

Linking Climate Change Adaptation and Mitigation with Sustainability Planning in Richmond, British Columbia, Canada



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Abstract: Sustainability encompasses a broad range of considerations, including climate change response, social inclusion and equity, sustainable resource use, economic development and ecological health. The emergence of more sustainable communities depends upon progress made towards the system as a whole; it is about having all the parts being considered and having all the parts working collectively. Yet, despite the broad range of considerations, sustainability action can often be narrowly defined to one or two areas of focus. Often this narrow focus can mean that action intended to advance sustainability, is itself, not inherently sustainable – resulting in unintentional impacts and in some cases, impairing overall advancement. A scoping exercise completed in 2008 identified climate change as an important sustainability focus area for the City of Richmond. Yet, how can progress be made on this challenge in a manner which supports overall community sustainability? The City of Richmond is collaborating with external partners and experts to embark on a whole systems approach to corporate sustainability planning and action – one which integrates climate change response. This paper explores the successes, challenges and lessons learned to-date on a model where climate change response is being pursued as part of a whole systems approach to sustainability.

Keywords: climate change, adaptation, sustainability, planning

1. Introduction

While the international debate on climate change continues to evolve within research communities, municipal governments are seeking ways to effectively respond and take action. However, there remains a large gap between climate change knowledge evolving at the global scale and localized knowledge and expertise which enables information to be understood and applied in practice at the community level. To take meaningful action, local governments need to be able to understand what climate change means specifically for their respective local communities. This necessitates that communities be able to translate trends and predictions in climate change at the global scale to the local scale and evaluate what these changes mean for local systems. Taking meaningful action by municipal governments also necessitates that local governments strategize to identify and advance initiatives which fit within the local governance system, community context and overarching sustainability objectives.

Part of the municipal planning reality is the importance of existing ties to place and current conditions. Whether residents have a multi-generation history in a community, or are relative newcomers, attachment to place is very strong, a sign of pride in public facilities, as well as in access to natural landscapes, recreational and cultural activities. While responding effectively to climate change may necessitate significant changes in community structure, including land-use decision-making and municipal service delivery, the magnitude of these potential changes poses a significant challenge in light of currently-held attachments to place.

At the same time, local governments are faced with a multiplicity of local scale issues, including financial concerns, jobs, social programs, municipal service delivery and overall challenges in maintaining and enhancing quality of life for community residents. Communities like Richmond, British Columbia are endeavouring to effectively address these various issues in the context of a wide spectrum of changing conditions, including but not limited to climatic changes. Examples of other dynamic conditions are demographic and population changes, economic change, biodiversity and natural resource condition changes, changing social needs and changing technology.

Given this complex context, how can climate change be effectively integrated into local government planning in a manner which effectively considers the multiple objectives of local government?

This paper explores roles, responsibilities and planning activities undertaken by the City of Richmond, a low lying coastal community located south of Vancouver, in which climate change response is being pursued as part of a whole systems approach to sustainability.

2. Local Sustainability and Climate Change Planning

The City of Richmond is currently in the process of developing an Enhanced Sustainability Initiative aimed at improving the sustainability performance of the municipal government. A recent review identified over 80 existing initiatives aimed at advancing various dimensions of sustainability, including action towards addressing climate change. The City's Enhanced Sustainability Initiative aims to build upon the City's corporate success by increasing the benefit return value of corporate action. A

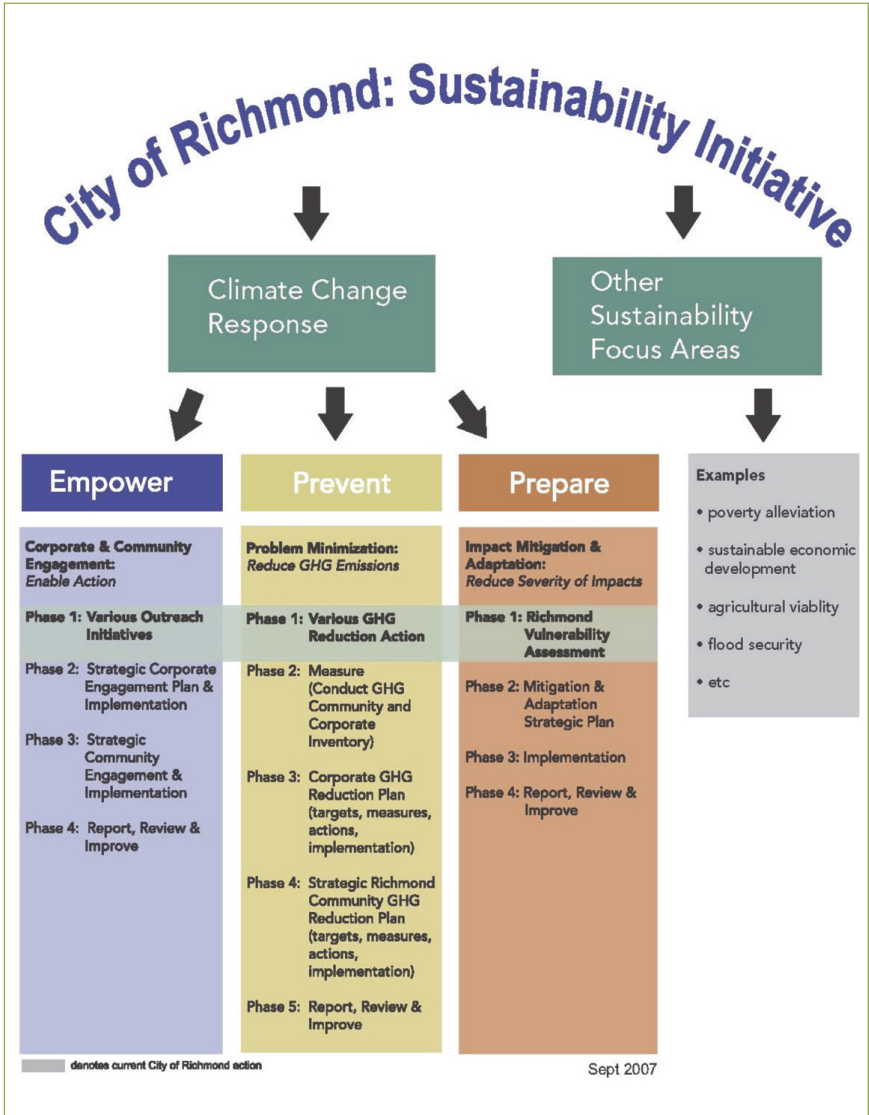


Figure 1 | City of Richmond Sustainability Initiative incorporating climate change response.

key area of focus is to develop and advance a well-managed systems approach to sustainability, one that strives to integrate a suite of action initiatives into a cohesive and collective approach.

The City's enhanced sustainability initiative encompasses a broad range of topics and objectives that are essential for the long-term well-being of the Richmond community. Climate change response is one of the many important areas of consideration under the broader sustainability umbrella. The City of Richmond has undertaken various actions towards addressing climate change, including international policy advocacy, greenhouse gas (GHG) emission reduction, sustainable community development, early adaptation planning and community outreach. To focus climate change action towards priority areas in a comprehensive manner, the City of Richmond adopted an overarching Climate Change Response Agenda. This Response Agenda is based on three pillars of action: *Empower, Prevent and Prepare* as shown in Figure 1. The Empower component includes corporate and community engagement to enable action. The Prevent component is designed to reduce greenhouse gas emissions, while the Prepare component includes planning to mitigate unavoidable changes and better enable the corporation and community to adapt. While advancing strategically, the City of Richmond is continuing to take action on the ground, moving forward on various existing action initiatives and capitalizing on opportunities as they arise.

3. Climate Change Impacts Scoping Exercise and Adaptation Workshop

In 2007-2008, the City of Richmond, Environment Canada and the University of British Columbia (UBC) formed a partnership to assist in developing a strategy for climate change adaptation. A key aspect of the exercise was to identify adaptive approaches that explicitly integrate opportunities for reducing greenhouse gas emissions and support long-term sustainable community development.

The work consisted of an early impacts scoping study (Bizikova and Neale, 2008; Environment Canada *et al.*, 2008) aimed at identifying projected local climatic changes and initiating understanding of potential implications and impacts. As part of the scoping study, City staff interviews were conducted to:

- identify current climatic change effects that could be used to illustrate decisions needed to respond to progressing climate change in the future;

- provide insights on how existing policies, practices and systems may pose either barriers or opportunities in preparing for climate change; and
- assist in exploring the capacity of existing systems (human and natural) to accommodate changes in climate.

A workshop on adaptation was held for the municipal government in June 2008 at Richmond City Hall. Workshop participants were provided with the findings from the scoping study, including climatic change projections as specific to Richmond as possible. A number of short-term and long-term adaptation potential actions were identified related to natural resource management, development policies and land use, coastal defences, the built environment, and potential requirements for land acquisition for flood protection.

4. Outcomes and Lessons Learned

i. Initiating dialogue

The scoping study and workshop were intended to initiate dialogue on climate change adaptation. While a number of potential strategies and actions were identified, there would need to be more detailed analyses of any proposed adaptation measures with consideration of the local context. One tangible outcome has been that the City formed a strategic interdepartmental team on climate change as a first step towards building institutional capacity and has embedded the climate change agenda within the City's overarching sustainability initiative. Recognizing the value of research-practitioner partnerships, the City's climate change team has continued to collaborate with external climate change researchers.

ii. Strengthening and understanding the value of cross-professional collaboration

The partnership approach offered an opportunity to highlight the value of combining expertise in climate change research with local government practitioner experience and knowledge. This collaborative approach is seen as a way to develop more sustainable responses by:

- Engaging a broader range of expertise and knowledge and better supporting whole system approaches (e.g., sustainability and climate change policy development, community land-use planning, infrastructure planning, municipal operations and service delivery, etc.); and

- Strengthening the relevance and utility of climate change information by tailoring climate change information to meet practitioner needs and integrating scientific understanding with site-specific and experiential practical knowledge.

The specific benefits realized through researcher/practitioner collaborations will depend upon a wide variety of factors, including the phase of the work. For example, adaptation work is presently in initial stages, both with respect to research and practical application. In this early phase, the researcher/practitioner collaboration served to effectively raise awareness of climate change considerations amongst a range of local government professions (e.g., policy-making, planning, engineering, environmental management, parks development, public works, etc.). By tailoring climate change information in a manner that conveys local relevance, practitioners were more readily able to engage in dialogue, contribute to increasing understanding of potential implications and explore potential response options. The collaboration also served to inform the research community, which is becoming more interested in linking global scale climate change science with local scale response.

Knowledge gained through the process served to promote shared learning among the researchers and municipal planners. Fundamentally, the partnership provided the opportunity for identifying the value of “whole-systems” thinking, and establishing a basis, early on, for holistic and collaborative approaches. The collaborative process followed in this exercise also contributed to the development of a guidebook to support future studies and integrative planning processes (Bizikova *et al.*, 2008).

5. Summary

While a holistic approach is seen as the basis for realizing a more sustainable future, practices for advancing an understanding of climate change are often developed without the whole in mind. By embedding climate change as part of an overall framework for sustainability, the City of Richmond is endeavouring to advance a “whole systems” approach – one which considers the multiple components of sustainability and how they work collectively. The adoption of a complete systems approach, however, necessitates deeper consideration and understanding of the multiple linkages and connections across the various dimensions of sustainability.

Greater connections among climate change researchers and practitioners is one important means for enabling greater whole systems approaches. Currently, however, there is a large gap between climate change science, knowledge and practice. The 3-party partnership among the City of Richmond, Environment Canada and UBC revealed the many benefits of collaboration between academic research and practical application.

Unfortunately, without considerable personal effort, current institutional and organizational structures do not inherently foster collaborations between researchers and practitioners. Forging new collaborations between researchers and practitioners and establishing mechanisms that support collaboration on a sustained basis offers valuable opportunities for increasing the uptake of climate change knowledge and accelerating action on the ground.

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