



Characterizing desired futures of Canadian communities



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ABSTRACT

In sustainability research and practice, one method widely used in exploration is visioning, in which desirable sustainable futures are articulated and explored in depth. Communities across Canada have used this method to develop collective desirable futures, in many cases to provide an end goal for local sustainable development. In this paper, we conduct a meta-analysis of desired futures created by communities across Canada with the aim of identifying regional commonalities according to the three pillars of sustainability, social, environmental, and economic. Although sustainability demands a balance between its social, economic and environmental components, Canadians futures apparently place the greatest importance on social aspects with 338 desires against 222 and 230 respectively for economic and environmental sustainability. Community (105); Infrastructure, development, and transportation (126); and Natural environment (157) are the categories most frequently recorded within each of the three components of sustainability. The metaanalysis also noted significant differences amongst regions. The study was conducted in the context of an initiative known as the Sustainable Canada Dialogues that mobilized 60 + scholars from across the country around a consensus on science based, viable solutions for greenhouse gas reduction. Our results suggest that climate policy that simultaneously reduces greenhouse gas emissions while enhancing some of the key aspects of social sustainability would be attractive to many Canadians.

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1. Introduction

Sustainable development has initially been defined in the context of the long-term viability and integrity of human societies and natural systems, such that the needs of present and future generations can be met (Brundtland, 1987). Thus the future is inherently central in sustainability theory and research. The highly complex and uncertain nature of the future challenges our ability to plan for and achieve sustainable societies. And this may be increasingly challenging as time progresses; it has been suggested that the future is becoming even less certain under accelerating and unprecedented rates of global change (Banister & Hickman, 2013). Traditional methods of forecasting the future by extrapolating trends forward in time reveal that our current trajectory is unsustainable and leads to a state of irreversible environmental damage (IPCC, 2014). In this light, many alternative methods for systematically thinking about the future have gained popularity in sustainability research. These methods often involve the creation of various possible and/or desirable futures that are different from the most likely scenario, therein exploring uncertainty and providing insight into the drivers of change (Peterson, Cumming, & Carpenter, 2003).

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Visioning is one in a suite of participatory methods that have been implemented in addressing complex human-environmental problems (see [Salter, Robinson, & Wiek, 2010](#) for a review). It is used to create such desired futures that have become a key tool in sustainability research. In the sustainability context, visioning is the process of formulating desirable and sustainable future states, i.e. visions ([Iwaniec & Wiek, 2014](#)). Visions are thus distinct from predictions, as they represent the open-ended values and desires of participants irrespective of current conditions. In this exploratory approach to investigating a highly complex future, it is beneficial to include a diversity of expert, stakeholder, and public input in the desired futures to incorporate a range of understanding and alternative forms of knowledge ([Robinson & Cole, 2014](#); [Salter et al., 2010](#)). In this sense, [Robinson and Cole \(2014\)](#) propose that sustainability can be thought of as “the emergent property of a conversation about desired futures that is informed by some understanding of the ecological, social and economic consequences of different courses of action.”

Collaborative desirable future states are becoming more widely recognized as influential and an effective stimulus for change in the sustainability discourse ([Wiek & Iwaniec, 2014](#); [Wilkinson & Mangalagiu, 2012](#)). Visions provide an end state or goal for development that actively avoids undesirable outcomes ([Wiek & Iwaniec, 2014](#)). Additionally, the participatory visioning process itself serves to empower participants, build capacity and accountability, develop support for the outcome, and incorporate alternative perspectives in planning ([Larsen, Gunnarsson-Östling, & Westholm, 2011](#); [Peterson et al., 2003](#); [Wiek & Iwaniec, 2014](#)). Many cities, companies, and organizations have recognized the benefits of both the visioning process and the vision itself, and have crafted visions to guide future development and planning ([Connelly, Markey, & Roseland, 2009](#); [Wiek and Iwaniec, 2014](#)).

These visions are useful tools in development towards a more sustainable future for the organizations and communities in which they are created. However, they may also be compiled and compared to inform policy and development at a broader scale. Common desires may indeed be useful to illustrate what a shared sustainable future might look like and provide a foundation for the planning needed to achieve it. A synthesis of visions may offer insights into the common desires of communities across a region, in a way that mirrors the synthesis of ideas within the individual visions. Herein, a meta-analysis of community-based visions from across Canada is conducted to characterize desired futures of Canadians. To our knowledge the analysis is the first of its kind conducted on visions in Canada, and it aims to serve as a novel tool in sustainability planning and practice.

Our meta-analysis was conducted in the context of an initiative known as the Sustainable Canada Dialogues that mobilized 60+ scholars from across the country around a consensus on science-based, viable solutions for greenhouse gas reduction. *Acting on Climate Change: Solutions from Canadian Scholars*, the position paper launched by the Sustainable Canada Dialogues in 2015, proposes that because sustainability can improve environmental, social and economic well-being, the transition to a low-carbon and sustainable society represents a positive opportunity for change. By mobilizing society around technical and social innovations it provides the possibility for all citizens to act on the future at hand, and as such should be informed by the desired futures of Canadians in order to inspire action.

2. Research methods

A qualitative meta-analysis of community vision reports conducted in Canada and published after 2000 was carried out to compare Canadians' desired futures. These reports document community-based projects that have used input from public participation to summarize communities' desired futures. To identify existing community vision reports, the keywords searched in Google and Google Scholar were: vision*, sustainability, community, municipality, participatory research, and (desire*) future*. Two websites found during the search, The Natural Step Canada and Share the Wheel, have lists of community-based visioning projects; these lists were searched within the respective websites, in addition to the Google search.

The reports were selected initially for the meta-analysis based on the following criteria: (1) explicitly discussed sustainability and (2) used visioning or similar participatory methods aimed at articulating participants' values and desires for the future.¹ Reports that include a community vision but do not specify or provide details on a participatory method were excluded, as were plans that articulate a vision for only a specific element of a community, such as urban design. Reports in which possible future scenarios were created by experts and presented to participants, although useful in ways which are discussed later, were excluded in the interest of comparing participants' unrestricted values and desires. Nonetheless, it is acknowledged that the processes through which community visions were formulated likely involve some degree of expert involvement and influence.

The number of reports fitting the criteria varied between provinces and territories. A maximum of five reports per province or territory were included. More than five suitable reports were found from British Columbia and Québec, and the first five municipalities to be identified during the search were included. This method of inclusion was chosen due to time constraints, however it is recognized that this may bias the data in favour of visions that are best known and/or most frequently cited. At times numerous visioning reports were found from the same regional municipality; for example, in the Regional Municipality of Halifax the VisionHRM project includes visioning done in seven different communities. To choose

¹ Similar participatory methods employed in creating community visions include conversations and interviews, youth workshops, active events, public displays and booths, online engagement, round table discussion, questionnaires and surveys.

Table 1

Provinces and territories were grouped into regions based on geography and populations. Regional sample sizes represent the number of community vision reports included from each region.

Region	Regional Sample Size	Province(s) and Territories	Community
Pacific Canada	5	British Columbia	Ladysmith Williams Lake Whistler Vancouver North Vancouver
Prairies	7	Alberta Saskatchewan Manitoba	Airdrie Edmonton Calgary Lacombe Skownan Winnipeg
Ontario	3	Ontario	Markham The Village of Carp Constance Bay
Québec	5	Québec	Pontiac Chelsea Saint-Anne-de-Bellevue Rivière du Loup Communauté Métropolitaine du Québec
Atlantic Canada	7	New Brunswick Nova Scotia Prince Edward Island Newfoundland and Labrador	Saint John Moncton Bedford Musquodoboit Harbour Spryfield Charlottetown Corner-Brook - Rocky Harbour Region
Northern Canada	4	Yukon Northwest Territories Nunavut	Carmacks Whitehorse Northwest Territories Sustainable Iqaluit

the reports to be included in the meta-analysis, these communities were grouped as ‘close to shore,’ ‘inland,’ and ‘eastern,’ and one community from each group were selected at random. Likewise, eight community design plans in the Regional Municipality of Ottawa were found to fit the criteria; communities were grouped as ‘near’ and ‘far’ from the river, and one report was selected from each group. In addition, in Newfoundland and Labrador a meta-analysis of community vision reports from the Corner Brook–Rocky Harbour region was found and included instead of the individual community reports. Similarly, a territory-wide vision for the Northwest Territories was included rather than individual community visions.

2.1. Community-based visions are common in Canada

Thirty-one (31) community vision reports (Table 1) were included in the meta-analysis, comprising integrated community sustainability plans (ICSPs), municipal sustainability plans (MSPs), community design plans (CDPs), and other community vision documents. The reports were grouped into six regions based on population and geography: Pacific (British Columbia), Prairies (Alberta, Saskatchewan, Manitoba), Ontario, Québec, Atlantic Canada (New Brunswick, Nova Scotia, Newfoundland and Labrador, Prince Edward Island), and Northern Canada (Yukon, Northwest Territories, Nunavut). Reports were also labeled based on community size, as small, medium, or large population centers, as defined by Statistics Canada.

Among the reports included, there are 5 from British Columbia, 7 from the Prairies, 3 from Ontario, 5 from Québec, 7 from Atlantic Canada, and 4 from Northern Canada (Table 1). The communities that created these visions span a wide range of sizes, from the Skownan First Nation community of northern Manitoba, with an on-reserve population of 281 at the time of visioning (IISD, 2001), to two of Canada’s most populated cities, Vancouver and Calgary. These communities vary in geographic, economic, and socio-political contexts.

The number of community members who contributed to each vision is highly variable and often correlates with community size. Sixteen of the 31 reports include estimates of the number of community members who participated in the creation of the vision, ranging from 55 in Whitehorse, YK to over 42,000 in Winnipeg, MB. Next to Winnipeg, the highest reported involvement is an estimated 35,000 people in Vancouver’s Greenest City 2020 project and over 18,000 in the imagineCALGARY initiative. The documented participation totals over 116,000, which accounts for participants in approximately half of the reports.

Public engagement duration and methods also vary greatly between projects. In some communities, engagement span a long time period; 3 years for example in Whistler while the visioning sessions in the town of Ladysmith all took place in the summer of 2008. The vast majority of communities, 28 out of 31, employ a mixture of methodologies, striving to engage people from as many sectors and demographics as possible (Appendix A). The most common method of gathering input is community meetings or round-tables, used in 18 communities; other common modalities are visioning workshops, youth engagement events, various forms of online communications (i.e.: email, webinars, social media), surveys and questionnaires, and individual interviews with community leaders, municipal staff, or other stakeholders. Most of these methodologies are openly inclusive and enable participant self-selection as a way to incorporate the greatest diversity of stakeholders. Some cities developed novel ways to engage citizens such as Williams Lake's "Amazing Race" where citizens visited landmarks in the community to provide input into different social, economic, cultural and environmental topics or Lacombe's Idea wall, a wall-size poster placed in the three schools and in the hall of the Lacombe Memorial Centre so that everyone could write, doodle or draw their ideas about Lacombe. While it would be most interesting to compare the methodologies employed to develop best practices, visioning reports do not provide the information necessary to do so.

Table 2

Sustainability pillars, categories, and themes. Numbers in curly brackets indicate the total category counts across all categories and regions within the respective pillar. Numbers in square brackets indicate the category counts across all regions for the respective category. Numbers in parentheses indicate the number of regions in which that theme is amongst the most common themes (see also Fig. 2).

Society {338}		Economy {222}		Environment {230}	
Social Well-being [90]	Public services and facilities (1)	Economy and Materials [96]	Adequate Employment and income	Natural Environment [157]	Preservation of land and landscapes (3)
	Complete community		Tourism and ecotourism		Water accessibility and use (4)
	Food security		Partnerships and cooperation		Clean air
	Population stabilized		Economic prosperity (1)		Biodiversity protection
	High quality of life (4)		Local businesses and amenities		Natural heritage (1)
	Social Structure		Opportunity and innovation		Experiences in nature (1)
Community [105]	Safe and accessible community	Infrastructure, Development, Transportation [126]	Sustainable low-carbon economy	Energy, Resources, and Waste [73]	Minimize ecological footprint
	Connected communities		Sustainable food sources		Reduce fossil fuel use (1)
	Community involvement (2)		Housing		Renewable energy and resources
	Community Character (1)		Sustainable development (3)		Reduce consumption and waste (2)
	Aboriginal Communities		High quality infrastructure		Sustainable waste management
Education [27]	Educational opportunities		New infrastructure		
	Lifelong learning		Preserve existing infrastructure		
Recreation, arts, and culture [85]	Educational facilities		Low impact transportation (5)		
	Recreation programs and facilities (1)				
	Presence of arts and culture (1)				
	Arts and culture programs and facilities				
Governance [31]	History and heritage				
	First Nations culture				
	Well-managed				
	Community decision-making				
	Transparent, accessible, inclusive government				
	Local government				
	First Nations government				

2.2. Analysis of community vision reports

The reports varied considerably in their structure and level of detail. The objective of the meta-analysis was to extract the (i) main ideas of the community's vision, (ii) stated values, and (iii) community's goals, so as to represent all reports equally, regardless of the level of detail. These aspects were identified from section headings, topic sentences, or repeated statements, as being key aspects of the desired future. Some vision reports identified major community ideas, values, and goals, enabling straightforward extraction of these aspects. In other reports these aspects were identified and extracted from paragraphs of text.

A top-down approach to coding was adopted to identify the prominent elements of each vision. This approach was chosen over a bottom-up approach to allow the same coding scheme to be applied across all reports given the diversity of the content being compared and the predefined aim of the analysis. The main ideas were coded *in vivo*, using original language from the text as codes, to ensure the ideas remained as close to their intended meaning as possible. The three pillars of sustainability, social, economic, and environmental, were used as the basis to group the ideas (Heal, 2012) (Table 2). Nine categories were established based on the organization of ideas within many of the reports, in order to maintain original meaning as best as possible. These categories are, for social sustainability: social well-being; community; education; recreation, arts and culture; and governance, for economical sustainability: economy and materials; and infrastructure, development, and transportation, and for environmental sustainability: natural environment; and energy, resources, and waste. Within these categories, similar ideas were grouped into themes. Themes were either given a new code to encompass all of the ideas in the group, or retained the code of an idea within the group if suitable. For example, the ideas 'high quality of life,' 'healthy, active lifestyle,' 'lower cost of living,' 'poverty reduction and social equity,' and 'social life' were grouped within the theme *high quality of life*. This theme falls within the category of social well-being in the society pillar of sustainability. Although this hierarchical approach to extracting and organizing content may limit the ability to fully capture cross-cutting themes such as climate change, similar content that appeared in multiple coding categories allowed broader themes to surface during analysis. After the initial coding scheme of themes, categories, and pillars was developed, it was compared and harmonized with the scheme developed in a parallel study of Canadian community visioning workshops (Richards, Stoddart, Cunsolo Wilcox, Potvin, & The SCD Visioning Team, 2015) for cross-validation and consistency.

The number of community visions that include each idea within a region was counted. The counts of all ideas within a theme were then totaled, giving a count for each theme. This count is a general measure of the occurrence of a theme in the visions of a given region, representing how often and in how many different ways each theme appears. The counts for each theme were converted to average counts per community to control for the number of community visions included from each region.

To analyze general commonalities of visions across all regions, the theme counts within each category were totaled for each region. These category counts were then totaled across all regions to determine the most common categories within the social, economic, and environmental pillars in community visions across Canada.

To investigate the regional differences in Canadians' visions for each pillar of sustainability, social, environmental, and economical, three chi-square tests were conducted for each region. The null hypothesis tested was that the category counts in a given pillar do not differ significantly amongst regions. The expected counts represent this null model, in which all communities across the country have the same (average) category counts. Expected counts were calculated by totaling the counts in each category across regions, dividing that by the total number of communities (31), and multiplying by the number of communities in each region, thereby controlling for regional sample size. In regions and pillars where counts were found to differ significantly from expected, counts of categories within that pillar were compared to identify differences between observed and expected counts at the categorical level.

Coding of desires in categories under the three pillars of sustainability is a subjective exercise. Desires often intersect those three pillars; for example, the economic category infrastructure development and transportation with a theme such as sustainable development is at the cross-section of all three. Nevertheless, organizing the desires for futures of Canadian in a hierarchy of pillars, category and themes allow to identify dominant concepts, in terms of the frequency of counts, as well as the complexity of narratives, as a function of the number of themes and category within a pillar. Our coding analysis therefore allows determining commonality and difference in the community visions at the country level and within regions.

3. Results

3.1. Similarities in visions from across Canada

Our analysis of reports shows that Canadians future narratives are more precisely constructed for social than economic and environmental aspects of sustainability, with 338 desires against 222 and 230 respectively (Table 2). We ascribed futures desires under the social sustainability pillar to 5 categories including: social well-being, community, education, recreation arts and culture and governance. Overall 24 different themes were typified, including local and First Nations governments and access to public services and facilities, among others. Themes describing community for example are mentioned 105 times (Table 2) and the most common themes in this category are *community involvement* (38), *safety and accessibility* (25), and *community character* (24). Descriptions of *community involvement* include desires for community events, increased participation and engagement of community members, community collaboration and pride, as well as a sense of belonging.

Participants in numerous communities emphasize desires for an ethic of community stewardship and collaboration. In discussions of *community character*, there is widespread desire for vibrant city centers and fostering a connection to place.

The narrative for economical sustainability centers around two categories: Economy and materials and Infrastructure, development, and transportation. We uncovered 8 different themes for the first category ranging from adequate employment and income to sustainable food sources while the second category is exemplified by 6 themes including housing and low impact transportation (Table 2). Across categories the theme with the highest count is *sustainable development* (45), which includes ideas such as green infrastructure, consolidated development, and creation of multi-use landscapes. For example, 10 communities specify a desire for high density and mixed-use development, to accommodate future population growth while limiting urban sprawl. This includes desires for development oriented around public transportation systems and natural resources. In addition to *sustainable development*, the theme of *low-impact transportation* (42) is a widely discussed feature of Canadians' communities. These desires most commonly include increased active transport, convenient and accessible public transportation, reduced vehicle use, and improved roadways. Among these, active transportation is the most widely discussed idea, featuring in the visions of 15 communities, in discussions of pedestrian friendly streetscapes and safe and convenient bike routes. These aspects of development and transportation are linked in many reports, pointing to the fact that consolidated development would facilitate and support active and public transit. Whereas there is frequent discussion of sustainable development and transportation, there are particularly low counts in the theme of *adequate employment and income* (15), with counts of less than 4 in five out of six regions.

We categorized Canadians desired futures with respect to environmental sustainability (157 counts) in two categories pertaining to the natural environment and resources, energy and waste. The natural environment category has the highest counts overall, and the themes *land and landscapes* (40) and *water accessibility and use* (42) are paramount. Regional landscapes, such as coastlines, mountains, forests, prairies, and wetlands, feature in visions across the country as important natural features. Local landscapes are also widely valued, with 17 communities discussing the desire for accessible parks and green spaces. In addition, the results indicate that, regardless of regional context, Canadians' place great value on water features, including proximity to oceans, lakes, rivers, and streams.

3.2. Regional specificity

While we found common threads in the visions of communities across the country, some values and desires differ amongst regions (Fig. 1 and Table 3).

For the society component of sustainability, including social well-being, community, education, recreation, arts and culture, and government, category counts for both Québec ($p=0.058$) and Northern Canada ($p=0.051$) are almost

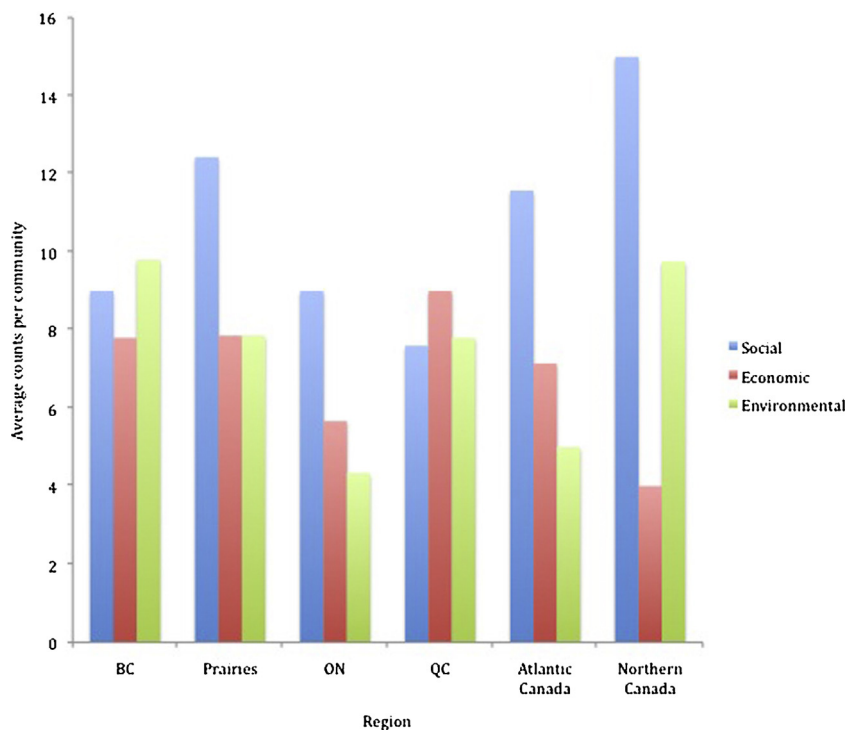


Fig. 1. The average counts per community per region for each of the three pillars of sustainability. Average counts were calculated by totaling counts per region within each pillar of sustainability and dividing by the number of communities in each.

Table 3

Results of chi-square tests conducted across categories within each pillar and region. Bolded values indicate regions in which category counts in the respective pillars differ significantly or marginally from the null hypothesis.

	Social	Economic	Environmental
British Columbia	0.1633	0.5922	0.0495
Prairies	0.7204	0.4897	0.5309
Ontario	0.2052	0.1589	0.0425
Québec	0.0582	0.1048	0.1884
Atlantic Canada	0.1656	0.3017	0.0080
Northern Canada	0.0506	0.0048	0.0838

significantly different from the null hypothesis that the category counts do not differ significantly amongst regions. In Québec counts within the themes of *safe and accessible community* (1) and *community involvement* (3) are lower than expected based on the total across all regions. Conversely, communities of Northern Canada have considerably higher than expected counts for the categories of social well-being (20) and community (20). These communities have above average counts in five out of six themes related to social well-being. The highest theme count in this category for Northern communities is *high quality of life* (8), including ideas of active, healthy, and social lifestyles, as well as lower cost of living. *Public services and facilities* (6) are also valued and discussed frequently, with higher average counts than any other region. Northern communities also emphasize *social structure* (4), with three communities voicing the importance of youth, families, and elders within their communities.

Furthermore, Northern Canada is found to be significantly different from other regions within the economic pillar ($p = 0.005$), with lower counts than expected for the category of infrastructure, development, and transportation. This region has below expected counts in all themes within this category, which stands in contrast to the particularly high counts in themes of *sustainable development* and *low-impact transportation* found in other regions.

British Columbia ($p = 0.050$), Ontario ($p = 0.043$), and Atlantic Canada ($p = 0.008$) all show significant differences from the null hypothesis under the theme of environment. Communities of the west coast have higher than expected expression of environmental ideas, whereas counts of environmental categories in communities of the east coast and Ontario are lower than expected. In the category of natural environment, British Columbia has notably high counts within the themes of *protection of land and landscapes* (10), *natural heritage* (7), and *biodiversity protection* (5). The theme of natural heritage includes ideas of views, ecosystem health, and access to nature. In the category of energy, resources, and waste, west coast communities are above expected counts in all five themes, notably so in *sustainable waste management* (2) and *fossil fuel reduction* (5). Conversely, Ontarian communities have significantly low presence of environmental aspects in their visions,

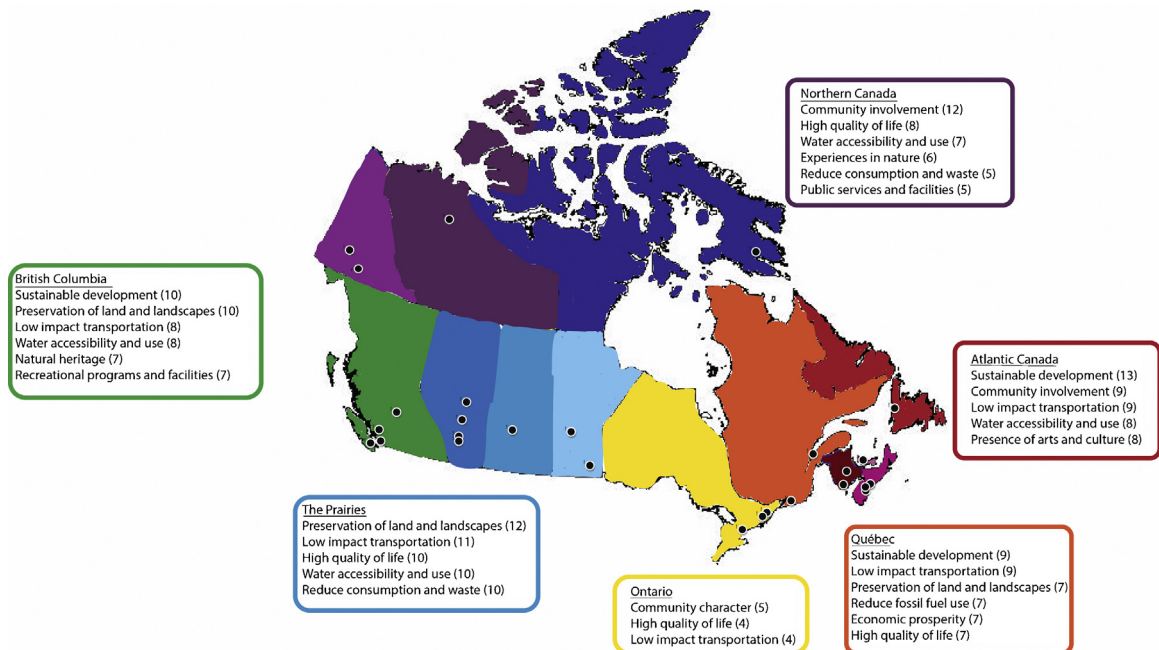


Fig. 2. Regional desires of Canadian communities. The most common regional themes across all categories, where the number beside each theme represents the number of ideas within the respective theme across all reports in that region. Points on the map illustrate the location of the communities whose vision reports were included in the analysis.

with lower than expected counts in five out of six themes in the category of natural environment, in particular *experiences in nature* (1), *preservation of land* (2), and *water accessibility and use* (3). Ontario is the only region where no ideas in the theme of *clean air* are mentioned. This region also has significantly few counts in the category of energy, resources, and waste, with no ideas in themes of *renewable energy*, *minimize ecological footprint*, and *sustainable waste management*. Atlantic Canada also under-represents the environmental pillar relative to other regions. Within the category of natural environment, counts in the themes of *preservation of land and landscapes* (6) and *biodiversity protection* (1) are particularly low relative to expected values. No ideas are presented under the theme *reduced consumption and waste*.

3.3. The most common themes by region

In addition to examining differences across regions, the top five themes for each region were identified (Fig. 2). The most common themes in all three sustainability pillars in the visions of British Columbians are *preservation of local landscapes* (10) and *sustainable development* (10), and counts of these themes are higher on average than in any other region. For example, the communities of Williams Lake, Ladysmith, and Vancouver emphasize the value of parks, green spaces, and local landscaping. The second highest count is in the themes of *low-impact transportation* (8) and *water accessibility and use* (8). Within the theme of *water accessibility and use*, three communities discuss the ocean and waterfront as prominent aspects of their visions, and two emphasize freshwater features. Other common themes are *natural heritage* (7) and *recreational programs and facilities* (7).

Along with communities of British Columbia, communities of Alberta, Manitoba, and Saskatchewan often express the importance of the environment in their visions, with the most common theme being the desire to *preserve land and landscapes* (12). This theme includes ideas of local parks and green spaces, prairies, forests, wetlands, and First Nations' traditional lands. *Water accessibility and use* (10) also commonly features in these communities' visions; in particular, the desire for sustainable water management distinguishes these communities from those of other regions. In addition, communities of the prairies frequently voiced the desire to *reduce consumption and waste* (10) in material, water, and energy use, more so than any other region. In Saskatoon this is communicated as wishes for increased curbside recycling and reduced waste; similarly, Albertan communities of Edmonton, Calgary, and Lacombe envision a zero waste future. Another theme that stands out among these communities is the desire for *transparent, accessible, and inclusive government* (4), with ideas including increased citizen involvement in decision-making.

Communities of Ontario have the highest counts within the themes of *community character* (5) and *high quality of life* (4). All community visions from Ontario include ideas of *community character*, however the specific desires often vary between towns. For example, residents of the Village of Carp report the desire for their community to be appealing to visitors, whereas Constance Bay community members do not want their community to be a tourist destination. The second highest count is the theme is *high quality of life*, present in all community visions, with ideas including poverty reduction, social equity, and mental and physical health.

Québécois communities place high importance on infrastructure and transportation, indicated by the high counts of themes within this category. The highest counts are in the themes of *sustainable development* (9) and *low-impact transportation* (9). All five communities express desires for increased active and/or public transportation, and four articulate a need for consolidated, transit-oriented development. Energy concerns and values are also primary aspects of these visions, indicated by high counts within the category of energy, resources and waste (16). In particular, the theme of *reduced fossil fuel use* (7) is present in visions of Québec more so than communities of any other region on average. Economically, visions frequently articulate desires of widespread *economic prosperity* (7), including ideas of a diverse and resilient economy, development of the agricultural sector, and effective municipal tax systems. Similar to communities of British Columbia and Atlantic Canada, *local businesses and a locally-based economy* (5) are often aspects in Québec visions.

The most common theme of community visions of Atlantic Canada is *sustainable development* (13), followed by *low-impact transportation* (9). *Community involvement* (9) is another prominent theme, including desires for community engagement, collaboration, and sense of belonging. These communities also highlight the *presence of arts and culture* (8) in their desired futures, with ideas including increased art in public places and celebration of diversity and creativity. Similarly, aspects of *history and heritage* (6) as part of community culture are mentioned in the Atlantic provinces more than in the rest of the country. The category of governance also has considerably more counts in this region than in any other, with the highest counts in themes of *well-managed communities* (4) and *open, accessible government* (4).

Visions of the communities of Northern Canada are unique in several aspects. The most commonly occurring theme in these visions is *community involvement* (12), which includes desires for engaged citizens, demonstrations of leadership, a sense of belonging, and community pride. Communities of the North, second to those of British Columbia, often feature aspects of the environment in their visions; the highest theme count is *water use and accessibility* (7), including desires for clean and accessible drinking water, as well as the need for reduced water consumption. There is also a high count in the environmental theme of *experiences in nature* (6); within this theme, all four visions express ideas of widespread environmental stewardship and two emphasize the value of their connection to nature. Additionally, these communities prioritize the inclusion of First Nations more often than other regions, with themes of *First Nations' culture* (3) and *First Nations' governance* (2).

4. Discussion

4.1. A common vision

On a national scale, the social component of sustainability is widely represented in the desired futures of Canadians with rather precise descriptions of desired futures. To some extent this may be an expected result; the social sphere governs the majority of individuals' daily activities, including well-being and health, relationships and social networks, education, recreation, and culture. Social systems also mediate the ways in which environmental and economic aspects are experienced and understood, and thus should arguably be at the forefront in discussions on sustainability (Dillard, Dujon, & King, 2008).

Within the social pillar, visions from regions across Canada echo common desires, including community engagement, safety, accessibility, and inclusion. In this respect, the common themes of Canadians' visions align with many elements of Dempsey, Bramley, Power, and Brown's (2011) description of sustainable communities: places that are safe, inclusive, and well-governed, meet the diverse needs of residents, contribute to high quality of life, and offer accessible goods and services. The concept of social sustainability can be broadly outlined, as in Dempsey et al.'s description, however it cannot be universally defined; it is not constant, but finds different expression in different times and places (Dempsey et al., 2011; Robinson & Cole, 2014). Thus, although Canadians across regions envision many similar societal characteristics, the manifestation of social sustainability in urban and rural communities will vary depending on the social structure and context of communities and the needs of individuals.

Canada's diverse, unique geography and picturesque landscapes play a central role in the desired futures, and it is clear that participants feel connected to their regional landscapes: communities of British Columbia value west coast landscapes and coastal mountains; visions from central Canada include regional prairies, forests, and wetlands; and communities of Northern Canada value untouched mountain ranges. These results demonstrate a widespread appreciation for the country's rich natural heritage, an appreciation that has been frequently documented and has been described as a unifying symbol of Canada (Boyd, 2011). Canadians also commonly value water, and it has been said that water is the country's most valuable natural resource (Page et al., 2010). Environment Canada has cited water quality and availability as a priority amongst the Canadian public (Environment Canada, 2010). This widespread value of fresh water may be due to its apparent abundance in Canada, covering approximately 7% of the country's surface area (Boyce, 2006).

Relating to the economic sphere, there is more discussion of infrastructure, development, and transportation than of economy and materials. In particular, there is relatively low representation of the theme adequate employment and income, with a count of 15 across all regions. The need for more sustainable modes of development and transportation is commonly recognized and highly represented in visions across the country. Elements of sustainable development proposed in the visions, including compact, high-density, and transit-oriented development and the use of innovative green technologies, correspond to sustainable development best practices discussed in the literature (Colantonio & Dixon, 2011; GCEC, 2014; Robinson, 2007; Shaw et al., 2009). For example, The New Climate Economy Report recommends that cities must develop compact, connected, and coordinated urban infrastructure, as well as multi-modal transportation infrastructure, to function sustainably under increasing climate change (GCEC, 2014).

The present analysis shows that ideas grouped within the social, environmental, and economic components of sustainability are in fact intrinsically connected and interdependent, and thus should not be considered in isolation. Canadian narratives emerging from the meta-analysis are sophisticated in terms of sustainability. For instance, high-density development facilitates accessibility, inclusivity, and engagement (GCEC, 2014), several of the common social desires of communities. Environmental desires to preserve fresh water and maintain healthy green landscapes contribute to achieving the social goal of a high quality of life. There is an extensive and growing body of literature on the connection between the natural environment and individual well-being and quality of life, particularly in light of increasing urbanization of societies resulting in reduced human contact with nature (Kaplan & Kaplan, 2011; Hartig, Mitchell, De Vries, & Frumkin, 2014). Reviews of this literature have found strong evidence of beneficial effects from increased contact with nature, including increased physical activity, increased social contacts, physiological stress reduction, and increased happiness (see Hartig et al., 2014 for a review). There is an abundance of co-benefits such as these in the development of sustainable societies, many of which apply to the common aspects of Canadians' visions.

4.2. Regional priorities and patterns

Differences in methodology in community visioning, in particular the distinction between what participants have and what they desire, are important to consider when discussing regional patterns and priorities. Although communities always sought to engage with citizens, the resulting vision reports vary considerably in focus and intended purpose – two factors that inevitably influence who contributes and what ideas are included. In some reports, such as the Whitehorse ICSP, emphasis is placed on participants reflecting on their community and discussing what they currently value and want to maintain in the future. In other reports participants are encouraged to imagine beyond aspects of their current community and articulate desires for changes, such as in the AirdrieONE Sustainability Plan. The majority of reports include both current values and desires for future changes. Additionally, some reports, such as the vision report of the Northwest Territories, note that the opinions of individuals often differ; for instance, a theme may appear in the current values of some individuals and the future wishes of others. For example two of the community reports in Québec, where social sustainability has lower than

expected counts, are primarily focused on addressing community growth and development concerns, while maintaining what is currently valued. This emphasis on infrastructure and development may have limited the amount of social ideas included in the vision.

It is also possible that participants gave lower priority to aspects that already exist in the communities, and instead favoured discussion over aspects they felt were missing. Communities of Northern Canada discuss social aspects more often than expected. This region occupies about 40% of the total territory of Canada but is inhabited by a small fraction of the population. We may speculate that because of the small size and relative geographic isolation of these communities, sociality, community engagement, and social structure may be both important and more challenging. Rural communities in Canada experience demographic, political, and economic stresses, which may be exacerbated by the high cost of living in Northern communities (Bodor, 2009). The strong social networks and increased public services that were commonly desired by communities in this region may be mechanisms to cope with and address these challenges.

The significantly higher presence of environmental aspects in the visions from British Columbia is consistent with a recent Ipsos Reid survey that found that two-thirds of British Columbians prioritize environmental protection over economic growth (Ipsos, 2009). Additionally, a study investigating citizens' values and perceptions of the proposed Northern Gateway Pipeline, which would transport unconventional oil from Alberta's tar sands to British Columbia's northern coast, found that British Columbians were more likely to perceive environmental risks and oppose the project than any other Canadian participants by region (Axsen, 2014). This contrasts with the lower than expected counts in the environmental pillar in the regions of Ontario and Atlantic Canada. Because we failed to find any published literature on the desired futures of these two regions we can only speculate about the cause of our findings. In Ontario this may owe in part to the relatively small regional sample size. Additionally, two of the three reports from Ontario were conducted in small population centers in the regional municipality of Ottawa, and the third in a city within the Greater Toronto Area. It may be suspected that the values and desires of these participants are influenced by their urban environments, and may not be representative of the true diversity of values in the region. In Atlantic Canada counts are variable among themes within the environmental pillar. Desires for clean air, experiences in nature, minimized ecological footprint, and renewable energy sources appear in visions approximately as often as expected. However, there is less discussion of landscapes, biodiversity protection, and reduced consumption, resulting in significantly lower counts overall. The emphasis placed on renewable energy and emissions reduction may reflect participants' concerns regarding recent expansion of the energy sector, with the region having one of North America's fastest growing offshore oil and gas sectors.

Northern Canada has lower than expected counts within the economic pillar of sustainability, particularly in the category of infrastructure, development, and transportation. This is noteworthy considering the 'infrastructure deficit' faced by municipalities in the North and across Canada, due to aging infrastructure and reduced investment (Connelly et al., 2009). Three out of the four communities in this region indicate that this deficit was a motivating factor in creating a sustainability vision and development plan. However, this does not emerge as a dominant topic in the values and desires of participants in the visions, suggesting that perhaps infrastructure issues are more widely recognized by policy-makers, while social issues are more apparent to the public. Additionally, several of these communities' vision reports emphasize a holistic approach to sustainability that seeks to address underlying social and political issues in order to achieve environmentally sustainable development. For instance, the community of Carmacks reports that their lack of updated infrastructure stems from an eroded tax base due to a declining population, and thus a primary aspect of their vision is increased population levels. This is consistent with the higher than expected representation of the social pillar in visions of this region; in many instances economic and environmental aspects are discussed indirectly through their relation to the social sphere.

4.3. Bridging desired futures and current realities

In the context of sustainability studies, visioning and similar methods are useful tools to articulate a shared desired future, thereby enabling exploration of various actions, policies, and development pathways to work towards a common goal (Evans et al., 2006). Characterizing such desires is often the first step in a process of planning, as is seen in many of the community vision reports reviewed here. However, ensuring such desires are feasible, and bridging current realities to them, is challenging, and increasingly so as you move from the community scale to regional and national levels. This is evident when we broadly compare the desires of Canadians in this analysis and the current situation in Canada. Despite future water accessibility and use featuring prominently in the visions of Canadians, Canada currently ranks second in per capita water usage (Shrubsole & Draper, 2007). Additionally, Canada's existing public transportation systems are often far from those featured in the community visions. Canadians desire low-impact, accessible, and efficient active and public transit, but Canada's cities are designed for car and truck travel. The majority of passenger transportation in Canada is by fossil-fuelled truck or automobile, accounting for over 20% of total national greenhouse gas emissions (Environment Canada, 2012).

In many respects Canada is far from the public's desired target. However, these differences between current realities and optimal futures provide meaningful direction for guiding development towards a more sustainable future, one which is informed foremost by the desires and well-being of Canada's citizens. Public engagement has a useful, many would say essential (Robinson & Cole, 2014), role to play in sustainability at the community scale (Sheppard et al., 2011). There is extensive discussion in the sustainability literature on the use of participatory visioning and the ways in which visions can be linked to current and future realities (e.g. 'local warming' (Sheppard, 2012, Chapter 13)). Recent advances in modeling and simulation, including 3D visualization tools, enable participants to see the effects of behaviours, policy choices, and

objectives in real time (Robinson, Burch, Talwar, O'Shea, & Walsh, 2011). In this way they can explore actions that would lead them to their desired future scenarios, thereby bridging their visions to reality. This literature offers critical insights into the efficacy of these methods of public engagement and their role in operationalizing sustainability (Robinson et al., 2011; Salter et al., 2010).

The futures articulated using participatory visioning and related methods in scientific studies are often guided by experts, and therefore were not included in the present analysis.² However, review of the sustainability futures studies that have characterized participants' desires with limited expert input reveals many common themes with the visions of the present analysis. For instance, in a participatory scenario development project in the Bras d'Or ecosystem of Nova Scotia, communities express desires for protection of land and native biodiversity (Bizikova and Hatcher, 2010). They also discuss the need for citizen engagement and increased stakeholder involvement in decision-making. Support for local stakeholder participation in planning and governance is also articulated by participants in the Great Lakes Futures Project of Ontario (Friedman, Laurent, Krantzberg, Scavia, & Creed, 2015) and the Climate Change Adaptation Planning project in the Lax Kw'alaams community of British Columbia (Sydney-Smith, Matthews, Satterfield, & Young, 2007). Participants of the Local Climate Change Visioning (LCCV) case study in Delta, British Columbia voice desires for increased policy on climate change adaptation and mitigation and changes in personal transportation, such as increased active transport and reduced vehicle use (Tatebe, Shaw, & Sheppard, 2010), similar to those heard from communities across Canada in the present analysis. Participants of the Georgia Basin Futures Project also prefer scenarios with increased public transit use, as well as reduced waste production and increased recycling (Vanwynsberghe, Carmichael, & Khan, 2007). It is evident that the desired futures expressed by a diversity of public participants and stakeholders in these studies have many similarities. These similarities are essential in defining a sustainable and desirable future for Canada that can motivate collective action.

Nevertheless, the challenges and limitations of community-led visioning processes to date must be recognized. As these processes are designed to allow participants to articulate their desires in their own terms with limited external or expert input, they tend to be relatively uninformed by modeling- or science-based future projections. For instance, although many of the community visions reviewed here include discussions and concerns about future impacts of climate change, none of them systematically take projected changes into account when considering future realities. Sheppard et al. (2011) and others emphasize that public engagement processes at the local scale must be combined with credible and understandable information. Along the same lines, citizens' understandings of the complexities of natural systems and future change are generally limited and thus futures are often imagined in the context of the status quo. The radical and unprecedented societal and environmental changes that will occur under climate change are, by their nature, difficult to conceive of. Additionally, a vision is only as representative of a community as the diversity of the citizens that create it; as is learned from the case studies reviewed by Larsen et al. (2011), attracting a diverse group of stakeholders is difficult but essential for creating environmentally just futures. These community visioning processes are useful for providing important insights on citizens' common desires, however they cannot be expected to identify all elements that are important to a community's well-being.

4.4. Conclusion: the power of a positive vision

It has been stated that the current predominant discourse in sustainability has an uninspiring message, one which focuses on reducing environmental harm and strives for a 'net-zero' effect (Robinson & Cole, 2014). There is increasing recognition that not only is this message unlikely to induce active engagement and change (Robinson & Cole, 2014), but the magnitude of change needed to realize a globally sustainable future requires extensive transformation that can no longer be achieved by 'net zero' outcomes (Waldron, Cayuela, & Miller, 2013). A new sustainability paradigm is emerging that proposes a 'net-positive' approach, shifting the focus from reducing damage to regenerating natural systems (Waldron et al., 2013). This notion of 'regenerative' sustainability calls for an inspiring vision, one which considers both environmental and social aspects of sustainability and is rooted not only in scientific knowledge but in a broad participatory process (Robinson & Cole, 2014). A positive vision that aligns with human values and offers an optimistic narrative is more likely to motivate engagement and collective action (Robinson & Cole, 2014; Shellenberger & Nordhaus, 2004).

Community visions, such as articulated in the reports reviewed here, can help provide a foundation for an applied regenerative approach to sustainability. The desires of Canadians characterize net-positive futures, achieving social and environmental sustainability. With the recognition of what is valued by Canadians on local, regional, and national scales, a new vision can be developed through expert-informed participatory processes that can serve to integrate these values with projected future risks, trends, and realities. This requires a nation-wide dialogue between experts, policy-makers, and the public, such as that initiated by the Sustainable Canada Dialogues, to provide a link between collective desirable futures and scientific scenarios. This dialogue is particularly valuable when it comes to addressing unprecedented challenges that demand radical transformations, such as adapting to the impacts of climate change and shifting to renewable energy systems. Such an engaged and sustained conversation, linking lay and expert knowledge while bridging local to national futures may be one response to the call for new decision support tools on climate change (Sheppard et al., 2011). Bridging

² Recent studies, particularly in the field of backcasting, have shifted away from expert-defined target scenarios and towards future scenarios created through the participatory process, referred to as 'second-order backcasting' (Robinson et al., 2011). However, such studies were not included in the present study in the interest of focusing on community-led visioning exercises which are generally more broad and independent of specific targets.

citizens' values with scientific projections in a way that allows for meaningful co-construction of desirable and achievable future visions can inform sustainable policies and development pathways. *Acting on Climate Change: Solutions from Canadian Scholars* proposes climate policy as “the ongoing, long-term project of making the *transition* to a low-carbon society and economy” further indicating that “the specific transition pathways to a low carbon economy in Canada could rest on the hopes of Canadians for social and environmental well-being and help articulate a vision for the country”. The results from this meta-analysis suggest that climate policy that addresses a reduction of greenhouse gases while enhancing some of the key aspects of social sustainability would be attractive to many Canadians. The differences in desires between regions however suggests that a one-size fits all approach is not practical.

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Appendix A. Summary of methodologies used in creating community visions

	Methodologies
British Columbia	
Ladysmith Community Vision	– 6 visioning workshops, using experience-driven planning
Williams Lake: Imagine Our Future	– Input collected at various forums: booths at community events, “kitchen table” conversations hosted at citizens houses, “hot spot” conversations at public gathering spots, community partner cafe events, an “Amazing Race” style event, youth multi-media workshops, online input, community group meetings
Whistler 2020	– Public engagement through community meetings, questionnaires, telephone surveys, open houses, task force working group meetings over the course of 3 years
Greenest City 2020	– Phase 1 Public consultation and involvement: website, mail, flyers, email, fact sheets, twitter, videos, ads, surveys, Facebook, online forums, open houses, workshops, events, roundtables, Greenest City grants, neighbourhood action teams, partnerships – Phase 2 Public consultation and involvement: workshops, dialogues, events, presentations, webinars, student involvement, multicultural roundtables, social media and online tools
North Vancouver 100 Year Sustainability Vision	– 4 day design charrette - a multiphase, stakeholder-driven, design-based initiative – Extended engagement with local and regional community stakeholders, City staff, utilities representatives, researchers and others over several months
Alberta	
AirdrieONE Sustainability Plan	– Envision Airdrie, public engagement process to discuss the town's future; Community Advisory Committee (CAC) formed to guide development of sustainability plan – Resident surveys, community cafes, and other engagement methods
The Way Ahead: City of Edmonton Strategic Plan	– Council initiated the strategic planning process, calling on citizens to share their vision of Edmonton in 2040 – Citizen input through phone and online surveys, workshops, and forums
imagineCALGARY	– 5 appreciative inquiry questions asked, in a positive framework – Responses gathered online, booths at festivals/events, interviews with community leaders, visioning sessions with diverse community and youth groups, internal City groups, CalgaryQuest scenario sessions
Imagine Lacombe - Municipal Sustainability Plan	– Input through online survey, postcard questionnaires, focus groups, presentations, strategy area worksheets, Ideas Walls in schools and memorial center, a workshop with the Community Sustainability Action Team – Held workshops and gave presentations in elementary and high school, community centers, to City staff, etc.
Saskatchewan	
Saskatoon Speaks Report	– Engagement tools and forums: interviews with community leaders and stakeholders, spring leadership forum, background review, video/newsletter/media launch, web-based communication, city summit, community and youth voices sessions, online questionnaire, focused visioning sessions

(Continued)

	Methodologies
Manitoba	
OurWinnipeg	<ul style="list-style-type: none"> - 12-month long community conversation - Input gathered: online, individual and community group meetings, a street team to talk to people at festivals and events, open houses
Skownan First Nation/IISD Appreciative Inquiry Project	<ul style="list-style-type: none"> - Appreciative inquiry methods - Three rounds of interviews collecting values and visions of the Skownan First Nations, 6 community workshops to clarify vision and initiate action plan, video produced to convey values and vision, focus group workshops for further discussion and communication with decision-makers (community members, senior government, industry, civil society representatives)
Ontario	
Markham's Greenprint Sustainability Plan	<ul style="list-style-type: none"> - Vision and planning involved key community stakeholders which included residents, health service providers, residents associations, other public services, voluntary and community groups, faith communities, businesses and Markham Council - Engagement methods: youth engagement through "Quest for the Best Markham" online contest; World Café; sustainability fair; stakeholder workshops
A Community Design Plan for the Village of Carp	<ul style="list-style-type: none"> - Two community workshops with focus groups - Workshop 1: focus groups determine vision of Carp; architects listened and provided illustrations/drawings - Workshop 2: developing strategies - participants answer questions
A Community Plan for the Village of Constance Bay	<ul style="list-style-type: none"> - Visioning workshop; strategic directions workshop; summary workbooks distributed to all residents for comment; community meetings
Quebec	
Pontiac Vision 2020: Strategic Plan Final Report	<ul style="list-style-type: none"> - A series of public consultations held in five key sectors: tourism, culture and community, commerce and industry, forestry and natural environment, and agriculture and agri-food - Working group proposed a strategic plan to the community; local and regional players modified the proposed projects according to need/desire - Diagnostic review of current situation by working group, combined with observations/comments from public consultation; action plan developed from diagnosis and vision
Municipality of Chelsea Vision and Special Planning Program	<ul style="list-style-type: none"> - Various events held to engage residents spanning more than a year - A Special Planning Program was developed to implement the vision
Ville de Ste Anne de Bellevue: Moving Towards Sustainability 2012-2020	<ul style="list-style-type: none"> - Combining a science-based approach to sustainability, partnership with various entities, and community engagement - Process engaged over 80 community leaders, comprising of 10 task force groups, and 8 public consultations
Vision strategique du developpement: Batir ensemble une communaute plus forte.	<ul style="list-style-type: none"> - Follow procedure of la Loi sur l'aménagement et l'urbanisme - Forum with 100 city counselors - Public consultations - Subjected to public hearings
Riviere du Loup 2050	<ul style="list-style-type: none"> - Adopted methodology of <i>The Natural Step</i> - Workshops for city counselors and community leaders - Public consultations - Working committee and workshops - Over 60 meetings in total
New Brunswick	
St John Integrated Community Sustainability Plan	<ul style="list-style-type: none"> - Vision created with input from visioning, city staff interviews, stakeholder workshops - Created ICSP by backcasting to put goals into action; developed by two stakeholder groups (internal (City staff, agencies) and external (community))
PlanMoncton: The City of Moncton Municipal Plan	<ul style="list-style-type: none"> - Visioning activities: PlanMoncton Committee meetings, public launch, 4 community open houses, questionnaires, interactive panels, displays in public places, website and online game, newspaper, stakeholder sessions, youth video, 3-day visioning symposium

(Continued)

Methodologies	
Nova Scotia	
VisionHRM: Bedford Waterfront Vision and Strategic Action Plan	<ul style="list-style-type: none"> – Appreciative inquiry approach – Community gave input through online forum and distributed questionnaire; Youth session held at a high school – General public meeting – used visual preference survey, round table conversation, general discussion – Stakeholder meetings – Community members responded/commented on draft vision
VisionHRM: Musquodoboit Harbour Vision and Strategic Action Plan	<ul style="list-style-type: none"> – Community input and vision development through: 2 public meetings, consultation of 11 pre-existing local groups for ideas, web forum, booth at community event, priorities survey
VisionHRM: Spryfield Vision and Action Strategy	<ul style="list-style-type: none"> – Appreciative inquiry approach, 6 months of community engagement – Reviewed past community studies and projects for previous visions/ideas to inform the visioning process – Consultation methods: consulting community groups, residents' survey, door-to-door campaign, public workshop – Further consultation with community after a first draft was produced
Prince Edward Island	
Charlottetown Integrated Community Sustainability Plan	<ul style="list-style-type: none"> – 7 consultation methods: public visioning session; stakeholder meetings; community information session; City staff interviews; council meetings; management committee meeting; and individual submissions
Newfoundland and Labrador	
Regional Priorities from the Integrated Community Sustainability Plans Corner Brook-Rocky Harbour Region	<ul style="list-style-type: none"> – 20 community ICSPs gathered for analysis – 15 stand-alone plans, 2 joint municipal plans/ICSPs, 3 joint ICSPs between neighbouring municipalities – Various methods used by communities
Yukon	
Whitehorse Integrated Community Sustainability Plan (ICSP) and Strategic Sustainability Plan (WSSP)	<ul style="list-style-type: none"> – Methods of gathering input: Numerous community interviews; a public value and visioning charrette; an open house
Village of Carmacks Integrated Community Sustainability Plan	<ul style="list-style-type: none"> – Community input gathered at 3 public meetings and through interviews with community workers in the fields of health and housing – ICSP included some content from the 2005 Official Community Plan which included significant community input
Northwest Territories	
Creating Our Future Together Initiative	<ul style="list-style-type: none"> – Northern Leaders' Forum (NLF), leaders of Aboriginal, public, and community governments, consulted their respective constituents – Residents gave input through: writing to the Premier, online, call-in radio show, 'premier for a day' initiative, roundtable events and youth forums in Yellowknife, Inuvik, Hay River
Nunavut	
Sustainable Iqaluit Community Plan Part One - Overview and Part Two: Action Plan	<ul style="list-style-type: none"> – Review of previous studies – 150 studies and reports from last 10 years, analyzed over 30 – 200 meetings with residents and groups; 60 meetings with municipal staff; Story-telling Activity; Community exhibit; Special topic working groups; workshops with City of Iqaluit staff and City Council; Long-term Inuit residents meeting – Communication tools: trilingual website, email list, poster campaign, presentations, television, radio and newspaper interviews

References

- Axsen, J. (2014). Citizen acceptance of new fossil fuel infrastructure: value theory and Canada's northern gateway pipeline. *Energy Policy*, 75, 255–265. <http://dx.doi.org/10.1016/j.enpol.2014.10.023>.
- Banister, D., & Hickman, R. (2013). Transport futures: thinking the unthinkable. *Transport Policy*, 29, 283–293.
- Bizikova, L., & Hatcher, I. B. G. (2010). Scenario-based planning for a changing climate in the Bras d'Or ecosystem. Paper presented at the *Workshop report*.
- Bodor, R. (2009). The future for social work and mental health in rural and northern Canada. *Rural Society*, 19(4), 289–292.

- Boyce, F. M. (2006). *Lake the canadian encyclopedia*. Toronto: Historica Canada.
- Boyd, D. R. (2011). *Unnatural law: rethinking Canadian environmental law and policy*. UBC Press.
- Brundtland Commission (1987). *Our common future*. Oxford: Oxford University Press.
- Colantonio, A., & Dixon, T. (2011). *Urban regeneration and social sustainability: best practice from European cities*. John Wiley & Sons.
- Connelly, S., Markey, S., & Roseland, M. (2009). Strategic sustainability: addressing the community infrastructure deficit. *Canadian Journal of Urban Research*, 18(1), 1–23.
- Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: defining urban social sustainability. *Sustainable Development*, 19(5), 289–300. <http://dx.doi.org/10.1002/sd.417>.
- Dillard, J., Dujon, V., & King, M. C. (2008). *Understanding the social dimension of sustainability*. Routledge.
- Environment Canada (2010). *Planning for a sustainable future: a federal sustainable development strategy for Canada*. . . from <https://www.ec.gc.ca/dd-sd/default.asp?lang=En&n=16AF9508-1#s3>.
- Environment Canada (2012). *Greenhouse gas emissions by economic sector*. <https://ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=F60DB708-1> Retrieved 09.04.15.
- Evans, K., Velarde, S. J., Prieto, R., Rao, S. N., Sertzen, S., Davila, K., . . . de Jong, W. (2006). *Field guide to the future: four ways for communities to think ahead*. Center for International Forestry Research (CIFOR). . from <http://www.cifor.org/library/2137/field-guide-to-the-future-four-ways-for-communities-to-think-ahead/>.
- Friedman, K. B., Laurent, K. L., Krantzberg, G., Scavia, D., & Creed, I. F. (2015). The Great Lakes Futures Project: principles and policy recommendations for making the lakes great. *Journal of Great Lakes Research*, 41, 171–179. <http://dx.doi.org/10.1016/j.jglr.2014.11.026>.
- The Global Commission on the Economy and Climate (GCEC) (2014). *The new climate economy report*.
- Hartig, T., Mitchell, R., De Vries, S., & Frumkin, H. (2014). Nature and health. *Annual Review of Public Health*, 35, 207–228.
- Heal, G. (2012). Reflections—defining and measuring sustainability. *Review of Environmental Economics and Policy*, 6(1), 147–163.
- International Institute for Sustainable Development (IISD) (2001). *Integrating aboriginal values into land-use and resource management final report*.
- IPCC (2014). *Climate change 2014: synthesis report. Contribution of working groups I, II and III to the fifth assessment report of the intergovernmental panel on climate change*.
- Ipsos (2009). *Majority of British Columbians say protecting the environment should be given priority over economic growth*. . . from <http://www.ipsos-na.com/news-polls/pressrelease.aspx?id=4366>.
- Iwaniec, D., & Wiek, A. (2014). Advancing sustainability visioning practice in planning—the general plan update in Phoenix, Arizona. *Planning Practice and Research*, 29(5), 543–568. <http://dx.doi.org/10.1080/02697459.2014.977004>.
- Kaplan, R., & Kaplan, S. (2011). Well-being, reasonableness, and the natural environment. *Applied Psychology: Health and Well-Being*, 3(3), 304–321. <http://dx.doi.org/10.1111/j.1758-0854.2011.01055.x>.
- Larsen, K., Gunnarsson-Östling, U., & Westholm, E. (2011). Environmental scenarios and local-global level of community engagement: environmental justice, jams, institutions and innovation. *Futures*, 43(4), 413–423.
- Page, B., Dorion, F., Slater, R., Browes, P., Brubaker, E., Cunningham, D., . . . Hilken, C. (2010). *Changing currents: water sustainability and the future of Canada's natural resource sectors*. National Round Table on the Environment and the Economy En134-52 E, 13–132.
- Peterson, G. D., Cumming, G. S., & Carpenter, S. R. (2003). Scenario planning: a tool for conservation in an uncertain world. *Conservation Biology*, 17(2), 358–366.
- Richards, N., Stoddart, M., Cunsolo Wilcox, A., Potvin, C., & The SCD Visioning Team (2015). *Imagining Canada: an exploration of desired futures from a countrywide visioning approach in Sharma D and Potvin C. Acting on climate change: extending the dialogues among Canadians. Report UNESCO-McGill chair dialogues on sustainability*. 155–163. <http://www.sustainablecanadadialogues.ca/en/scd/extendingthdialogue>.
- Robinson, J., & Cole, R. J. (2014). Theoretical underpinnings of regenerative sustainability. *Building Research & Information* 1–11 (ahead-of-print).
- Robinson, J., Burch, S., Talwar, S., O'Shea, M., & Walsh, M. (2011). Envisioning sustainability: recent progress in the use of participatory backcasting approaches for sustainability research. *Technological Forecasting and Social Change*, 78(5), 756–768.
- Robinson, J. B. (2007). *Life in 2030: exploring a sustainable future for Canada*. UBC Press.
- Salter, J., Robinson, J., & Wiek, A. (2010). Participatory methods of integrated assessment—a review. *Wiley Interdisciplinary Reviews*, 1(5), 695–717.
- Shaw, A., Sheppard, S., Burch, S., Flanders, D., Wiek, A., Carmichael, J., . . . Cohen, S. (2009). Making local futures tangible—synthesizing, downscaling, and visualizing climate change scenarios for participatory capacity building. *Global Environmental Change*, 19(4), 447–463.
- Shellenberger, M., & Nordhaus, T. (2004). *The death of environmentalism: Global warming politics in a post-environmental world*. The Breakthrough Institute 28.
- Sheppard, S. R. J., Shaw, A., Flanders, D., Burch, S., Wiek, A., Carmichael, J., . . . Cohen, S. (2011). Future visioning of local climate change: a framework for community engagement and planning with scenarios and visualisation. *Futures*, 43(4), 400–412. <http://dx.doi.org/10.1016/j.futures.2011.01.009>.
- Sheppard, S. (2012). *Visualizing climate change: a guide to visual communication of climate change and developing local solutions*. Abingdon, UK: Earthscan/Routledge.
- Shrubsole, D., & Draper, D. (2007). On guard for thee? Water (ab) uses and management in Canada. *Eau Canada: the future of Canada's water*. UBC Press 37–54.
- Sydneysmith, R., Matthews, R., Satterfield, T., & Young, N. (2007). The co-management of climate change in coastal communities of British Columbia: social capital, trust and sustainability: the WBCSD Vision 2050 Initiative. *Futures*, 44(4), 372–384. <http://dx.doi.org/10.1016/j.futures.2011.12.001> capacity University of British Columbia, Vancouver.
- Tatebe, K., Shaw, A., & Sheppard, S. R. (2010). Technical report on local climate change visioning for Delta: findings and recommendations. *Delta*.
- Vanwynsberghe, R., Carmichael, J., & Khan, S. (2007). Conceptualizing sustainability: simulating concrete possibilities in an imperfect world. *Local Environment*, 12(3), 279–293.
- Waldron, D., Cayuela, A., & Miller, D. (2013). Regenerative neighbourhoods—scaling up from net positive buildings. *Paper presented at the CaGBC national conference and expo*.
- Wiek, A., & Iwaniec, D. (2014). Quality criteria for visions and visioning in sustainability science. *Sustainability Science*, 9(4), 497–512.
- Wilkinson, A., & Mangalagu, D. (2012). Learning with futures to realise progress towards. *Futures*, 44, 372–384.