ppm) of carbon dioxide in the atmosphere (Fig. 4). If trends continue we can expect 500ppm by the end of the century, translating to a 3-5°C warming, considered well above the dangerous threshold of 2°C warming. The 50-100 year lag effect between concentrations in the atmosphere and associated warming means we are currently experiencing the impacts from industrial emissions of the last century, and are currently emitting one years' worth of carbon dioxide equivalent 100 years ago in only six weeks. Every year of delay means our future communities and ecosystems will be facing higher temperatures, more unpredictable impacts, and guaranteed levels of climate change, like sea level rise. But we can influence how much. What's needed now are policies and practices

that ensure low carbon solutions outpace climate impacts by curtailing exponential emissions growth and driving net emissions down 50% by 2030 and to net zero by 2050 (IPCC, 2019).

Under these changing conditions, the faster communities recognize they must adapt to projected climate risks and impacts, with particular attention to the most vulnerable populations and ecosystems, while also shifting toward low carbon approaches and economies, the quicker they will reap the social, environmental, and economic benefits over time.

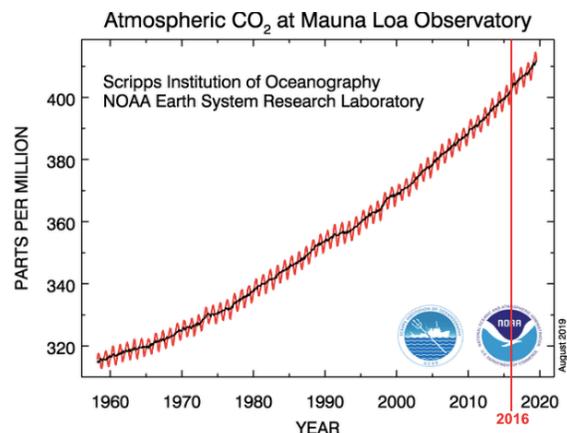


Figure 4. In 2016 atmospheric levels of carbon dioxide surged past 400 ppm, a number previously unfathomable. In 2019 we are sitting at 408 ppm (NOAA, 2019).

LOW CARBON RESILIENCE

Low carbon resilience (LCR) is a lens that coordinates adaptation and mitigation strategies in planning, policy, and implementation processes to co-evaluate and streamline vulnerability and emissions reductions responses (Fig. 5). Not doing so can lead to conflicting outcomes, for example, higher concrete seawalls are emissions-intensive to install and replace; LEED buildings built in un-adapted floodplains will be impacted and likely ineffective. In addition, LCR approaches aim to promote strategies that have co-benefits, or “multiplier” benefits, for human health and wellbeing, ecosystems and biodiversity, property values, etc.

LCR approaches intersect with other local government policy areas such as water, energy, land-use, transportation, and biodiversity with the potential to produce co-benefits (Fig. 6). For instance, including natural assets in asset management and capital investment planning reduces vulnerability, over time, accounts for ecosystem services such as stormwater management, water filtration and aquifer renewal, and reduces emissions and costs associated with conventional forms of grey infrastructure. Natural assets also provide additional benefits

such as green space that minimizes the effects of extreme heat and increased precipitation, contributes to biodiversity, and improved human well-being. With coordination and collaboration, local governments can plan for integrated climate action, or LCR approaches, that support and promote multiple policy objectives and municipal goals.

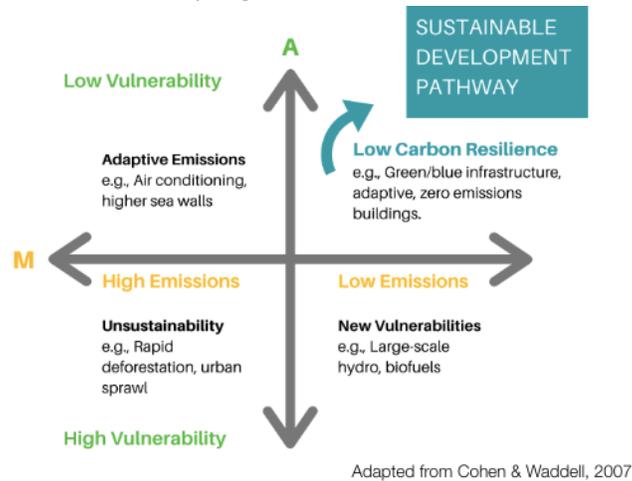


Figure 5. Low carbon resilience shifts policy and decisions from an unsustainable pathway (lower left quadrant); it overcomes siloed and, at times, contradictory adaptation (upper left quadrant) and mitigation (lower right quadrant) approaches, instead co-evaluating actions that consider both vulnerability and emissions reductions, and that transition us toward a sustainable development pathway (upper right quadrant).

SYNERGIES AND CO-BENEFITS FROM AN LCR APPROACH

Improved biodiversity	Cost savings	Local control of power
Energy savings	Green job creation	Increased property values
Reduced waste	Improved human well-being	Reduced congestion
Improved water collection and absorption	Carbon sequestration	Reduced burden on grey infrastructure
Improved air/water quality	Reduced extreme temperatures	Pollutant capture

Figure 6. The myriad of synergies and co-benefits that can be considered and/or realized from applying an LCR framework.

ACT'S ICABCCI APPROACH AND PROCESS

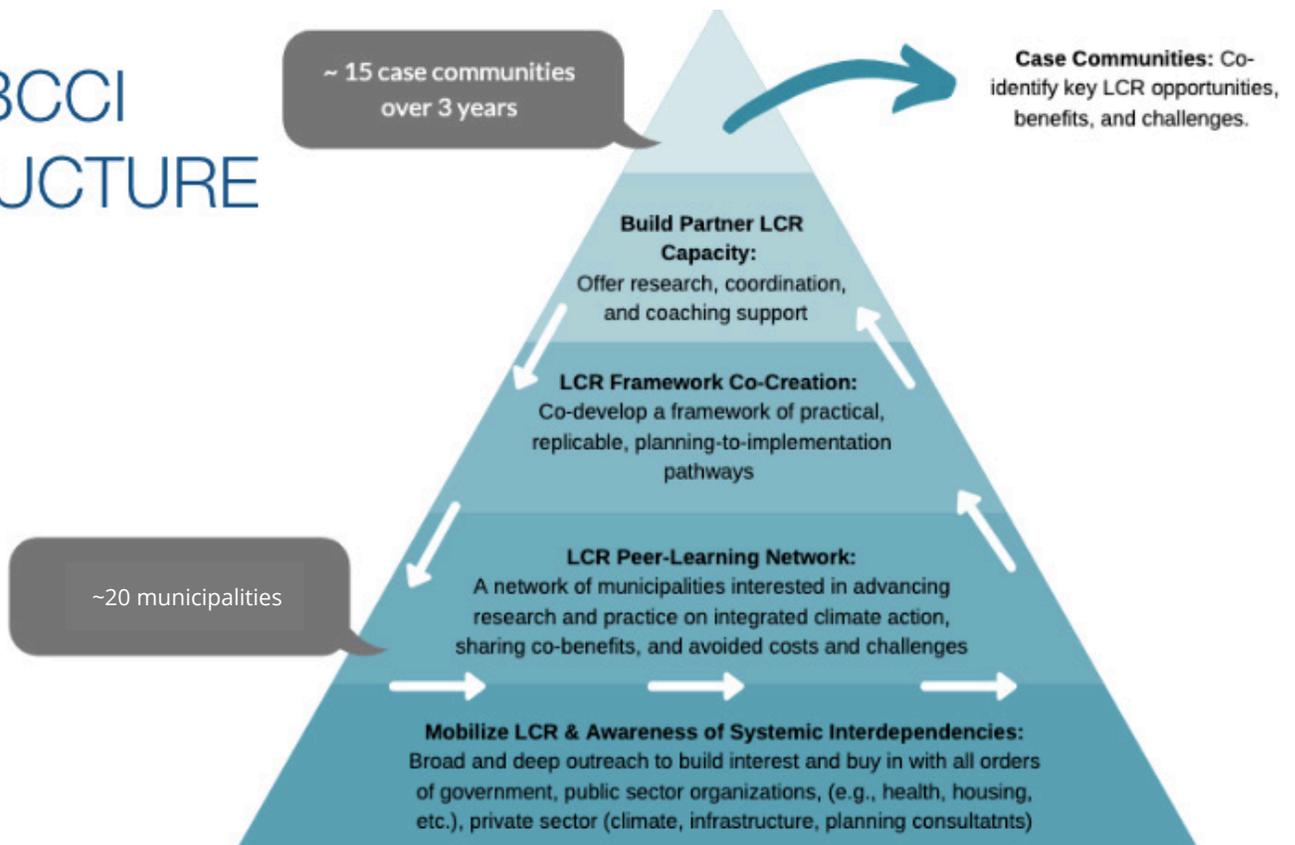
Working with 4-6 case communities initiated in three waves over the next two years (Fig. 7), the ACT team alongside local government champions will co-identify key LCR opportunities and entry points, intervening in existing planning and management processes and building local government capacity to plan, implement, and evaluate LCR approaches (Tier 1) (Fig. 8). Our 13 partner communities have committed to co-developing and co-evaluating LCR planning-to-implementation pathways within their decision processes (Tier 2). These diverse LCR pathways will be documented, and evaluated for any benefits and co-benefits that arise from

such approaches. The pathways and initial evaluations from each community will be synthesized into an LCR framework for action - a multi-pronged tool to be used by local governments of different sizes and geographies and at different stages of climate action, to help guide them toward LCR planning-to-implementation approaches that 'climate-proof' communities (Tier 3). ACT will co-create an LCR framework with and for local government that can be implemented in communities across Canada, that aims to rapidly accelerating the transition toward resilient, low carbon, and sustainable community development.

“Adaptation options that also mitigate emissions can provide synergies and cost savings in most sectors and system transition, such as when land management reduces emissions and disaster risk, or when low carbon buildings are also designed for efficient cooling.” (D3.4.) (IPCC, 2018)

Figure 7. illustrates tiers one to five of ICABCCI Structure.

ICABCCI STRUCTURE

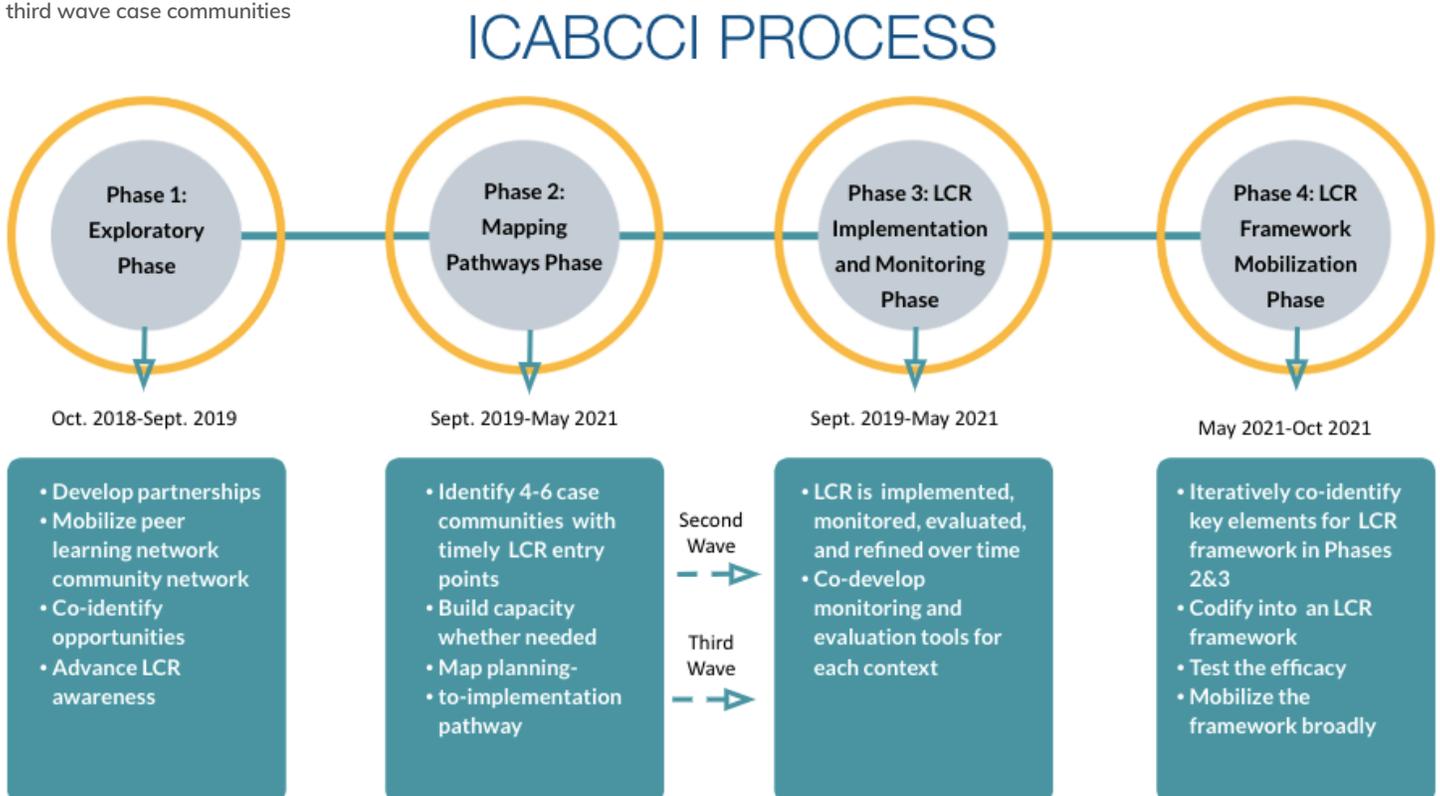


Local governments who are participating in LCR experimentation do not operate in isolation; they need direct and relevant support to build capacity, share lessons, and contribute to the iterative development and refinement of LCR best practice approaches. The ICABCCI LCR Peer-Learning Network (Tier 4) is important for encouraging local governments to co-frame and co-develop the research. It is also designed to enable participants to share the most practical opportunities for LCR and effective approaches to navigate regulatory, institutional, policy, technical, social, and political factors contributing to implementation and evaluation. Peer learning, focused on strategy and framework refinement' is important for building practical, effective LCR approaches that have the potential to become embedded as everyday practice.

While ACT is formally working with local governments, we also understand and acknowledge the complex systemic interdependencies between and among key organizations, agencies, and practitioners, influencing everything from policy and regulations to funding and knowledge that can either enable or hinder LCR in practice. We are working to build broader awareness in the governance sphere, otherwise known as BC's climate action ecosystem. Intervening in the broader system is helping to bring different orders of government, key agencies, professional associations and practitioners on board; encouraging LCR awareness among key influencers that affect and impact climate action policy, funding, and advance development of training (5th tier).

"A mix of adaptation and mitigation options to limit global warming to 1.5°C, implemented in a participatory and integrated manner, can enable rapid, systemic transitions in urban and rural areas (high confidence). These are most effective when aligned with economic and sustainable development, and when local and regional governments and decision makers are supported by national government." (D3.3.) (IPCC, 2018)

Figure 8. The ICABCCI process, including workplan, timelines, and iterations through second and third wave case communities



ICABCCI Process Explained

- Phase I – **The Exploratory Phase:** we have 13 partner communities interested in pursuing LCR in their local government contexts and 20 in the peer learning network.
- Phase II – **The Mapping Pathways Phase** (current phase): the beginning of a deep dive with communities to develop planning-to-implementation pathways.
- Phase III – **The LCR Implementation and Monitoring Phase:** partner communities will implement an integrated climate action strategy and plan. With each community choosing relevant and practical solutions, we will have a representation of a variety of approaches depending on what is most feasible. A condition of partnership is to prepare for effective integrated climate action and then implement and monitor benefits, costs, and trade-offs of doing so. Over the next two years we will work with ~15 partner communities in three waves, identifying key entry points, pathways, and indicators of progress. The results of this work will be used to design and test an LCR framework for action.
- Phase IV – **The LCR Framework Mobilization Phase:** involves linking with key climate service providers and influencers to build in integrated climate action approaches, wherever possible, and mobilizing and continuing to refine the framework in non-partner BC communities.

The six first wave case studies were selected based on timely opportunities for embedding LCR in asset management and climate action planning processes.* In the interest of being responsive and agile, ACT is piggybacking on these existing processes and confirmed our first wave communities as shown below.

* Gibsons has opted out of being an ICABCCI case community due to capacity issues, but the CAO champion has since become an advisor to ICABCCI.

LCR PLANNING APPROACH AND PROCESS

Currently the ICABCCI team is co-developing an LCR planning process that can be used as a guide for integrated climate action planning, or as a tool for considering key opportunities for coordinating and co-evaluating adaptation and mitigation at various stages in diverse planning processes. The draft LCR Planning Process graphic is an initial illustration of how

adaptation and mitigation frameworks can map onto one another (Fig. 10). We will develop this graphic into a step-by-step guide outlining key data needs and entry points, coordination and sequencing, opportunities for inter-departmental collaboration, and identifying which staff and experts are critical to involve at each stage.

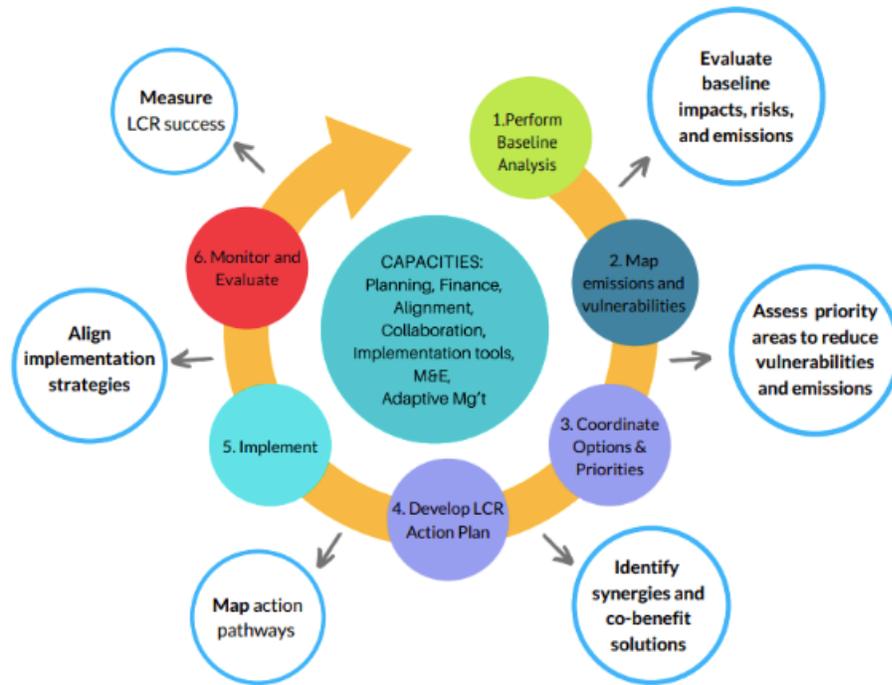


Figure 10. A draft illustration of an LCR planning process outlining how adaptation and mitigation planning frameworks can map onto one another.

Goals of ICABCCI:

PRACTICE: To increase local governments' capacity to act on climate change by promoting LCR as a lens in local government decision processes.

RESEARCH: To co-develop a leading-edge LCR framework to be mobilized as best practice in other local governments across BC and beyond.

- Streamline resources and capacity for adaptation and mitigation planning.
- Synergize LCR-friendly policies across departments.
- Strategize at the systems scale to identify co-benefit opportunities.
- Initiate conversations about new ways of thinking about climate action, especially those which open the door for multiple community benefits.

- Develop practical and effective LCR planning-to-implementation pathways, unique to each community. Lessons will be codified into an overall framework, creating indicators and measurable tools that will be unique to each community, and used to accelerate climate action at the local scale.
- Pathways will be codified into practical and measurable LCR framework to accelerate climate action at the local scale.
- Iteratively evaluate LCR benefits, challenges, and trade-offs and refine the framework over time

ACT's ICABCCI is performing action research to test the efficacy of LCR in practice at the local scale. ICABCCI is a cutting edge response to an emerging demand for capacity and integration on climate change.

FIRST WAVE CASE COMMUNITIES

Seven community champions presented five minute overviews outlining the LCR opportunity in their community and the role ACT can play to advance LCR in their community.

- City of Port Moody
- District of Summerland
- City of Nelson
- Villages of Slocan/Silverton
- City of Colwood
- Town of Gibsons



City of Port Moody

LCR Champion: Laura Sampliner

Opportunity

Port Moody is new to climate action. Due to limited climate action progress to date, Port Moody has the potential to become a baseline community for integrated climate action planning and implementation and leapfrog ahead, becoming a leader on LCR action.

- **Political climate:** strong climate leadership and support from Council in 2018 led to establishment of a dedicated staff position and development of a Climate Action Committee comprised of council, public, and civic community members and charged with developing an integrated climate action plan.
- **Current work with ACT:** the City is currently working with ACT and selected consultants on a risk and vulnerability assessment and emissions inventory; LCR framing is being used for both.
- **Desired outcome:** interested in developing a business case to include emissions and adaptation throughout decision-making. There is the potential to include this in Port Moody's Sustainability Report Card, a tool used to identify sustainability in four key areas (cultural, economic, environmental, social) for all rezoning, development permit, and heritage alteration permit applications.

ACT'S Role

- **Advisory:** ACT helped Port Moody write LCR into their request for consultants, encouraging firms to bring appropriate adaptation and mitigation expertise. For smaller teams, it may be helpful to use ACT and other consultants as a sounding board to get help moving forward in the right direction.
- **Streamlining resources:** using ACT's LCR lens has helped streamline resources and priorities, which is critical for small teams and local governments with limited capacity.
- **Mainstreaming LCR:** the LCR concept is becoming mainstreamed as business as usual for staff, who are now thinking about emissions when considering risk and vulnerability and the long-term climate impacts in emissions reduction strategies. LCR mainstreaming helps leverage integrated approaches in other aspects of city operations, gaining interest and support from frontline staff, justifying the need for additional capacity and financing, and creating awareness about how climate change affects their daily lives, while also creating a strong case for additional staff capacity and financing.

“Environmental leadership is exceptionally important to the City, and there is strong support to develop a comprehensive Climate Action Plan. [It] is very convenient for staff to point to work that needs to be done, and with the specific action to become a leader in climate change, it really helped to be a catalyst for programs like ICABCCI and other pilot research programs. It helped bring forward a new wave of research.”

District of Summerland

LCR Champion: Tami Rothery

Opportunity

Summerland has felt the effects of climate change firsthand through fires, droughts, landslides, and floods, and there is widespread support for action. The District owns its electric utility, opening up unique LCR opportunities for the future. Climate action is viewed as all hands on deck internally within departments, and combined with strong relationships with provincial and regional governments, the Interior Health Authority, and other utility companies, there are great opportunities for Summerland to become a leader in developing and advancing LCR tools in asset management and corporate strategy. The City is also currently reviewing its urban growth strategy.

- **Political climate:** Summerland has a new CAO with a strong interest in climate initiatives, introducing timely opportunities to integrate climate action into overall corporate decision making and culture.
- **Current work with ACT:** Summerland is working with consultants and the City to apply an LCR lens to its asset management approach. It is also creating a comprehensive climate action plan, involving updates to both corporate and community plans, reviewing the urban growth strategy, and updating the procurement policy.
- **Desired outcome:** Summerland is in the process of developing a business case for LCR in asset management and a project prioritization framework, and is using the momentum of this process to apply an LCR lens across all areas of municipal strategy and operations.

ACT's Role:

- **Mainstreaming LCR:** to help bring climate action and sustainability out of the fringe, no longer labeling it as a “special project” and bringing it to the frontline. Using LCR as a similar lens to safety can make climate action and sustainability part of everyday work.
- **Build legitimacy:** ACT can help point to best practice and provide legitimacy.
- **Provide objective, practical guidance:** guide communities toward the most meaningful aspects of LCR and sustainability.
- **Promote peer-learning:** advance co-learning and co-coaching opportunities that help build capacity especially in smaller communities.

“We believe that ACT can make a meaningful impact on our work by providing objective and practical guidance in our decision-making processes and basically make it ‘business-as-usual’ in Summerland.”

“As a rural community with unique assets and environmental factors, it can feel like “big city solutions” don’t always work for us.” This point emphasizes the importance of contextualizing solutions and creating a realistic scope to aid in the development of a framework of solutions for other small communities.



City of Nelson

LCR Champion: Kate Letizia (absent)

Opportunity

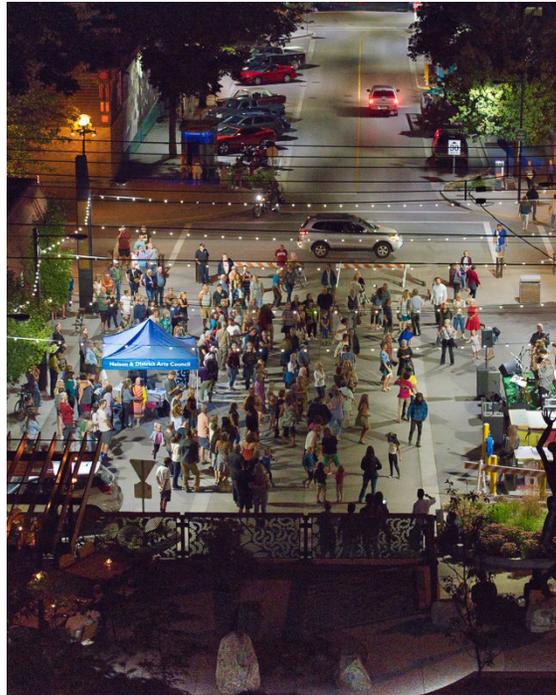
Nelson has numerous policies and plans advancing progressive climate action. Recently, the City hired a Climate Action Coordinator to better integrate existing work in order to take stock, identify gaps, and develop a coordinated approach for climate action into the future. Council has focused on 'easy wins' and is now interested in identifying transformative opportunities that could come from LCR integration and coordinated responses from across the municipal organization. Nelson owns its energy utility which presents interesting LCR solutions.

- *Political climate:* Nelson has a progressive council and staff members that have worked hard to advance climate action and strategic planning in the city.

- *Current work with ACT:* ACT is helping to coordinate staff and the already-advanced work on climate action happening internally to better understand gaps and transformative opportunities
- *Desired outcome:* a leading-edge integrated climate action plan that is comprehensive and relevant across municipal strategy and operations. Nelson wants to create a business case that includes emissions and adaptation in investment decisions.

ACT's Role:

- **Research and advisory capacity:** help with research and capacity.
- **Coordination capacity:** guidance on optimal ways to coordinate across the organization.



Villages of Slocan and Silverton

LCR Champions: Michelle Gordon, Hillary Elliot

Opportunity

The Villages of Slocan and Silverton have come together as one case study due to their small size. They want to use LCR in their asset management and other community-building decisions in order to create alignment in small, rural municipal decision processes, and to optimize the limited resources and capacity of small communities.

- **Political climate:** both Silverton and Slocan have motivated Councils. The communities are vulnerable to climate impacts such as wildfires, flooding, and drought, and each has committed to becoming 100% renewable by 2050.
- **Current work with ACT:** the Villages are in phase two of a three-phase asset management process with a consulting team. ACT is piggybacking on this work to help design strategies that incorporate natural asset inventories and valuation and other LCR tools into the ongoing process. This will create the legitimacy needed for LCR framing in the OCP and zoning bylaws update, currently scheduled for 2020.
- **Desired outcome:** an asset management tool that embeds LCR, particularly natural assets, as a critical for investment and community planning, with potential for LCR to be applied other corporate functions.

ACT's Role:

- **Collaborating with partners:** working collaboratively on this project with consulting and ACT partners allows a small community to realize its LCR goals. ACT will also collaborate with the Rural Development Institute Climate Adaptation and Innovation Project, of which Silverton is a member, to gather community-specific data based on natural assets to be included in that project's lens of climate adaptation.
- **Develop integrated tools:** develop practical, easy to use tools that can be broadly applied.
- **Promote proactive planning:** to move beyond reactionary decision making and create an asset management plan based on knowledge of specific data on the state of assets, asset life expectancy, and long term financial plans, including natural assets.

Regarding natural assets, the Villages have struggled in the past to find "consensus on what the high priorities were that needed to be addressed between elected officials, the public, and staff due to a lack of specific knowledge and data."



"ACT allows us to move forward with this integrated work, and share it with other communities, especially rural, small, and remote communities."

City of Colwood

LCR Champion: Iain Bourhill

Opportunity

Colwood is exposed to climate risk on the urban/rural boundary and along its coastline. In September, 2019 a Climate Emergency Plan was introduced; integration is the foundation of the plan, partly due to ACT's earlier work on LCR, and LCR will become a foundation of the City's work moving forward.

- *Political climate:* fortunate timing in terms of Colwood's work with Council, which is focusing on integrated approaches with lots of traction internally with staff. A new budget is currently being proposed.
- *Current work with ACT:* Colwood is looking for help to coordinate mitigation and adaptation planning efforts, and to recast these efforts into an LCR plan.
- *Desired outcome:* the integration of LCR into a myriad of long-range planning projects that will be updated over the next couple of years.

ACT's Role:

- **Research on LCR best practice:** some of the initial work ACT has done was integrated into the 2018 OCP.
- **Support as coaches:** act as a sounding board.
- **Provide experience and rigour:** the opportunity to add rigour to communities' analyses.

“Community's convictions around climate action are driving the desire for this integrated approach.”



Town of Gibsons

LCR Champion: Emanuel Machado

Opportunity

Natural asset considerations pervade almost every policy in Gibsons. The core of asset management is providing real services to people, for example, providing clean drinking water and treating stormwater runoff as well as effluent. It is necessary to have the on-the-ground ability to understand, assess, monitor, and restore natural areas to ensure ongoing resilience in core services over time. Most of the reality of climate action in Gibsons has focused on the adaptation side; for instance, the Town is dealing with the possibility of losing up to 1m inland of shoreline due to sea level rise and coastal erosion, of which the municipality is responsible for 3km. The climate implications for the Town's drinking water is an issue that must be addressed at the regional scale given that the City is dependent on groundwater with limited access to surface water.

- *Political climate:* Gibsons' budget for this year is almost exclusively dedicated to responses to the climate emergency.
- *Current work with ACT:* ACT can help Gibsons broaden the scope of their asset

management process, provide LCR research and support on priority areas including securing drinking water, restoring the foreshore, and working on urban forest and soils policy and restoration work.

- *Desired outcome:* the Town would like to see expansion and alignment of the eco-asset strategy across the organization and across the region, particularly working with 10 agencies, key actors, and users within the watershed that influence the provision of drinking water.

ACT's Role:

- **Provide legitimacy:** ACT has helped validate Gibsons work, and helped ensure that they are not venturing down an unsustainable path.
- **Perform research:** ACT can help with research and document diverse approaches.
- **Develop the LCR framework:** document pathways and approaches in case communities toward the development of an LCR framework of action.

“What we are seeing so far is that we can't resolve or address many or any of our concerns or desires without addressing the issue of governance and scale. We occupy a small portion of a larger watershed and most of the impacts we experience initiate outside of that.”

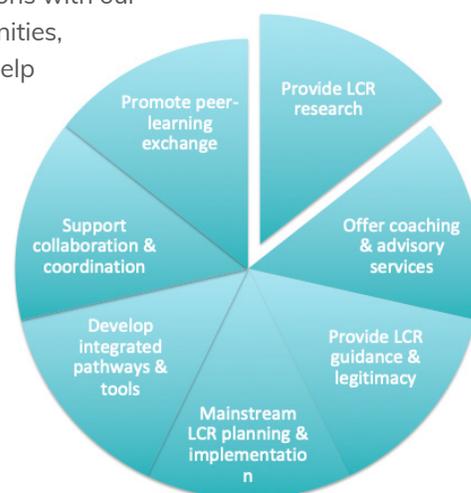


KEY TAKEAWAYS

LCR in Local Governments

- Local governments are motivated to become environmental leaders, outlining a window of opportunity to leverage climate action while it is a top priority.
- Climate action and sustainability urgently needs to be integrated into business as usual.
- Issues of governance and scale need to be addressed; impacts experienced by local governments often originate or are significantly influenced from outside municipal boundaries, e.g., via larger regional assets like watersheds and aquifers, and upstream activities.
- It is necessary to have on-the-ground intelligence, inventories, and data to understand, assess, monitor, and restore natural areas and build their capacity, to identify vulnerable services and populations, and to monitor emissions trends in order to contribute to low carbon resilience in core services over time.
- Big city solutions don't necessarily work for smaller, rural communities; solutions need to be contextualized and given realistic scope.
- Utilizing participatory processes and catalyzing community partnerships is a key driver of local action; creating community collaborations and teams is beneficial for both residents and their local governments.
- Mainstreaming LCR helps justify climate actions and operations, and helps front-line staff learn about the opportunities for LCR, especially when they are unaware of how climate change will affect them in their positions and everyday environments.
- Seize opportunities to align climate action with other municipal goals. For example, Gibsons was due to upgrade their wastewater treatment plant, and in the process accounted for severe rain events and impacts in their ISWMP.
- ACT bolsters capacity and collaboration and the capacity provided has the potential to help local governments streamline meaningful work and focus on LCR with other areas of synergy, especially in small communities with low capacity and fewer departmental constraints.
- Collaborations with expert consultants are important and helpful; they provide a sounding board, specialized expertise, and diverse opinions. ACT can help facilitate these relationships while also mobilizing and mainstreaming LCR ideas.
- Based on initial conversations with our six first wave case communities, ACT's ICABCCI team can help build LCR capacity in local governments in seven key ways (Fig. 9).

Figure 9. Seven key ways ICABCCI will help build LCR capacity in local government.



NEXT STEPS FOR ICABCCI

- ACT will work with our case communities over the next three months, documenting the constituents of integrated planning processes, areas of institutional coordination, and issue areas of particular LCR importance.
- ACT will deliver monthly newsletters to the network with findings of interest, funding opportunities, announcements regarding engagement and peer learning opportunities, and other LCR-related insights and information.
- ACT will hold another ICABCCI workshop in January, 2020; this will follow our series of LCR-focused sessions at the ICLEI Canada Livable Cities Forum, and will emphasize peer-learning and knowledge exchange, as well as provide case study updates.
- ACT is currently building its own team and capacity to expand the peer learning network, draw conclusions from the first wave of case study communities, and prepare to onboard the second and third waves.
- Communities interested in joining the second wave cohort can begin now to identify emerging LCR opportunities and share them with the ACT team; we will confirm the second wave communities in the New Year.

REFERENCES:

BC Government. (2018). Wildfire averages. Retrieved from: <https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/wildfire-statistics/wildfire-averages>

Berkeley Earth. (2018). Global Temperature Report for 2018. Retrieved from: <http://berkeleyearth.org/category/uncategorized/>

Earth Systems Research Lab, National Ocean and Atmospheric Administration. (2019). Monthly Average Mauna Loa CO₂. Retrieved from: <https://www.esrl.noaa.gov/gmd/ccgg/trends/>

NASA Goddard. (n.d.). GISS Surface Temperature Analysis (v4). Retrieved from: <https://data.giss.nasa.gov/gistemp/graphs/>

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.

Contact Us

Simon Fraser University Vancouver
#3230, 515 West Hastings Street
Vancouver, BC Canada V6B 5K3

adapt@sfu.ca
604.671.2449

[@ACTadaptation](https://www.act-adapt.org/)
www.act-adapt.org/