

Indicator Framework: All Tables

The Indicator Framework includes a total of **34 indicators broken down into 6 categories** (agenda setting/strategies, policy/plan formulation, implementation, feedback/evaluation, dissemination, GHG emissions). The Indicator Framework tries to represent climate-related actions undertaken at any given moment by a local government (LG) as either incremental, transitional or transformative. Zooming out to the level of the indicator categories allows the user to assess, along thematic lines, where (and how) things are changing in local government GHG emissions, policy, planning or operations. Indicator categories reflect local government mandates to undertake strategic plans, regulate and operate internally. The indicator criteria have been informed by key concepts embedded in social practice theories, multi-level perspective, and socio-ecological systems thinking.

Click on the Indicators column to read more about each one. **Bolded** titles refer to the 6 categories, while the numbered headings refer to indicators. Note that there are four tables in total, with the first three showing one category per table, and the last grouping together 3 categories.

Table 1: Agenda Setting and Strategy

Local Government Climate Action Indicator Framework			
Indicators	Incremental Actions	Transitional Actions	Transformative Actions
<p style="text-align: center;">Agenda Setting and Strategy</p> <p style="text-align: center;">1. Strategic Approach</p> <p>Description: Is the Local Government (LG) undertaking climate actions to reduce emissions or adapt to future climate risks, or are climate actions part of a broader sustainability agenda</p>	Climate-related initiatives/programs are framed as either efforts to mitigate or adapt to climate change.	Climate-related initiatives/programs are seen to contribute to multiple LG departmental strategies.	Climate-related initiatives/programs are framed as vital parts of a more holistic sustainable community agenda/narrative/strategy.
<p style="text-align: center;">2. Champions</p> <p>Description: Who is providing the leadership vision for climate action? Power, influence and ideology key. What constitutes leadership? At what levels is it manifested? Leadership for change can arise from diverse stakeholders; these can include: the city government itself, citizen groups, the private sector, or the judiciary.</p>	Sustainability / Environmental manager, supported by loosely organized community activists	Small, impassioned, but dispersed group of social entrepreneurs within LG, supported by developed local network of external stakeholders	Majority of elected officials and senior staff, supported by research/policy/activist networks operating at multiple levels
<p style="text-align: center;">3. Motivational Drivers</p> <p>Description: Key motivation of Local Government (LG) to act on climate change; vision of the future / reduced adaptation costs</p>	Response to legal requirement or desire for competitiveness or clean environment; vision of ecological modernization	Innovation leading to green jobs, energy independence, and economic diversification and competitiveness	Improved human health and community liveability; improved quality of local environment; reduced adaptation costs
<p style="text-align: center;">4. Mandate</p> <p>Description: Alignment of local government roles and responsibilities in areas related to adapting to or mitigating climate change; (e.g. Renewable energy provision outside of normal service delivery model; air/water pollution and flood control authority shared with senior levels of government); inhibits action as responsibility is difficult to attribute.</p>	Little to no alignment leading to diminished capacity to succeed on meaningful climate action	Active participation in voluntary inter-governmental sectoral (e.g. Water, building codes) committees	LG roles clearly defined within an integrated regulatory framework optimized for climate action
<p style="text-align: center;">5. Integrated planning and programs</p>			

Indicator Framework: All Tables

<p>Description: To effectively address challenges presented by climate change, Local Government (LG) must incorporate climate science, adaptation strategies, and mitigation actions into daily practices, decision-making and long-term plans and investments. Level of agreement among LG departments regarding: climate risks/opportunities; emission sources and magnitude; and, linkages to departmental services, decisions, functions.</p>	<p>Lack of agreement leading to weak / uneven consideration of climate principles by departments wrt operational or investment decisions</p>	<p>Environment-related departments understand risks/opportunities and try their best to include principles in their work</p>	<p>Institution understands climate change risks/opportunities integrates these into all local government decision-making criteria</p>
<p>6. Mitigation and Adaptation</p> <p>Description: Degree to which both mitigation and adaptation are considered linked when identifying LG climate priorities. Typically, the dominant focus among Local Governments (LGs) is on mitigation. Integrating responses to both at local level is important as vulnerability and adaptive capacity are largely determined by local conditions. Interested in the degree to which hard approaches to climate (walls, pump stations, etc) not considered alongside soft approaches (wetlands, plants, etc.).</p>	<p>Adaptation primary focus, with mitigation given only cursory attention</p>	<p>Strategies or plans developed for both, but considered as largely separate issues</p>	<p>Synergies and contradictions of mitigation and adaptation understood by institution and reflected in climate action plans, OCPs and ICSPs.</p>

Table 2: Policy and Plan Formulation

Local Government Climate Action Indicator Framework			
Indicators	Incremental Actions	Transitional Actions	Transformative Actions
<p>Policy and Plan Formulation</p> <p>1. GHG accounting and inventories</p> <p>Description: Inventories, following standardized accounting methods, allow for comparability between local governments, as well as evaluation/feedback on climate policy, plans and actions; ideally inventories are updated regularly by integrating with departmental reporting structures.</p>	<p>Non-standardized emissions accounting method used; irregular updates (if any) to inventory</p>	<p>Standard accounting method used; comparability possible; regular updates performed, but data highly aggregated impairing policy evaluation; price (\$25/t > X <\$75/t) put corporate carbon emissions</p>	<p>Standard method used; inventory updated (easily) annually; data highly disaggregated; policy evaluation possible; price (\$75/t > X <\$200/t) put corporate carbon emissions</p>
<p>2. Community engagement</p> <p>Description: Degree to which the community is engaged in climate policy formulation and solutions. Requires actively engaging with diverse sectoral actors and levels of government to stimulate reflection and understanding across broad cross-section of stakeholders regarding how climate change and climate protection will affect community development. Providing equitable access to the process is key, as is the creation of safe spaces to build trust among actors and the legitimacy of the local government to lead.</p>	<p>Limited set of stakeholder groups consulted; consultation rather one-way in nature</p>	<p>Active, two-way communication; variety of engagement tools used to access general public; prime focus is on traditional stakeholder groups</p>	<p>Two-way learning; active engagement with broad spectrum of community stakeholders; range of tools, rules, and access ways build trust in process</p>
<p>3. Science-policy capacity</p>			

Indicator Framework: All Tables

<p>Description: Degree to which relevant and reliable climate science and policy expertise is available to, or used by, a local government. Use of this sort of knowledge is key to establishing internal policy-making capacity and to increasing a common understanding with respect to how climate change will affect a community.</p>	<p>Limited access to relevant climate science, hence, diminished policy formulation capacity</p>	<p>Access to expertise and know-how uneven across LG with respect to quality and quantity; results in uneven departmental policy development capacity.</p>	<p>Climate science related clear and disseminated widely across LG; functional links between policy- & decision-makers and knowledge producers (academia / experts)</p>
<p>4. Direct and indirect costs/benefits</p> <p>Description: Direct and indirect costs and benefits of mitigation and adaptation today are weighed against the costs and benefits of adapting at a later date in the policy design process. Indirect benefits are equivalent to co-benefits which are often significant, yet rarely quantified or valued.</p>	<p>Focus on near-term direct costs / benefits, and an uncertain stream of future costs / benefits; paying today more expensive than paying tomorrow.</p>	<p>Indirect (co-) benefits (e.g. Public health, energy security) considered in policy formulation and evaluation.</p>	<p>Policy based on accounting standards and indicators that considers broad range of near and short term benefits of strong climate action today, and quantifying the co-benefits.</p>
<p>5. Climate policy networks</p> <p>Description: Degree to which local government engages with external expertise, research centres of excellence, or transnational networks to access leading-edge climate science, learn, share knowledge and experience, and create new norms.</p>	<p>Little value seen in engaging with national or transnational climate research networks.</p>	<p>Passive engagement / participation with national / transnational networks; limited encounters with best practice and diminished dissemination capacity; member of FCM PCP (at or below level 3).</p>	<p>Active engagement with networks and social learning; adopting (experimenting with) and developing (sharing) best practice; member of FCM PCP (level 5 achieved) and other int'l networks (C40, UCLG, etc.)</p>
<p>6. Policy congruence and alignment</p> <p>Description: Degree to which there is vertical (congruence between levels of government) and horizontal (alignment cross-sectoral, among agencies with overlapping mandates). Is there a system to evaluate the synergies and contradictions between intersecting policies?</p>	<p>Misaligned gov't policy results in unclear vision 'mal-adaptation' or 'mal-mitigation'</p>	<p>LG aware of conflicts and trying to mitigate same through strategic partnerships and collaboration with gov't at all levels.</p>	<p>Aligned incentives between gov't levels and across sectoral policy areas; mandatory regulatory impact assessment to include climate change considerations</p>
<p>7. Integrated planning framework</p> <p>Description: LG's natural setting, spatial form and built environments are relatively static, but all are subject to future modification through spatial planning and management. LG's determine land use, neighborhood densities, character of the built environment, parks and open spaces, as well as public infrastructure and facilities. This indicator gives a measure of how well the diversity of community values and needs, including environmental, social and economic values, are incorporated into departmental strategic plans. Degree to which integrated strategic planning is pursued and supported by LG priorities, structures and actions. Integrating land use and transportation planning increases density of developed land. Planning for mixed-use development, and closer proximity to transit and/or destinations can reduce vehicle kms traveled.</p>	<p>No integrated planning framework; planning underpinned by growth assumptions and free-market mechanisms.</p>	<p>Climate / environmental goals incorporated into OCP only; sectoral plans (e.g. waste, land-use, transport, water) non-integrated.</p>	<p>Climate, land-use, transport, water and waste plans and actions integrated and fundamentally congruent/consistent, supported by a regulatory framework.</p>

Indicator Framework: All Tables

<p>8. Planning horizon</p> <p>Description: As climate change represents a long-term challenge that requires action over both short- and long-term, planning should reflect this unique situation. The timing of climate actions need to align with the length of plans and vice-versa, and all plans must transcend political cycles.</p>	<p>Focus on short-term (i.e. 5 yr), with aspirational attention paid to time periods beyond 10 years.</p>	<p>Long-term climate targets set, yet plans are clear only on actions within 2-5 year period.</p>	<p>Plans contain concurrent and sequential actions, with regular monitoring / reporting / updating requirements, throughout duration of plan.</p>
<p>9. Climate Action</p> <p>Description: What is the nature of LG actions? Is the preference for short-term, easy & unlinked actions that leverage maximum external funds, or are they more long-term, priority-based and strategic?</p>	<p>Short-term; focus on low-hanging fruit and quick returns; not joined up.</p>	<p>Short- and medium-term but preference for short-term actions; actions taken strongly linked to gov't funding that arises.</p>	<p>Actions taken according to priority and strategic sequencing; gov't funding synergistic vs distracting; experimentation encouraged.</p>
<p>10. Jurisdiction</p> <p>Description: Energy policy traditionally considered a supra-local issue, controlled at the state/provincial, national, or transnational level. Degree to which LG's legal authority aligns with locally relevant climate areas (e.g. local waste management, local water supply/distribution, local energy supply, transport infrastructure, buildings, land-use). Without the legal ability to act, LG's efforts diminished or they are discouraged from trying.</p>	<p>LG lacks jurisdiction over matters that determine their GHG emissions; legal authority resides with higher levels of gov't.</p>	<p>Devolution of authority to LG without matching funding, revenue generating abilities, or sufficient capacity to permit strategic action.</p>	<p>Decision-making powers and financial controls at the LG level in key policy areas in place; LG spheres of influence well aligned with climate areas requiring action.</p>

Table 3: Implementation

Local Government Climate Action Indicator Framework			
Indicators	Incremental Actions	Transitional Actions	Transformative Actions
<p>Implementation</p> <p>1. Corporate climate actions</p> <p>Description: Level of climate innovation and leadership by local governments, as demonstrated by corporate climate actions, policies and initiatives.</p>	<p>LG undertakes corp. building retrofits, recycling, H2O conservation, and participation in Earth Hour, Car-Free Day, Bike to Work Week. Signed Prov'l Climate Action Charter & buying market offsets.</p>	<p>Corporate green fleet, van-p/car-pooling, solar panels, green roofs, building retrofit projects and renewable energies. Going toward C-neutrality via carbon fund and internal emission reduction projects.</p>	<p>Restorative/passive new civic buildings, comprehensive retrofit program, E-fleet & 3rd party car-sharing services; Carbon fund in place; C-neutral via internal projects; 100% renewables target of 2030.</p>
<p>2. Partnerships, strategic alliances</p> <p>Description: The extent to which the LG engages in partnerships with other levels of government or parallel agencies to enable or stimulate climate action (e.g. collaborating with regional institutions to address adaptation issues which are typically best addressed at this level). Strategic alliances with researchers, civil society leaders and quasi-institutional organizations.</p>	<p>Partnerships limited to existing regional cooperation models over issues like water and waste management.</p>	<p>LG engaged in partnerships with other levels of gov't, civil society or business to advance strategic climate action.</p>	<p>LG actively engaged in partnership models to take concrete climate actions and deliver more climate-friendly core services.</p>
<p>3. Local government controlled service delivery</p> <p>Description: Willingness of LG to adjust its service delivery model to ensure climate friendly community development.</p>	<p>LG undertakes traditional delivery of water, waste and other infrastructure services without special regard for climate imperatives.</p>	<p>LG working to raise awareness of climate-friendly ways in which residents can engage with local services (e.g. Water conservation, waste recycling, organics recycling, energy efficiency).</p>	<p>LG expands its role to enable delivery of a climate-friendly service (e.g. E-efficiency housing, bicycle-sharing network, district energy based on renewables) to residents.</p>

Indicator Framework: All Tables

<p>4. Rule making - Local Government climate regulations</p> <p>Description: Degree to which LG makes efforts to actively regulate in favour of climate-friendly development. This includes enforcing regulations from senior levels of government related to energy and climate, lobbying senior levels of government for building code improvements, rezoning vulnerable areas to adapt to climate change or increase housing density, infill development, reuse of buildings, green building checklists, density bonuses for green buildings, development permit areas (DPA) for energy efficiency, building energy efficiency labelling, mandatory hook-up to district energy systems, etc.</p>	<p>Handful of opt-in programmes offered to residents and businesses (e.g. Sustainability checklist, bldg energy labelling, solar-ready, etc.).</p>	<p>Stretch' code embraced, E-efficiency req'mts in DPA's, min energy performance criteria for new zonings; green building / sustainability checklist mandatory for all new bldg permits.</p>	<p>LG flexibility / autonomy over bldg codes; net-positive bldgs and passive house for new / existing houses; mixed use zoning, compact and transit-oriented development.</p>
<p>5. Experimentation / innovation</p> <p>Description: The degree to which LG enables or encourages experimentation / innovation, both in and outside of LG, around climate-friendly policies, practices or technologies. Providing incentives, encouraging risk-taking, and creating safe places to innovate are key here, as is support (technical and financial) from senior levels of government. Results of experimentation are monitored closely and results shared widely.</p>	<p>Encouraged within traditional business and technological arenas, but less so in climate domain.</p>	<p>Permits experimentation (in and outside of LG) on climate-friendly policies, practices and technologies, and advertises this modestly; modest to no financial incentives.</p>	<p>LG incentivizing, promoting & underwriting climate experimentation through partnerships; champions / protects niche experiments; disseminates successes.</p>
<p>6. Institutional arrangements</p> <p>Description: Level of coordination and alignment between (and degree of shared understanding among) LG departments around issues related to climate risks, priorities and incentives, all in the context of delivering on strategic climate priorities. Are climate actions delivered as project-based initiatives (involving multiple departments/expertise) or are they undertaken as department-based projects? High functioning LGs exhibit well developed climate policy/implementation capacity, joined-up thinking about operational/capital investment decisions, a healthy science-policy relationship, mutual respect between departments, and shared understanding of climate risks and opportunities.</p>	<p>Conflicting dept'l priorities, incentives; single env't dept responsible for climate issues; climate not considered beyond env't dept; lack of structures to coordinate multiple internal dept's</p>	<p>Central coordinating group responsible for climate action across all dept's and for mainstreaming climate goals; or climate group within each climate-relevant dept</p>	<p>Department structures are aligned and mandates reflecting LG climate change areas, principles and priorities are embedded through the LG.</p>
<p>7. Institutional capacity</p> <p>Description: Degree to which resources (financial and know-how) are sufficiently and evenly distributed across LG to effect effective policy formulation, implementation, monitoring and adjustment.</p>	<p>Uneven; climate issues the pervue of sustainability folks.</p>	<p>Limited internal expertise exists; little to no budget for external expertise; full-time Sustainability or Energy Manager in place (# staff linked to size of community); no clear climate mandate for climate-relevant dept's.</p>	<p>Climate policy capacity evenly distributed across LG dept's; climate/sustainability goals embedded in all dept plans; climate action steering group ensures climate/sustainability goals adhered to.</p>
<p>8. Horizontal linkages</p>			

Indicator Framework: All Tables

<p>Description: The degree to which LG engages in partnerships with similar level institutions to deliver comprehensive climate action. Partnerships like this enhance policy-making by making implementation more universal across region. / Fragmented resulting in gaps in implementation depending on jurisdictions / two-way learning</p>	<p>LG has few formal relations with sectoral organizations or agencies (e.g. BC Hydro, FortisBC, BCUC) that could help with policy implementation.</p>	<p>LG engaged in formal partnerships with sectoral actors (gov't, Crown Corp's and non-gov't) to enhance policy formulation / implementation; lessons learned / best practice being shared via partners.</p>	<p>LG well embedded in formal / non-formal sectoral partnership network and climate policies are jointly formulated and implemented via this network. Social learning occurring.</p>
<p style="text-align: center;">9. Financial support</p> <p>Description: Degree to which climate actions are supported both from within and outside of the LG. The policy and regulatory framework presented by senior levels of government plays key role in questions of financial support. Internal funding often not available or insufficient to permit proper implementation of plans as LGs are loathe to dedicate tax base funding to climate actions, relying more on senior levels of government. However, this funding model leaves climate action at the local government vulnerable to policy misalignments at different levels of government, in addition to election cycles and senior government budget dynamics.</p>	<p>LG budget for climate action not part of LG base tax funding; funding from higher levels of gov't sporadic and often unaligned with LG priorities; LG tends to act when gov't funds become available.</p>	<p>Limited budget available (to leverage external climate funds) for climate initiatives in climate-relevant dept's; LG very sensitive to provincial / federal funding, but this is rarely aligned with LG goals.</p>	<p>Climate action' is line item in all dept'l base budgets and budgets for outside climate expertise available. Senior gov't funding programs aligned with each other and with LG needs and vice versa.</p>
<p style="text-align: center;">10. Vertical policy support</p> <p>Description: Degree to which assistance for LGs from senior levels of government is available. This can come in the form of support for enhanced transfer of climate change knowledge from academics and experts to policy and decision makers in LG. This kind of coordination can also help to deepen knowledge and lead to strategies that resonate from the bottom-up, which can help local climate leaders create positive climate norms. Key questions for senior levels of government include: has a price been put on carbon? and: are climate action and growth seen as an either-or proposition by senior levels of government?</p>	<p>Senior government policy framework is missing or misaligned with LG priorities; senior gov't policy related to energy generation and supply contradicts local climate priorities.</p>	<p>Policy frameworks at prov'l and federal levels incomplete; incentives rarely align due to jurisdictional conflicts, funding cycles. LG climate policies able to exist, but not thrive.</p>	<p>Appropriate devolution of authority with stable funding / capacity; an enabling policy framework exists resulting in linked up policy across all levels of government; two-way learning possible.</p>

Table 4: Feedback & Evaluation, Dissemination, and GHG Emission Reductions

Local Government Climate Action Indicator Framework			
Indicators	Incremental Actions	Transitional Actions	Transformative Actions
Feedback & Evaluation 1. Outcome measurement			

Indicator Framework: All Tables

<p>Description: Status of climate policy outcome measurement, monitoring, evaluation and reporting. OECD concludes the landscape is full of local governments 'unable to tie quantifiable mitigation targets with large-scale applications of energy efficient buildings, building retrofits, renewable energies, and transit-oriented development'. There is a critical need for ways to measure the impact of policy interventions.</p>	<p>No metrics identified, and hence policy impacts left unmeasured.</p>	<p>Community GHG emissions inventory (infrequently) available and at a level of aggregation that fails to permit objective policy evaluation.</p>	<p>Metrics agreed upon; these monitored and reported on regularly; emission inventories are disaggregated sufficiently to permit fine-grained policy evaluations.</p>
<p>2. Performance monitoring and evaluation</p> <p>Description: Degree to which ongoing performance of plans, strategies and actions are achieving emission reduction targets and delivering climate benefits.</p>	<p>No quantifiable metrics to measure policy performance or recommend policy adjustments; irregular inventories available to provide distance to emissions reduction target.</p>	<p>Qualitative policy performance metrics available but not linked to GHG reductions. Inventories more frequent & fine-grained allowing for more frequent policy adjustments.</p>	<p>Evaluation / reporting req'ts on performance established; progress to target and deadlines reported regularly; quantifiable measurements linked to implementation of policies.</p>
<p>3. Indicators</p> <p>Description: Degree to which LG has established locally relevant indicators to measure climate progress. Indicators that are relevant to other local governments can be used to increase dissemination and scaling up and out.</p>	<p>No indicators, beyond CARIP reporting and the provincial CEEI, exist.</p>	<p>LG does CARIP reporting and undertakes own community GHG inventory to help assess climate progress.</p>	<p>LG does CARIP reporting and has developed clear set of climate indicators; these are monitored, measured and reported on annually, and results fed into policy review processes.</p>
<p>Dissemination</p> <p>1. Information sharing / learning</p> <p>Description: The degree to which LG actively engages in networks of best practice, experience sharing, peer-to-peer exchanges, or learning. Participating in these networks also serves to remind senior levels of government that LGs are particularly vulnerable to C-risks and they have a key role to play in C-action. Capacity gaps can be filled and risks reduced through participation with other LGs facing the same challenges. Social learning is another key outcome of sharing networks and most influential inducing social practice changes.</p> <p>2. Sharing networks - Policy & Research</p> <p>Degree to which LG is engaged with local, regional, provincial, national or transnational networks of climate best practice, or research/advocacy groups comprising experts, non-experts, business groups, NGOs, etc.). Networks help to ensure lessons learned and best practice are widely disseminated. Networks can also lobby senior levels of government more effectively than individual local governments.</p>	<p>Information silos exist with little sharing between dept's or with / between external networks / experts. Learning limited to formal staff training, and informal exchanges neighbouring LGs.</p> <p>LG relies on existing thematic networks (e.g. waste, water, parks, development, etc.) to share and receive climate-related best practice advice / information.</p>	<p>Climate knowledge found beyond climate / sustainability staff in other dept's as sharing / dissemination encouraged. Best practice networks referenced by staff in policy development process.</p> <p>LG is member of one network dedicated to exchange of climate-related best practice. This information is used by the environment or sustainability department only.</p>	<p>All dept's actively engaged in internal/external sharing networks; influence of lessons learned and best practice high among staff; climate principles well embedded in dept mandates.</p> <p>LG is member of several networks (at various geog scales); uses these to learn best practice & disseminate local lessons learned; all climate-relevant dept's engaged in process.</p>
<p>GHG Emission Reductions</p> <p>1. Corporate emissions target</p>			

Indicator Framework: All Tables

<p>Description: Presence or absence of corporate GHG emissions reduction target. An emissions target confirms an LG understands their contribution to climate change and provides an objective target toward which actions / policies can work.</p>	<p>No corporate target for energy or emissions; corporate carbon neutrality target under Climate Action Charter</p>	<p>Target set, at least in line with percentages, baseline and dates outlined in Provincial targets (e.g. 30% by 2020, 80% by 2050, below 2007 levels). Carbon neutral target set (via offsets).</p>	<p>Energy target set (100% renewables for city operations by 2030) as well as carbon neutral operations (predominantly via internal reductions, renewables and fuel switching).</p>
<p>2. Absolute change in corporate GHGs (between years 2010 and 2015)</p> <p>Description: Depending on corresponding growth in service levels, this measure gives indication of global emissions impact of LG over a given period of time. Setting boundaries to determine what emissions are to be counted in total is of critical importance, with international protocols (e.g. WRI/WBCSD Greenhouse Gas Protocol) being an example of a standardized, global approach to corporate emissions counting.</p>	<p>X < 5% reduction</p>	<p>5% < X < 10%</p>	<p>X > 10%</p>
<p>3. % change in per capita emissions (between years 2010 and 2015)</p> <p>Description: Corporate emissions divided by population to normalize emission reduction data gives one intensity measure and can help reveal efficiencies gained.</p>	<p>X < 5% reduction</p>	<p>5% < X < 10%</p>	<p>X > 10%</p>